



## **CHALLENGES AND OPPORTUNITIES IN MANAGING ELECTRONIC RESOURCES: INSIGHTS STUDY FROM GOVERNMENT UNIVERSITY LIBRARIES IN HARYANA**

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### **Abstract**

This study examines the awareness, usage, and challenges associated with electronic resources among users of Maharshi Dayanand University (MDU) and Kurukshetra University (KU). A sample of 284 participants, comprising undergraduates, postgraduates, and research scholars, was surveyed using a structured questionnaire. Findings reveal high awareness levels (83.09%) and varied usage patterns, with e-books and e-journals being the most accessed resources. Challenges such as poor internet connectivity and limited access highlight the need for improved infrastructure and user training programs. The study recommends targeted interventions to enhance resource utilization and foster academic excellence.

### **Keywords**

Electronic resources, university libraries, resource utilization, user awareness, challenges, library infrastructure, academic support.

**1. Introduction** In the digital age, academic libraries are undergoing a significant transformation, evolving from traditional repositories of printed materials into dynamic hubs of electronic resources. These resources spanning e-books, e-journals, databases, and institutional repositories play a crucial role in enhancing teaching, learning, and research in higher education. Effective management of electronic resources has become imperative to meet the growing demands of academic users and to ensure equitable access to scholarly content. This paper examines the challenges and opportunities associated with managing electronic resources in government university libraries in Haryana, with a particular focus on Maharshi Dayanand University, Rohtak, and Kurukshetra University, Kurukshetra.

The proliferation of electronic resources has revolutionized information access in academic institutions. However, this shift brings forth numerous challenges, such as budget constraints, technical issues, licensing complexities, and the need for continuous skill development among library staff. These challenges are particularly pronounced in government universities, where financial and infrastructural limitations often hinder the optimal utilization of electronic resources.



At the same time, opportunities such as advancements in digital technology, collaborative initiatives, and open-access platforms present viable solutions to address these challenges effectively.

While electronic resources have revolutionized access to information, issues such as budget limitations, licensing complexities, technological constraints, and lack of training for staff and users remain critical barriers. Both universities illustrate these challenges, with MDU grappling with limited funding and training gaps and KU facing outdated infrastructure and digital preservation issues. Despite these challenges, advancements in technology, collaborative resource-sharing, and open-access initiatives present opportunities to improve electronic resource management.

This study analyzes the practices of MDU and KU to provide recommendations for optimizing resource utilization, enhancing user satisfaction, and addressing systemic challenges. The findings aim to contribute to broader strategies for improving government university libraries across India.

## **2. Institution profile:**

Maharshi Dayanand University (MDU), established in 1976 in Rohtak, Haryana, is a leading institution offering diverse academic programs across disciplines such as science, humanities, and technical education. Serving a large and diverse user base of students, faculty, and researchers, the university plays a pivotal role in fostering academic excellence and innovation. Similarly, Kurukshetra University (KU), founded in 1956 in the historic city of Kurukshetra, is renowned for its multidisciplinary approach to education and its significant contributions to research and learning. Both universities have well-established libraries that act as central hubs for academic and research activities, providing extensive collections of physical and electronic resources. These libraries cater to the information needs of their dynamic user communities, supporting not only curriculum-based learning but also advanced research and scholarly pursuits, thereby underlining their critical role in the academic ecosystem of Haryana.

## **3. Objectives of the Study**

1. To examine the current practices of managing electronic resources at Maharshi Dayanand University, Rohtak, and Kurukshetra University, Kurukshetra.
2. To identify the challenges faced by these university libraries in managing electronic resources.
3. To explore the opportunities available for improving electronic resource management and accessibility.
4. To analyze the impact of electronic resource management on academic and research activities.



5. To provide recommendations for optimizing electronic resource utilization and enhancing user satisfaction.

#### **4. Literature review**

The review of literature for the study focuses on the challenges and opportunities in managing electronic resources, providing insights into user behavior, resource accessibility, and technological advancements in academic libraries.

