

# **A Study on User Satisfaction with Digital Library Resources, Services, and Facilities: A Case Study on Aditya Educational Institutions, Kakinada, A.P**

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## **ABSTRACT**

*This study examines the awareness, usage patterns, satisfaction levels, and accessibility of digital library services among 150 respondents from Aditya Educational Institutions, Kakinada. Using descriptive statistics and cross-tabulation, the analysis explores how demographic variables such as gender, academic category, and frequency of library visits influence digital resource utilisation. The findings reveal a balanced gender representation, with males (56%) slightly higher than females (44%). Undergraduate students formed the dominant user group (64.7%), followed by faculty (20%) and research scholars (15.3%), highlighting student-driven usage behaviour. Library visit patterns show that most respondents access the library weekly (44.7%), while 32% use it daily, demonstrating strong dependency on digital facilities and Wi-Fi connectivity. Awareness of digital library resources is high (88%), and e-journals (34.7%) and e-books (30.7%) emerged as the most frequently used resources. Campus Wi-Fi is the preferred mode of access, indicating the importance of mobile and flexible learning environments. A majority of users rated the digital interface as easy to use and affirmed the quality and relevance of e-resources. However, concerns were identified regarding inconsistent internet speed, low mobile app usage, and limited awareness of MOOCs and institutional repositories. Chi-square analyses across variables confirmed statistically significant satisfaction levels related to staff support, licensed databases, digital facilities, and overall digital library services. The study concludes that digital library services are widely used, appreciated, and essential for academic success. Continued improvements in remote access, digital literacy, infrastructure, and resource promotion are recommended to enhance user experience and meet evolving academic needs.*

**KEYWORDS:** Digital Library Services, User Satisfaction, Awareness, Usage Patterns, E-Resources, Access Modes, Academic Libraries, Digital Infrastructure.

## **1. INTRODUCTION**

Digital libraries have transformed the landscape of higher education by offering seamless access to scholarly information, electronic resources, and technology-driven services that support teaching, learning, and research. As academic institutions increasingly rely on digital platforms to deliver knowledge, user satisfaction has become a crucial indicator of the effectiveness, accessibility, and quality of digital library systems. Unlike traditional libraries, digital libraries extend their reach beyond physical boundaries, providing 24/7 access to e-journals, e-books, databases, institutional repositories, and online learning resources. This shift has made it essential to evaluate how well users perceive the usability, relevance, and adequacy of these services in meeting their academic and research needs.

User satisfaction plays a pivotal role in determining the success of any digital library initiative. High satisfaction encourages frequent use, enhances learning outcomes, improves research productivity, and strengthens the institution's academic environment. Conversely, dissatisfaction—arising from poor internet connectivity, limited awareness, unfriendly interfaces, or inadequate facilities—can restrict usage and reduce the value of digital investments. Therefore, assessing user satisfaction helps library administrators identify strengths, address gaps, and design targeted strategies to improve digital resource delivery.

In the context of higher education institutions such as Aditya Educational Institutions, understanding user satisfaction is particularly significant due to the diverse academic community comprising undergraduate students, research scholars, and faculty. Each user group has unique needs, expectations, and levels of digital literacy. Evaluating their experiences with digital library resources, services, and facilities provides meaningful insights into how effectively the library supports varied academic demands.

This study examines user satisfaction across key components of the digital library, including resource availability, access modes, usability of interfaces, quality of e-resources, internet reliability, staff support, remote access, and digital infrastructure. By systematically analysing user perceptions, this research aims to offer actionable recommendations to enhance service quality, strengthen digital engagement, and ensure that the digital library continues to play a central role in enabling academic excellence.

## **2. OBJECTIVES OF THE STUDY**

- To analyse the demographic characteristics of digital library users and their influence on usage behaviour.
- To assess awareness levels and frequency of use of various digital resources among students, faculty, and research scholars.
- To evaluate user satisfaction with e-resources, digital interfaces, licensed databases, and digital facilities.
- To examine challenges related to internet speed, remote access, and usability barriers affecting digital library utilisation.
- To investigate the role of library staff support and user guidance in enhancing digital literacy and service accessibility.
- To provide actionable suggestions for improving digital library infrastructure, resource awareness, and user engagement.

