Exploring the factors affecting employees' adoption of digital libraries in Bangladesh

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Abstract

Purpose: Digital library adoption plays a crucial role in the career success of library employees in today's technologically driven world. As libraries evolve to meet the demands of the digital age, employees who embrace and effectively utilize digital library resources and technologies are better positioned for professional growth and advancement. In line with the sociopolitical agenda of making digital Bangladesh (now smart Bangladesh) employees dealing with digital libraries have enough potential to get priority for career progression by showing an upgraded knowledge base along with compatible skills to the proper authority in Bangladesh. This study attempts to figure out the in-depth factors influencing employees' adoption of digital libraries in Bangladesh.

Methodology: Qualitative method was employed where qualitative data were collected through interviews and analyzed with a thematic approach.

Findings: The analysis found that organizational culture and managerial intervention as organizational factors, IT innovativeness, self-efficacy, compound knowledge as individual characteristics, digital library usefulness, and subjective norms play as external factors in influencing digital library adoption among its employees. Perceived job success and perceived satisfaction found as mediating factors in the adoption process.

Keywords: Digital library, digital library adoption, Technology Acceptance Model (TAM), Social Cognitive Career Theory (SCCT).

1. Introduction

Digital libraries (DLs) have become indispensable in today's information landscape. They have undergone a remarkable transformation from traditional repositories to virtual spaces, thanks to technological advancements and the widespread adoption of the internet (Isah et al., 2014). This transformation has revolutionized the creation, dissemination, and access of information, making digital libraries critical components of modern knowledge management. In a technology-driven society, embracing digital libraries is crucial for the professional development of library personnel (Wang & Noe, 2017). Employees who effectively utilize digital resources enhance their career prospects by showcasing their skills and knowledge (Alshahrani, 2017). Effective management of digital resources, including e-books and databases, is crucial for the successful adoption of digital libraries. Library professionals must possess the necessary skills to effectively manage electronic resources, ensuring user satisfaction. They also play a vital role in facilitating access to digital resources through metadata management and the adoption of new technologies.

In recent years, there has been considerable attention in research circles to the adoption of digital libraries by library personnel. Several studies have explored this area, with a focus on key factors that influence staff acceptance. These factors encompass staff attitudes and beliefs, organizational culture, training, support, and technological infrastructure. Additionally, researchers have examined the impact of digital library adoption on services and user satisfaction. Positive outcomes have been identified, including enhanced information accessibility and operational efficiency. However, user satisfaction depends on factors such as resource quality, support availability, and system usability.

The Government of Bangladesh has made its commitment to the Sustainable Development Goals (SDGs) and intends to create a smart Bangladesh following current global trends. The government's adoption of the SDGs demonstrates the country's dedication to attaining sustainable development, which includes strides in technology and education. The emphasis on creating a smart Bangladesh also highlights the urgency of digitization and the use of contemporary technologies in numerous fields. These facts provide a conducive context for the incorporation of digital libraries in academic settings. Previous research conducted in Bangladesh has predominantly focused on user perspectives and the challenges encountered by academic institutions concerning digital libraries (Alam, 2012; Islam, 2019). The existing studies have centered around the utilization of digital libraries within academic libraries in Bangladesh (Begum & Elahi, 2022), the establishment of digital libraries in Bangladesh (Shuva, 2012), initiatives relating to digital libraries in Bangladesh (Alam & Islam, 2011; Islam et al., 2019), as well as the practices and challenges associated with digital preservation through Institutional Repositories (Islam et al., 2020). Tabassum et al. (2015) investigated the variables that

impacted the use of digital libraries by users based on a case study of the East West University Digital Library (EWUDL) in Bangladesh.

Addressing this gap, this study aims to explore the factors influencing the adoption of digital libraries among academic library professionals in Bangladesh.

2. Research objectives

The main aim of the study was to explore the factors affecting the adoption of digital libraries among university library professional staff in Bangladesh. Therefore, the objectives of the study were to:

- identify the key individual factors that influence the adoption of digital libraries among the university library professional staff in Bangladesh
- identify the organizational factors that influence adoption and
- identify the factors that mediate the adoption process.

3. Literature review

The adoption and usage of digital library systems by library employees is influenced by a number of factors. Organizational support, including financial resources, infrastructure, and training programs, helps military digital libraries expand and develop, according to Abdul Rahman et al. (2020). Organizational support and resource availability affect the adoption of information and communication technologies in developing nation government institutions (Gupta et al., 2008). Employee adoption of innovations was most affected by training, help, and managerial commitment in Australian enterprises. Frambach and Schillewaert (2002) developed a multi-level framework to explain how top management support, communication and information sharing, and organizational culture affect organizational innovation. Management support, awareness, and perceived benefits increased institutional repository use (Anenene & Oyewole, 2017). Khan and Bhatti (2017) examined the digital skills university librarians in Pakistan need to create and manage digital libraries and stressed the need for training and professional development programs. Hamad et al. (2018) underlined the need for staff education and awareness in digital library service rollout. To promote digital library usage, Jantz (2012) suggested creating an innovative library culture. Management support, cooperation, and an innovation culture were essential for digital library uptake, according to Jantz (2012). Mbachu and Bizien (2017) also emphasized managerial support for IT adoption. In a theoretical research, Molinillo and Japutra (2017) found the relevance of organizational size, technological infrastructure, and top management support in digital information and technology adoption. Thong et al. (2002) found that system functioning and user-friendliness affected digital library uptake. Computer self-efficacy, personal innovation, managerial support, and resource availability also affected adoption. Oguz (2016) said that organizational culture, management support, and resource accessibility predict adoption in a digital library.