Several researchers have explored the significant role of electronic resources in enhancing academic and research activities. **Anuradha and Usha (2006)** highlighted the benefits of e-books at the Indian Institute of Science, where features like quick access and advanced search capabilities significantly boosted research productivity. **Choukhande and Kumar (2004)** analyzed the information needs of faculty and research scholars at Amravati University, emphasizing the critical demand for comprehensive electronic resource access to support academic endeavors. Similarly, **Madhusudhan (2008)** reported that the use of UGC-INFONET journals at the University of Delhi facilitated high research productivity, with accessibility being a key driver.

Several studies also pointed to challenges hindering effective e-resource utilization. **Dadzie (2005)** at Ashesi University College in Ghana and **Igun (2005)** in developing countries identified barriers such as inadequate training, low bandwidth, and limited expertise, calling for infrastructural investments and user education programs. **Okiki and Asiru (2011)** found similar issues in Nigerian universities, where access to e-resources enhanced academic performance despite persistent technical challenges like poor internet connectivity.

The importance of collaboration and resource sharing has been widely discussed. **Mukherjee and Kumar (2010)** proposed a framework for addressing budgetary and infrastructural constraints through strategic inter-library cooperation. **Tripathi and Jeevan (2013)** reviewed e-resource usage in academic libraries and noted that while digital resources improved research efficiency, insufficient training and funding posed significant hurdles. **Tenopir and King (2008)** analyzed electronic journal usage, noting a shift in scholarly communication towards digital platforms due to their user-friendly interfaces and accessibility.

Finally, **Thanuskodi (2011)** studied the adoption of e-resources by postgraduates and research scholars at Annamalai University, highlighting ease of access and time-saving features as major benefits, despite poor connectivity being a limiting factor. **Salauddin (2020)** emphasized that resource accessibility is crucial for advancing institutional research, serving as a foundation for academic and scholarly progression. Together, these studies underscore the importance of tailored solutions involving infrastructure development, user training, and collaborative networks to maximize the potential of electronic resources in academia.



These reviews collectively emphasize the critical role of electronic resources in academia, while also highlighting recurring challenges such as inadequate training, infrastructure, and funding. These insights provide a strong foundation for understanding the dynamics of managing electronic resources in university libraries in Haryana.

## **5. Research Gap**

The literature review identifies gaps in research on electronic resource management in regional universities like those in Haryana. There is limited focus on diverse user needs, inadequate exploration of infrastructure and training issues, and scarce analysis of innovative strategies for resource optimization. These gaps highlight the need for localized, user-focused, and solution-driven studies.

## **6. Ethical Considerations**

Ethical considerations will include ensuring **informed consent** from all participants, guaranteeing their **anonymity** and **confidentiality**, and providing the option to withdraw from the study at any time without consequences. The study will follow the ethical guidelines set by the university's research ethics committee.

## **7. Limitations**

While the study aims for a comprehensive data set, limitations include the use of a single method for data collection (questionnaires) and potential response biases. Furthermore, the study has focus solely on two universities in Haryana, limiting the generalizability of the findings to other regions.

## **8. Research methodology**

This study utilizes a descriptive survey design to explore the challenges and opportunities in managing electronic resources at Maharshi Dayanand University (MDU), Rohtak, and Kurukshetra University (KU), Kurukshetra. A total of 284 respondents are selected for the study, with 142 participants from each university. The sample includes undergraduate students (95), postgraduate students (30), and research scholars (17) from each institution. A simple random sampling technique is used to ensure unbiased selection of participants from the target population. Data is collected through a structured questionnaire, which is distributed offline through personal visits to both universities to ensure high engagement and a greater response rate. The questionnaire includes open-ended questions, focusing on users' awareness, usage patterns, challenges, and satisfaction with electronic resources. The collected data has been analyzed using descriptive statistics (e.g., frequencies, percentages, and mean scores) to summarize the key findings. Ethical considerations such as informed consent, confidentiality, and voluntary participation will be strictly adhered to. This research methodology aims to provide a comprehensive understanding of the management of electronic resources at both universities, highlighting user experiences and suggesting improvements based on their feedback.