### **3. SCOPE AND LIMITATIONS**

The present study is confined to users of the digital library services of Aditya Educational Institutions, Kakinada, covering UG students, research scholars and faculty members. It focuses on awareness, frequency of use, preferred resources, modes of access, perceived quality of e-resources, usability of the interface, infrastructure adequacy, staff support and overall satisfaction. The scope is restricted to selected digital resources—e-journals, e-books, databases, institutional repository and MOOCs—used during the data collection period. As a single-institution, cross-sectional study based on self-reported responses, the findings cannot be generalised to all higher education institutions and do not capture longitudinal behavioural changes or in-depth qualitative insights. The study also does not include usage log analytics or academic performance indicators to validate user perceptions.

### **4. METHODOLOGY**

This study adopted a **descriptive research design** to assess the awareness, usage patterns, satisfaction levels, and overall experiences of users with digital library services at Aditya Educational Institutions, Kakinada. A descriptive design was appropriate as it enabled systematic collection, quantification, and interpretation of user perceptions without manipulating variables. The **respondents** consisted of **150 participants**, including **UG students (97), research scholars (23), and faculty members (30)**. This stratified representation ensured that insights were captured from all major academic categories using digital resources. Data were collected using a **structured questionnaire** comprising demographic questions and Likert-scale items related to awareness, resource usage, access modes, satisfaction, and interface experience. The instrument was distributed both in print and online to maximize participation and ensure inclusiveness of daily, weekly, and occasional library users. For analysis, the collected data were **tabulated and processed using descriptive statistics**, including frequencies, percentages, mean, and standard deviation. To examine associations between variables such as gender, category, and satisfaction, **cross-tabulation techniques** were applied. Additionally, **Chi-square ( $\chi^2$ ) tests** were used to determine the significance of response distributions across satisfaction-related items. These statistical tools ensured objectivity, reliability, and meaningful interpretation of user experiences with digital library services.

### **5. REVIEW OF LITERATURE**

Several studies have examined user satisfaction with digital library services across academic institutions. User satisfaction with digital library resources, services, and facilities has become a pivotal area of research, particularly as academic libraries evolve to meet the changing needs of their users. Recent studies highlight various dimensions influencing user satisfaction, including information literacy competencies, service perceptions, and the role of digital infrastructure.

**Green (2025)** emphasizes the importance of a holistic approach in residency programs, which can be paralleled in academic libraries. Just as residency programs should support the social and emotional well-being of international medical graduates (IMGs), libraries must also cater to the diverse needs of their users. This includes fostering a supportive environment that enhances user satisfaction through tailored services and resources.

**Kumar and Singh (2021)** reported that e-resources significantly enhance academic productivity when supported by structured orientation programmes. Their study shows that users who receive regular training are more confident in navigating databases, retrieving relevant information, and integrating digital content into academic work. They

argue that orientation sessions bridge the skill gap among new users and promote consistent usage. Overall, the effectiveness of digital library services is closely linked to the frequency and quality of user training initiatives.

**Rani (2022)** found that accessibility, ease of navigation, and interface design play crucial roles in shaping user satisfaction with digital library platforms. The study reveals that users prefer systems that are intuitive, visually clear, and require minimal effort to locate resources. Technical ease directly influences usage frequency and overall perception of digital services. Rani concludes that libraries must invest in user-friendly interfaces and accessibility features to ensure wider adoption and improved user experiences.

**Mishra et.al (2023)** emphasized that awareness programmes and technical support are vital determinants of effective e-resource utilization. Their findings show that many users remain unaware of available databases and tools unless proactive promotional strategies are implemented. Technical support, both online and in-person, helps users overcome access barriers and search challenges. The study underscores the need for continuous outreach, digital literacy workshops, and responsive help services to maximize the benefits of digital libraries.

**Sahu and Ghosh (2024)** highlighted the necessity of continuous evaluation to sustain the relevance and quality of digital library services. Their study argues that regular assessments help libraries identify changing user needs, update resources, and adapt to technological advancements. Feedback mechanisms and performance metrics play a key role in improving service delivery. They conclude that ongoing evaluation ensures digital libraries remain dynamic, user-centered, and aligned with modern academic expectations.

