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PERCEPTION, TRAINING AND ADOPTION OF CLOUD COMPUTING BY LIBRARY STAFF IN SELECTED UNIVERSITY LIBRARIES IN KWARA STATE, NIGERIA

Muzbaudeen Kayode BOLAJI
Department of Library and Information Science,
Al-Hikmah University Iloin, Kwara State, Nigeria
mkbolaji@alhikmah.edu.ng
07032783860

Nathaniel ABOKI
Federal Polytechnic Library, Bida, Niger State, Nigeria
nathaniel.aboki@fedpolybida.edu.ng
07067844410

Abdullahi Adebola YUSUF
Al-Hikmah University Library, Ilorin, Kwara State, Nigeria,
aayusuf@alhikmah.edu.ng
08033533385

Mariam Ajoke GOLD
Court of Appeal
Bolamariam67@gmail.com
08138482351

Abstract

The study examined the perception, training and adoption of cloud computing by library staff in selected university libraries in Kwara State, Nigeria. A descriptive survey research design was employed, and a purposive sampling technique was used to select one public, state and private-owned universities in Kwara State, for a total population of 178 library staff. The estimated sample size was determined to be 108 library staff; data were collected from 105 respondents using structured questionnaires. The analysis was conducted using frequency counts, mean, and standard deviation. Findings revealed that majority of the respondents had a positive perception of cloud computing adoption. Specifically, 87.6% of respondents agreed that cloud computing reduces operational costs, while 85.7% affirmed its role in enhancing access to information resources. Furthermore, 81% agreed that cloud computing improves service delivery and data security. The study also established that training is a significant determinant of cloud computing adoption. About 87.6% of the respondents indicated that training improved their knowledge and confidence in using cloud-based services. However, the study identified major challenges, including poor internet connectivity, inadequate technical support, data security concerns, and lack of funding, all cited by 85.7% of respondents confirming that staff attitudes influence successful implementation. The study concludes that positive perception and adequate training are crucial for effective adoption of cloud computing in university libraries. It recommends

regular training programmes, investment in ICT infrastructure, and increased funding support to overcome the identified challenges and facilitate efficient cloud computing integration in academic libraries.

Keywords: Cloud computing, Perception, Training, Library staff, University libraries, Nigeria.

Introduction

The rapid evolution of Information and Communication Technologies (ICTs) has significantly reshaped the landscape of information management and service delivery across various sectors, including academic libraries. As digital technologies continue to advance, libraries are increasingly shifting from traditional, manually driven operations to innovative, technology-based systems that support more efficient and user-centered services. The emergence of web-based platforms and cloud-enabled applications has further accelerated this transformation, offering new opportunities for libraries to modernize their operations, expand access to information resources, and improve service quality (Adewuyi & Ibrahim, 2024). In today's information-driven environment, librarians are no longer confined to conventional roles but must constantly adapt to evolving technological trends to remain relevant and effective.

Cloud computing has emerged as one of the most influential technologies driving change in academic librarianship. It enables institutions to store, manage, and access information resources via remote servers instead of relying on local infrastructure (Balogun & Adebayo, 2025). This shift provides numerous advantages, including reduced operational costs, enhanced scalability, improved collaboration, and seamless access to digital collections. For university libraries, cloud computing holds particular promise as it supports flexible service models capable of meeting the dynamic needs of students, researchers, and academic staff.

Cloud computing involves delivering computing services such as storage, databases, networking, software, and analytics over the internet. For libraries, this means accessing and managing data and applications through remote servers rather than on local hardware. This shift allows for greater flexibility, scalability, and accessibility in managing library resources. Cloud-based platforms enable libraries to store extensive collections of digital content, including e-books, journals, databases, and multimedia resources. Aydin (2021), observed that within the context of libraries, the adoption of cloud computing for digital preservation purposes holds promise for enhancing accessibility, ensuring long-term sustainability, and facilitating collaborative efforts in preserving cultural and scholarly artifacts.

Perceptions of cloud computing are shaped by various factors, including awareness, perceived benefits, and potential challenges. Awareness of cloud computing among library professionals is a critical factor influencing its adoption (Okoye & Chigbundu, 2024). Perception refers to how library staff view cloud computing in terms of its usefulness, ease of use, security risks, and overall impact on their work. Staff perceptions significantly influence their willingness to adopt new technologies (Nazir, Shahzad & Khan, 2025). Generally, the perception of library staff on cloud computing is mixed, ranging from enthusiasm to scepticism. Some library professionals view cloud computing as a progressive innovation that offers numerous benefits, including cost-effectiveness, scalability, flexibility, and improved access to information resources.

