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## User Preference and Library Usage Transformation in the Era of E-Resources: An Analytical Study

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### **Abstract**

The rapid advancement of digital technologies has significantly transformed academic library systems, leading to increased reliance on electronic resources (e-resources) such as e-journals, e-books, and online databases. This study examines the impact of e-resources on user preference and the resulting transformation in library usage patterns within academic institutions. Adopting a quantitative and analytical research approach, data was collected from 400 respondents, including undergraduate and postgraduate students, research scholars, and faculty members, using a structured questionnaire. Statistical tools such as ANOVA, chi-square test, and correlation analysis were employed to evaluate relationships between variables such as availability, accessibility, user satisfaction, and challenges. The findings reveal that e-resources significantly influence user behaviour, with a clear shift towards digital platforms due to their convenience, accessibility, and time efficiency. Additionally, factors such as academic status and accessibility were found to have a strong impact on usage and satisfaction levels, while challenges like technical issues and lack of awareness continue to affect effective utilisation. The study concludes that e-resources have fundamentally reshaped library usage patterns, emphasizing the need for improved infrastructure, digital literacy, and user-oriented library services to enhance overall effectiveness.

**Keywords:** E-Resources, Library Usage, User Preference, Academic Institutions, Digital Libraries

### **Introduction**

The rapid proliferation of digital technologies has significantly transformed the landscape of academic libraries, redefining how information is accessed, disseminated, and utilized. In recent years, electronic resources (e-resources) such as e-journals, e-books, online databases, institutional repositories, and digital libraries have emerged as critical components of modern library services. Unlike traditional print-based resources, e-resources offer advantages including remote accessibility, real-time updates, advanced search functionalities, and multi-user access,



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thereby aligning closely with the dynamic information needs of students, researchers, and faculty members. This paradigm shift has influenced user preferences, gradually moving them away from conventional library usage toward more digital-centric practices. Academic institutions have increasingly invested in digital infrastructure, subscription-based databases, and consortia models to enhance the availability and accessibility of scholarly content. Consequently, the role of libraries has evolved from being mere physical repositories of books to becoming hybrid or fully digital knowledge centers. This transformation raises critical questions regarding how users interact with library systems, what factors drive their preference for e-resources, and how these changes impact overall library usage patterns.

In this context, understanding user preference becomes essential for evaluating the effectiveness and relevance of e-resources in academic environments. User behavior in the digital age is shaped by factors such as ease of access, time efficiency, technological proficiency, availability of internet connectivity, and the perceived credibility of online information sources. While e-resources have expanded the scope of information access, they have also altered traditional patterns of library visits, reading habits, and research methodologies. Some users demonstrate a strong inclination toward digital formats due to convenience and immediacy, whereas others continue to value print resources for in-depth reading and comprehension. Therefore, the coexistence of digital and print resources creates a complex usage environment that requires systematic analysis. This analytical study aims to examine the extent to which e-resources influence user preferences and transform library usage in academic institutions. By exploring patterns of access, frequency of use, satisfaction levels, and challenges faced by users, the study seeks to provide empirical insights into the evolving role of libraries in the digital era and offer strategic recommendations for enhancing user-centric library services.

## **Scope of the Study**

The present study focuses on examining the impact of electronic resources (e-resources) on user preference and the transformation of library usage patterns within academic institutions. The scope is primarily limited to users of academic libraries, including undergraduate students, postgraduate students, research scholars, and faculty members, as these groups represent the core stakeholders in educational and research environments. The study investigates how factors such as availability, accessibility, user awareness, and satisfaction influence the adoption and utilisation of e-resources, and how these, in turn, affect traditional library usage.

Geographically, the study is confined to selected academic institutions, making the findings context-specific while still offering insights that may be applicable to similar educational settings. The research adopts a quantitative approach, focusing on measurable aspects such as frequency of usage, user preferences between digital and print resources, and the effectiveness of e-resources in supporting academic activities. It also examines key challenges, including



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technical issues, limited digital literacy, and lack of awareness, which may hinder the effective utilisation of e-resources.

The scope further extends to analysing the relationship between academic status and usage behaviour, as well as the role of accessibility in determining user satisfaction. However, the study does not deeply explore qualitative aspects such as detailed user experiences or institutional policy frameworks. Overall, the research provides a structured and analytical understanding of how e-resources are reshaping library usage in the modern academic environment.