The studies (Peansupap & Walker, 1996; Talukder & Quazi, 2010; Wang & Po-An Hsieh, 2006; Al-Gahtani & King, 1999; Pembee, 2014) found that perceived usefulness, perceived ease of use, attitude, and motivation influence library staff adoption and use of digital library technologies. Al-Gahtani and King (1999) found a positive relationship between employee IT attitudes and satisfaction. Pembee (2014) found that perceived usefulness, usability, and social effect influenced how [[[University staff and students utilized library information systems. Peansupap and Walker (1996) found that younger and better-educated staff were more inclined to use digital library systems. Hong et al. (2002) found that computer self-efficacy, perceived usefulness, and perceived ease of use greatly influence digital library uptake. Isah et al. (2014) found that academic staff's familiarity with digital resources and computer literacy affects their adoption of digital libraries. Purwanto et al. (2021) examined how psychological capital and real leadership affect creative work behavior.

Self-efficacy, optimism, resilience, and hope may affect a person's ability to master new technologies, according to a study. San Martín and Herrero (2012) used innovativeness in the UTAUT framework to examine how customers' psychological factors impacted their willingness to buy online while going to rural locations. The study found that innovativeness, performance, and effort expectations influenced technology adoption decisions. Khan and Bhatti (2017) found that librarians need digital capabilities to manage digital libraries. The authors advise librarians to develop, manage, and preserve digital content. Isah et al. (2014) examined how Nigerian academic staff embraced and utilized digital library resources, emphasizing the importance of digital literacy and access to digital resources for digital library adoption. Purwanto et al. (2021) studied how psychological capital and real leadership affect innovation work behavior, highlighting the importance of psychological factors in innovation and technology adoption.

Technological factors like system quality, information quality, and user interface design affect library staff acceptance and use of digital library technologies (Frambach & Schillewaert, 2002; Talukder & Quazi, 2010; Wang & Butler, 2006; Wang & Po-An Hsieh, 2006). Frambach and Schillewaert (2002) developed a multi-level technological, organizational, and environmental framework for organizational innovation adoption. Wang and Butler (2006) found that digital library system functionality and features affected staff use. Talukder and Quazi (2010) highlighted that perceived usefulness, usability, and compatibility affect employees' innovation adoption and use. Complex information systems' symbolic acceptability, widespread use, and emergent use determine the compulsory organizational framework, according to Wang and Po-An Hsieh (2006). Aharony (2015) prioritized relative advantage, compatibility, and complexity above trialability and observability. Hong et al. (2002) found that user acceptance was based on the system's quality, utility, and usability. According to Mbachu and Bizien (2017), employees' perceptions of technology's utility and simplicity and their attitudes toward change and innovation affect organizational technology adoption.

Buchanan and Salako (2009) found that ongoing evaluation and user-centered design were necessary for user acceptability and satisfaction in a digital library. They also found that a digital library's effectiveness and usability were crucial to its uptake.

Aharony (2015) found that perceived usefulness, ease of use, and security concerns affected information professionals' cloud computing adoption. Thong et al. (2002) examine interface characteristics, organizational environment, and individual factors in digital library user adoption. They found that User interface features, perceived usefulness, and perceived usability all affect digital library user satisfaction. Tabassum et al. (2015) found that relevant content, ease of access, and a user-friendly interface affected users' usage of a digital library system at a Bangladeshi private university library. Digital library system characteristics impact library personnel usage and acceptability. Peansupap and Walker (1996) found that Australian construction enterprises adopted ICT based on perceived value, user-friendliness, and system compatibility. According to Talukder and Quazi (2010), employees' perceptions of usefulness, usability, and technology impact their adoption and usage of innovation. Wang and Butler (2006) found that system, information, and service quality affect information system utilization. Wang and Po-An Hsieh (2006) also noted that symbolic adoption, extended use, and emergent use of complex information systems in mandatory organizational settings are important considerations.

Adeniran (2011) examined student and faculty satisfaction with academic library services. The study found that user happiness is substantially connected with digital libraries' accessibility, informative value, and relevant materials. User enjoyment may increase staff acceptance of digital libraries. Singeh et al. (2021) identified key success factors for African digital libraries. The study focused on technological infrastructure, user training, and stakeholder involvement, emphasizing solution-based strategies over problem-focused ones. Owusu-Ansah et al. (2018) examined Ghanaian distance learning's digital library utilization factors. Their study found that user-friendly interfaces, quick access, and relevant content encourage distance education students and staff to use digital libraries. Singeh et al. (2021) identified key considerations for digital library deployment in Africa, stressing the significance of concentrating on solutions rather than issues. Their findings highlight the requirement for sufficient infrastructure, trained staff, and stakeholder participation.