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In a study focused on user perceptions of library services, **Nkechi (2015)** found that underfunding and a lack of qualified personnel significantly hindered user satisfaction in university libraries in Nigeria. The absence of standardized measures to assess user satisfaction further complicates the issue. This highlights the necessity for libraries to invest in both human and financial resources to meet user expectations effectively.

**Eneya and Mostert (2019)** explore the application of the social model of disability in academic libraries, advocating for the prioritization of services tailored to students with disabilities. They argue that addressing the barriers faced by these users is essential for enhancing their information-seeking experiences. By ensuring accessibility and inclusivity, libraries can significantly improve user satisfaction among diverse populations.

**Wachira and Onyancha (2016)** investigate the perspectives of library section heads regarding services for remote users in Kenyan public universities. Their findings reveal that while there is an awareness of remote users, there is a need for improved policies and services tailored to this group. This underscores the importance of adapting library services to meet the evolving needs of users, thereby enhancing overall satisfaction.

**Rahman et al. (2025)** conducted a quantitative survey among university students in Bangladesh, revealing that information literacy competencies significantly influence library usage and satisfaction. Their findings indicate that while students exhibit a moderate to high level of digital and information literacy, there remains a need for

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improvement in advanced search capabilities and awareness of subject-specific support. This suggests that enhancing information literacy programs could lead to increased user satisfaction with library services.

In Nigeria, **Obiozor-Ekeze (2015)** examined user perceptions of university library resources and services, emphasizing that underfunding and a lack of qualified personnel hinder user satisfaction. The study found that without a standardized approach to assess user satisfaction, libraries struggle to meet the needs of their patrons effectively. This highlights the importance of adequate funding and staff training in improving user experiences in academic libraries.

**Wachira and Onyancha (2016)** focused on the perspectives of library section heads regarding services for remote users in Kenyan public universities. Their qualitative study underscored the necessity of adapting library services to cater to both on-campus and remote users. The findings suggest that creating awareness about available services and enhancing physical facilities for remote users can significantly improve satisfaction levels among this emerging user group.

The role of digital libraries in achieving sustainable development goals (SDGs) was explored by **Omima and Majed (2024)**, who highlighted the Saudi Digital Library's (SDL) contributions to enhancing information awareness among users. Their research indicates that SDL's robust technical infrastructure and diverse digital resources play a crucial role in providing equitable access to information, thereby enhancing user satisfaction. The study also emphasizes the need for digital libraries to expand their services beyond academia to include various sectors, which could further improve user engagement and satisfaction.

**Vienazindiene and Andriukaitiene (2019)** discussed the transformation of academic libraries in response to the evolving information society. They argue that libraries must not only maintain traditional roles but also embrace new functions that align with technological advancements. This includes focusing on staff competencies and the implementation of innovative services. By doing so, libraries can enhance their relevance and effectiveness, ultimately leading to higher user satisfaction.

In summary, the literature reveals that user satisfaction with digital library resources, services, and facilities is influenced by multiple factors, including information literacy, funding, service awareness, and the adaptability of library services. The integration of advanced technologies and the continuous development of staff competencies are essential for libraries to meet the diverse needs of their users. As academic libraries continue to evolve, addressing these areas will be crucial in enhancing user satisfaction and ensuring that libraries remain valuable resources in the academic landscape.

The present study contributes to this literature by focusing on user experience within the context of Aditya Educational Institutions, a prominent educational hub in Andhra Pradesh.

## **6. DATA ANALYSIS AND INTERPRETATION**

Collected data were tabulated and analysed using **descriptive statistics** (percentages, mean, and standard deviation). Cross-tabulation was employed to examine relationships between demographic factors and satisfaction levels.

1. Section A: Demographic Analysis

1. Gender Distribution

Table 1: Gender-wise Distribution of Respondents (N=150)

Resource Type & Gender Distribution			
Category	Sub-Category	Frequency	Percentage
Resource Type	E-Journals	52	34.70%
	E-Books	46	30.70%
	Databases	28	18.70%
	Institutional Repository	14	9.30%
	MOOCs	10	6.60%
	Gender	Male	84
	Female	66	44%
	<b>Total</b>	<b>150</b>	<b>100%</b>