## Research Methodology

### 1. Research Approach and Design

The present study adopts a quantitative and analytical research methodology to examine the impact of electronic resources on library usage in academic institutions. This approach is particularly suitable because the research focuses on measuring user behaviour, identifying patterns, and testing relationships between variables such as accessibility of e-resources and usage frequency. The study follows a deductive approach, where existing theories related to digital library usage are used to formulate hypotheses, which are then empirically tested through collected data. A descriptive and analytical research design is employed to provide both a detailed overview of current usage patterns and a deeper analysis of relationships among variables. The descriptive aspect helps in presenting user characteristics, preferences, and frequency of usage, while the analytical component applies statistical tools to examine associations and draw meaningful conclusions. This structured design ensures methodological rigour and allows the study to generate reliable and generalisable findings across different academic user groups.

### 2. Data Collection and Sampling

The study is based on both primary and secondary data sources to ensure a comprehensive and well-supported analysis. Primary data is collected through a structured questionnaire consisting of close-ended and Likert scale questions, designed to capture user preferences, satisfaction levels, accessibility, and challenges related to e-resources. The questionnaire is administered to a sample of 400 respondents, including undergraduate students, postgraduate students, research scholars, and faculty members. A stratified random sampling technique is used to ensure that each category of users is proportionately represented, thereby improving the reliability and representativeness of the findings. Secondary data is gathered from academic journals, institutional reports, and digital databases to provide theoretical support and contextual background. The integration of both data types strengthens the validity of the study by combining empirical evidence with established literature.

### 3. Data Analysis Techniques and Tools



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The collected data is analysed using statistical techniques such as percentage analysis, mean, standard deviation, chi-square test, and correlation analysis to interpret patterns and test research hypotheses. Percentage analysis is used to summarise data and identify trends, while mean and standard deviation help in evaluating user perceptions measured through Likert scales. The chi-square test is applied to determine the significance of relationships between categorical variables, and correlation analysis is used to examine the strength and direction of associations between variables such as accessibility and satisfaction. The analysis is conducted using software tools like SPSS and Microsoft Excel, which facilitate efficient data processing, accurate computation, and graphical representation of results. These tools enhance the precision and credibility of the findings, ensuring that the conclusions drawn are both statistically valid and academically robust.

## Results and Discussion

The findings of the study clearly indicate that electronic resources (e-resources) have a significant impact on user preference and library usage patterns in academic institutions. The statistical analysis, particularly ANOVA results, reveals that key factors such as availability, accessibility, academic status, and challenges significantly influence the utilisation of e-resources. The results show that increased availability of e-resources leads to higher usage levels and a noticeable shift from traditional library visits to digital access. Accessibility was found to have a strong positive effect on user satisfaction, highlighting the importance of user-friendly platforms, reliable internet connectivity, and ease of access in enhancing the overall experience. Furthermore, differences in academic status significantly affect usage behaviour, with research scholars and faculty members demonstrating higher engagement with e-resources compared to undergraduate students due to their research-oriented needs. However, the study also identifies several challenges, including technical issues, lack of awareness, and limited digital skills, which hinder effective utilisation despite the availability of resources. These findings suggest that while e-resources are transforming academic libraries into more digital-centric environments, their full potential can only be realised through improved infrastructure, user training, and awareness initiatives.

## Hypothesis Testing

### Hypothesis Testing

The following hypotheses are tested as stated in the research synopsis. Each table presents observed frequencies for selected variables used in chi-square testing.

**H<sub>1</sub>: There is a significant relationship between the availability of e-resources and the frequency of library usage in academic institutions**

### Observed Frequency Table

#### Effect of Availability of E-Resources on Library Usage Patterns



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Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance (p-value)
Between Groups	128.46	2	64.23	6.84	0.001
Within Groups	3728.52	397	9.39		
Total	3856.98	399			

**H<sub>2</sub>: Increased use of e-resources significantly reduces students' dependence on physical library visits**

## Effect of Accessibility on User Satisfaction

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance (p-value)
Between Groups	142.73	2	71.37	7.92	0.000
Within Groups	3576.41	397	9.01		
Total	3719.14	399			

The ANOVA results presented in Table 2 demonstrate a statistically significant effect of accessibility on user satisfaction with e-resources in academic institutions. The between-groups sum of squares (142.73) with 2 degrees of freedom yields a mean square of 71.37, while the within-groups sum of squares (3576.41) with 397 degrees of freedom results in a mean square of 9.01. The calculated F-value of 7.92 is substantially higher than the expected value under the null hypothesis, indicating that variation in user satisfaction across different levels of accessibility is



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not random. Moreover, the p-value of 0.000 ( $p < 0.05$ ) confirms that the results are highly statistically significant. This implies that accessibility factors—such as ease of access, availability of digital platforms, internet connectivity, and user-friendly interfaces—play a crucial role in shaping user satisfaction. The higher between-group variance compared to within-group variance suggests that improvements in accessibility can lead to meaningful increases in satisfaction levels among users. Therefore, the null hypothesis is rejected, and it can be concluded that accessibility has a strong and significant positive impact on user satisfaction in the context of e-resource utilisation in academic libraries.

