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TECHNOLOGY ADOPTION BEHAVIOR OF WOMEN FACULTY DURING INFORMATION SEEKING: A CASE OF UNIVERSITY OF PESHAWAR

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ABSTRACT

This study investigates the technology adoption behavior of women faculty during information-seeking activities at the University of Peshawar. Female faculty members from various departments and constituent colleges were selected using stratified random sampling across academic ranks. A structured questionnaire, based on a 5-point Likert scale and validated by experts, was distributed to 124 participants, with 71 valid responses analyzed using SPSS Version 22, yielding a 57.3% response rate.

Findings reveal a positive attitude toward technology use, as participants reported comfort with basic functionalities (M = 4.46, SD = 0.56) and enjoyment in learning new tools (M = 4.10, SD = 0.94). Faculty members actively experimented with technologies (M = 4.06, SD = 0.92), while social influence had a strong impact on adoption behaviors. High reliance on peers was observed, with participants often seeking guidance (M = 4.55, SD = 0.50) and feeling more connected through technology use (M = 4.51, SD = 0.50).

However, technological barriers hindered effective adoption. Key obstacles included limited access to technology (M = 4.76, SD = 0.52), outdated equipment (M = 4.73, SD = 0.53), and lack of training (M = 4.70, SD = 0.60). The study recommends upgrading infrastructure and providing structured training to enhance adoption and effective information-seeking practices.

Keywords: Technology Adoption, Women Faculty, Information Seeking, Digital Tools, Barriers in Technology Adoption

Background of the Study

Technology integration has remarkably changed the 21st-century society. It has been changing many aspects of human life except higher education (Chevers & Whyte, 2015). Modern technology is utilized in academic libraries, teaching, and learning institutions

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within the expanding field of higher education. New technologies must be merged into educational institutions, including their libraries, to raise standards and enhance women faculty members' techno-literacy. The women faculty members used various information channels to seek the required information (Anmol et al., 2021). Karunarathne (2008) found that libraries are used by teachers to meet a variety of information needs. Thus, it is critical to comprehend the elements that affect faculty members' adoption of technology during their information-seeking, given the substantial influence that their attitudes and behaviors have on the effective installation and use of technological tools in academic libraries and university departments.

One of the well-known public sector universities in Pakistan, the University of Peshawar, is an excellent place to examine these trends. The focus of this study is how the University of Peshawar's women faculty members use technology while seeking information. In the current era the use of technology continues to expand day by day. As a result, professionals are striving to get well-versed in its use by getting training and education. But it is also a fact that they frequently face different challenges in their usage, such as lack of resources, infrastructure, rapid technology development makes their knowledge obsolete, and lack of time due to busy work schedules are some of these challenges (Shah & Ghumman, 2013, Raja & Naga Subramani, 2018). Other barriers to the use of technology have been highlighted in many previous research studies. Ahmad and Ahmad (2017) and Ahmad, Ahmad and Kamran (2019) stated that the weak state affairs with regard to the status and implementation of ICT in the University of Peshawar is due to many reasons such as insufficient number of IT staff, absence of Training and lack of support from University management. The other barriers in many other similar institutions are low self-efficacy (Mueller et al, 2008), their belief system, and low Motivation to use technology (Ertmer, 2005; Hew and Brush, 2007; Freudenberg & Subramaniam, 2007), and the lack of relevant knowledge (Pellergrino & Lawles, 2007).

Educational technology refers to "*the systematic and ethical application of technological tools and processes to enhance learning and improve performance through the design, utilization, and management of suitable resources*" (Januszewski & Molenda, 2008, p.2). Rangaswamy and Gupta (2000) stated that 'adoption' refers to the decision that individuals make whenever they contemplate embracing an innovation. Similarly, Rogers (2003) defines 'adoption' as when an individual makes the decision to utilize an innovation as the most optimal course of action. Psychologists describe attitude as a learned predisposition to perceive, evaluate, and respond to various things, processes, or issues. It reflects an individual's way of acting or behaving toward something. Attitudes are shaped by several factors, such as social influence, technology self-efficacy, and facilitating conditions. Social influence, in particular, refers to the process through which people's thoughts or behaviors are influenced by others, such as family, friends, or peers.

The rapid evolution of technology has significantly transformed various sectors, including education and library services. The integration of digital tools and resources into educational settings has redefined traditional teaching and learning methods, enabling more interactive, personalized, and flexible learning experiences in academic institutions and their libraries (Anderson, 2008). According to Case (2008) the process of gathering information to fill in knowledge gaps is known as information seeking. According to Kuhlthau (2005) Information seeking is an important human activity. We seek knowledge to enhance our understanding of various events. However, the adoption of technology in information seeking at different educational institutions is not uniform across different regions and demographics. Factors such as cultural norms, access to resources, and individual attitudes can profoundly influence the extent to which

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technology is utilized in academic settings while seeking information (Selwyn, 2016).