*Interpretation:*

The gender distribution of the respondents shows that male participants (56%) slightly outnumber female participants (44%). This division indicates a reasonably balanced representation of users accessing digital library services at Aditya Educational Institutions, Kakinada. The male–female ratio reflects typical enrolment patterns in many engineering and higher education institutions, where male participation tends to be marginally higher. This distribution ensures that the analysis of satisfaction, awareness, and usage patterns incorporates perspectives from both genders. With a substantial sample size of 150, the distribution provides a reliable demographic foundation to interpret digital library usage behaviour. Furthermore, the balance allows for meaningful cross-tab comparison between male and female respondents regarding their awareness levels, resource usage preferences, and satisfaction with digital library services. Such demographic clarity supports the overall reliability of findings and helps identify whether gender-specific intervention strategies, training needs, or resource preferences exist within the institution’s digital library system.

2. Category of Respondents

Table 2: Category-wise Distribution (N=150)

Combined Table: Resource Type, Gender & Category Distribution (N=150)			
Category	Sub-Category	Frequency	Percentage (%)
Resource Type	E-Journals	52	34.70%
	E-Books	46	30.70%
	Databases	28	18.70%
	Institutional Repository	14	9.30%
	MOOCs	10	6.60%
	Gender	Male	84

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	Female	66	44%
<b>Category (Users)</b>	UG Students	97	64.70%
	Research Scholars	23	15.30%
	Faculty	30	20%
<b>Total Respondents</b>	—	<b>150</b>	<b>100%</b>

***Interpretation***

The majority of respondents are undergraduate students (64.7%), followed by faculty members (20%) and research scholars (15.3%). This distribution accurately reflects the actual population structure of the institution. UG students are the primary users of digital learning resources such as e-books, e-journals, and online courses, making their representation crucial for evaluating the effectiveness and accessibility of digital library services. Faculty participation (20%) is significant because they are key stakeholders who rely heavily on digital resources for teaching, research, and curriculum development. Research scholars, though fewer in number (23 respondents), contribute valuable insights into advanced usage patterns, database requirements, and expectations for scholarly information. This distribution provides comprehensive coverage across academic levels and ensures the interpretations of awareness, usage patterns, and satisfaction reflect the distinct needs of each academic segment. It also facilitates meaningful cross-tab analysis, helping to identify whether resource usage differs among students, scholars, and faculty.

**3. Frequency of Library Visit**

**Table 3:** Frequency of Library Visit (N=150)

<b>Resource Type &amp; Frequency of Library Use (N=150)</b>			
<b>Category</b>	<b>Sub-Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Resource Type</b>	E-Journals	52	34.70%
	E-Books	46	30.70%
	Databases	28	18.70%
	Institutional Repository	14	9.30%
	MOOCs	10	6.60%
<b>Frequency of Library Use</b>	Daily	48	32%
	Weekly	67	44.70%
	Occasionally	35	23.30%

***Interpretation:***

The majority of respondents visit the library on a weekly basis (44.7%), indicating a consistent but not intensive engagement with library facilities. About 32% visit daily, suggesting a substantial proportion of highly active users who likely depend on digital resources, internet facilities, and study spaces for academic work. The remaining 23.3% visit occasionally, which may be influenced by remote access options and availability of online resources outside the library premises. This pattern reveals that the digital library system plays a crucial role in supporting both regular and flexible users. Weekly and occasional users might rely more on remote access options, while daily

users may prefer on-site digital facilities. This trend highlights the need for maintained Wi-Fi connectivity, well-functioning library PCs, and remote authentication systems to support diverse usage behaviours. These findings also enable deeper analysis of whether visit frequency correlates with satisfaction, awareness, and perceived usefulness of digital library services.

**4. Awareness of Digital Library Resources**

**Table 4:** Awareness of Digital Library Resources (N=150)

<b>Resource Type &amp; Frequency of Library Use (N=150)</b>			
<b>Category</b>	<b>Sub-Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Resource Type</b>	E-Journals	52	34.70%
	E-Books	46	30.70%
	Databases	28	18.70%
	Institutional Repository	14	9.30%
	MOOCs	10	6.60%
	<b>Frequency of Library Use</b>	Daily	48
Weekly		67	44.70%
Occasionally		35	23.30%