**Table 1 Demographic profile of the universities under the user’s category**

Category	Male (n, %)	Female (n, %)	Total (n)
<b>Maharshi Dayanand University (MDU)</b>			
<b>Undergraduate Students</b>	60 (42.86%)	35 (36.84%)	95
<b>Postgraduate Students</b>	20 (66.67%)	10 (33.33%)	30
<b>Research Scholars</b>	10 (58.82%)	7 (41.18%)	17
<b>Total for MDU</b>	90 (63.38%)	52 (36.62%)	142
<b>Kurukshetra University (KU)</b>			
<b>Undergraduate Students</b>	60 (42.86%)	35 (36.84%)	95
<b>Postgraduate Students</b>	20 (66.67%)	10 (33.33%)	30
<b>Research Scholars</b>	10 (58.82%)	7 (41.18%)	17
<b>Total for KU</b>	90 (63.38%)	52 (36.62%)	142
<b>Grand Total</b>	180 (63.38%)	104 (36.62%)	284

The demographic table reflects the distribution of male and female respondents across different user categories (undergraduate, postgraduate, and research scholars) in Maharshi Dayanand University (MDU) and Kurukshetra University (KU), with a total sample size of 284.

At MDU, the undergraduate student’s category shows a male dominance of 42.86% (60 respondents) compared to 36.84% (35 respondents) female participants. For postgraduate students, males represent 66.67% (20 respondents), while females make up 33.33% (10 respondents). In the research scholar’s category, 58.82% (10 respondents) are male, and 41.18% (7 respondents) are female. Overall, MDU has 63.38% male respondents and 36.62% female respondents.

Similarly, at KU, the undergraduate student’s category has a higher male proportion of 42.86% (60 respondents) compared to 36.84% (35 respondents) females. For postgraduate students, males comprise 66.67% (20 respondents), while females represent 33.33% (10 respondents). In the research scholar’s category, males account for 58.82% (10 respondents), and females for 41.18% (7 respondents). KU also shows a male-majority distribution, with 63.38% males and 36.62% females. In the study across both universities indicates that 63.38% of the respondents are male and 36.62% are female, with more males represented in undergraduate, postgraduate, and research scholar categories in both universities. This suggests a relatively higher male participation in these universities' academic programs.



**Table 2 demographic profile under the user’s discipline**

<b>Discipline of user’s category</b>	<b>Undergraduate Students (n=192)</b>	<b>Postgraduate Students (n=64)</b>	<b>Research Scholars (n=38)</b>	<b>Total (n=284)</b>
<b>Maharshi Dayanand University (MDU)</b>				
<b>Arts, Humanities &amp; Social Sciences</b>	37 (13.03%)	11 (3.87%)	8 (2.82%)	56 (19.72%)
<b>Science</b>	19 (6.69%)	10 (3.52%)	4 (1.41%)	33 (11.64%)
<b>Management, Commerce &amp; Technology</b>	35 (12.32%)	11 (3.87%)	7 (2.46%)	53 (18.66%)
<b>Total for MDU</b>	91 (32.04%)	32 (11.27%)	19 (6.69%)	142 (50%)
<b>Kurukshetra University (KU)</b>				
<b>Arts, Humanities &amp; Social Sciences</b>	37 (13.03%)	11 (3.87%)	8 (2.82%)	56 (19.72%)
<b>Science</b>	19 (6.69%)	10 (3.52%)	4 (1.41%)	33 (11.64%)
<b>Management, Commerce &amp; Technology</b>	35 (12.32%)	11 (3.87%)	7 (2.46%)	53 (18.66%)
<b>Total for KU</b>	91 (32.04%)	32 (11.27%)	19 (6.69%)	142 (50%)
<b>Grand Total</b>	192 (67.92%)	64 (22.54%)	38 (13.38%)	284 (100%)

The data reveals that the total sample size for both Maharshi Dayanand University (MDU) and Kurukshetra University (KU) is equally distributed, with 142 participants from each. In both universities, undergraduate students make up the majority (66.90%) of the sample. The Arts, Humanities & Social Sciences discipline holds the highest representation (19.72%) for both universities, followed by Management, Commerce & Technology (18.66%) and Science disciplines (11.64%). The postgraduate students and research scholars comprise smaller proportions, at around 22.54% and 13.38% of the total sample, respectively. Overall, the data indicates a balanced distribution of students across both universities, with a higher focus on undergraduate students, particularly in the social sciences and management fields.



