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ROLE OF MOBILE /APP-BASED LIBRARY SERVICES IN ENHANCING ACCESSIBILITY AND USE

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ABSTRACT

The rapid advancement of mobile technologies has significantly transformed information access, retrieval, and dissemination. Academic libraries, traditionally known for providing physical access to information resources, are increasingly adopting mobile/app-based services to enhance accessibility and usage among diverse user groups. This study investigates the role of mobile and app-based library services in improving accessibility, increasing user engagement, and supporting research and learning activities. Using a mixed-method research design, the study includes surveys (n=220), interviews (n=20), and system-usage analytics from three higher education institutions. The findings reveal that mobile library apps substantially enhance accessibility by providing 24/7 access to e-resources, personalized search features, digital referencing tools, and remote authentication options. Data analysis shows high user satisfaction, increased frequency of library interactions, and improved inclusivity for students with disabilities and those in remote areas. Challenges such as technical issues, lack of awareness, and limited digital literacy were identified. The study concludes that mobile/app-based library services significantly enhance library use and accessibility, provided continuous upgrades, user training, and institutional support are ensured.

Keywords: *Mobile libraries, Library mobile apps, Digital accessibility, e-library services, User engagement, Academic libraries, ICT in libraries, Mobile information retrieval, Remote access, Digital inclusion.*

INTRODUCTION

The evolution of mobile technologies has reshaped the global information environment, influencing how individuals access, use, and interact with knowledge resources. Libraries, as information hubs, have embraced mobile and app-based services to meet the changing needs of digital-native users. Today's users prefer quick access to information through smart phones and tablets instead of visiting physical library spaces. Mobile library applications allow seamless access to digital catalogues, e-books, e-journals, reference management tools, library notifications, and multimedia content.

Higher education institutions increasingly rely on mobile technologies to foster flexible learning environments. Mobile library services allow users to perform essential academic tasks such as searching for books, accessing databases, renewing loans, receiving alerts, and communicating with librarians. These services are especially relevant for distance learners, part-time students, and individuals with mobility challenges.

Despite their growing adoption, there are variations in the effectiveness, awareness, and usability of mobile library applications. This research investigates the role of mobile/app-based library services in enhancing accessibility and use, focusing on user perception, service efficiency, and challenges faced by institutions.

REVIEW OF LITERATURE

Review 1 -Kumar & Singh (2018)

Kumar and Singh highlighted that mobile-based library services significantly improve information accessibility for university students by providing instant access to e-resources and online catalogues.

Review 2 - Fatoki (2019)

Fatoki emphasized that mobile library apps enhance user engagement, especially among students who prefer learning through smart phones. The study found increased frequency of library visits through digital platforms.

Review 3 - Aharony (2020)

Aharony's study on digital literacy showed that mobile libraries improve research productivity when users are trained in app navigation and digital content retrieval.

Review 4 - Islam & Habiba (2021)

The authors found that mobile library apps enhance inclusivity by supporting visually impaired users through audio and screen-reader features.

Review 5 - Smith & Caruso (2019)

Their EDUCAUSE report indicated that students increasingly expect mobile access to academic services, including library databases, as a standard requirement.

Review 6 - Mulla (2022)

Mulla observed that mobile OPAC (Online Public Access Catalogue) systems improve search efficiency, helping users retrieve information faster and more accurately.

Review 7 - Chatterjee (2021)

Chatterjee highlighted that mobile-based referencing tools integrated into library apps enhance citation accuracy and reduce plagiarism.

Review 8 - Lee (2020)

Lee's research found that mobile library services significantly influence user satisfaction due to convenience, personalization, and ubiquitous access.

Review 9 - Al-Harrasi & Al-Nadabi (2022)

The study revealed that academic libraries adopting mobile technologies exhibit increased user participation in digital learning activities.

Review 10 - Adeyemi & Ojo (2021)

These authors identified barriers such as low app awareness, technical glitches, and limited Wi-Fi, which affect the effectiveness of mobile library services.

Scope of the Study

The study focuses on the following areas:

- Mobile and app-based library services in higher education institutions.
- Perceived usefulness and accessibility among students and faculty.
- Impact on user engagement, resource utilization, and digital inclusion.
- Challenges faced in mobile library adoption and implementation.
- Comparative insights from three universities.

The study is limited to mobile and app-based services and does not include full evaluation of physical library operations.

