

Awareness and Use of Digital Research Tools among Research Scholars of Karnataka Sanskrit University: A Study

Dr. Arunkumar H. S.¹; Dr. Lokesh M.²

Assistant Librarian, Karnataka Sanskrit University, Pampamahakavi Road, Chamarajpete,
Bangalore ¹; Assistant Librarian (T), Mangalore University, Mangalore, Karnataka, India²

arunkumar.hs20@gmail.com, lokeshamurthy4@gmail.com

ABSTRACT

The study titled “Awareness and Use of Digital Research Tools among Research Scholars of Karnataka Sanskrit University” examines the awareness, usage, effectiveness, and challenges of digital research tools. The study is based on primary data collected from 128 research scholars using a structured questionnaire. Findings reveal that awareness of digital research tools is very high, and most scholars use them for literature search, reference management, and academic writing. The majority of respondents also agree that these tools improve research efficiency and writing quality. However, challenges such as lack of training, technical issues, and time constraints still exist. The study concludes that training programmes and better institutional support are essential for the effective use of digital research tools.

KEYWORDS: Digital Research Tools, Research Scholar, Karnataka Sanskrit University.

1. INTRODUCTION

In the present digital era, research activities are increasingly supported by various digital research tools that assist scholars in literature search, reference management, data analysis, collaboration, and academic writing. These tools have significantly improved the speed, accuracy, and efficiency of the research process.

Research scholars of Karnataka Sanskrit University are also gradually adopting digital technologies in their academic work. However, the level of awareness, frequency of use, and effectiveness of these tools may vary depending on their training, skills, and institutional support. Despite the availability of several digital tools, some scholars still face challenges in utilizing them effectively.

Therefore, the present study titled “Awareness and Use of Digital Research Tools among Research Scholars of Karnataka Sanskrit University” aims to examine the level of awareness, patterns of usage, purposes, and challenges

faced by research scholars, along with their perception of the effectiveness of digital research tools in enhancing research quality and efficiency.

2. REVIEW OF LITERATURE

Acheampong et al. (2020) investigated the awareness and usage of electronic resources among research scientists in Ghana and found a high level of awareness, though usage was influenced by access and training.

Adetomiwa and Okwilagwe (2018) examined academic staff in Nigerian private universities and reported that awareness and use of electronic databases significantly contribute to research productivity.

Ashaver et al. (2024) studied postgraduate students in North-Central Nigeria and found moderate to high awareness of digital resources, but highlighted the need for improved training and institutional support to enhance effective utilization.

Tochukwu and Hocanin (2017) focused on students' awareness of ICT tools and found that awareness positively influences the use of technology in academic activities and learning processes.

Bugyei et al. (2019) assessed the awareness and usage of reference management software among researchers in Ghana and found that while awareness exists, actual usage of such tools remains relatively low due to lack of training and familiarity.

Gbore et al. (2024) examined undergraduates' awareness of technological tools for information collection and analysis and reported that students are increasingly aware of digital tools, but proper guidance is necessary for effective usage.

Overall, the literature indicates that awareness of digital research tools is generally high across academic communities, but effective usage depends on training, access, and institutional support.

3. OBJECTIVES OF THE STUDY

- ✓ To assess the level of awareness of digital research tools among research scholars.
- ✓ To identify the various digital research tools used by research scholars in their academic work.
- ✓ To examine the frequency and purpose of using digital research tools in research activities.
- ✓ To analyze the effectiveness of digital research tools in improving research efficiency and quality.
- ✓ To identify the challenges faced by research scholars while using digital research tools.
- ✓ To study the sources through which respondents become aware of digital research tools.
- ✓ To suggest suitable measures for improving the effective use of digital research tools among research scholars.

4. NEED FOR THE STUDY

In the present digital academic environment, research scholars increasingly rely on digital research tools for accessing information, managing references, analyzing data, and improving the quality of research output. These tools have become essential for enhancing efficiency, accuracy, and productivity in research work.

However, despite the availability of various digital tools, the level of awareness and effective utilization among research scholars may vary due to differences in training, technical skills, and institutional support. Many scholars still face challenges in using these tools effectively, which may impact the quality of their research work.

Therefore, there is a clear need to study the awareness and usage patterns of digital research tools among research scholars of Karnataka Sanskrit University. Such a study will help identify gaps in knowledge, usage behavior, and challenges, and will also provide useful suggestions for improving training, infrastructure, and overall research support systems.