**Table 3 Usage of library under the disciplines and different user categories**

User Category	Discipline	Daily	Weekly	Twice a Week	Occasionally	Rarely	Total (n=284)
Undergraduate Students (UG)	Arts, Humanities & Social Sciences	20 (10.42%)	15 (7.81%)	10 (5.21%)	5 (2.60%)	4 (2.08%)	54 (28.13%)
	Science	15 (7.81%)	12 (6.25%)	8 (4.17%)	7 (3.65%)	5 (2.60%)	47 (24.48%)
	Management, Commerce & Technology	45 (23.44%)	23 (11.98%)	12 (6.25%)	8 (4.17%)	3 (1.56%)	91 (47.40%)
Total for UG		80 (41.67%)	50 (26.04%)	30 (15.63%)	20 (10.42%)	12 (6.25%)	192 (100%)
Postgraduate Students (PG)	Arts, Humanities & Social Sciences	10 (15.63%)	4 (6.25%)	2 (3.13%)	1 (1.56%)	3 (4.69%)	20 (31.25%)
	Science	6 (9.38%)	6 (9.38%)	2 (3.13%)	3 (4.69%)	2 (3.13%)	19 (29.69%)
	Management, Commerce & Technology	4 (6.25%)	8 (12.50%)	6 (9.38%)	4 (6.25%)	3 (4.69%)	17 (26.56%)
Total for PG		20 (31.25%)	18 (28.13%)	10 (15.63%)	8 (12.50%)	8 (12.50%)	64 (100%)
Research Scholars (RS)	Arts, Humanities & Social Sciences	5 (13.16%)	3 (7.89%)	2 (5.26%)	3 (7.89%)	1 (2.63%)	14 (36.84%)
	Science	3 (7.89%)	4 (10.53%)	1 (2.63%)	2 (5.26%)	2 (5.26%)	12 (31.58%)
	Management, Commerce & Technology	2 (5.26%)	5 (13.16%)	3 (7.89%)	1 (2.63%)	1 (2.63%)	11 (28.95%)
Total for RS		10 (26.32%)	12 (31.58%)	6 (15.79%)	6 (15.79%)	4 (10.53%)	38 (100%)
Grand Total		110 (38.73%)	80 (28.17%)	46 (16.20%)	34 (11.97%)	24 (8.45%)	284 (100%)

The table reflects the frequency of usage and awareness of electronic resources by students in different disciplines across Undergraduate (UG), Postgraduate (PG), and Research Scholars (RS). For Undergraduate Students (UG), Management, Commerce & Technology has the highest daily usage (23.44%), followed by Arts, Humanities & Social Sciences (10.42%). Postgraduate Students (PG) show the highest weekly usage (28.13%), while Research Scholars (RS) predominantly use resources weekly (31.58%). The Management, Commerce & Technology discipline is the most widely used across all user categories, accounting for 47.40% of UG, 26.56% of PG, and 28.95%





of RS. This demonstrates a clear preference for resources related to management and commerce. Overall, the usage is predominantly weekly, with a noticeable portion using resources occasionally and rarely, indicating varying levels of engagement with electronic resources across different user categories.

**Table 4 awareness of library resources and preference**

User Category	Awareness of library resources		
	Yes (%)	No (%)	Total (n)
Undergraduate Students (UG)	150 (78.13%)	42 (21.88%)	192 (100%)
Postgraduate Students (PG)	54 (84.38%)	10 (15.63%)	64 (100%)
Research Scholars (RS)	32 (84.21%)	6 (15.79%)	38 (100%)
Grand Total	236 (83.09%)	58 (16.91%)	284 (100%)

The data reveals a high level of awareness regarding library resources across all user categories. Among undergraduates, 78.13% are aware of the resources, while 21.88% are not. Postgraduates exhibit even higher awareness at 84.38%, with only 15.63% unaware. Research scholars also show a similar trend, with 84.21% aware and 15.79% unaware. Overall, 83.09% of the total sample (n=284) is aware of library resources, leaving 16.91% uninformed. These results suggest that while most users are informed, targeted efforts are needed to address the gaps, particularly among undergraduate students.