The acceptance and utilization of digital libraries by library personnel is impacted by a range of intricate factors. The findings of this systematic investigation underscore the significance of organizational, technical, psychological, and individual elements in the assimilation of digital libraries among employees of academic institutions. The results suggest that a supportive organizational climate, a user-friendly interface, pertinent resources, as well as psychological variables such as innovativeness and user satisfaction, are crucial for the successful adoption of digital libraries. Future research could focus on

devising strategies and interventions to address these challenges and foster the utilization of digital libraries in academic environments.

4. Methodology

The study utilized qualitative methods. Data were collected using open–ended and flexible techniques such as interviews. A thematic analysis approach was used to analyze interview data. The analysis process followed six steps as prescribed by Caulfield (2022). First, the opinions expressed by the interviewees were accurately transcribed, and then coded, themes generated, themes reviewed, themes defined and named, and finally written up. Thematic analysis is an effective approach to qualitative data analysis that utilizes interview transcripts or written materials to identify and discern patterns and themes. Interpreting subjective experiences helps reveal the meaning of data (Braun& Clarke, 2006).

From the digital library expert staff in Bangladesh, we selected conveniently 7 staff on the basis of expertise, role, and designation (2 librarians, 3 renowned experts in digital library development, 2 rising experts) to interview.

5. Findings

The qualitative data from the research highlights several key themes related to factors affecting digital library adoption among employees. Here is a summary of the findings based on the excerpts provided:

5.1 Organizational factors

Respondents were asked, "How does your library help you in adopting the digital library?"Qualitative data of the study reveals that the organization plays an important role in adopting digital libraries among its employees. On the contrary, organizational issues positively impact digital library adoption. Managers play a crucial role in facilitating the adoption of innovation by providing support and intervention. Employees express the need for adequate training and resources to effectively utilize new technologies and systems. When managers offer training sessions, allocate resources, and provide support, employees feel more confident and competent in using new systems. This support not only enhances individual proficiency but also fosters a positive organizational climate that promotes innovation.

5.1.1 Resources facilities

Promoting acceptance and preparedness for change within an organization often necessitates the backing of management and the allocation of resources, including technology and tools. When employees are provided with the requisite assistance and tools to adjust to changes, they are more inclined to embrace novel concepts and systems. This indicates that employee confidence, productivity, creativity, and adaptability to evolving circumstances are all positively impacted by the availability of resources and managerial support.

"I was given a computer when I started working there and using it to do different activities related to my job duties has been quite helpful. In particular, my boss has continually encouraged me to take on tasks that are necessary for the creation of a digital library". KI$_5$

5.1.2 Training facilities

Employees recognize the importance of receiving proper training when it comes to implementing new software or technology. They stress that although they may attempt to learn on their own, this often leads to challenges and discomfort. However, after undergoing relevant training, individuals feel more capable and confident when using new technologies. This suggests that managers play a significant role in supporting employees by providing training opportunities, as it greatly influences their ability to accept and effectively apply innovations.

"Whenever I acquire novel software or applications, I endeavor to utilize them independently. However, this often presents challenges and consumes a significant amount of time, leading to feelings of unease. Conversely, when provided with adequate training, the utilization of such software becomes significantly more manageable. As a consequence, I consider adequate training to be a fundamental element in achieving optimal proficiency in the utilization of software and applications." KI$_1$ & KI$_6$

5.1.3 Organizational culture

Organizational culture significantly influences individuals' attitudes and behaviors toward adopting innovation. Both competitive and cooperative cultures have their merits in fostering innovation. A competitive environment can stimulate individuals to excel and deepen their engagement with technology, leading to higher levels of expertise.

"The competitive environment in my library has been instrumental in enhancing my proficiency in digital technologies and systems. The intense competition among colleagues fosters a sense of urgency and pressure to excel, leading to a deeper engagement with the subject matter and a greater mastery of skills. As a result, I have made significant progress in my knowledge and competence in this field." KI$_7$

Conversely, a cooperative atmosphere encourages collaboration, resource sharing, and creative problem–solving, ultimately driving effective outcomes.

"…my coworker greatly assists me in understanding various technologies and their practical applications. This has significantly enhanced my knowledge and expertise. KI$_1$

> *…whenever I encounter any difficulties or challenges, my teammate is always there to help me overcome them. KI₂ "*

Therefore, cultivating a balanced organizational culture that combines elements of healthy competition and collaboration is essential for promoting innovation adoption.

5.2 Personal characteristics in adopting the digital libraries

5.2.1 Individual characteristics
Individual characteristics represent an individual's cognitive interpretations of themselves as well as the digital library that an individual is considering adoption. Individual factors comprise compound knowledge, IT innovativeness, and self-efficacy.