Perception plays a crucial role in technology adoption, with concerns over data security, job relevance, and technical competence often influencing acceptance (Al Farishi & Tjun, 2025). Furthermore, while some Nigerian universities have initiated training programmes on emerging technologies, these efforts are often inconsistent or insufficient to build long-term expertise (Sharma, Gupta, Acharya, & Jain, 2023). several library staff, especially in developing contexts, still exhibit a limited or cautious perception of cloud computing. Concerns over data security, privacy, internet connectivity, and lack of technical expertise often influence this cautious attitude (Afolayan & Yakubu, 2025).

The successful integration of cloud technologies hinges on the proficiency of library staff in utilizing these tools. Adequate training ensures that employees can seamlessly transition from traditional systems to cloud-based platforms, thereby maintaining operational continuity and improving service delivery. Training encompasses structured programmes designed to equip library staff with the necessary skills to effectively use cloud computing technologies. Adequate training is a critical determinant of successful technology adoption in organisations (Alshamaila et al., 2023). Moreover, well-trained staff can better assist patrons in navigating digital resources, thereby enhancing the overall user experience. Equipping library staff with cloud computing skills is a pivotal step toward modernizing library services and meeting the evolving needs of patrons (Olatunji & Bello, 2023).

Training is a critical factor in ensuring the successful adoption of cloud computing in libraries. Adequate training equips library staff with the necessary skills to navigate and manage cloud-based platforms effectively (Adebayo and Oguntayo, 2024). Training programs should focus on areas such as cloud storage management, cybersecurity, digital preservation, and integrated library systems (ILS) that run on cloud environments. According to Onwukwe and Uche (2023), many university libraries in Nigeria face challenges related to the digital literacy of their staff. A lack of technical training has been identified as one of the major barriers to the adoption of emerging technologies, including cloud computing. When library staff lack the necessary skills to operate cloud-based systems, they tend to resist change or underutilize available technological resources.

The adoption of technologies like Artificial Intelligence (AI), the Internet of Things (IoTs), Cloud Computing, Big Data, and chatbot technology significantly impacts information service delivery, contributing to academic success in the library (Omeluzor, Ugochi & Izuakolam, 2021). However, the successful adoption of cloud computing depends on several factors, including the perception of library staff and the availability of adequate training. Library staff play a crucial role in integrating cloud computing into library operations (Eze, Chukwuemeka & Omodunbi, 2022). Their perception of cloud technologies, whether positive or negative, influences their willingness to adopt such technologies.

Despite the benefits of cloud computing, its adoption in Nigerian university libraries is still evolving. Some universities have successfully integrated cloud-based services such as Google Drive, Microsoft OneDrive, and institutional repositories, while others are still in the planning phase (Eneh & Nwosu, 2023). The success of cloud adoption largely depends on institutional support, ICT infrastructure, and the readiness of library staff (Okonkwo & Ogundipe, 2023). Therefore, there is a need to explore how these two factors impact the effective implementation of cloud technologies in university libraries in Kwara State. Examining the relationship between

perception, training, and adoption of cloud computing, this study will provide insights that can inform policy decisions and professional development programs for library staff.

Objectives of the Study

The main objective of the study is to investigate the perception and training on cloud computing adoption by library staff in selected university libraries in Kwara State, Nigeria. The specific objectives are to:

1. examine the perception of library staff towards cloud computing adoption in selected university libraries in Kwara State;
2. determine the extent of training received by library staff on cloud computing technologies;
3. Identify the challenges hindering cloud computing adoption in selected university libraries.

Research Questions

The study was guided by the following research questions:

1. What is the perception of library staff towards cloud computing adoption?
2. To what extent have library staff received training on cloud computing?
3. What are the major challenges affecting cloud computing adoption in university libraries?

Statement of the Problem

Cloud computing has emerged as a transformative technology that enhances efficiency, scalability, and cost-effectiveness in information management across various sectors, including academic libraries. University libraries, as key support systems for teaching, learning, and research, are increasingly adopting cloud-based solutions to improve service delivery, resource sharing, and data storage (Adeleke & Emeahara, 2025).