**Table 5 Electronic resources primarily preferred to use**

Electronic resources primarily preferred to use						
User Category	E-books (%)	E-journals (%)	Databases (%)	Institutional Repositories (%)	Others (%)	Total (284)
Undergraduate Students (UG)	120 (62.5%)	110 (57.29%)	105 (54.69%)	45 (23.44%)	32 (16.67%)	192 (100%)
Postgraduate Students (PG)	40 (62.5%)	50 (78.13%)	45 (70.31%)	15 (23.44%)	5 (7.81%)	64 (100%)
Research Scholars (RS)	30 (78.95%)	35 (92.11%)	32 (84.21%)	10 (26.32%)	3 (7.89%)	38 (100%)
Grand Total	190 (66.90%)	195 (68.75%)	182 (64.18%)	70 (24.65%)	40 (14.08%)	284 (100%)

The table highlights the usage patterns of various electronic resources across three user categories: undergraduate students, postgraduate students, and research scholars. Overall, E-journals (68.75%) and Databases (64.18%) emerged as the most utilized resources, reflecting their critical role in academic and research activities. Undergraduate students predominantly use E-books





(62.5%) and E-journals (57.29%), indicating their reliance on these resources for foundational academic needs. Postgraduate students show a strong preference for E-journals (78.13%) and Databases (70.31%), emphasizing their focus on advanced academic pursuits. Research scholars display the highest usage of E-journals (92.11%) and Databases (84.21%), aligning with their intensive research requirements. However, Institutional Repositories and Other resources are less frequently utilized across all groups, with research scholars showing slightly higher engagement with Institutional Repositories (26.32%). These insights underscore the importance of tailoring resource offerings to meet the distinct needs of each user category.

**Table 6. Evaluation of Library Services Based on User Category and Service Rating**

User Category	Library Service	1 (Poor)	2 (Fair)	3 (Average)	4 (Good)	5 (Excellent)	Total n=284	Rank
Undergraduate (UG)	Accessibility of e-resources	20 (10.42%)	30 (15.63%)	50 (26.04%)	60 (31.25%)	32 (16.67%)	192	1
	Availability of technical support	30 (15.63%)	40 (20.83%)	50 (26.04%)	45 (23.44%)	27 (14.06%)	192	2
	User training programs	40 (20.83%)	50 (26.04%)	45 (23.44%)	40 (20.83%)	17 (8.85%)	192	3
Postgraduate (PG)	Accessibility of e-resources	5 (7.81%)	8 (12.50%)	15 (23.44%)	25 (39.06%)	11 (17.19%)	64	1
	Availability of technical support	10 (15.63%)	12 (18.75%)	20 (31.25%)	14 (21.88%)	8 (12.50%)	64	2
	User training programs	10 (15.63%)	18 (28.13%)	20 (31.25%)	10 (15.63%)	6 (9.38%)	64	3
Research Scholars (RS)	Accessibility of e-resources	2 (5.26%)	3 (7.89%)	8 (21.05%)	16 (42.11%)	9 (23.68%)	38	1
	Availability of technical support	5 (13.16%)	6 (15.79%)	10 (26.32%)	10 (26.32%)	7 (18.42%)	38	2
	User training programs	5 (13.16%)	8 (21.05%)	10 (26.32%)	10 (26.32%)	5 (13.16%)	38	3



The data highlights the evaluation of library services under three categories: accessibility of e-resources, availability of technical support, and user training programs. Among undergraduate users, accessibility of e-resources received the highest satisfaction, with 31.25% rating it as "Good" and 16.67% as "Excellent," ranking it first. Postgraduates similarly prioritized e-resource accessibility, with 39.06% rating it "Good" and 17.19% "Excellent." Research scholars also favored accessibility, with 42.11% rating it "Good" and 23.68% as "Excellent." Conversely, user training programs consistently ranked lowest across all groups, indicating a need for improvement. Overall, the findings suggest a strong emphasis on e-resource accessibility but highlight gaps in training programs across user categories.