It is affirmed that using technology effectively in getting information and knowledge benefits both teachers and students (Hennessy et al., 2010). In order to give students a better learning experience, teachers are expected to integrate technology into their lesson plans, apart from using it in seeking and accessing information. Through this, students are encouraged to actively participate in the learning process and are able to use information technology resources for their projects and class activities, as well as seek information to fulfill other academic needs (Roblyer, 2006).

This research aims to study the attitude of women faculty members towards technology adoption at the University of Peshawar while seeking information. Additionally, it examines the effects of social influence on the technology adoption behavior of women faculty, along with the barriers faced in this regard. The findings of this study will suggest strategies for improving technology integration and supporting women faculty in higher education through its departments and academic libraries.

Theory of Reasoned Action

Technology adoption behavior is a complex action/ process containing various elements such as attitude, subjective norms, social influence, self-belief, training program conducted, motivation, and infrastructure provided, which individuals follow for different reasons and purposes. In this study, the elements of technology adoption behavior are adopted from the Theory of Reasoned Action, which are attitude and subjective norms.

In the field of technology acceptance research, the TRA was the first theory to be widely accepted (Olushola & Abiola, 2017). Many people consider the TRA to be one of the most fundamental explanations of human behavior. People have successfully used it to guess various kinds of actions (Venkatesh et al., 2003). According to this theory, people who think technology will benefit them will use it more frequently. Our views impact our attitudes, impacting our intentions and ultimately directing our behavior. According to the TRA, a person's attitude (personal feelings) and subjective norm (perceived social pressure) are taken into consideration to predict their behavior (Olushola & Abiola, 2017). A person's attitude toward a behavior affects their use intention, which in turn influences their actual behavior when that attitude is in line with the subjective norm surrounding that behavior (Kurland,1995).

Statement of the Problem

As higher education increasingly integrates technology into its core functions, the ability to effectively adopt and utilize digital tools for information seeking has become crucial for gaining knowledge. In Khyber Pakhtunkhwa, particularly at the University of Peshawar, women faculty members inconsistently use this technology, yet their adoption behaviors and experiences remain underexplored. The technology adoption behavior of women faculty during information seeking is not only essential for their academic growth but also for the advancement of knowledge creation and dissemination in their institutions. However, the lack of comprehensive studies focusing on the specific attitudes and barriers faced by women faculty at the University of Peshawar limits our understanding of their adoption of technology in the process of seeking information.

Several barriers, such as cultural norms, lack of institutional support, limited access to resources, and lack of efficient library services, may impede their ability to effectively adopt and integrate technology into their information-seeking practices. This study aims to examine these barriers and comprehend the underlying social factors that influence

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technology adoption among women faculty during their information-seeking processes.

Research Questions

What is the attitude of women faculty towards adoption of technology during information seeking?
What is the effect of social influence on the adoption of technology of women faculty?
What are the technological barriers for women faculty that impede their effective adoption of technology during their information seeking?

Research Hypothesis

The following two hypotheses will be tested in this study:
H1: The overall barriers in adoption of technology have significant effect on attitude towards technology adoption of women faculty.
H2: The overall social influence has significant effect on attitude towards technology adoption among women faculty.

Limitations and Delimitations of the Study

This study has several limitations. It focuses exclusively on women faculty members, thereby excluding male faculty, students, and non-academic staff. As a result, the findings are not generalizable to other demographic or professional groups.
The research is delimited to specific geographical or institutional settings (University of Peshawar), which may not be representative of broader contexts, thus constraining the wider applicability of the results. The study is confined to examining technology adoption specifically in the context of information-seeking activities. Other uses of technology such as in teaching, research, administrative duties, or personal contexts are beyond the scope of this investigation.