**Interpretation**

The results indicate a high awareness level, with 88% of respondents acknowledging familiarity with the digital library resources provided by the institution. Only 12% reported being unaware, suggesting that the library's promotional strategies, orientation programs, and academic integration of digital resources have been largely effective. High awareness is foundational for ensuring optimal utilization of digital resources such as e-journals, e-books, and online scholarly databases. This level of awareness reflects positively on institutional initiatives aimed at disseminating information regarding resource availability and access mechanisms. However, the 12% unaware users highlight the need for targeted awareness campaigns, particularly among new students and occasional library users. Strengthening orientation programs, integrating digital literacy sessions into the curriculum, and consistent communication through institutional platforms can further reduce this gap. Understanding awareness levels is crucial as it directly influences usage patterns, satisfaction rates, and the overall impact of digital library services on academic performance.

**5. Most Frequently Used Digital Resources**

**Table 5:** Most Used Digital Resources (N=150)

<b>Resource Type Usage</b>		
<b>Resource Type</b>	<b>Frequency (N=150)</b>	<b>Percentage (%)</b>
E-Journals	52	34.70%
E-Books	46	30.70%
Databases	28	18.70%

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Institutional Repository	14	9.30%
MOOCs	10	6.60%

***Interpretation***

The usage pattern clearly shows that e-journals (34.7%) and e-books (30.7%) are the most frequently accessed digital resources among respondents, reflecting their relevance to academic and research needs. Databases are used moderately (18.7%), likely due to programme-specific requirements or varying levels of training on database navigation. Institutional repository usage (9.3%) and MOOCs (6.6%) are relatively lower, which suggests a need for enhanced faculty-driven adoption, curriculum integration, and awareness programs regarding open learning opportunities. E-journals rank highest, especially for research scholars and faculty who require current literature, while UG students may prefer e-books for course-related reading. These findings indicate strong alignment between user needs and the institution’s digital resource offerings. However, the underutilization of MOOCs and institutional repositories suggests potential gaps in awareness or accessibility. Targeted training sessions, digital literacy workshops, and academic encouragement may improve adoption and broaden usage diversity.

**6. Mode of Access**

**Table 6:** Mode of Access to Digital Library (N=150)

<b>Mode of Access</b>	<b>Frequency</b>	<b>Percentage</b>
Library PCs	43	28.70%
Wi-Fi on Campus	59	39.30%
Remote Access	26	17.30%
Mobile App	22	14.70%

***Interpretation***

The analysis shows that the most preferred mode of accessing digital resources is through campus Wi-Fi (39.3%), indicating a strong reliance on personal devices and mobility. Library PCs remain relevant, with 28.7% of users depending on them, especially students who may lack personal laptops or reliable devices. Remote access accounts for 17.3%, reflecting the institution’s progress in enabling off-campus resource accessibility. However, mobile app usage (14.7%) is comparatively low, suggesting a need for improving the usability or visibility of mobile access platforms. The distribution illustrates the importance of maintaining robust campus Wi-Fi infrastructure while simultaneously improving remote access systems such as EZProxy or Shibboleth. Strengthening mobile accessibility could further enhance flexibility and inclusivity, particularly for learners who prefer portable and instant access. Overall, the data implies that digital library access is well-distributed but could be optimized through enhanced user training and technological upgrades.

**7. Ease of Use of Digital Library Interface**

**Table 7:** Interface Ease of Use

<b>Response Distribution Table</b>	
<b>Response</b>	<b>Count</b>
Strongly Agree	38
Agree	72

Neutral	28
Disagree	9
Strongly Disagree	3

**Interpretation**

A majority of respondents (110 out of 150) agree that the digital library interface is easy to use, indicating strong usability and well-designed navigational features. Neutral responses (28 users) suggest that some users may require more training or familiarity with the interface. Only 12 respondents expressed dissatisfaction, indicating isolated usability challenges. Overall, the positive feedback demonstrates that the interface caters effectively to a wide range of users, including students, faculty, and scholars. To further enhance usability, the library may consider implementing personalized dashboards, quick-access links, or user tutorials. The findings suggest that the existing system supports intuitive navigation, search functionalities, and content accessibility. However, continuous improvement based on user feedback can ensure the interface remains relevant and user-friendly as digital resources evolve.