5. RESEARCH METHODOLOGY

The present study adopted a survey method to examine the awareness and use of digital research tools among research scholars of Karnataka Sanskrit University. A structured questionnaire was designed based on the objectives of the study and distributed among PhD research scholars enrolled in different academic divisions of the university during the academic year 2026–27.

The total population of the study consisted of 180 research scholars pursuing doctoral research in three major divisions, namely Faculty of Language, Faculty of Shastra, and Faculty of Vedanta. To determine the appropriate sample size, the researcher applied the Taro Yamane sampling formula. According to the formula, a sample size of 124 respondents was considered sufficient for the study. However, to ensure wider participation, 150 questionnaires were distributed among the research scholars. Out of these, 128 completed questionnaires were received and considered valid for further analysis.

The collected data were classified, tabulated, and analyzed using simple statistical techniques such as frequency and percentage analysis. The findings are presented in tables for clear interpretation and meaningful discussion.

Table 1: Division-wise Distribution of Population, Questionnaire Distribution, and Responses Received

Sl. No.	Division	Questionnaire Distribution	Questionnaire Distribution	Responses Received	%
1	Faculty of Language	36	25	22	88
2	Faculty of Shastra	67	60	50	83.3
3	Faculty of Vedanta	77	65	56	86.1
Total		180	150	128	85.3

Table 1 presents the division-wise distribution of the population, questionnaires distributed, and responses received from research scholars of Karnataka Sanskrit University. The total population of the study comprised 180 research scholars, out of which 150 questionnaires were distributed across the three academic divisions.

Among the divisions, the Faculty of Vedanta had the highest number of respondents with 56 responses (86.1%), followed by the Faculty of Shastra with 50 responses (83.3%). The Faculty of Language recorded 22 responses with the highest response rate of 88 percent. Overall, 128 valid responses were received from the 150 questionnaires distributed, resulting in an overall response rate of 85.3 percent.

The high response rate indicates active participation of research scholars and provides adequate data for meaningful analysis of the awareness and use of digital research tools among the respondents.

6. DATA ANALYSIS AND INTERPRETATION

The data collected for the present study was systematically analyzed using simple statistical techniques such as percentages and tabulation. The analysis was carried out in accordance with the objectives of the study to ensure meaningful interpretation of the findings. The interpreted results are presented in tables for clear understanding and discussion.

Table 2: Gender-wise Distribution of Respondents

Sl. No.	Gender	No. of Respondents	Table N %
1	Male	46	35.94%
2	Female	82	64.06%
Total		128	100.0%

Table 2 presents the gender-wise distribution of the respondents included in the study. Out of the total 128 respondents, 82 respondents (64.06%) were female, while 46 respondents (35.94%) were male. The data indicates that female respondents constituted the majority of the sample population in the study.

Table 3: Age-wise Distribution of Respondents

Sl No.	Age	No. of Respondents	Table N %
1	25-30	20	15.63%
2	31-40	38	29.69%
3	Above 40	70	54.69%
Total		128	100.0%

Table 3 shows the age-wise distribution of the respondents included in the study. Among the total 128 respondents, 70 respondents (54.69%) belonged to the age group of above 40 years, followed by 38 respondents (29.69%) in the 31–40 age group and 20 respondents (15.63%) in the 25–30 age group. The findings indicate that the majority of the respondents were above 40 years of age.

Table 4: Awareness of Digital Research Tools

Sl No.	Awareness	No. of Respondents	Table N %
1	Yes	128	100.0%
2	No	0	0.0%
Total		128	100.0%

Table 4 presents the awareness of digital research tools among the respondents. The data reveals that all 128 respondents (100.0%) were aware of digital research tools, while none of the respondents reported lack of

awareness. This indicates a complete level of awareness regarding digital research tools among the respondents included in the study.

Table 5: Sources of Awareness about Digital Research Tools

Sl No.	Frequencies	Yes	No	Table N %
1	Library orientation	78 (60.9%)	50 (39.1%)	128 (100.0%)
2	Supervisor guidance	107 (83.6%)	21 (16.4%)	128 (100.0%)
3	Workshops / Training programmes	110 (85.9%)	18 (14.1%)	128 (100.0%)
4	Internet / Self-learning	120 (93.8%)	08 (6.2%)	128 (100.0%)
5	Friends / Colleagues	79 (61.7%)	49 (38.3%)	128 (100.0%)
6	Trial and Error	41 (32.0%)	87 (68%)	128 (100.0%)

Table 5 shows the various sources through which respondents became aware of digital research tools. The majority of respondents identified Internet / Self-learning as the major source of awareness with 120 respondents (93.8%), followed by Workshops / Training programmes with 110 respondents (85.9%) and Supervisor guidance with 107 respondents (83.6%). Library orientation and Friends / Colleagues were reported by 78 respondents (60.9%) and 79 respondents (61.7%) respectively. Trial and Error was the least preferred source, reported by only 41 respondents (32.0%). The findings indicate that self-learning through the internet and formal training programmes play a significant role in creating awareness about digital research tools among respondents.