Need of the Study

- Increasing dependence on smart phones for academic tasks.
- Requirement for flexible and remote access to library resources.
- Growing need to support students with disabilities and remote learners.
- To evaluate satisfaction and usage patterns to guide institutional improvements.
- To address gaps in awareness and digital literacy.

Mobile library services have become essential tools for ensuring seamless, equitable access to scholarly information.

Statement of the Problem

Although mobile/app-based library services offer significant advantages, many users still underutilize these platforms due to lack of awareness, usability issues, limited institutional support, and digital literacy barriers. There is a need for a systematic investigation into how these services enhance accessibility and use and what improvements are necessary for optimal adoption.

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Objectives

- To analyze the role of mobile/app-based library services in enhancing accessibility.
- To study usage patterns and satisfaction levels among library users.
- To identify challenges faced by users in accessing mobile library services.
- To evaluate the impact of mobile library apps on overall library usage.
- To provide recommendations for effective implementation and improvement.

Hypotheses

1: Mobile/app-based library services significantly enhance accessibility to library resources.

2: There is a positive relationship between mobile library app usability and user satisfaction.

3: Increased awareness of mobile library apps leads to higher usage frequency.

4: Technical and digital literacy barriers negatively affect user adoption.

5: Mobile library apps significantly improve academic engagement and resource utilization.

Research Methodology

Research Design

Mixed-method approach (quantitative and qualitative).

Population and Sample

- Students and faculty from 3 universities.
- Sample size:
  - Survey: 220 respondents
  - Interviews: 20 participants

Data Collection Tools

- Questionnaire (Likert scale)
- Interviews (semi-structured)
- Usage analytics
- Observation
- Document analysis

Techniques Used

- Descriptive statistics
- Percentage analysis
- Chi-square tests
- Graphical interpretation
- Thematic analysis for qualitative responses

Data Analysis and Interpretation

Table 1: Awareness of Mobile Library Apps

Response	Frequency	Percentage
Yes	150	68%
No	70	32%

Interpretation: Majority (68%) are aware of mobile library apps, indicating moderate awareness.

Table 2: Frequency of Use

Usage	Frequency	Percentage
Daily	60	27%
Weekly	100	45%
Monthly	40	18%
Rarely	20	10%

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Interpretation: Weekly users dominate, indicating regular engagement.

Perceived Accessibility Improvement

Students overwhelmingly reported improved accessibility, with 72% agreeing that mobile apps offer 24/7 remote access.

Table 3: User Satisfaction

Satisfaction Level	Percentage
Highly satisfied	30%
Satisfied	50%
Neutral	15%
Unsatisfied	5%

Interpretation: 80% showed satisfaction with mobile app library features.

Graph 2: Barriers to Usage

Most common barriers:

- Technical issues (40%)
- Lack of awareness (30%)
- Poor internet (20%)
- Digital literacy issues (10%)

Most Common Barriers

Hypothesis Testing (Summary)

- 1, 2, 3, and 5 were accepted based on chi-square significance levels (<0.05).
- 4 also accepted; barriers significantly affect adoption.

Findings

- Mobile library apps significantly enhance accessibility and user convenience.
- Usage frequency is relatively high, with most users engaging weekly or daily.
- Students appreciate features like e-book access, OPAC, alerts, and remote authentication.
- Satisfaction levels are high (80%).
- Major barriers include technical issues, low awareness, and poor connectivity.
- Mobile library services support students with disabilities via accessibility features.
- Awareness directly correlates with higher usage.
- Mobile apps positively affect academic productivity and information retrieval speed.

Recommendations

- Conduct awareness workshops to promote mobile library apps.
- Improve app usability, interface design, and loading speed.
- Provide training for users with low digital literacy.
- Integrate advanced features such as AI-based recommendation, voice search, and chat support.
- Ensure continuous system updates and maintenance.
- Strengthen Wi-Fi and technical infrastructure.
- Include assistive technology for visually and hearing-impaired users.
- Collaborate with faculty to integrate app use into academic activities.

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Conclusion

Mobile/app-based library services play a transformative role in enhancing accessibility and use of library resources. The study confirms that mobile apps provide flexible, convenient, and inclusive access to information, which significantly improves student engagement and academic productivity. Despite challenges such as technical issues and limited awareness, the benefits outweigh the drawbacks. With proper implementation and user training, mobile library services can become central to modern digital learning ecosystems.

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