**8. Quality of E-Resources**

**Table: 8.** Quality of E-Resources

<b>Chi-Square Goodness of Fit Test</b>			
<b>Category</b>	<b>Observed</b>	<b>Expected (150/5=30)</b>	<b>(O-E)<sup>2</sup>/E</b>
SA	35	30	0.83
A	68	30	48.27
N	31	30	0.03
D	12	30	10.8
SD	4	30	21.33
<b><math>\chi^2 = 81.26, df=4, p &lt; 0.001</math></b>			

**Interpretation**

Results show that 103 respondents (SA+A) believe the e-resources meet their academic needs, indicating strong alignment between user expectations and digital content availability. Neutral responses (31) suggest a moderate segment requiring better awareness or improved resource relevance. Only 16 respondents expressed dissatisfaction. The chi-square value ( $\chi^2 = 81.26, p < 0.001$ ) confirms a statistically significant preference toward positive responses. This means satisfaction with e-resource quality is not due to chance but reflects genuine approval. The library must continue improving database subscriptions and maintain high-quality digital collections.

**9. Internet Speed & Reliability**

**Table.9** Internet Speed & Reliability

<b>Chi-Square Test</b>			
<b>Category</b>	<b>O</b>	<b>E</b>	<b>(O-E)<sup>2</sup>/E</b>
SA	27	30	0.3

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A	55	30	20.83
N	38	30	2.13
D	21	30	2.7
SD	9	30	14.7
$\chi^2 = 40.66, p < 0.001$			

***Interpretation***

Agreement responses (82) indicate moderate satisfaction with internet speed, but the high neutral (38) and dissatisfaction levels (30) reveal that connectivity remains a challenge. The  $\chi^2$  value (40.66,  $p < 0.001$ ) confirms significant deviation from equal distribution, meaning users genuinely have mixed experiences. Slow or unstable internet affects access to databases, e-journals, and remote platforms. Enhancing bandwidth, upgrading Wi-Fi points, and improving load management during peak hours will improve user satisfaction.

**10: Adequacy of User Guidance / Orientation**

**Table 10:** Satisfaction with User Guidance (N=150)

Category	Observed (O)	Expected (E=30)	(O-E) <sup>2</sup> /E
SA	22	30	2.13
A	61	30	32.03
N	42	30	4.8
D	17	30	5.63
SD	8	30	16.13
$\chi^2 = 60.72$			<b>p &lt; 0.001</b>

**Interpretation**

The results indicate that 83 respondents (SA+A) believe adequate user guidance and digital orientation are provided by the library. A sizable neutral group (42) suggests many users may not have attended training sessions or were unsure about available guidance. Only 25 respondents expressed dissatisfaction. The chi-square statistic ( $\chi^2 = 60.72, p < 0.001$ ) indicates the distribution significantly deviates from equality, showing a clear tendency toward agreement. This highlights that current guidance practices are effective but require better outreach. Department-wise training, demonstrations, and regular digital literacy workshops can further enhance user readiness and reduce neutral responses.

**11. Staff Helpfulness in Solving Digital Access Issues**

**Table 11:** Staff Helpfulness (N=150)

Category	O	E	(O-E) <sup>2</sup> /E
SA	30	30	0
A	70	30	53.33
N	31	30	0.03

D	12	30	10.8
SD	7	30	17.63
$\chi^2 = 81.79, p < 0.001$			

**Interpretation**

A strong majority (100 respondents) positively affirmed that library staff are supportive in resolving digital access issues. Neutral responses (31) likely reflect users who have not sought help or were uncertain about staff roles. Only 19 respondents expressed dissatisfaction. The chi-square test ( $\chi^2 = 81.79, p < 0.001$ ) shows a highly significant trend toward agreement. This indicates genuine appreciation for staff technical competence, responsiveness, and guidance. To maintain this strength, staff should continue periodic up skilling in new digital tools, remote troubleshooting, authentication processes, and database navigation to support the expanding digital ecosystem.

**12. Remote Access without Difficulty**

**Response Table (N = 150)**

Category	O	E	(O-E) <sup>2</sup> /E
SA	24	30	1.2
A	58	30	26.13
N	41	30	4.03
D	19	30	4.03
SD	8	30	16.13
$\chi^2 = 51.52, p < 0.001$			

**Interpretation**

A total of 82 respondents reported satisfactory remote access, which indicates the system functions reasonably well for off-campus research and learning. Neutral responses (41) highlight uncertainty, possibly due to inconsistent login success or limited awareness of remote access procedures. About 27 respondents reported difficulty, which signals scope for improvement in authentication, VPN stability, or bandwidth. The chi-square value ( $p < 0.001$ ) confirms that users' experiences are not evenly distributed, with a notable tilt toward satisfaction. Strengthening authentication support, providing clear step-by-step access guides, and improving server reliability will enhance remote user experience.

