

USAGE PATTERN OF ICT-BASED RESOURCES IN UNIVERSITY LIBRARIES OF TRIPURA

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ABSTRACT

This study investigates the usage pattern of ICT-based resources among faculty members and research scholars in selected university libraries of Tripura. A descriptive survey method was employed, and data were collected through a structured questionnaire from 1,050 respondents out of 1,290 distributed, achieving an 81.4% response rate. The findings reveal that most respondents visit the library daily and spend 1–2 hours per visit. A significant proportion rated their ICT proficiency as very good. ICT resources are mainly used for skill development, learning, and information access, with e-journals emerging as the most frequently used resource, followed by digital archives and the library website. The study highlights the growing reliance on ICT-based resources in university libraries and emphasizes the need for continuous improvement in ICT infrastructure and services.

Keywords: Usage Pattern, ICT-Based Resources, University Libraries, Tripura

1. INTRODUCTION

Information and Communication Technology (ICT) has significantly transformed academic libraries by enhancing access to digital resources and improving service efficiency. Libraries have evolved from traditional print-based systems to digital environments integrating e-journals, e-books, online databases, digital repositories, and automated systems, thereby strengthening research support and user satisfaction (Saravana Raj & Vijayakumar, 2019; Chowdhury, 2024). Faculty members and research scholars increasingly rely on electronic resources, particularly e-journals and online databases, for academic and research purposes (Sharma & Singh, 2022; Francis, 2024). Studies on ICT usage in Indian academic libraries further indicate that tools such as computers, internet services, and electronic databases significantly enhance information access, retrieval, and dissemination processes, though challenges such as inadequate internet-enabled computers and limited journal subscriptions may restrict optimal utilization (Stephen, 2020). In Tripura, university libraries have adopted ICT-based resources to support teaching and research activities; however, limited empirical evidence exists regarding the actual usage patterns and ICT proficiency levels of faculty members and research scholars in the region. Therefore, this study investigates the usage patterns of ICT-based resources in selected university libraries of Tripura to provide insights for improving digital library services and resource utilization.

2. REVIEW OF LITERATURE

Existing literature highlights the significant role of ICT in transforming academic libraries and enhancing access to digital resources. Saravana Raj and Vijayakumar (2019) found that faculty members widely use e-journals, e-books, and online databases for academic purposes. Similarly, Sharma and Singh (2022) and Francis (2024) reported that research scholars make intensive use of electronic resources, establishing a positive relationship between digital resource availability and research productivity. Stephen (2020) highlighted that ICT applications improve information access and service efficiency in academic libraries but also identified challenges such as limited infrastructure and inadequate digital resources. Furthermore, Chowdhury (2024) and Lu (2024) emphasized that ICT integration enhances user satisfaction, while infrastructural and skill-related constraints may hinder optimal utilization (Sahu & Maharana, 2018).

3. STATEMENT OF THE PROBLEM

Although university libraries in Tripura have adopted various ICT-based resources, limited empirical evidence exists regarding their actual usage by faculty members and research scholars. Differences in digital skills, access patterns, and purpose of use may affect effective utilization. Therefore, it is necessary to examine the usage patterns and ICT proficiency levels among academic users to ensure better resource management and service improvement.

4. OBJECTIVES OF THE STUDY

- i To examine the frequency of library visits among faculty members and research scholars.
- ii To analyze the time spent in the library by different user groups.
- iii To assess the level of ICT knowledge and proficiency of respondents.
- iv To identify the purpose of using ICT-based resources in university libraries.
- v To determine the frequency of use of various ICT-based resources such as e-journals, e-books, and online databases.

5. RESEARCH METHODOLOGY

The study employed a descriptive survey research design to examine the usage patterns of ICT-based resources among faculty members and research scholars in selected university libraries of Tripura. The population comprised Professors, Associate Professors, Assistant Professors, and Research Scholars from four universities. A structured questionnaire was used as the primary data collection tool, and 1,290 questionnaires were distributed, of which 1,050 valid responses were received, yielding an 81.4% response rate. The collected data were analyzed using descriptive statistics such as frequency, percentage, mean, standard deviation, and ranking. The Pearson Chi-Square test was applied to examine associations between variables such as designation, frequency of library visits, and time spent in the library, with significance tested at $p < 0.001$.