Table 6: Awareness of Different Digital Research Tools among Research Scholars

Sl No.	Tools	Yes	No	Table N %
1	Google Scholar	78 (60.94%)	50 (39.06%)	128 (100.0%)
2	Mendeley	54 (42.19%)	74 (57.81%)	128 (100.0%)
3	Zotero	94 (73.44%)	34 (26.56%)	128 (100.0%)
4	EndNote	99 (77.34%)	29 (22.66%)	128 (100.0%)
5	ResearchGate	80 (62.50%)	48 (37.50%)	128 (100.0%)
6	Grammarly	112 (87.50%)	16 (12.50%)	128 (100.0%)
7	SPSS / Statistical tools	81 (63.28%)	47 (36.72%)	128 (100.0%)
8	AI Tools	94 (73.44%)	34 (26.56%)	128 (100.0%)

Table 6 presents the awareness of different digital research tools among research scholars. The findings reveal that Grammarly had the highest level of awareness among respondents with 112 respondents (87.50%), followed by EndNote with 99 respondents (77.34%). Awareness of Zotero and AI Tools was reported by 94 respondents (73.44%) each. SPSS / Statistical tools and ResearchGate were known to 81 respondents (63.28%) and 80 respondents (62.50%) respectively, while Google Scholar was known to 78 respondents (60.94%). Mendeley recorded the lowest level of awareness with only 54 respondents (42.19%). The study indicates that research scholars are comparatively more aware of writing assistance, citation management, and AI-based tools than some other digital research tools.

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Table 7 : Use digital research tools in your research work

Sl No.	Frequencies	No. of Respondents	Table N %
1	Regularly	64	50
2	Occasionally	39	30.5
3	Rarely	25	19.5
4	Never	0	0.0%
Total		128	100.0%

Table 7 shows the frequency of using digital research tools in research work among the respondents. Out of 128 respondents, 64 respondents (50.0%) reported that they use digital research tools regularly, while 39 respondents (30.5%) use them occasionally. A smaller group of 25 respondents (19.5%) stated that they rarely use such tools, and none of the respondents reported never using them. The findings indicate that the majority of research scholars actively use digital research tools in their research activities.

Table 8: Purpose of use digital research tools

Sl No.	Frequencies	Yes	No	Table N %
1	Literature search	110 (85.9%)	18 (14.1%)	128 (100.0%)
2	Reference management	96 (75%)	32 (25%)	128 (100.0%)
3	Data analysis	74 (57.8%)	54 (42.2%)	128 (100.0%)
4	Collaboration and networking	82 (64.1%)	46 (35.9%)	128 (100.0%)
5	Academic writing	74 (57.8%)	54 (42.2%)	128 (100.0%)

