

Internet Usage Patterns and Digital Literacy among Students and Research Scholars: A Study

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ABSTRACT

This study investigates the patterns of internet usage and the level of digital literacy among students and research scholars in universities of the Kalyana Karnataka region. The required data were collected through a structured questionnaire from a sample of 483 respondents, comprising 354 PG students and 129 research scholars in 5 Universities. The findings reveal that internet usage is highly prevalent among both groups, with the majority accessing it daily for academic and research purposes. Smartphones emerged as the highly used device, while platforms like Google Scholar and E-ShodhSindhu were extensively used. The study also indicates a high level of digital literacy among students and research scholars, but students relying more on basic search techniques and research scholars demonstrating greater use of advanced search strategies. Further, awareness of plagiarism and use of reference tools were higher among research scholars compared to students. The study highlights the need for improved digital training, ICT infrastructure, and awareness programs to enhance effective and ethical use of internet resources at University level.

KEYWORDS: Digital Literacy, Internet Resources, Kalyana Karnataka, E-Shodhsindhu, Google Scholar.

1. INTRODUCTION

The Internet has been used for many reasons such as academic, research, information seeking, social networking, entertainment, and other purposes (Parameshwar and Patil, 2009; Gagan and Rakesh, 2013). Understanding about how the academic and research fraternity utilize time with various activities, whether the use of time reflects productive or non-productive outcomes has become essential (Affum, 2021). The advent of the Internet and its tools has been greatly influencing the education and research activities of Universities. The fact that users are using the internet for academic or research purpose and the Internet tools have been used for communication and entertainment purposes may signify an active and thoughtful use of the internet (Meena, 2017; Apuke and Iyendo, 2018).

Even though the Internet is highly used in higher education, the pattern and effectiveness of its use often vary across regions due to differences in infrastructure, digital access, and user skills. The Kalyana Karnataka region is educationally and economically been observed for many years and presently in development stage. It presents a unique platform to understand how students and research scholars of the Universities in this region utilize internet resources for academic and research purposes. The study intends to identify whether students and research scholars in this region are able to effectively use digital tools, access e-resources on the web, and develop necessary digital capabilities. Studying this will help identify gaps in usage, problems faced, and areas need improvement. Therefore, conducting research in the Kalyana Karnataka region provides region-specific insights into the present status of Internet usage among academic and research fraternity which helps to strengthen digital learning and research environments in universities of this region.

2. REVIEW OF LITERATURE

The extent of internet use among students and research scholars has been widely studied and reports in universities and educational institutions. Several studies showed that a majority of users access the internet daily for academic and research purposes. A study by Singh and Pant in 2013 found that 92.30% of research scholars used the internet regularly for accessing e-journals, downloading articles, and communication. Likewise, Adekunmisi et al. (2013) reported that 32.5% of students used the internet daily and 37.5% weekly, showing dependable use of Internet. Other study witnessed that 86.19% of respondents were aware of and actively used internet tools and services for academic works. This indicates that internet use has become a norm among the users and essential part of academic and research life.

Several studies have also shown the purpose of use of the internet which is predominantly for academic and research activities. Other uses such as communication, entertainment, social networking are also significant purposes. Studies show that students and research scholars mainly use the internet for accessing online databases, e-journals, preparing assignments, and conducting research (Mulimani & Gudimani, 2008; Jagboro, 2003; Ansari, 2020; Yadav and Sahu, 2024; Kumar, 2025). Simultaneously, a significant proportion of users use Internet for communication through email and social networking platforms, and entertainment activities (Patel & Darbar, 2016; Yilmaz, 2024). This reflects that while academic purposes remain leading, the internet also serves multiple purposes in students and researchers daily routines.

The studies also recorded differences in internet usage behavior between students and research scholars. Research scholars inclined to use the internet for research activities like literature searching, accessing databases, and publishing, whereas students use Internet for academic use with entertainment and social media (Rai, 2014; Khatri, 2021; Ojukwu et al., 2021).

ICT use and digital literacy have a significant impact on the ways students and research scholars access internet-based academic materials. Further, how users get good use of internet resources depends on skills, including digital literacy, awareness, and infrastructure (Kumar and Parmar, 2014). However, research has demonstrated that students with higher awareness and digital competency make more effective use of ICT tools in a research-oriented manner. For example, Talawar and Naikar (2024) discovered that research scholars had a high knowledge of e-resources like Shodhganga and N-List and actively used them for searching literature, writing a thesis, and updating their knowledge but observed challenges like less digital experience and infrastructure accessibility were the issues.