5.2.2 Self-efficacy
The study findings demonstrate the participants' high level of confidence in their computer skills, particularly regarding the utilization of digital libraries. It underscores that the participants attribute their proficiency to their early exposure to computers and their ongoing interest in technology. A key theme that emerged from the participants' accounts is the significance of early exposure to computers in shaping their interests and expertise. This suggests that individuals who had access to computers at a young age were more likely to establish a solid foundation in digital literacy and subsequently feel self-assured in utilizing technological tools like digital libraries.

> *"I had a fascination with using computers from the early stage of my university life. I have acquired basic knowledge on computer applications from then that helps me to gain expertise in digital library".*
> KI₁, KI₃, KI₅, & KI₆

Furthermore, the participants' narratives strongly indicate that their confidence in using computer technology is directly linked to their early experiences and continued involvement with the subject matter. This implies that familiarity and regular interaction with technology from a young age greatly contribute to one's proficiency and confidence in effectively using it.

> *"In the nascent stage of my university life, I developed an intense interest in utilizing computer technology, which has persisted to this day. This fascination stemmed from my early exposure to computers and their capabilities, which ignited my curiosity about their potential for transforming various aspects of modern life. As such, I have been drawn to the field of computer science and have eagerly pursued opportunities to expand my knowledge and expertise in this area".* KI₂ & KI₄

5.2.3 IT innovativeness

Participants exhibit a proactive approach to problem-solving and are enthusiastic about experimenting with new ideas and practices. They demonstrate a strong emphasis on their personal interests, driving innovation and showcasing a passion for emerging technologies, as well as a desire to stay ahead of the curve.

> "*The vast majority of my actions are motivated by my personal interests, which holds great significance for me. I have a natural affinity towards emerging technologies and derive considerable enjoyment from working with them*". KI$_6$

Furthermore, participants display a preference for independently resolving issues before seeking external assistance, highlighting their self-reliant and resourceful mindset.

> "*As an individual, I have consistently endeavored to introduce novel ideas and practices not only amongst my acquaintances but also within my professional circle. When confronted with a difficulty or obstacle, I have made it a point to first attempt to resolve the issue independently before seeking external assistance*". KI$_2$

5.2.4 Compound knowledge

Participants in this study acknowledge the importance of possessing a diverse range of skills in order to effectively manage digital libraries. They specifically highlight the significance of having a solid understanding of communication principles, library science, and English proficiency to operate successfully within digital library environments.

The participants also recognize the value of formal education and training programs, such as post-graduate diplomas and database design courses, in enhancing the skills and knowledge required for digital library operations.

> "*I possess a comprehensive understanding of communication principles, which enables me to effectively resolve issues related to digital library operations. I consistently keep myself informed about the latest developments and advancements in digital libraries. Additionally, I have undergone various formal educational programs, such as a post-graduate diploma in computer applications, and training in database design and programming languages, which have enhanced my skills and knowledge in this field*". KI$_1$

There is a consensus among the participants that in order to thrive proficiently within a digital library setting, a solid grounding in the principles of library science is imperative. This is due to the complex and dynamic nature of digital libraries,

which require individuals to possess a comprehensive understanding of the organizational and operational principles of traditional libraries.

> *"During my bachelor's and master's degrees, my major was library and information science, which is of utmost importance for my career in the digital library field."* KI$_1$

Moreover, the acquisition of a proficient command of the English language is imperative for achieving success within the context of a digital library environment. This is primarily because the manuals and instructions for digital library software are typically composed in English. Furthermore, in order to effectively interact with international partners, conduct procurement activities, and navigate various aspects of the digital library ecosystem, a strong command of the English language is necessary. Therefore, individuals who aspire to thrive in digital library environments should focus on developing their library science expertise and improving their English language proficiency.

> *"My proficiency in English has greatly helped me excel in the field of digital libraries. Since the digital library manual is written in English, being proficient in the language is necessary to effectively organize, maintain, and share digital information resources."* KI$_1$, KI$_2$, KI$_3$, KI$_4$, KI$_5$, & KI$_6$

Overall, the qualitative data from the study suggests that the participants attribute their proficiency in digital library operations to a combination of factors, including self-efficacy, IT innovativeness, and a well-rounded knowledge base acquired through formal education, training, and practical experience. Their narratives highlight the importance of early exposure to computers, continuous learning, and possessing a diverse range of skills for success in managing digital libraries.

5.3 DL usefulness

"How do you determine the usefulness of a digital library system before adopting it?"

The responses gathered from the participants indicated a unanimous agreement that discovering the potential benefits of the new technology is important before adopting it. Specifically, respondents noted that they assess the usefulness of the new technology, its intended purpose, and how it compares to previous technologies before deciding to implement it. They also mentioned that they experiment with the new features of the technology by seeking input from colleagues, both within and outside their library, who have previous experience with the technology.

5.3.1 Increase efficiency

The data suggests that staff members are more inclined to adopt technology that aligns with their professional goals and can enhance work efficiency. This indicates that employees are motivated to use technology that simplifies their tasks and streamline processes, ultimately resulting in improved efficiency in their work.