6. DATA ANALYSIS AND INTERPRETATION

Table 6.1: Distribution of Questionnaires and Responses from Different Universities in Tripura

S. No	Name of the University	Questionnaire distributed					Responses Received				
		Professor	Associate Professor	Assistant Professor	Research Scholars	Total	Professor	Associate Professor	Assistant Professor	Research Scholars	Total
1	Maharaja Bir Bikram University	0	2	6	17	25	0	2	5	14	21
2	Tripura University	48	32	106	438	624	47	27	83	415	572
3	The ICFAI University	14	20	128	397	559	13	19	128	216	376
4	Techno India University	1	3	52	26	82	1	3	52	25	81
Total		63	57	292	878	1290	61	51	268	670	1050

(Sources: Primary Data)

Table 6.1 shows that out of 1,290 questionnaires distributed across four universities in Tripura, 1,050 were received back, indicating a good overall response rate. Tripura University recorded the highest distribution (624) and responses (572), followed by The ICFAI University (559 distributed, 376 received). Techno India University showed an almost complete response rate (81 out of 82), while Maharaja Bir Bikram University received 21 responses out of 25. Research scholars formed the largest group of respondents, followed by assistant professors, whereas professors and associate professors had comparatively lower participation.

Table 6.2: Distribution of Respondents by Frequency of Library Visits by Designation

S. No	Library Visit	Professor	Associate professor	Assistant Professor	Research Scholar	Total
1	Daily	28 (2.7)	36 (3.4)	128 (12.2)	264 (25.1)	456 (43.4)
2	Several times a week	6 (0.6)	15 (1.4)	84 (8.0)	114 (10.9)	219 (20.9)
3	Once a week	19 (1.8)	0 (0.0)	9 (0.9)	143 (13.6)	171 (16.3)
4	Less than once a week	0 (0.0)	0 (0.0)	29 (2.8)	80 (7.6)	109 (10.4)
5	Rarely	8 (0.8)	0 (0.0)	18 (1.7)	69 (6.6)	95 (9.0)
Total		61 (5.8)	51 (4.9)	268 (25.5)	670 (63.8)	1050 (100.0)
Pearson Chi-Square		Value 112.968		df 12	Asymp. Sig. (2-sided) 0.000	

(Sources: Primary Data)

Table 6.2 shows that a majority of respondents (43.4%) visit the library daily, followed by (20.9%) who visit several times a week, indicating frequent library usage. Research Scholars constitute the largest group of daily visitors, followed by Assistant Professors. A smaller proportion reported visiting rarely (9.0%) or less than once a week (10.4%). It is found that more than 43% of them use the library daily. The Pearson Chi-Square value ($\chi^2 = 112.968, p < 0.001$) indicates a statistically significant association between designation and frequency of library visits. It is found that more than 43% of them use the library daily.

Table 6.3: Distribution of Respondents by Time Spent in the Library by Designation

S. No	Time spent	Professor	Associate professor	Assistant Professor	Research Scholar	Total
1	Less than 1 hour	6 (0.6)	1 (0.1)	61 (5.8)	139 (13.2)	207 (19.7)
2	1-2 hours	26 (2.5)	21 (2.0)	55 (5.2)	155 (14.8)	257 (24.5)
3	2-3 hours	19 (1.8)	13 (1.2)	60 (5.7)	135 (12.9)	227 (21.6)
4	3-4 hours	3 (0.3)	7 (0.7)	50 (4.8)	110 (10.5)	170 (16.2)
5	More than 5 hours	7 (0.7)	9 (0.9)	42 (4.0)	131 (12.5)	189 (18.0)
Total		61 (5.8)	51 (4.9)	268 (25.5)	670 (63.8)	1050 (100.0)
Pearson Chi-Square		Value 41.835		df 12	Asymp. Sig. (2-sided) 0.000	

(Sources: Primary Data)

Table 6.3 reveals that a majority of respondents spend **1–2 hours (24.5%)** in the library, followed by **2–3 hours (21.6%)** and **less than 1 hour (19.7%)**. Research Scholars constitute the largest group across all time categories, indicating their greater engagement with library resources. A considerable proportion (18.0%) also spend **more than 5 hours**, reflecting intensive academic and research activities. Professors and Associate Professors comparatively spend fewer hours than Assistant Professors and Research Scholars. The Pearson Chi-Square value ($\chi^2 = 41.835, p < 0.001$) shows a statistically significant association between designation and time spent in the library, indicating that time utilization varies according to academic position. It is found that more than **24 % of them spent time in the library**.

Table 6.4: Distribution of ICT Knowledge and Proficiency by Designation and Gender

(Sources: Primary Data)

S. No	Rating of ICT Knowledge	Professor	Associate professor	Assistant Professor	Research Scholar	Total	Male	Female	Total
1	Very Poor	0 (0.0)	0 (0.0)	34 (3.2)	44 (4.2)	78 (7.4)	56 (5.3)	22 (2.1)	78 (7.4)
2	Poor	0 (0.0)	2 (0.2)	28 (2.7)	41 (3.9)	71 (6.8)	49 (4.7)	22 (2.1)	71 (6.8)
3	Average	0 (0.0)	0 (0.0)	67 (6.4)	141 (13.4)	208 (19.8)	135 (12.9)	73 (7.0)	208 (19.8)
4	Good	1 (0.1)	3 (0.3)	44 (4.2)	157 (15.0)	205 (19.5)	147 (14.0)	58 (5.5)	205 (19.5)
5	Very Good	60 (5.7)	46 (4.4)	95 (9.0)	287 (27.3)	488 (46.5)	308 (29.3)	180 (17.1)	488 (46.5)
Total		61 (5.8)	51 (4.9)	268 (25.5)	670 (63.8)	1050 (100.0)	695 (66.2)	355 (33.8)	1050 (100.0)