**13: Satisfaction with Licensed Databases**

**Table:13** Satisfaction with Licensed Databases

Category	O	E	(O-E) <sup>2</sup> /E
SA	32	30	0.13
A	64	30	38.13
N	36	30	1.2
D	12	30	10.8
SD	6	30	19.2
$\chi^2 = 69.46, p < 0.001$			

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### **Interpretation**

Most respondents (96) expressed satisfaction with the range and availability of licensed databases offered by the library. Neutral responses (36) suggest users may not fully utilize available databases or are unfamiliar with all subscribed platforms. A small dissatisfied segment (18) indicates content might not fully match certain departments' needs. The chi-square result ( $p < 0.001$ ) confirms a significant preference toward agreement. To strengthen usage, the library may introduce subject-wise database orientations, promote new subscriptions, and collaborate with faculty to integrate databases into classroom teaching and research projects.

### **14: Adequacy of Digital Facilities**

**Table:14** Adequacy of Digital Facilities

<b>Chi-Square Output Table</b>			
<b>Category</b>	<b>O</b>	<b>E</b>	<b>(O-E)<sup>2</sup>/E</b>
SA	28	30	0.13
A	66	30	46.8
N	34	30	0.53
D	15	30	7.5
SD	7	30	17.63
<b><math>\chi^2 = 72.60, p &lt; 0.001</math></b>			

### **Interpretation**

A total of 94 respondents are satisfied with digital facilities such as computers, Wi-Fi coverage, seating, and ambience. Neutral responses (34) reflect acceptable but improvable conditions. Only 22 expressed dissatisfaction, pointing to occasional challenges in hardware availability, slow Wi-Fi zones, or limited seating. The chi-square statistic ( $p < 0.001$ ) confirms a significant inclination toward positive satisfaction. Improving high-speed Wi-Fi, upgrading computer systems, and expanding digital study zones will enhance user experience and reduce dissatisfaction.

### **15 Overall Satisfaction**

**Table: 15** Overall Satisfaction

<b>Chi-Square Output Table</b>			
<b>Category</b>	<b>O</b>	<b>E</b>	<b>(O-E)<sup>2</sup>/E</b>
SA	36	30	1.2
A	69	30	47.7
N	28	30	0.13
D	11	30	12.03
SD	6	30	19.2
<b><math>\chi^2 = 80.26, p &lt; 0.001</math></b>			

### **Interpretation (100 words)**

Overall satisfaction is strong, with 105 respondents agreeing that digital library services meet their expectations. Neutral responses (28) suggest average experiences influenced by occasional access or connectivity issues. Only 17 users reported dissatisfaction, which is minimal. The chi-square value ( $p < 0.001$ ) shows a statistically significant preference toward positive satisfaction. These findings confirm that the digital library system successfully supports academic and research needs. Continued improvements in remote access, digital facilities, and training programs will further elevate satisfaction levels.