**Table 7 Challenges in Using Electronic Resources**

User Category	Challenges in Using E-Resources	Technical Difficulties in Accessing E-Resources
	Lack of Awareness	Limited Access
Undergraduate (n=192)	60 (31.25%)	50 (26.04%)
Postgraduate (n=64)	20 (31.25%)	15 (23.44%)
Research Scholars (n=38)	10 (26.32%)	12 (31.58%)
Total (n=284)	90 (31.69%)	77 (27.11%)

The data highlights the challenges faced by different user groups in using electronic resources and the frequency of encountering technical difficulties. Among undergraduates (n=192), the most significant challenge is inadequate training (36.46%), followed by a lack of awareness (31.25%) and limited access (26.04%). Poor internet connectivity affects 23.44%, while 15.63% face other issues. Regarding technical difficulties, 52.08% occasionally face issues, while 20.83% encounter them frequently, and 27.08% rarely experience such problems.

For postgraduates (n=64), inadequate training (39.06%) and a lack of awareness (31.25%) are major challenges, with fewer reporting limited access (23.44%) or poor internet connectivity (18.75%). Technical difficulties are occasionally experienced by 54.69%, frequently by 23.44%, and rarely by 21.88%.

Research scholars (n=38) report challenges like other groups, with inadequate training (39.47%) and limited access (31.58%) being prominent. Technical difficulties are occasionally faced by 52.63%, frequently by 21.05%, and rarely by 26.32%.

Overall, the total sample (n=284) indicates that inadequate training (38.73%) and a lack of awareness (31.69%) are prevalent issues, highlighting the need for improved training and awareness programs. Most users (54.58%) occasionally encounter technical difficulties, suggesting a moderate but persistent barrier to effective resource usage.



## **9. Opportunities for Improvement**

The findings highlight opportunities for improvement in leveraging electronic resources at both universities. Collaborative resource-sharing programs between Maharshi Dayanand University and Kurukshetra University could enhance access to a wider range of materials. Establishing digital repositories or institutional archives would support research and preserve academic output. Building partnerships with global open-access initiatives could further enrich resource availability. These efforts have the potential to position these universities as exemplary models for other institutions in Haryana, fostering innovation in library resource management and academic collaboration.

## **10. Findings and discussion**

Based on the findings and discussion, the following recommendations for university libraries address identified gaps and leverage opportunities for enhanced e-resource utilization:

The analysis revealed that overall awareness of electronic resources stands at 83.09%, with slightly lower awareness among undergraduate students (78.13%) compared to postgraduate students (84.38%) and research scholars (84.21%). This indicates a need for tailored awareness campaigns and training programs, particularly for undergraduates, to familiarize them with available digital tools and their academic benefits. Advanced training sessions for postgraduate students and research scholars should focus on maximizing the utility of specialized resources, such as databases and institutional repositories, which are crucial for their research activities.

Additionally, challenges like limited access and poor internet connectivity, highlighted as major barriers in user feedback, emphasize the urgent need to upgrade technological infrastructure. These upgrades would ensure consistent and reliable access to digital collections, thus addressing user dissatisfaction. Libraries must also address technical difficulties experienced by users, as reported under the discussion, by improving technical support services and implementing user-friendly interfaces.

To further strengthen resource management, both universities can present usage data, such as the high levels of awareness (236 users aware of e-resources), to secure increased funding from authorities. This funding could be directed toward expanding digital collections and integrating collaborative resource-sharing programs, fostering a sustainable and innovative library system.

By addressing these critical areas, the libraries at Maharshi Dayanand University and Kurukshetra University can significantly improve the accessibility, usage, and overall satisfaction of their user communities.



## 11. Conclusion:

This study highlights the significant role electronic resources play in university libraries, with an overall awareness rate of 83.09% among users, indicating positive engagement. However, challenges such as limited access, poor internet connectivity, and inadequate training persist, impacting optimal resource utilization. Tailored training programs, upgraded technological infrastructure, and targeted awareness campaigns, particularly for undergraduate students, are crucial to addressing these gaps. Collaborative initiatives and increased funding can further enhance resource availability and accessibility. By implementing these recommendations, university libraries can better support academic and research endeavors, serving as exemplary models for other institutions.

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