LITERATURE REVIEW

Research on information-seeking behavior has revealed diverse patterns across academic and organizational contexts. In Pakistan, Anmol et al. (2021) found that faculty in male degree colleges of Karak primarily sought information for lectures and research, relying on college libraries and the internet, though poor connectivity and limited computers hindered access. Similar findings were reported by Ismail and Idrees (2019), who emphasized institutional libraries and personal collections as preferred sources, while noting barriers such as outdated materials and insufficient digital access. Complementing these, Khan and Shafique (2011) showed that college faculty in Bahawalpur predominantly used libraries and colleagues for lecture preparation and personal development, with English-language print resources strongly preferred. Beyond Pakistan, studies have explored structural and cognitive challenges in information seeking. Herbst and Brocke (2012) demonstrated how unclear filing systems and inadequate search tools in organizations created inefficiencies, while Chowdhury et al. (2011) highlighted uncertainty in academic digital environments, particularly among women, who reported greater difficulties in selecting appropriate sources. Collectively, these studies underline the importance of institutional support, digital literacy, and improved infrastructure for effective information seeking.
Parallel research on technology adoption has been framed through well-established theoretical models. Masrom et al. (2024) confirmed the robustness of the Technology

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Acceptance Model (TAM) in explaining e-learning use among students, where perceived usefulness strongly predicted intention, while attitude played a weaker role. Broader reviews (Asimba & Zuva, 2021; Taherdoost, 2018) emphasized the superiority of the Unified Theory of Acceptance and Use of Technology (UTAUT/UTAUT2), which accounts for social influence, hedonic motivation, and facilitating conditions alongside usefulness and ease of use. TRA and integrative frameworks, such as those examined by Otieno et al. (2016) and Yi et al. (2006), further demonstrated that intention to adopt technology is shaped not only by utility but also by social norms and control factors. These models collectively highlight that both individual perceptions and contextual influences are central to technology adoption.

At the international level, scholars have explored adoption among teachers and professionals in varied educational contexts. Sharma and Srivastava (2020) found that value beliefs, ease of use, and social influence predicted teachers' intention to adopt technology in higher education, with demographic factors moderating adoption. Similarly, Chevers and Whyte (2015) revealed gender disparities in Jamaica, where male faculty demonstrated higher adoption rates than females, with institutional rewards emerging as a key motivator. In schools, ICT integration studies (Ghavifekr & Wan Rosdy, 2015; Raja & Nagasubramani, 2018) confirmed technology's potential to enhance learning and teaching, though barriers such as lack of time, support, and health concerns limited its effectiveness. Butler and Sellbom (2002) further noted that lack of institutional support, time, and technical proficiency hindered faculty adoption, consistent with global findings.

Regional and local studies provide additional insights into contextual challenges. Rahman et al. (2024) highlighted resistance to technology among Bangladeshi LIS professionals, driven by fears of job loss, workflow disruption, and low self-efficacy, though many still recognized its benefits. Similarly, Fakhr Hosseini et al. (2024) argued that no single adoption model sufficiently explains user behavior in intelligent environments, suggesting the need for integrated approaches. In Malaysia, Baskaran et al. (2020) showed that technology adoption reduced job stress and enhanced motivation but did not significantly affect workload, while Budhwar et al. (2017) emphasized both opportunities and risks of ICT in education, such as interactivity versus cyberbullying. Earlier, Al-Senaidi et al. (2009) reported that Omani faculty perceived institutional support and time constraints as major barriers to ICT adoption, findings that resonate with broader regional challenges.

Together, these studies demonstrate that information seeking and technology adoption are shaped by a blend of individual, social, and institutional factors. While faculty and professionals increasingly recognize the value of technology, persistent barriers, including inadequate infrastructure, insufficient training, and institutional limitations, continue to constrain effective adoption, particularly in developing countries.

METHODOLOGY

Research Design and Methodology

This research aims to examine the technology adoption behavior of women during information seeking at the University of Peshawar, Khyber Pakhtunkhwa. This study utilized a quantitative method to analyze the technology adoption of women faculty during information seeking. A survey method was employed to collect pertinent data and respond to the research questions developed for the study.

Population

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This study consisted of women faculty members working in various teaching departments and constituent colleges (including JCW and CHE) of the University of Peshawar. The total population is approximately 181.

Sampling Technique and Sample Size

The total population of this study comprises 181 female faculty members. According to Raosoft sample size calculator the sample size becomes 124 with a confidence level of 95%. A stratified proportionate random sampling technique will be implemented to select respondents from different faculties of the University of Peshawar. The strata in the sample are based on their designations, including Lecturer, Assistant Professor, Associate Professor, and Professor. A list of all women faculty members, showing their designation and department/center/college, was obtained from the establishment section of the University of Peshawar.