### **H<sub>3</sub>: Users show a higher preference for e-resources compared to traditional print resources** **Effect of Academic Status on E-Resource Usage**

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance (p-value)
Between Groups	156.89	3	52.29	5.67	0.001
Within Groups	3654.72	396	9.23		
Total	3811.61	399			

The ANOVA results in Table 3 reveal a statistically significant effect of academic status on e-resource usage among respondents in academic institutions. The between-groups sum of squares (156.89) with 3 degrees of freedom produces a mean square of 52.29, whereas the within-groups sum of squares (3654.72) with 396 degrees of freedom results in a mean square of 9.23. The computed F-value of 5.67 indicates that the variation in e-resource usage across different academic groups—such as undergraduate students, postgraduate students, research scholars, and faculty members—is greater than the variation within groups. Furthermore, the p-value of 0.001, which is significantly lower than the standard significance level of 0.05, confirms that these differences are statistically meaningful and not due to chance. This suggests that academic status plays a crucial role in determining the extent and manner of e-resource utilisation. Typically, higher academic groups such as research scholars and faculty members are likely to demonstrate greater usage due to their research-oriented requirements, while undergraduate students may exhibit comparatively lower usage levels. Consequently, the null hypothesis is rejected, and it



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can be concluded that academic status significantly influences e-resource usage patterns in academic institutions.

**H<sub>4</sub>: Accessibility and ease of use of e-resources have a positive impact on user satisfaction**

**Observed Frequency Table**

**ANOVA Table 4**

**Effect of Challenges on Effective Utilisation of E-Resources**

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance (p-value)
Between Groups	134.22	2	67.11	6.21	0.002
Within Groups	4293.64	397	10.82		
Total	4427.86	399			

The ANOVA results presented in Table 4 indicate a statistically significant effect of challenges on the effective utilisation of e-resources in academic institutions. The analysis shows that the between-groups sum of squares (134.22) with 2 degrees of freedom yields a mean square of 67.11, while the within-groups sum of squares (4293.64) with 397 degrees of freedom results in a mean square of 10.82. The calculated F-value of 6.21 is notably higher than the critical value at conventional significance levels, and the corresponding p-value of 0.002 is well below the threshold of 0.05. This indicates that the differences observed among the groups are statistically significant and not due to random variation. In practical terms, the findings suggest that challenges such as technical issues, lack of awareness, limited digital literacy, or accessibility constraints have a measurable and meaningful impact on how effectively users utilise e-resources. The relatively higher variation within groups compared to between groups also implies that while individual differences exist, the overall effect of challenges remains significant across the population. Therefore, the null hypothesis is rejected, and it can be concluded that challenges play a critical role in influencing the effective utilisation of e-resources in academic settings.

**H<sub>5</sub>: There are significant challenges (such as technical issues and lack of awareness) that affect the effective utilisation of e-resources**

**Observed Frequency Table**



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Challenges Level	High Utilisation	Moderate Utilisation	Low Utilisation	Total
High Challenges	28	46	58	132
Moderate	52	68	44	164
Low Challenges	76	34	14	104
Total	156	148	116	400

## Conclusion

The present study on *User Preference and Library Usage Transformation in the Era of E-Resources* highlights a clear paradigm shift in how library users access, evaluate, and utilize information resources. The findings indicate that the proliferation of digital technologies and electronic resources has significantly altered traditional library usage patterns, with users increasingly favoring online databases, e-journals, and digital repositories over print materials. Convenience, remote accessibility, time efficiency, and the breadth of available information emerge as the primary drivers influencing user preference toward e-resources. Furthermore, the study reveals that user expectations have evolved in tandem with technological advancements. Modern library users demand seamless access, user-friendly interfaces, and integrated search systems that enhance information retrieval efficiency. This transformation has compelled libraries to redefine their roles from being mere repositories of physical books to dynamic information service centers that support digital learning environments.

However, the transition is not without challenges. Issues such as digital divide, lack of technical skills among certain user groups, subscription costs, and information overload continue to affect optimal utilization of e-resources. Despite these constraints, the overall impact of electronic resources on library usage is overwhelmingly positive, contributing to increased user engagement and academic productivity. Libraries must adopt a hybrid approach that balances both digital and traditional resources while investing in user training and technological infrastructure. This will ensure inclusivity, maximize resource utilization, and sustain the relevance of libraries in the rapidly evolving information landscape.



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