Table 6.4 indicates that the majority of respondents rated their ICT knowledge as Very Good (46.5%), followed by Good (19.5%) and Average (19.8%), reflecting a generally high level of ICT proficiency. Research Scholars constitute the largest group with strong ICT competence, while Professors and Associate Professors largely fall under the “Very Good” category. A smaller proportion reported Poor (6.8%) and Very Poor (7.4%) levels. Gender-wise, male respondents reported slightly higher ICT proficiency compared to female respondents. It is found that the

majority of respondents rated their ICT knowledge as Very Good (46.5%). It is found that more than 46 % of them rated their ICT knowledge as Very Good.

Table 6.5: Distribution of the Purpose of Using ICT-Based Resources in the Library by Respondents

S. No	Purpose	M	SD	R
1	Academic and Research work	3.2733	1.40697	5
2	Skill Development & Learning	3.4657	1.22465	1
3	Information Access Tools	3.4324	1.32861	2
4	Communication via email and Networking	3.3867	1.34051	4
5	Accessing e-books and e-journals	3.4238	1.29102	3

(Sources: Primary Data)

Table 6.5 shows that respondents primarily use ICT resources for Skill Development & Learning (M = 3.4657, R = 1), indicating it as the most significant purpose. This is followed by Information Access Tools (R = 2) and Accessing e-books and e-journals (R = 3). Communication via email and Networking and Academic and Research work rank slightly lower. Overall, ICT usage reflects a strong inclination toward learning enhancement and information access. It is found that Skill Development and Learning Rank 1 for primary use of ICT resources.

Table 6.6: Frequency of Use of ICT-Based Resources in the Library by respondents

S. No	Use of ICT-Based Resources	Never	Rarely	Sometimes	Very Often	Always	Total	M	SD	R
1	E-journals	54 (5.1)	129 (12.3)	271 (25.8)	421 (40.1)	175 (16.7)	1050 (100.0)	3.5086	1.0671	1
2	E-books	173 (16.5)	174 (16.6)	208 (19.8)	248 (23.6)	247 (23.5)	1050 (100.0)	3.2114	1.3997	5
3	Online databases	142 (13.5)	226 (21.5)	221 (21.0)	188 (17.9)	273 (26.0)	1050 (100.0)	3.2133	1.3898	4
4	OPAC	191 (18.2)	151 (14.4)	299 (28.5)	154 (14.7)	255 (24.3)	1050 (100.0)	3.1248	1.4057	6
5	Library website	108 (10.3)	111 (10.6)	390 (37.1)	202 (19.2)	239 (22.8)	1050 (100.0)	3.3362	1.2282	3
6	Digital archives	127 (12.1)	150 (14.3)	337 (32.1)	111 (10.6)	325 (31.0)	1050 (100.0)	3.34	1.3626	2

(Sources: Primary Data)

Table 6.6 indicates that E-journals are the most frequently used ICT-based resources (M = 3.5086, R = 1), with a majority of respondents using them very often or always. Digital archives (M = 3.34, R = 2) and the Library website (M = 3.3362, R = 3) also show high levels of usage. Moderate use is observed for Online databases and E-books, while OPAC (M = 3.1248, R = 6) ranks lowest in frequency of use. It is found that E-journals Rank 1 for the most frequently used ICT-based resources.

7. FINDINGS OF THE STUDY

- i The study recorded a high response rate of 81.4%, with Research Scholars forming the largest group of respondents, followed by Assistant Professors.
- ii A majority of respondents (43.4%) visit the library daily, and most spend 1–2 hours per visit, indicating active engagement with library resources.
- iii Most respondents rated their ICT knowledge as “Very Good” (46.5%), reflecting a generally high level of ICT proficiency among faculty members and research scholars.
- iv ICT-based resources are primarily used for Skill Development & Learning (Rank 1), followed by Information Access Tools and Accessing e-books and e-journals.
- v Among ICT-based resources, E-journals are the most frequently used (Rank 1), followed by Digital Archives and the Library Website, while OPAC ranks lowest in frequency of use.

8. CONCLUSION

The study concludes that ICT-based resources play a vital role in supporting academic and research activities in university libraries of Tripura. The high frequency of library visits and significant time spent by respondents indicate strong dependence on library services. A majority of users possess good to very good ICT proficiency, enabling effective utilization of digital resources. E-journals, digital archives, and library websites are widely used, particularly for skill development and information access. The findings emphasize the need for continuous enhancement of ICT infrastructure, digital collections, and user training programs to further strengthen academic productivity and research efficiency.

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