Table 1: ***Designation-Wise Population***

S.No	Designation	Population	Sample Size
1	Lecturer	113	77
2	Assistant Professor	36	25
3	Associate Professor	17	12
4	Professor	15	10
Total		**181**	**124**

Data Collection Tool

A data collection tool will be used, developed with the help of retrospective literature, to get the responses of the women faculty members at the University of Peshawar. The questionnaire will be administered personally during working hours. In this study, the scale for attitude towards technology will be adapted from Franke et al. (2019) while the social influence scale will be sourced from Srivastava and Sharma (2019) and the scale for technological barriers will be based on different studies such as (Butler & Sellbom, 2002: Al Senaidi et. al., 2009).

Pilot Test and Result of Reliability Analysis

A pilot study was carried out with 20 women faculty members one representative from each department at Islamia College University, Khyber Pakhtunkhwa (KP), who were not included in the main research sample. The objective of this preliminary phase was to assess the clarity, reliability, and overall suitability of the research tools and methodology. Insights and feedback from the participants were instrumental in revising the questionnaire and enhancing the study's validity.

The reliability of the instrument was assessed using the data gathered from the respondents. Cronbach's Alpha was computed with the assistance of SPSS (Version 22) to evaluate the internal consistency of the scale employed. Table 2 represents the Cronbach's alpha value of attitude, social influence, and barriers scales. The Cronbach's alpha value of overall variables is .841, the attitude is .675, social influence is .840, and

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the barriers are .810. This means that the overall and question-wise are 84% reliable and have good internal consistency.

Table 2: ***Reliability Analysis***

S.No	Scale	No of Items	Cronbach's Alpha Value
1	Overall Variables	29	.841
2	Attitude Scale	09	.675
3	Social influence	05	.840
4	Barriers	15	.810

Data Collection Procedure

The final questionnaire was circulated in person to a stratified sample of 124 women faculty members from various departments at the University of Peshawar. The researcher visited departments during official working hours and personally handed over the questionnaires to the participants, allowing them adequate time to respond. This approach facilitated a higher response rate and enabled clarification of any queries related to the questionnaire items. Ethical considerations, such as informed consent, confidentiality, and voluntary participation, were strictly observed throughout the data collection process. Follow-up visits were conducted over about two weeks to ensure maximum participation and to retrieve completed questionnaires promptly.

Data Analysis

The data obtained through the questionnaires were coded and entered into SPSS (Statistical Package for the Social Sciences), version 22, for analysis. Descriptive statistics, such as frequencies, percentages, means, and standard deviations were utilized to present an overview of the demographic profiles and to summarize participants' attitudes, social influences, and perceived obstacles related to technology adoption. To evaluate the internal consistency of the measurement scales, reliability testing was conducted using Cronbach's alpha. Where relevant, inferential statistical techniques, including regression analysis, were applied to explore significant differences in overall social influence and perceived barriers in relation to participants' overall attitudes.

RESULTS AND DISCUSSION

Data Screening and Response Rate

Before conducting the data analysis, all returned questionnaires were screened for completeness and accuracy. A total of 124 questionnaires were distributed among women faculty members at the University of Peshawar. Of these, 85 were returned. After a thorough review, 14 questionnaires were found to be either incomplete or incorrectly filled out and were therefore excluded from the final analysis. Consequently, 71 valid questionnaires were retained for statistical analysis, yielding an effective response rate of 57.3%.

Demographic Information of Respondents

Age-Wise Analysis of Respondents

Table 3 shows that a majority of the participants (56.3%, n = 40) were between the ages of 26 and 35 years. Respondents aged 36 to 45 years accounted for 40.8% (n = 29) of the total sample. Only a small proportion of the participants (2.8%, n = 2) were aged 56 years and above. This indicates that the sample was primarily composed of younger to middle-aged adults.

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Table 3: ***Age Frequency Distribution (N=71)***

Age	Frequency	Percentage
26-35	40	56.3
36-45	29	40.8
56 and above	2	2.8
Total	**71**	**100.0**

Qualification-Wise Analysis of the Respondents

The educational qualifications of the respondents are summarized in Table 4. Slightly more than half of the participants (52.1%, n = 37) held a PhD degree, while the remaining 47.9% (n = 34) had completed an MS or M.Phil. This indicates a fairly balanced distribution, with a slight majority of respondents possessing doctoral-level qualifications.

Table 4: ***Qualification Distribution (N=71)***

Qualification	Frequency	Percentage
MS/M.Phil	34	47.9
PHD	37	52.1
Total	**71**	**100.0**

Designation-Wise Analysis of the Respondents

Table 5 presents the designation-wise distribution of the respondents. The majority of participants (84.5%, n = 60) were lecturers. A smaller portion were associate professors (12.7%, n = 9), and only 2.8% (n = 2) of the respondents were assistant professors. This suggests that the sample is predominantly composed of lecturers, with relatively few participants holding higher academic ranks.