> "Staff members tend to be interested in technology that is applicable to their line of work and has the ability to further their professional goals. The interest in technology among employees is mostly driven by its potential to boost work efficiency." KI$_7$

5.3.2 Increase productivity

The qualitative feedback highlights that the use of digital libraries enhances productivity compared to traditional libraries. Digital resources and advanced technology enable quick retrieval and management of information, allowing individuals to access a wide range of documents efficiently. This indicates that technology adoption contributes to increased productivity by optimizing information access and utilization.

> "Using digital libraries increases my productivity compared to traditional libraries. The use of digital resources and cutting-edge technology in DL allows for effective information retrieval and management, enabling me to quickly access a variety of documents."KI$_2$

5.3.3 Appropriateness

Employees evaluate the suitability and relevance of technology for their intended use, considering factors such as functionality, reliability, and potential limitations. This demonstrates a thoughtful approach to technology adoption, where individuals assess its appropriateness based on how well it meets their specific needs and objectives.

> "I try to evaluate the technology's viability and appropriateness for the intended use, as well as any possible shortcomings or downsides."KI$_1$

5.3.4 Improve performance

Working in a digital library setting is perceived to significantly enhance job performance compared to traditional library environments. The availability of advanced tools for information retrieval, management, and user engagement is seen as crucial in improving effectiveness and accessibility. This suggests that integrating technology into professional settings can lead to tangible improvements in performance outcomes.

> *"Working in a digital library has been proven to considerably improve job performance compared to working in a traditional library, because it provides a platform for information retrieval, management, and user engagement that is more effective and accessible."* KI$_5$

> *"My job performance and effectiveness are greatly increased by working in a digital library since I have better access to a wealth of information resources and cutting-edge technological resources."* KI$_4$ & KI$_6$

5.4 Subjective norm

How have you been motivated to adopt a digital library?

Subjective norms such as supervisor encouragement, teacher's advice, peer pressure and the effect of social networks, have an impact on how digital library is adopted among the staff. Normative assumptions about when it is proper to embrace innovations might result in a sense of social pressure that can persuade workers to do so.

Subjective norms such as supervisor encouragement, teacher's advice, peer pressure, and the effect of social networks, have an impact on how digital library is adopted among the staff. The qualitative data gathered from the key informant interview lends further credence to the claim that subjective norms influence perceived success and thus encourage the adoption of digital libraries among university library professionals. The quotations serve as proof.

5.4.1 Teachers advice

The participants expressed their gratitude for the advice they received from their teachers, particularly in regard to the importance of technology experience. They perceive this advice as instrumental in enhancing their competitiveness in the job market, showcasing awareness of the changing demands of the labor market. By following this advice and acquiring technology skills, the participants believe they have been able to distinguish themselves as job candidates and stay abreast of industry trends.

> *"In my university class, I took the teacher's advice and sought technology experience, which has helped me in my job search. It has become essential to have knowledge of technology and digital tools as the labor market gets more competitive. I am thankful for my teacher's advice since it was quite helpful. I have been able to keep current with the newest trends and tools because of my technology skills, which have helped me stand out as a candidate on the job market."* KI$_1$ & KI$_6$

5.4.2 Supervisor encouragement

The support and encouragement from supervisors, particularly in relation to the creation and implementation of digital libraries, are emphasized. Participants acknowledged the influence of their supervisors in guiding their professional decisions

and career aspirations. Supervisor encouragement is viewed as a motivating factor in pursuing careers aligned with digital libraries, underscoring the significance of mentorship and leadership in career development.

> *"Top management and my supervisor of our library have been influential in encouraging and supporting the creation of the Digital Library, which has helped to ensure its effective implementation and functioning."* KI$_5$

> *"My ex-supervisor, whom I respect, look to for guidance, and who has a significant impact on the decisions I make about my behavior, thinks that my professional efforts should be focused on pursuing a career in the field of digital libraries."* KI$_4$

5.4.3 Network support

The participants emphasized the value of networking and utilizing platforms such as Twitter, LinkedIn, and academic forums to connect with peers and share knowledge. Networking is seen as a proactive approach to staying informed about technological advancements and discovering new tools and platforms for research and teaching. The participants engaged in critical evaluation of advice received from colleagues and weighed the merits and drawbacks of adopting new technologies, demonstrated a thoughtful approach to professional development.

> *"I appreciate networking and keeping up with technology as a proactive academic. I use Twitter, LinkedIn, and academic forums to meet like-minded people and share ideas. These encounters reveal new digital tools and platforms that may improve my research and teaching. I also weigh my colleagues' advice and the pros and downsides of adopting new technology. I do this to better my talents and progress my career."* KI$_3$

5.4.4 Peer assistance

Peer assistance is recognized as a valuable resource for learning and skill enhancement, regardless of one's level of expertise. Peers are credited with introducing participants to software tools and providing insights that contribute to personal improvement and professional growth. The participants acknowledged the significant benefits derived from peer advice and support, underscoring the importance of collaborative learning and knowledge-sharing among peers.