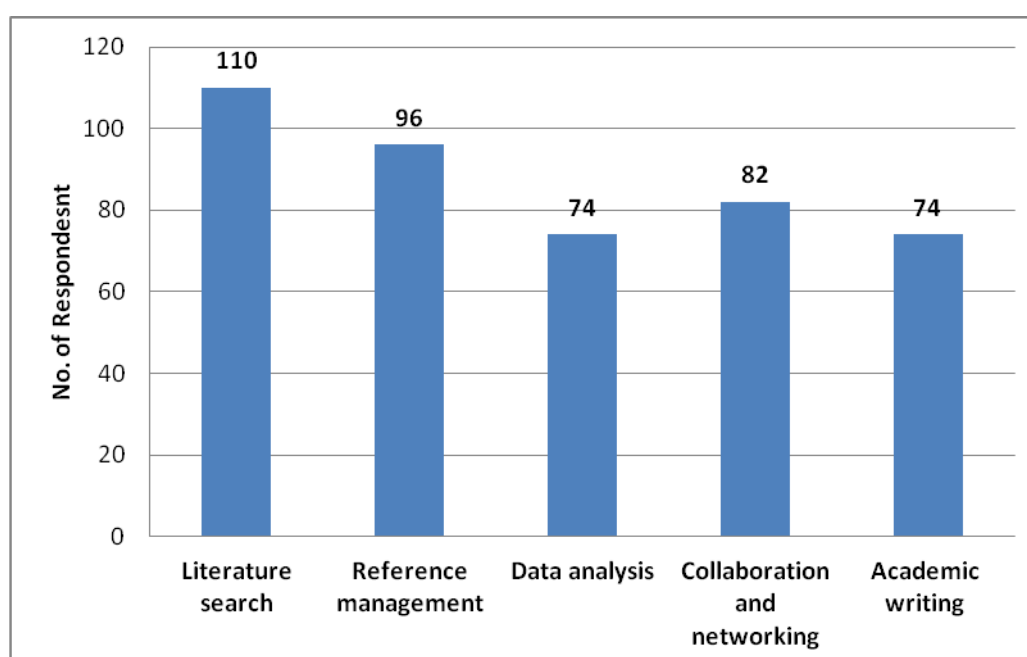


Figure 1: Purpose of use digital research tools

Table 8 and figure 1 presents the purposes for which respondents use digital research tools in their research work. The majority of respondents used digital research tools for literature search, with 110 respondents (85.9%), followed by reference management with 96 respondents (75.0%). Collaboration and networking were reported by 82 respondents (64.1%). Both data analysis and academic writing were identified by 74 respondents (57.8%) each. The findings indicate that digital research tools are mainly used for literature searching and managing references, while comparatively fewer respondents use them for data analysis and academic writing.

Table 9 : Digital research tools help in improving research efficiency

SI No.	Statements	No. of Respondents	Table N %
1	Strongly Agree	52	40.6
2	Agree	45	35.2
3	Neutral	22	17.2
4	Disagree	6	4.7
5	Strongly Disagree	0	0.0%
Total		128	100.0%

Table 9 shows the opinion of respondents regarding the role of digital research tools in improving research efficiency. Out of 128 respondents, 52 respondents (40.6%) strongly agreed and 45 respondents (35.2%) agreed that digital research tools improve research efficiency. Meanwhile, 22 respondents (17.2%) remained neutral and only 6 respondents (4.7%) disagreed with the statement. None of the respondents strongly disagreed. The findings indicate that the majority of respondents have a positive perception regarding the effectiveness of digital research tools in enhancing research efficiency.

Table 10 : Digital tools help in managing references and citations effectively

SI No.	Statements	No. of Respondents	Table N %
1	Strongly Agree	59	46.1%
2	Agree	46	35.9%
3	Neutral	23	18%
4	Disagree	0	0.0%
5	Strongly Disagree	0	0.0%
Total		128	100.0%

Table 10 presents the respondents' opinion on whether digital tools help in managing references and citations effectively. Among the 128 respondents, 59 respondents (46.1%) strongly agreed and 46 respondents (35.9%) agreed with the statement. Meanwhile, 23 respondents (18.0%) remained neutral, and none of the respondents disagreed or strongly disagreed. The findings indicate that the majority of respondents believe that digital research tools are highly effective in managing references and citations in research work.

Table 11: Digital Research Tools Improve the Quality of Research Writing

Sl No.	Statements	No. of Respondents	Table N %
1	Strongly Agree	71	55.5
2	Agree	18	14.1
3	Neutral	26	20.3
4	Disagree	13	10.2
5	Strongly Disagree	0	0
Total		128	100.0%