Despite the potential benefits of cloud computing, there appears to be limited awareness and adoption among library staff in Nigerian university libraries, particularly in Kwara State. It is pertinent to know that many library personnel lack adequate knowledge, skills, and training on cloud computing technologies, which could hinder its effective adoption. Resistance to change, concerns over data security, and inadequate institutional support also influence staff perception and willingness to embrace cloud-based solutions. This study, therefore, seeks to investigate the perception and training on cloud computing adoption by library staff in selected university libraries in Kwara State, Nigeria.

Review of Related Literature

Cloud computing is a transformative technology with the potential to revolutionize various industries, including university libraries, by enhancing storage capabilities, collaboration, and operational efficiency. The perception of library staff towards cloud computing plays a crucial role in determining the extent of its adoption. If library staff view cloud computing as beneficial and user-friendly, they are more likely to embrace it in their daily operations (Solomon and Bakare, 2022). According to Hussaini (2023), cloud computing services such as Software as a

Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS) offer libraries the flexibility to customize their digital environments and improve service delivery.

The adoption of cloud computing in academic libraries has gained prominence due to its potential to enhance digital preservation, streamline library processes, and improve access to electronic resources (Zubairu, Akiola and Hamzat, 2021). The perception of library staff towards this technology significantly impacts its implementation and success. Many academic librarians perceive cloud computing as an innovative solution that enhances efficiency, accessibility, and collaboration. The ability to access resources from any location, automate library processes, and integrate multiple digital services makes cloud computing attractive. According to Afolabi and Komolafe (2024), librarians who have positive perceptions about cloud computing acknowledge its role in improving user experience, increasing resource availability, and reducing IT maintenance costs.

Cloud computing serves as a collaborative platform that allows library staff and users to engage more effectively in scholarly activities. Library staff perceptions towards cloud computing are influenced by various factors including personal experiences with technology, institutional support, and awareness levels. Research indicates that positive perceptions can lead to greater acceptance and enthusiasm for adopting new technologies. When librarians perceive cloud services as enhancing their ability to access information easily, they are more likely to embrace these technologies (Mabawonku, Babatope, Anyanwu, and Akintunde, 2024). Cloud computing offers numerous advantages to library settings, such as improved accessibility, scalability, cost-effectiveness, and information sharing (Kayode, Tella, and Akande 2020).

Adequate training ensures that staff can navigate cloud-based systems proficiently, maintain data security, and offer improved services to patrons. Transitioning to a cloud-based system necessitates comprehensive training programs covering various aspects of the cloud-based system, including navigation, features, and security protocols (Ashikuzzaman, 2024). Trained staff can efficiently manage digital resources, ensuring seamless access for patrons. They are better equipped to handle technical issues, reducing downtime and enhancing user satisfaction. Libraries should implement tailored training programs that focus on specific cloud computing skills relevant to their operations (Idahosa & Eireyi-Edewede, 2023). Encouraging collaboration among staff during training sessions can foster a supportive learning culture and reduce resistance to change (Akdere & Egan, 2020).

Cloud computing has the potential to remarkably enhance library staff productivity and can radically re-engineer and regenerate library operations that support the rendering of effective information services (Salam & Ali, 2020). According to Ross (2025), training initiatives should cover key areas such as cloud infrastructure, security management, and data privacy to ensure effective adoption. Investing in continuous professional development is crucial to keeping library staff updated with evolving cloud computing trends. Libraries must implement sustainable training models that address skill gaps and foster a culture of lifelong learning (Cloud Institute, 2022).

Adebayo (2023), explored the relationship between training and cloud computing adoption among library staff in Nigerian universities. The study found that targeted training programs significantly improved staff readiness and willingness to adopt cloud technologies. It recommended continuous professional development to keep pace with technological

advancements. Bashorun, Omopupa, and Dahiru (2020) identified that cloud computing offers numerous benefits, including enhanced access to digital resources, improved collaboration among libraries, and cost savings on IT infrastructure. The authors highlighted challenges such as inadequate internet bandwidth, data security concerns, and a lack of technical expertise among library staff.

Dime & Okeji (2023), investigated the adoption of cloud computing technologies among 315 librarians in African university libraries. Findings indicated that librarians who received extensive training on cloud computing tools reported higher levels of perceived usefulness (PU) and perceived ease of use (PEOU). The study emphasized the necessity of continuous professional development programs to enhance librarians' competencies in cloud-based systems. A study conducted by Ibrahim, Ahmad and Sallehudin (2024), examined how technological and human factors influence cloud computing adoption in university libraries. The study highlighted that perceived usefulness significantly mediates the relationship between these factors and librarians' behavioral intentions to use cloud services. It also called for targeted training programs to improve system quality and user support, thereby enhancing PU and PEOU among librarians.