### **MAJOR FINDINGS**

- The gender distribution is balanced, with slightly more male respondents, ensuring representation from both groups. This balance strengthens the reliability of comparisons in digital library usage.
- UG students form the largest user group, followed by faculty and research scholars, indicating that most digital needs are student-driven. This reflects the institutional academic structure.
- A majority visit the library weekly, while daily users show strong dependency on digital facilities. Occasional visitors rely more on remote access.
- Awareness of digital resources is high, with 88% aware of services offered. The unaware group indicates gaps among new or irregular users.
- E-journals and e-books are the most frequently used resources, while MOOCs and institutional repositories show low adoption. This reflects strong academic reliance on core scholarly materials.
- Campus Wi-Fi is the most preferred access mode, followed by library PCs. Remote access and mobile app usage remain comparatively low.
- Most users find the digital library interface easy to use, showing strong usability. Only a small portion reports difficulty.
- The majority believe that e-resources meet academic and research needs. A few users express concerns about content relevance in certain areas.
- Internet speed satisfaction is moderate, with many neutral and dissatisfied users indicating inconsistent connectivity. Variability in speed affects access to digital platforms.
- Many users feel adequate guidance is provided, but a large neutral group indicates uneven participation in training sessions. This suggests that some users are unaware of available support.
- Staff support in solving digital access issues is highly appreciated. Neutral responses hint that some users rarely engaged with staff assistance.
- A large portion of users experience satisfactory remote access, while others face login or stability issues. Neutral responses show uncertainty or mixed experiences.
- Users express satisfaction with licensed databases, though many neutrals indicate limited usage or awareness. A small number report unmet subject-specific needs.
- Digital facilities such as PCs, Wi-Fi, and study spaces receive positive ratings, though some issues persist. Dissatisfied responses point to hardware or network limitations.
- Overall satisfaction with digital library services is high, with most users having positive experiences. Neutral and dissatisfied responses relate mainly to access and connectivity issues.

## **SUGGESTIONS**

- Gender-inclusive promotions and training programmes should be conducted. Balanced participation can be maintained in future surveys and activities.
- Category-specific training sessions—beginner, intermediate, and advanced—are recommended to suit UG students, faculty, and scholars. This increases relevance and improves usage efficiency.
- Both physical facilities and remote access systems should be strengthened to support all user types. Awareness on remote services should be increased.
- Frequent orientation sessions and academic-level awareness campaigns should be conducted. Digital literacy modules can reduce the number of unaware users.
- MOOCs and institutional repositories need targeted promotion through faculty endorsement and demonstrations. Resource-specific tutorials can boost usage.
- Mobile app accessibility should be improved, and remote access procedures must be better advertised. Strengthening campus Wi-Fi will benefit the majority.
- User guides, short video tutorials, and interface walkthroughs should be made available. Continuous user feedback can help refine system usability.
- Database subscriptions should be periodically reviewed to maintain relevance. Department-wise resource needs must be considered in subscription decisions.
- Bandwidth upgrades and additional access points will help reduce speed fluctuations. Monitoring peak usage times can stabilize network performance.
- Department-wise training sessions and online self-learning modules should be introduced. Scheduled workshops can increase participation in guidance programmes.
- Staff should receive periodic training in troubleshooting and emerging digital tools. Visible helpdesks or online support channels can enhance accessibility.
- Step-by-step guides and video tutorials should be provided for remote access. Improving authentication systems and server reliability will reduce access issues.
- Subject-wise database demonstrations and integration of databases into coursework should be encouraged. Faculty collaboration ensures better alignment of resources with curriculum.
- Upgrading computers, enhancing Wi-Fi zones, and expanding digital study spaces will improve satisfaction. Routine audits can maintain facility quality.
- Continuous improvements based on user feedback and better promotion of remote and digital services can increase overall satisfaction. User-centered enhancement plans should be implemented regularly.

## **CONCLUSION**

The study on the use and satisfaction of digital library services at Aditya Educational Institutions, Kakinada, reveals that the existing digital infrastructure effectively supports the academic and research needs of its primary stakeholders. With a balanced gender representation and a sample dominated by UG students, supported by faculty and research scholars, the findings authentically reflect the institution's user community. High awareness levels and frequent use of e-journals and e-books indicate that core digital resources are well integrated into academic practices. Most respondents positively rated the ease of interface, quality of e-resources, adequacy of digital facilities, staff support, licensed databases, and overall services, which confirms strong acceptance and relevance of

the digital library system. However, the analysis also highlights critical improvement areas. Moderate satisfaction with internet speed, lower usage of MOOCs and institutional repositories, limited remote access familiarity, and a sizeable neutral segment regarding guidance and training signal the need for continuous capacity building and technological strengthening. Chi-square test results across variables consistently show statistically significant inclination toward satisfaction, demonstrating genuine user appreciation rather than random response patterns. Overall, the study concludes that the digital library services are performing well and substantially contribute to teaching, learning, and research. At the same time, strategic interventions in connectivity, remote access, digital literacy, resource promotion, and user-centric enhancements are essential to move users from neutral to highly satisfied levels and to ensure that all categories of users, regardless of location or digital proficiency, can fully leverage the institution's digital library ecosystem.

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