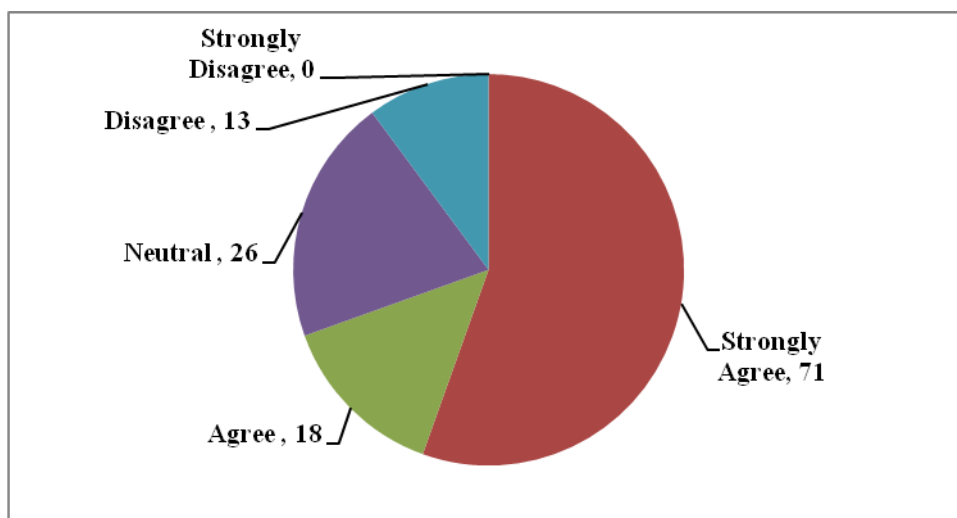


Figure 2 : Digital Research Tools Improve the Quality of Research Writing

Table 11 and figure 2 presents the respondents' opinion regarding the role of digital research tools in improving the quality of research writing. Out of 128 respondents, 71 respondents (55.5%) strongly agreed and 18 respondents (14.1%) agreed that digital research tools enhance the quality of research writing. Meanwhile, 26 respondents (20.3%) remained neutral and 13 respondents (10.2%) disagreed with the statement. None of the respondents strongly disagreed. The findings indicate that a majority of respondents believe that digital research tools contribute positively towards improving the quality of research writing.

Table 12: Challenges Faced while using digital research tools

Challenges Faced	Yes (Count, %)	No (Count, %)	Total (Count, %)
Lack of training	74 (57.8%)	54 (42.2%)	128 (100.0%)
Accuracy issues	71 (55.5%)	57 (44.5%)	128 (100.0%)
Technical difficulties	86 (67.2%)	42 (32.8%)	128 (100.0%)
Internet connectivity problems	62 (48.4%)	66 (51.6%)	128 (100.0%)
Lack of awareness	69 (53.9%)	59 (46.1%)	128 (100.0%)
Time constraints	78 (60.9%)	50 (39.1%)	128 (100.0%)

The above table shows the major challenges faced by respondents while using digital research tools. The findings reveal that time constraints (60.9%) and technical difficulties (67.2%) are the most common challenges faced by the respondents. Lack of training (57.8%), accuracy issues (55.5%), and lack of awareness (53.9%) were also reported by more than half of the respondents. Further, 48.4 percent of the respondents faced internet connectivity problems while using digital research tools. Overall, the table indicates that researchers face several technical and practical difficulties in the effective use of digital research tools.

Table 13: Opinion on the Necessity of Training Programmes for Using Digital Research Tools

Sl No.	Opinion	No. of Respondents	Table N %
1	Yes	113	88.3%
2	No	15	11.7%
Total		128	100.0%

Table 13 presents the respondents' opinion regarding the necessity of training programmes for using digital research tools. Out of the total 128 respondents, 113 respondents (88.3%) stated that training programmes are necessary, while only 15 respondents (11.7%) felt that such programmes are not necessary. The findings clearly indicate that the majority of respondents believe that training programmes play an important role in improving the effective use of digital research tools.

Table 14: Suggestions for Better Use of Digital Research Tools

Suggestions	Yes	No	Total
Need for training programmes	118 (92.2%)	10 (7.8%)	128 (100.0%)
Need for workshops/seminars	117 (91.4%)	11 (8.6%)	128 (100.0%)
Need for library support services	104 (81.25%)	24 (18.75%)	128 (100.0%)
Need for better internet and database access	109 (85.15%)	19 (14.85%)	128 (100.0%)

Table 14 presents the suggestions provided by respondents for improving the use of digital research tools. The majority of respondents suggested the need for training programmes, with 118 respondents (92.2%), followed closely by workshops/seminars with 117 respondents (91.4%). Better internet and database access was suggested by 109 respondents (85.15%), while 104 respondents (81.25%) emphasized the need for improved library support services. The findings indicate that respondents strongly support capacity-building initiatives and improved infrastructural facilities for the effective use of digital research tools.