> *"Peer assistance may significantly enhance learning, independent of one's skill level or experience, according to scholarly debate on digital libraries. Peers may introduce people to important software tools that even information technology experts may not have seen, resulting in significant personal improvement. The author of this statement attests to the*

significant benefits they have gotten from their peers' advice and support."
KI₂

Overall, the qualitative data emphasized the significance of mentorship, networking, and peer collaboration in facilitating professional development, particularly in fields where technology plays a pivotal role, such as digital libraries. It highlighted the importance of leveraging advice and support from teachers, supervisors, colleagues, and peers to remain competitive and adapt to evolving industry demands.

5.5 Perceived satisfaction

How do you determine the satisfaction of adopting a digital library?

Employee satisfaction is a key mediating factor in influencing people's attitudes toward using cutting-edge resources like digital libraries. The frequency and extent of consumption are positively impacted by higher levels of satisfaction. Simply said, employees are more likely to utilize the digital library when they are happy.

5.5.1 External effects
The excerpt suggested that satisfaction significantly influences the adoption of innovative features within the digital library framework. Various factors, such as the library's functionality, management approach, organizational atmosphere, and personal achievements, impact user satisfaction. This implies that the effectiveness of the digital library goes beyond its technical aspects; management style and organizational culture also affect user satisfaction and adoption rates.

> *"Satisfaction significantly influences the adoption of innovative developments. Satisfaction depends on digital library functionality, management behavior, organizational environment, and also personal achievement, etc."* KI₇

5.5.2 Own experience
Individuals expressed satisfaction with their overall digital library experience. They noted improvements in their IT skills through interaction with the digital library, indicating a sense of empowerment gained from their experiences. This firsthand account reinforces the idea that engaging with the digital library promotes tangible skill growth and boosts confidence in tackling technological challenges.

> *"My overall experience with the Digital Library has left me quite satisfied. My IT knowledge has increased by working in the digital library. I am now capable of handling any difficulties."* KI₂ & KI₄

5.5.3 Digital library convenience
Users appreciated the diverse features offered by the digital library, enhancing their work experiences. They view the platform as cutting-edge, incorporating advanced technology. As a valuable resource for academic pursuits, the digital library is seen

as convenient and supportive. This suggests that users perceive the digital library not only as a work–related tool but also as a catalyst for personal and professional development.

> "*I am satisfied with the wide variety of features the Digital Library offers, which greatly improve my job experience. This cutting–edge platform is a great tool for my scholastic activities because of the priceless assistance and convenience it offers.*" KI$_1$

5.5.4 Enjoyment

Multiple users expressed enthusiasm and joy in using the digital library. They derive pleasure from learning new things and appreciate the conducive working environment it provides. This emotional connection and positive attitude toward the digital library can lead to increased engagement and sustained usage. It emphasizes that the digital library offers more than just functionality; it provides a gratifying and enjoyable experience for its users.

> "*I am really enthusiastic about using digital library, and find joy working in that environment. I also enjoy learning new things. I am also satisfied with the working in my digital library.*" KI$_3$, KI$_5$ & KI$_6$

5.6 Perceived success

How do you determine the success of your expertise in the digital library?

The adoption of digital libraries by university staff in Bangladesh is greatly influenced by a key mediating element known as the perceived success of utilizing digital library resources. According to the data, employees are more likely to accept digital library resources if they see success with them. Job success, in particular, has a big impact on how employees feel about using digital libraries since it affects how valuable and simple they think the materials are to utilize. To increase their perception of success with digital library resources, workers should get the assistance and training they need from their employers, which will increase adoption and use rates.

Perceived success affects staff adoption of the digital library and satisfaction levels. The argument that perceived success promotes happiness and drives the adoption of digital libraries among university library professionals is further supported by the qualitative data from the key informant interview. The quotes are evidence.

5.6.1 Own contribution
An individual's sense of happiness and fulfillment comes from their significant role in advancing the digital library. This not only brings personal satisfaction but also a deep sense of accomplishment in their professional endeavors.

> *"When I consider the significant contribution, I have made to the development of our digital library, I am overcome with a feeling of happiness and success."* KI$_1$

5.6.2 Positive comments

Receiving positive feedback from supervisors, colleagues, and peers validates one's skills and competence. It emphasizes the crucial role that external affirmation plays in shaping an individual's perception of their own success and proficiency.

> *"I feel success and satisfaction when I receive positive comments from various sources like supervisor, peers, or professionals of other libraries regarding my performance in the digital library are indicative of my competence and proficiency in the field."* KI$_2$

5.6.3 Recognition and respect

Being acknowledged for one's expertise and experience in digital libraries by employers and industry experts enhances one's professional standing and creates opportunities for future growth. This emphasizes the importance of external validation and acknowledgment in fostering professional development within the digital library sphere.