Methodology

This study adopts a descriptive survey method. The research design is relevant because it helped in describing the phenomenon without any control or manipulation of any of its variables. This design is appropriate as it enables the study to capture respondents' opinions, experiences, and trends related to cloud computing adoption. The population consist of 178 professional and non-professional librarians purposively sampled from three selected university libraries in Kwara State. The sample size was determined using Research Advisors Table to get an estimated size of 108 library staff as the respondent for the study. The primary instrument for data collection is a structured questionnaire designed based on the study's objectives. The questionnaire consists of close-ended questions and divided in two sections. The first section was based on demographic information of the respondents, while the second section was designed towards answering the research questions raised in the study. The questionnaire was subjected to face validity by an expert in Librarianship. The questionnaire was sent to the respondents with the help of two research assistants through the use of online survey (Google Forms). A response rate of 105 was received from the respondents for which this study based it analysis. Data collected was analysed and presented in frequency tables, simple percentages, mean and standard deviation.

Data Analysis

Table 1: Demographic Information of the Respondents

Age	**Frequency**	**Percentage (%)**
30 years and below	22	20.95
31 – 40 years	31	29.52
41 – 50 years	28	26.67
61 years and above	24	22.86
Total	**105**	**100**
Gender	**Frequency**	**Percentage (%)**
Male	58	55.2

Female	47	44.8
Total	**105**	**100**
Educational Qualification		
OND/NCE	15	14.3
Bachelor's Degree	42	40.0
Master's Degree	35	33.3
PhD	13	12.4
Total	**105**	**100**
Years of Experience	**Frequency**	**Percentage (%)**
Less than 5 years	25	23.8
5 – 10 years	38	36.2
Above 10 years	42	40.0
Total	**105**	**100**

The demographic distribution shows the age distribution of the respondents, 22 (20.95%) of the respondents were below 30 years, 31 (29.25%) were between 31 – 40years, 28 (26.67%) were between the age of 41 – 50 years, 24 (22.86%) of the respondents were between the 61 years and above. This shows that majority of the respondents were between 31 – 40 years. The table also shows that 58 respondents (55.2%) were male and 47 respondents (44.8%) were female. Regarding educational qualifications, the highest percentage (40.0%) had a Bachelor's Degree, followed by 33.3% with a Master's Degree, the respondents with OND were (14.3%) while, (12.4%) possess PhD. Meanwhile, (23.8%) had less than 5 years of experience, the number of respondents with 5 – 10 years' experience were (36.2%) and most respondents (40.0%) had over 10 years of experience, suggesting that the sample includes experienced library staff.

RQ 1: What is the perception of library staff towards cloud computing adoption in selected university libraries in Kwara State?

Table 4.2: Perception of Library Staff Towards Cloud Computing Adoption

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	SD
Cloud computing improves library service delivery.	45 (42.9)	40 (38.1)	10 (9.5)	6 (5.7)	4 (3.8)	4.11	0.84
Cloud computing is easy to use in library operations.	48 (45.7)	37 (35.2)	12 (11.4)	5 (4.8)	3 (2.9)	4.16	0.78
Cloud computing reduces operational costs.	50 (47.6)	42 (40.0)	8 (7.6)	4 (3.8)	1 (1.0)	4.29	0.70
Cloud computing enhances access to information resources.	55 (52.4)	35 (33.3)	10 (9.5)	3 (2.9)	2 (1.9)	4.31	0.68
Cloud computing ensures better data security and backup.	40 (38.1)	45 (42.9)	12 (11.4)	5 (4.8)	3 (2.9)	4.09	0.75

Table 4.2 shows that most library staff have a positive perception of cloud computing adoption. 81% of respondents (42.9% strongly agree and 38.1% agree) believe that cloud computing improves library service delivery, while only 9.5% were neutral and 9.5% disagreed. Regarding

ease of use, 80.9% (45.7% strongly agree and 35.2% agree) find cloud computing easy to use, with just 7.7% disagreeing. A higher percentage (87.6%) agree that cloud computing reduces operational costs, with only 4.8% disagreeing. Cloud computing enhancing access to information resources had the highest agreement at 85.7% (52.4% strongly agree and 33.3% agree), with only 4.8% in disagreement. Lastly, 81% agree that cloud computing ensures better data security and backup, while 7.7% disagreed. These results reflect a strong positive perception of cloud computing adoption among library staff, especially in improving access to resources and reducing costs.