7. FINDINGS

- The study received a total of 128 responses out of 150 questionnaires distributed, with an overall response rate of 85.3%. Among the divisions, the Faculty of Language recorded the highest response rate (88%), followed by the Faculty of Vedanta (86.1%) and Faculty of Shastra (83.3%). (See table 1)
- Female respondents constituted the majority of the study population with 64.06%, while male respondents accounted for 35.94% of the total respondents. (See table 2)

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- The majority of respondents (54.69%) belonged to the age group of above 40 years, followed by 31–40 years (29.69%) and 25–30 years (15.63%). (See table 3)
- All the respondents (100.0%) were aware of digital research tools, indicating complete awareness among the study population. (See table 4)
- Internet/self-learning (93.8%) was the most common source of awareness of digital research tools, followed by workshops/training programmes (85.9%) and supervisor guidance (83.6%). Library orientation (60.9%) and friends/colleagues (61.7%) also contributed to awareness, while trial and error was the least reported source (32.0%). (See table 5)
- Among the digital research tools, Grammarly (87.50%) was the most widely known tool, followed by EndNote (77.34%). Zotero and AI tools were equally known (73.44%), while SPSS (63.28%), ResearchGate (62.50%), and Google Scholar (60.94%) also showed moderate awareness. Mendeley recorded the lowest awareness level (42.19%) among respondents. (See table 6)
- Half of the respondents (50.0%) reported using digital research tools regularly, followed by 30.5% who use them occasionally. A smaller proportion (19.5%) use them rarely, while none of the respondents reported never using digital research tools. (See table 7)
- Literature search (85.9%) was the most common purpose for using digital research tools, followed by reference management (75.0%). Collaboration and networking (64.1%) also formed a significant purpose of use. Both data analysis and academic writing were equally reported (57.8%). Overall, digital research tools are mainly used for literature search and reference management purposes. (See table 8)
- A majority of respondents (75.8%) agreed that digital research tools improve research efficiency, including 40.6% who strongly agreed and 35.2% who agreed. Meanwhile, 17.2% remained neutral and only 4.7% disagreed, with no respondents strongly disagreeing. (See table 9)
- A majority of respondents (82.0%) agreed that digital tools help in managing references and citations effectively, with 46.1% strongly agreeing and 35.9% agreeing. The remaining 18.0% were neutral, while none of the respondents disagreed or strongly disagreed. (See table 10)
- A majority of respondents (69.6%) agreed that digital research tools improve the quality of research writing, including 55.5% who strongly agreed and 14.1% who agreed. Meanwhile, 20.3% remained neutral and 10.2% disagreed, with no respondents strongly disagreeing. (See table 11)
- The most commonly reported challenges in using digital research tools were technical difficulties (67.2%), followed by time constraints (60.9%) and lack of training (57.8%). Other significant challenges included accuracy issues (55.5%) and lack of awareness (53.9%). Internet connectivity problems were reported by a lower proportion of respondents (48.4%). Overall, technical and skill-related issues were the major barriers faced by respondents in using digital research tools. (See table 12)
- A majority of respondents (88.3%) opined that training programmes are necessary for using digital research tools, while only 11.7% felt that training is not required. (See table 13)
- The most suggested improvement was the need for training programmes (92.2%), followed closely by workshops/seminars (91.4%). Respondents also highlighted better internet and database access (85.15%) and improved library support services (81.25%). Overall, the findings indicate strong support for training and infrastructural improvements to enhance the effective use of digital research tools. (See table 14)

8. SUGGESTIONS

- Regular training programmes should be organized to improve the effective use of digital research tools among research scholars.
- Workshops and seminars should be conducted frequently to provide hands-on experience with emerging digital tools.
- Libraries should strengthen their support services by offering guidance and assistance in using research databases and tools.
- Institutions should improve internet connectivity and ensure access to quality research databases for smoother academic work.
- Continuous orientation sessions should be introduced for newly enrolled research scholars to build strong foundational skills in digital tools.
- Awareness programmes should be enhanced to promote lesser-used tools like Mendeley and other reference management software.
- Technical support systems should be established in departments and libraries to address user difficulties promptly.

CONCLUSION

The present study reveals that there is a high level of awareness and positive usage of digital research tools among research scholars. The findings indicate that most respondents are aware of and regularly use various digital tools, with Grammarly, EndNote, and Zotero being among the most recognized tools. Digital research tools are primarily used for literature search and reference management, highlighting their importance in academic research activities.

The study further shows that respondents strongly agree that digital tools improve research efficiency, enhance the quality of research writing, and support effective citation and reference management. However, certain challenges such as technical difficulties, lack of training, time constraints, and limited awareness still persist, affecting optimal usage.

Overall, the study concludes that while digital research tools are widely accepted and positively perceived, there is a clear need for structured training programmes, improved infrastructure, and continuous institutional support. Strengthening these areas will significantly enhance the effective integration of digital research tools in academic and research activities.

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