> *"When employers recognize my DL knowledge and experience with more respect, I consider it as a valuable commodity that improves my professional status and future prospects."* KI$_3$

> *"The relevance and significance of my understanding in this field are being highlighted by the growing respect and recognition that my DL experience and skills are receiving from experts in a variety of fields."* KI$_4$, & KI$_1$

5.6.4 Earn money

While some individuals measure their success in the digital library field by their ability to generate income through training sessions, others place less emphasis on financial gain. This difference highlights the diverse perspectives on the relationship between financial prosperity and success in this domain.

> *"Due to my capacity to earn money by doing training sessions on best practices for digital libraries, I consider myself to be reasonably successful."*

On the other hand, there is also a contrasting perspective on this matter.

> *"I have not been able to generate any income from my expertise in digital library. However, I firmly believe that success should not be defined by financial gain."* KI$_5$, & KI$_6$

5.6.5 Acknowledgement

When superiors recognize and appreciate an individual's contributions and achievements, it instills a sense of pride and highlights the significance of acknowledgment within the organizational hierarchy. Such recognition reinforces motivation and commitment to excel further in digital library work.

> "*When my superiors acknowledge my efforts and accomplishments, I get a wave of pride.*" KI$_6$

5.6.6 Promotion

Disparities in career progression and recognition are evident as some professionals feel they have received due attention and experienced upward mobility, while others expressed discontent over the lack of promotional opportunities despite their expertise in digital libraries. This highlights the challenges and inequities present in career advancement within the digital library field.

> "*I feel that I have earned the attention I deserved after assuming a more senior position in the other library with improved wages lately.*" KI$_6$

> "*I didn't get any promotional facilities due to my digital library expertise.*" KI$_5$

5.6.7 Incentives

Proposals to allocate budgetary resources and offer monetary rewards for outstanding performance underscore the importance of incentivizing and recognizing excellence in digital library work. Such initiatives not only motivate individuals but also foster a culture of continuous improvement and innovation within the field.

> "*Authority should allocate prince budget and the management should provide monetary token gift to the performer for their excellence. Library should allocate 'Prince Budget' for this purpose.*" KI$_7$

6. Research insights

The qualitative data represented the perceptions of the key university library professionals regarding the factors Organizational Factors (OF), Individual Characteristics (IC), Digital Library Usefulness (DLU), Subjective Norms (SN), Perceived Success (PS), and Perceived Satisfaction (PS) and Digital Library Adoption (DLA).

Overall, it has been shown that organizational elements such as managerial intervention, and organizational culture are essential for fostering the adoption of digital libraries since they must provide supportive environments for doing so. Igbaria et al. (1996) conducted a study to examine the impact of organizational factors on employee performance. They

discovered that factors including leadership style, organizational structure, and job design significantly influence employee productivity and job satisfaction. Peansupap and Walker (2005) explored how organizational culture shapes employee behavior and attitudes. Their research revealed that a strong organizational culture, characterized by clear values and norms, can enhance employee commitment and performance. Both Al-Gahtani & King (1999) and Clegg et al. (1997) investigated the effects of training opportunities on employee performance. Both studies concluded that providing sufficient training and development opportunities not only improves employee skills and knowledge but also enhances job satisfaction and reduces turnover rates. Bhattacherjee (1998) examined the role of incentives in motivating employee behavior. Their research demonstrated that offering appropriate incentives, such as monetary rewards or recognition, can significantly boost employee motivation and performance.

The results indicate that university library professionals in Bangladesh possess several essential characteristics that facilitate the use of digital library technology. The replies to the question were grouped according to individual characteristics. These professionals specifically exhibit a blend of compound knowledge, IT innovativeness, and a strong feeling of self-efficacy. These particular personality traits are essential for enabling the effective utilization and adoption of digital libraries in academic contexts. These findings together imply that the personal characteristics of Bangladeshi librarians are crucial in fostering the uptake of digital library systems and encouraging efficient information management techniques in educational settings. Individual factors pertain to the personal attributes and qualities of adopters that influence their inclination and capacity to embrace and utilize innovation (Koohang et al., 2013). According to Lewis et al. (2003), individual factors constitute a significant determinant in the adoption of innovations (Talukder & Quazi, 2010). The statement below found from Key Informants shows that personal characteristics influence the staff's adoption of digital library systems.

The results of this question show that university library professionals in Bangladesh believe their digital library to be a beneficial resource because of how simple it is to use, develop, and maintain. Additionally, they claim that using it has provided them with a number of advantages, such as an improvement in personal productivity, increased work effectiveness, and job performance enhancement. These findings imply that the adoption of digital libraries has successfully facilitated the work of librarians in Bangladesh and positively impacted their general job performance. These comments align with the findings of Kim, Chan, and Gupta (2007), who suggested that individuals evaluate the consequences of their behavior in terms of perceived usefulness and make choices based on their perception of usefulness. Lee (2004) further observed that individuals are more likely to adopt an innovation if they believe it will increase efficiency and effectiveness in their work. Consequently, it can be inferred from the works of Kim, Chan, Gupta, and Lee that the effectiveness of technological innovation needs to be assessed before it is accepted in the workplace, especially in the context of a digital library.