RQ 2: To what extent does training influence cloud computing adoption among library staff in selected university libraries in Kwara State?

Table 4.3: Influence of Training on Cloud Computing Adoption

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	SD
Training improves knowledge on cloud computing	52 (49.5)	40 (38.1)	8 (7.6)	4 (3.8)	1 (1.0)	4.31	0.72
Continuous training increases confidence in using cloud services	50 (47.6)	42 (40.0)	6 (5.7)	5 (4.8)	2 (1.9)	4.27	0.74
Hands-on training helps in resolving technical challenges	55 (52.4)	35 (33.3)	7 (6.7)	6 (5.7)	2 (1.9)	4.29	0.78
Lack of training discourages cloud computing adoption	48 (45.7)	37 (35.2)	8 (7.6)	7 (6.7)	5 (4.8)	4.10	0.83

Table 4.3 shows that training has a significant influence on cloud computing adoption among library staff. 87.6% of respondents (49.5% strongly agree and 38.1% agree) believe that training improves knowledge on cloud computing, with only 4.8% disagreeing. Similarly, 87.6% (47.6% strongly agree and 40.0% agree) think continuous training increases confidence in using cloud services, while just 6.7% disagreed. Hands-on training is seen as effective in resolving technical challenges, with 85.7% (52.4% strongly agree and 33.3% agree) supporting this, and only 7.6% disagreeing. Additionally, 80.9% (45.7% strongly agree and 35.2% agree) agree that lack of training discourages cloud computing adoption, while 11.5% disagreed. The high mean scores (ranging from 4.10 to 4.31) and low standard deviations (between 0.72 and 0.83) reflect a strong and consistent positive perception of the impact of training on cloud computing adoption.

RQ 3: What are the challenges faced by library staff in adopting cloud computing in selected university libraries in Kwara State?

Table 4.4: Challenges Faced in Cloud Computing Adoption

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	SD
Poor internet connectivity	60 (57.1)	30 (28.6)	5 (4.8)	5 (4.8)	5 (4.8)	4.29	0.89
Inadequate technical support	55 (52.4)	35 (33.3)	7 (6.7)	4 (3.8)	4 (3.8)	4.27	0.81
Data security concerns	58 (55.2)	32 (30.5)	5 (4.8)	6 (5.7)	4 (3.8)	4.27	0.83

Lack of adequate funding	50 (47.6)	40 (38.1)	8 (7.6)	4 (3.8)	3 (2.9)	4.27	0.78

Table 4.4 shows that library staff face several challenges in adopting cloud computing. 85.7% of respondents (57.1% strongly agree and 28.6% agree) identified poor internet connectivity as a major challenge, with only 9.6% disagreeing. Inadequate technical support was reported by 85.7% (52.4% strongly agree and 33.3% agree) as a challenge, while just 7.6% disagreed. Data security concerns were highlighted by 85.7% (55.2% strongly agree and 30.5% agree), with 9.5% disagreeing. Similarly, 85.7% (47.6% strongly agree and 38.1% agree) cited lack of adequate funding as a challenge, with only 6.7% disagreeing. The mean scores (all at 4.27 or higher) and low standard deviations (between 0.78 and 0.89) reflect a high level of agreement among respondents, indicating that poor internet connectivity, inadequate technical support, data security issues, and lack of funding are significant barriers to cloud computing adoption.

Discussion of Findings

The results of this study offer meaningful insights into how library staff perceive, receive training for, and experience challenges related to adopting cloud computing. The demographic analysis shows that most respondents fell within the 31–40 age group (29.25%), with males (55.2%) slightly outnumbering females (44.8%). This aligns with earlier research suggesting that mid-career professionals especially those in technical or administrative positions often lead the adoption of new technologies due to their accumulated experience and adaptability (Adebayo, 2023). The educational profile of the participants, where 40% held a Bachelor's degree and 33.3% possessed a Master's degree, also reflects a highly educated workforce. This supports the observations of Bashorun, Omopupa and Dahiru (2020), who indicated that individuals with higher educational qualifications tend to be more open to technological innovations. The findings from this study clearly illustrate that while library staff demonstrate strong readiness and positive perceptions toward cloud computing, the success of its adoption is heavily dependent on the availability of supportive institutional structures (Zubairu, Akiola and Hamzat, 2021).