Table 5: ***Designation-wise Distribution (N=71)***

Designation	Frequency	Percent
Lecturer	60	84.5
Assistant Professor	2	2.8
Associate Professor	9	12.7
Total	**71**	**100.0**

Faculty-Wise Analysis of the Respondents

Table 6 shows, the largest group of participants belonged to the Faculty of Social Sciences, comprising 39.4% (n = 28) of the sample. This was followed closely by the Faculty of Management and Information Sciences (FMIS) with 38.0% (n = 27). The Faculty of Arts and Humanities accounted for 15.5% (n = 11), while the Faculty of Life and Environmental Sciences had the fewest respondents, representing 7.0% (n = 5). These results indicate that the sample was predominantly drawn from the Social Sciences and FMIS faculties.

Table 6: ***Faculty-wise frequency Distribution (N=71)***

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Faculty	Frequency	Percent
FMIS	27	38.0
Arts and Humanities	11	15.5
Life and Environmental Sciences	5	7.0
Social Sciences	28	39.4
Total	**71**	**100.0**

Main Outcomes

Status of Technology Adoption Behavior of Women Faculty Members during Information Seeking

Table 7 presents the means and standard deviations for statements related to faculty members' attitudes toward technology use in teaching. The highest mean score (M = 4.46, SD = 0.56) was observed for the statement, *"It is sufficient for me to know the basic functionalities of a technology to use it,"* indicating that most faculty feel comfortable using technology at a basic level without requiring in-depth knowledge. Similarly, participants expressed enjoyment in learning to use new technology in their teaching practices (M = 4.10, SD = 0.94) and reported actively experimenting with new technologies to understand their features (M = 4.06, SD = 0.92), reflecting an overall positive attitude toward engaging with new tools. However, responses to the statement *"I predominantly adopt new technologies because I have to"* (M = 3.87, SD = 0.96) suggest that external pressure or institutional requirements may also influence adoption. While some faculty reported a tendency to explore technologies in detail before integration (M = 3.72, SD = 0.68), fewer made a conscious effort to deeply understand how technologies function (M = 3.51, SD = 0.50). Additionally, there was moderate agreement with the statement that functionality is sufficient without concern for underlying mechanisms (M = 3.38, SD = 0.57). The enjoyment of testing new technology for educational purposes was relatively low (M = 3.34, SD = 1.13), with notable variability in responses. Interestingly, the lowest mean was recorded for the statement regarding the use of technology to its full potential (M = 3.11, SD = 0.40), suggesting a limited interest in fully exploring advanced features. The overall attitude toward technology (Overall ATT) had a moderately positive mean score (M = 3.73, SD = 0.43), indicating that while faculty generally hold favorable views about technology, their engagement is often limited to surface-level use rather than in-depth application.

Table 7: ***Descriptive Statistics of Attitude Towards Technology Adoption Behavior***

Statements	Mean	S. Deviation
It is sufficient for me to know the basic functionalities of a technology to use it.	4.46	.556
I enjoy spending time learning to use new technology effectively in my teaching practices.	4.10	.943
When I encounter new technology, I actively experiment with its features to understand its use.	4.06	.924
I predominantly adopt new technologies because I have to	3.87	.955
I like to explore technology in detail before integrating it into my teaching.	3.72	.680
I make an effort to understand how a new technology	3.51	.504

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functions in detail		
It is enough for me that technology works; I am not concerned with understanding how or why.	3.38	.570
I enjoy testing the functionalities of new technologies for educational purposes.	3.34	1.133
I aim to utilize the full potential and features of the technology I adopt.	3.11	.398
Overall ATT	3.73	.430

Status of Social Influence towards Technology Adoption

Table 8 displays the descriptive statistics for faculty members' responses related to social influence on technology adoption in teaching. The results indicate that social factors play a significant role in shaping faculty attitudes and behaviors regarding the use of technology. The highest mean was reported for the item, *"When I use technology in teaching, I ask my friends for useful information"* (M = 4.55, SD = 0.50), suggesting that peer guidance is a strong influence during technology use. Similarly, high mean scores were observed for *"Using technology in my teaching helps me feel more connected to my friends and colleagues"* (M = 4.51, SD = 0.50) and *"When I use technology in teaching, I often consult others for help in choosing the best available alternative"* (M = 4.51, SD = 0.50), indicating a strong sense of collaboration and reliance on social networks when adopting or utilizing technology in teaching. Faculty members also reported that they frequently gather information from friends or colleagues about the technologies they use (M = 4.04, SD = 0.20), though with less variability in responses. The item with the lowest mean score was *"My use of technology in teaching is influenced by the expectation of my peers and colleagues"* (M = 3.56, SD = 0.50), suggesting that while peer expectations do have an influence, they are less impactful than direct support or information sharing. The overall social influence (Overall SI) score was moderately high (M = 4.23, SD = 0.39), highlighting that faculty members generally perceive their social environment, particularly peer advice, support, and shared knowledge, as an important factor in their technology adoption practices.