The result of the question shows that the adoption of digital libraries among staff members is often greatly influenced by subjective norms, which are a person's view of what other people believe they should do. These norms may be expressed in a variety of ways, such as peer pressure, advice from professors, encouragement from supervisors, and social network impact. Normative beliefs about when it is proper to embrace technologies may spur societal pressure on employees to use digital libraries. Such pressure may result from the perception that using digital libraries is the proper course of action in one's professional and social circles. In order to create successful tactics to encourage staff usage of digital libraries, it might be essential to understand the subjective norms and normative assumptions that impact the adoption of these resources. Studies have demonstrated that social variables influence the adoption of innovation inside an organization more than economic reasons (Fulk & Boyd, 1991; Igbaria et al., 1996; Venkatesh & Brown, 2001). Such impact is referred to as normative ideas about the acceptability of adopting innovation by Ajzen and Fishbein (1980). Therefore, establishing efficient digital library systems in academic institutions depends on understanding the social variables involved in the acceptance of innovation.

The result of the question shows that a critical mediator known as perceived job success has a substantial impact on the adoption of digital libraries among university staff in Bangladesh. The research shows that when workers feel successful utilizing them, they are more likely to adopt digital library resources. Particularly, the degree to which workers appreciate and find it simple to use content from digital libraries is strongly influenced by their level of job performance. The idea of a successful career has several facets, including both subjective and objective elements like advancement, rewards, prestige, recognition, financial gain, and job stability. The attitudes and actions of workers regarding the use of digital libraries in the academic context are significantly shaped by these qualities of successful employment. Prior research identified that success positively influences the adoption of innovation (Judge & Bretz, 1994; Seibert & Kraimer, 2001; Wayne et al., 1999).

The result of the question shows that an important intermediate component, namely the perceived satisfaction brought on by the adoption of digital libraries has a substantial influence on the usage of digital libraries among university staff in Bangladesh. According to research results, professional's satisfaction depends on the digital library's perceived functioning and use varies. The experiences gathered, rewards received, and accomplishments of the intended results also have an impact on satisfaction levels. The adoption and use of digital libraries in the academic context are thought to be favorably connected with these criteria, which are significant drivers of happiness. Prior studies evident that employees are more likely to adopt a system in an organizational environment and make an effort to utilize it creatively and effectively if they are happy with it (Wang, 2005; Oliver, 1980).

7. Conclusion

In today's academic environment, university library employees in Bangladesh must embrace digital libraries. Numerous advantages are provided by digital libraries, including improved researcher cooperation, better resource management, and expanded accessibility. A seamless integration of technology and information resources into the academic environment is ensured by library personnel by empowering them to address the changing demands of students and faculty via the use of digital libraries. The primary objective of this study was to explore the factors that influence the adoption of digital libraries among professional staff members in university libraries in Bangladesh. Alongside this main objective, three supplementary objectives were also pursued. The adoption of digital libraries, as well as adoption factors, theoretical frameworks, models, and methodology of innovation adoption research, had all been the subject of a systematic literature review in this study. The research framework for this study was developed based on organizational factors, individual characteristics, usefulness of digital libraries, subjective norms, success, satisfaction, and digital library adoption. The theoretical frameworks of TAM, SCCT, and the individual innovation adoption framework were utilized to construct the research framework. Qualitative data collection was carried out to explore the factors. An unstructured questionnaire was designed to collect data, and a survey was administered to 07 professional library staff members from university libraries in Bangladesh. Based on the findings and analysis, it can be concluded that organizational factors (OF), individual characteristics (IC), digital library usability (DLU), subjective norms (SN), perceived success (PS), and perceived satisfaction (PS) significantly contribute to the adoption of digital libraries among professional staff members in university libraries in Bangladesh. The quantitative data analysis strongly supports the significance of these variables in influencing the adoption of digital libraries. Furthermore, the qualitative data analysis reinforces the favorable impact of these variables on the adoption process. The study also unveils a noteworthy positive correlation between the variables under investigation and the utilization of digital libraries. Particularly, there is a strong positive relationship between perceived success (PS) and the adoption of digital libraries (DLA), as indicated by the path coefficient. The correlation values and estimated indirect effects indicate that organizational factors (OF), individual characteristics (IC), digital library usability (DLU), and subjective norms (SN) indirectly influence the adoption of digital libraries (DLA) in a positive manner. This implies that these variables have a substantial influence on how professional staffs in university libraries in Bangladesh utilize digital libraries.

In general, the findings of this study imply that the aforementioned factors—specifically organizational factors, individual characteristics, the usefulness of digital libraries, subjective norms, perceived success, and perceived satisfaction—not only exert a positive influence on the adoption of digital libraries but also display possible positive associations with it. This research delves into two novel indicators, namely compound knowledge as an external factor and perceived success as a mediating factor. These

outcomes offer valuable insights for university libraries in Bangladesh to enhance their adoption strategies and facilitate the effective utilization of digital library resources among their professional staff members.

The present research findings are regarded as a substantial scholarly contribution to the existing literature on the factors that influence the adoption of digital libraries among library professionals in Bangladesh, as well as within the domain of library and information science.

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