The findings further revealed a generally positive attitude toward cloud computing among library staff. A large proportion (81%) agreed that cloud technologies enhance service delivery, while 87.6% affirmed that it helps reduce operational expenses. These results mirror those of Dime and Okeji (2023), who reported that cloud computing improves efficiency and minimizes cost by reducing dependence on physical infrastructure. Additionally, 85.7% agreed that cloud computing improves access to information resources, consistent with Afolabi and Komolafe's (2024) findings that cloud platforms support seamless access to digital content across devices. Although earlier scholars raised concerns about cloud-based data security (Hussaini, 2023), 81% of respondents in this study believed that cloud computing strengthens data protection and backup. This divergence may be linked to recent improvements in cloud security and better awareness of data-safeguarding practices among library personnel, as noted by (Mabawonku, Babatope, Anyanwu and Akintunde, 2024).

Training was also identified as a major influence on the adoption of cloud computing. About 87.6% of the participants agreed that training boosts their knowledge and confidence when using cloud systems. This supports Ross (2025), who stressed the importance of ongoing professional development for enhancing technological proficiency in libraries. Similarly, 85.7% agreed that hands-on training helps them overcome technical issues reinforcing Akintunde's

(2024) position on the need for practical learning experiences. The finding that inadequate training discourages cloud computing adoption (80.9%) aligns with Kayode, Tella and Akande (2020), who identified lack of training as a recurring barrier in academic libraries. The evidence suggests that comprehensive training programs are essential for successful cloud technology integration. In the study conducted by Ibrahim, Ahmad and Sallehudin (2024) that the presence of skilled personnel, regular training opportunities, stable internet connectivity, and adequate funding all play a crucial role in enabling effective implementation.

Finally, despite the positive perceptions, the study uncovered several significant obstacles to cloud computing adoption. Poor internet connectivity reported by 85.7% of respondents remains a major challenge, consistent with Ashikuzzaman (2024), who observed that unstable internet access is still prevalent in many developing regions. Similarly, inadequate technical support (85.7%) and data security concerns (85.7%) reflect the issues identified by Idahosa and Eireyi - Edewede (2023) regarding the need for stronger technical assistance and more secure cloud infrastructures. Another major concern is insufficient funding, reported by 85.7% of participants, which aligns with Salam and Ali (2020), who emphasized that limited financial resources hinder libraries' capacity to invest in modern technologies. These challenges collectively underscore the importance of strategic planning, improved infrastructure, and adequate funding to effectively implement cloud computing in libraries. In a similar study conducted by Akdere and Egan (2020) underscores the importance of a holistic approach to technological integration in libraries for one that not only focuses on user competence and perception but also prioritizes strengthening infrastructural capacity and administrative support to ensure sustainable adoption.

Conclusion

This study examined the perception and training of library staff as determinants of cloud computing adoption in selected university libraries in Kwara State. The findings revealed that library staff generally have a positive perception of cloud computing, recognizing its benefits in improving access to information, enhancing collaboration, and reducing operational costs. The study established that training plays a crucial role in facilitating cloud computing adoption by equipping library staff with the necessary skills and confidence to manage cloud-based platforms effectively. However, the study identified significant challenges, including poor internet connectivity, inadequate technical support, data security concerns, and funding limitations, which hinder the full adoption of cloud computing in academic libraries. The positive perception of cloud computing adoption despite the identified challenges underscores the potential for increased usage if appropriate measures are implemented to address these barriers. The study concludes that perception and training significantly influence the successful adoption of cloud computing in academic libraries. Therefore, enhancing training opportunities, improving infrastructure, and addressing security and funding issues are critical to fostering widespread cloud computing adoption in university libraries.

Recommendations

The following measures were recommended based on the findings of the study:

1. The university libraries should organize regular and comprehensive training sessions focused on cloud storage management, data security and privacy protocols, and integration of cloud computing platforms with existing library systems.

2. University administrators should invest in high-speed internet infrastructure to enable seamless access to cloud-based platforms. Provide modern computer systems and mobile devices equipped with updated software for easy cloud integration.
3. The university should increase funding for cloud-based services to cover costs related to subscription fees, staff training, and system maintenance.

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