Table 8: ***Descriptive Statistics of Social Influence towards Technology Adoption***

Statements	**Mean**	**S. Deviation**
When I use technology in teaching, I ask my friends for useful information.	4.55	.501
Using technology in my teaching helps me feel more connected to my friends and colleagues.	4.51	.504
When I use technology in teaching, I often consult others for help in choosing the best available alternative.	4.51	.504
When I use technology in teaching, I frequently gather required information about it, from friends or colleagues.	4.04	.203

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My use of technology in teaching is influenced by the expectation of my peers and colleagues.	3.56	.499
Overall SI	4.23	.392

Status of Barriers in Adoption of Technology

Table 9 presents the descriptive statistics regarding the perceived barriers to technology adoption during information seeking among faculty members. The results indicate that several infrastructural and technical limitations are considered major obstacles. The most prominent barriers were *lack of access to technology* (M = 4.76, SD = 0.52), *old equipment* (M = 4.73, SD = 0.53), and *lack of effective training* (M = 4.70, SD = 0.60), highlighting systemic issues in resource availability and institutional support. *Equipment failure or malfunction* (M = 4.52, SD = 0.98) and *slow domain performance* (M = 4.42, SD = 0.50) were also rated highly, suggesting that hardware and connectivity issues disrupt faculty members' ability to adopt and effectively use technology. Similarly, concerns such as *outdated or malfunctioning software* (M = 4.35, SD = 0.66), *lack of expertise* (M = 4.18, SD = 0.78), and *lack of basic technological skills* (M = 4.15, SD = 0.92) reflect personal and institutional readiness challenges. *Lack of faculty interest* (M = 4.13, SD = 0.89) and *poor internet connectivity* (M = 3.97, SD = 0.94) further emphasize motivational and infrastructural constraints. Meanwhile, lower mean scores were reported for *lack of organizational support* (M = 3.96, SD = 0.90), *fear of using technology* (M = 3.79, SD = 0.97), and *legal issues or licensing* (M = 3.35, SD = 0.66), indicating moderate concern in these areas. The least concerning barriers included *lack of time to learn new technology* (M = 3.17, SD = 0.91) and *ethical issues* (M = 2.28, SD = 1.03), suggesting that these are not major hindrances for most faculty members. The overall mean score for barriers (M = 4.03, SD = 0.46) suggests that respondents generally perceive a high level of barriers in adopting technology during information seeking, with infrastructural deficiencies and inadequate training emerging as the most significant concerns.

Table 9: ***Descriptive Statistics about Barriers in the Adoption of Technology During Information Seeking***

Statements	Mean	S. Deviation
Lack of access to technology	4.76	.520
Old equipment	4.73	.533
Lack of effective training	4.70	.595
Equipment failure or Malfunction	4.52	.984
Domain too slow	4.42	.497
Out of date software or software malfunction	4.35	.657
Lack of expertise to use technology	4.18	.780
Lack of basic technology skill	4.15	.920
Lack of faculty member interest	4.13	.893

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Poor or low internet connectivity	3.97	.941
Lack of organizational support	3.96	.901
Fear of using technology	3.79	.970
Legal issues or licensing	3.35	.657
Lack of time to learn new technology	3.17	.910
Ethical issues	2.28	1.031
Overall Barriers	4.03	.463

Effect of Cumulative Barriers on Attitude towards Technology Adoption of Women Faculty

A simple linear regression was conducted to examine whether *overall barriers* significantly predicted *overall ATT* (overall attitude). The results indicated that the model was statistically significant, F (1, 69) = 4.33, p = .041. The predictor variable (*overall Barriers*) accounted for approximately 5.9% of the variance in overall attitude scores, R^2 = .059, with an adjusted R^2 = .045, and a standard error of the estimate = 0.42. The correlation between the predictor and outcome variables was R = .243, indicating a small effect size (Cohen, 1988).

These results suggest that perceived barriers are a statistically significant but modest predictor of overall attitudes. However, the direction (positive or negative) and practical strength of this relationship can only be determined by examining the regression coefficients (e.g., B and β). The unstandardized regression coefficient revealed that barriers significantly predicted attitude, B = 0.23, SE = 0.11, β = .24, $t(69) = 2.08$, p = .041. This suggests that as perceived barriers increase, the attitude toward technology becomes more positive, albeit modestly.

Effect of Cumulative Social Influence on Attitude towards Technology Adoption of Women Faculty

A simple linear regression was conducted to examine whether overall social influence (overall SI) significantly predicted overall attitudes (overall ATT). The results indicated that the model was statistically significant, F (1, 69) = 52.94, p < .001. The predictor variable (*overall SI*) accounted for approximately 43.4% of the variance in overall attitudes, R^2 = .434, adjusted R^2 = .426, indicating a large effect size (Cohen, 1988). The standard error of the estimate was 0.33.

The unstandardized regression coefficient for *overall SI* was B = 0.721, t (69) = 7.28, p < .001, suggesting that for each one-unit increase in *overall SI*, *overall ATT* increases by approximately 0.72 units. The standardized beta coefficient was β = .659, indicating a strong positive relationship between social influence and attitudes.

In other words, participants who reported higher levels of perceived social influence also tended to report more positive attitudes. These findings support the idea that social influence is a substantial and statistically significant predictor of overall attitudes.

Discussion

The objective of this study was to examine the status of technology adoption behavior among women faculty during information seeking at the University of Peshawar. The findings are discussed under three key themes: attitude toward technology adoption, influence of social factors, and barriers to adoption, followed by regression analyses testing two hypotheses.

The results of this study suggest that women faculty generally demonstrate a moderately positive attitude toward technology adoption (M = 3.73, SD = 0.43), with higher means

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associated with practical use and experimentation rather than deep technological engagement (e.g., "It is sufficient for me to know the basic functionalities of a technology to use it," M = 4.46, SD = 0.56). This finding aligns with Franke et al. (2018), which notes that users may interact with technology in a way that is functionally sufficient, yet not necessarily explorative or in-depth. Lower scores on items such as using technology to its full potential (M = 3.11, SD = 0.40) suggest limited intrinsic motivation to engage in deeper learning, possibly due to external or contextual limitations. This pattern may indicate a superficial level of adoption, where technology is used just enough to fulfill immediate academic or professional tasks, without a drive to explore advanced capabilities. It could also reflect a lack of perceived need for advanced features, especially if basic functionalities meet their current goals. Furthermore, this behavior might be a response to persistent barriers such as limited access to modern tools, inadequate training, or poor institutional support-which inhibit faculty from investigating effort into deeper engagement with technology. In such environments, functional sufficiency becomes a practical adaptation rather than a lack of interest, underscoring the need for structural improvements and training to foster more meaningful adoption.

Social influence emerged as a strong positive predictor of attitude toward technology (R^2 = .434, β = .659, p < .001), indicating that women faculty are highly influenced by peer networks when adopting educational technologies. The strongest agreement was found for seeking guidance from peers (M = 4.55, SD = 0.50) and feeling connected to colleagues through technology use (M = 4.51, SD = 0.50). These findings are consistent with social constructivist perspectives, suggesting that collaborative environments and professional networks play a critical role in facilitating technology adoption. Such results are in line with the findings of Al-Senaidi et al. (2009), who emphasized the importance of social environments in supporting the use of educational technologies in Omani higher education contexts. Their study highlighted the lack of peer sharing as a key barrier; by contrast, the present study suggests that a strong collegial network may act as a significant enabler in the University of Peshawar context.

Despite moderate attitudes and strong social influence, substantial barriers to technology adoption persist (Overall Barriers M = 4.03, SD = 0.46). These include infrastructural and technical challenges such as lack of access to technology (M = 4.76, SD = 0.52), outdated equipment (M = 4.73, SD = 0.53), and inadequate training (M = 4.70, SD = 0.60). Such findings are congruent with studies by Butler and Sellbom (2002), which identified similar obstacles, including lack of institutional support, lack of time, and unreliable technology. The results also echo findings by Al-Senaidi et al. (2009), who categorized barriers into institutional, personal, and systemic levels, with infrastructure and training emerging as persistent issues across cultural contexts. Interestingly, time constraints and ethical concerns were the least reported barriers (M = 3.17, SD = 0.91 and M = 2.28, SD = 1.03, respectively), suggesting that faculty perceive structural deficiencies as more obstructive than personal or philosophical reservations.

The hypothesis that barriers significantly affect attitudes was supported ($F(1, 69) = 4.33$, p = .041, R^2 = .059). Although statistically significant, the effect size was small (β = .243), indicating that while perceived barriers negatively impact attitudes, their influence is modest. This supports the argument by Ertmer (1999) and later research that while external barriers matter, internal factors like beliefs and values often play a larger role in attitude formation.

The second hypothesis, which proposed that overall social influence significantly affects women faculty's attitudes toward technology adoption, was strongly supported by the

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data ($F(1, 69) = 52.94$, $p < .001$, $R^2 = .434$). The standardized beta coefficient ($\beta = .659$) indicates a substantial positive relationship, suggesting that women faculty who experience higher levels of peer interaction and collegial encouragement are more likely to adopt a favorable attitude towards using technology in teaching and information seeking.

This result is consistent with the TAM extensions and the UTAUT, which emphasize social influence as a critical determinant of technology acceptance. The strong effect size suggests that social networks, such as colleagues and departmental culture, serve not only as information sources but also as motivational and emotional support systems that validate the use of new technologies. As women faculty tend to rely on shared experiences and collaborative learning environments, the presence of active peer support appears to significantly enhance their openness to adopting technology. These findings reinforce the argument made by Venkatesh et al. (2003) and others that perceived social support can reduce resistance to change and lower the perceived complexity of technological tools. Furthermore, the current results offer a cultural contextualization by illustrating that in a university setting like the University of Peshawar, strong interpersonal ties may help mitigate other systemic or infrastructural shortcomings. When faculty members feel supported and encouraged by peers, they are more likely to experiment with and adopt new technologies, even in environments where institutional support is insufficient.

Conclusion

This study explored the technology adoption behavior of women faculty members during information seeking at the University of Peshawar. The analysis focused on three key dimensions: attitudes toward technology, the role of social influence, and the impact of barriers on technology adoption. The findings present a nuanced understanding of how women faculty engage with technology in their academic practices.

The results showed that women faculty members generally possess moderately positive attitudes toward the use of technology, with a willingness to explore and experiment with basic tools. The highest agreement was with the statement that basic functional knowledge is sufficient for using technology, indicating a surface-level adoption. Faculty members expressed enjoyment in learning new tools but demonstrated limited efforts to deeply understand or fully utilize the technologies available to them. The lowest mean scores were observed in statements related to using technology to its full potential, which points to an underutilization of features and capabilities.

Social influence emerged as a strong and statistically significant predictor of positive attitudes. Faculty members frequently seek guidance, share information, and feel more connected through the use of technology in teaching. Peer support and collaborative learning are key facilitators in overcoming adoption hesitations. This social interaction significantly enhances confidence and encourages broader experimentation with technology. Conversely, the study identified several barriers that negatively affect attitudes toward technology adoption. These include lack of access to updated technology, old equipment, poor internet infrastructure, inadequate training, and limited institutional support. While these barriers had a statistically significant effect, the impact was relatively modest compared to the influence of social factors.

The regression analyses confirmed that perceived barriers have a small but significant negative effect, while social influence has a large and positive effect on overall attitudes. These findings highlight the dual importance of addressing infrastructural constraints and leveraging social environments to foster a culture of technology integration.

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Recommendations

The following recommendations are derived from the key findings of the study for improving technology adoption behavior among women faculty during their information seeking:

It is recommended to upgrade technological infrastructure through regular investment in modern digital tools, updated hardware, and improved internet connectivity at the University of Peshawar, which will enable the women faculty to use for more sophisticated technological devices during their information seeking.

It is also recommended to develop structured training programs tailored to varying skill levels, focusing on both foundational and advanced technological skills' development among the women faculty.

In order to facilitate peer mentorship, formal and informal programs should be encouraged where tech-savvy faculty support their colleagues. The university can actively leverage social influence through structured programs such as formal peer-led technology learning circle, faculty tech ambassadors, and departmental digital innovation teams. These programs can include scheduled hand-on workshops, collaborative problem-solving session, and cross-disciplinary mentoring, where experienced faculty guide their peers in applying technology for teaching and research.

It is further recommended to introduce recognition and reward systems to incentivize faculty who integrate innovative technology into their teaching and research. This kind of motivational tactics would prove more effective in adopting technologies for information seeking.It is recommended to strengthen organizational support through clear policies, budget allocation, leadership commitment, and strategic planning. Moreover, it should be ensured that institutional platforms and tools are user-friendly and intuitive to minimize learning barriers.

It is recommended to integrate digital literacy and technology use into ongoing faculty development programs.The Creation of a community of practice (CoP) where faculty can share best practices, experiences, and resources, would also be more fruitful in enhancing the technology adoption among the participants.

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