Similarly, Kumar and Parmar (2014) indicate research scholars commonly accessed online databases and e-resources for academic purposes. In a related article by Van Deursen and Van Dijk (2014), they stressed that digital skills (operational, informational, and strategic) play a role in quality and results of internet usage, with higher level skills leading to richer academic interaction. Norris (2001) further underscored that digital literacy is related to socio-economic characteristics wherein the knowledge and access gaps in a digital divide affect the use of ICT in some community members. As a whole, there is extensive literature that suggests that students and researchers have a good awareness of ICT tools. However, the degree of digital literacy plays a very important role in the degree that these tools are successfully used for academic and research.

3. OBJECTIVES

- ✓ To examine the frequency and purpose of internet use among students and research scholars.
- ✓ To find out the level of digital literacy and information evaluation skills of respondents.
- ✓ To compare the use of search techniques, keywords, and academic platforms between students and research scholars.
- ✓ To identify differences in internet usage behaviour based on academic roles.
- ✓ To know the role of internet use in supporting academic and research activities.

4. METHODOLOGY

This study adopts a quantitative method using the survey of students and research scholars to find out the use of internet and digital literacy. Data were collected using a structured questionnaire consisting of closed-ended and scaled questions that covered Internet usage patterns, digital skills, information search behavior, and purpose of using internet resources.

A total of 4460 students are studying in 5 Universities of Kalyana Karnataka region viz, Gulbarga University, Sri Krishnadevaraya University, Raichur University, Koppal University, Bidar University. Meanwhile, a total of 194 research scholars pursuing Ph.D in two universities of this region viz., Gulbarga University and Sri Krishnadevaraya University. In order to obtain the sample from the population, the following formula by Krejcie and Morgan (1970) was used

$$s = \frac{x^2 NP(1 - P)}{d^2(N - 1) + x^2 P(1 - P)}$$

where, N for students is 4460, $x^2=3.841$ for 95% confidence level, $d=0.05$, and $p=0.5$ (standard assumption)

$$\frac{3.841 \times 1115 = 4282.7}{11.1475 + 0.96025 = 12.10775} \text{ which brought the sample size of 354 for students.}$$

Similarly, same formula was applied to obtain the sample size for research scholars where, N for research scholars is 194, $x^2=3.841$ for 95% confidence level, $d=0.05$, and $p=0.5$ (standard assumption)

$$\frac{3.841 \times 48.5 = 186.29}{0.4825 + 0.96025 = 1.44275} \text{ which brought a sample size of 129 for research scholars.}$$

Hence, a total of 483 respondents were included in the study, comprising of 354 students and 129 research scholars.

The description statistical techniques were used to analyze the data. Frequencies, percentages, and mean values were used to identify patterns and differences between the two groups. The findings are presented in tabular form to simplify the data and to make ease of interpretation

5. ANALYSIS AND INTERPRETATION OF DATA

Table 1: Gender-wise Distribution of Respondents

Gender	Students (N=354)		Research Scholars (N=129)	
	Number	Percentage	Number	Percentage
Male	208	58.76	68	52.71
Female	146	41.24	61	47.29
Total	354	100.00	129	100.00

Table 1 shows that male respondents form the higher proportion in both groups. Among 354 students, males account for 58.76%, while females account for 41.24%. Similarly, among 129 research scholars, males represent 52.71%, which is slightly higher than females at 47.29%. This indicates that male participation is more dominant in both categories.

Table 2: Time Spent on Internet per Day

Time spent	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Less than 1 hour	238	67.23	37	28.68
1–3 hours	89	25.14	55	42.64
3–5 hours	16	4.52	12	9.30
>5 hours	11	3.11	25	19.38
Total	354	100.00	129	100.00

Table 2 shows that, among students, the highest percentage (67.23%) spend less than 1 hour on the internet per day. This is followed by 25.14% who spend 1–3 hours. A smaller group of 4.52% spend 3–5 hours, and only 3.11% spend more than 5 hours. This shows that most students use the internet for a short duration daily, with very few spending long hours online. Among research scholars, the highest percentage (42.64%) also spend 1-3 hours per day followed equally by 28.68 who spend less than one hour and 19.38% spend more than 5 hours. Then, 9.30% spend 3–5 hours.

Table 3: Devices Used

Device	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Smartphone	336	94.92	122	94.57
Laptop	25	7.06	32	24.81
Desktop	19	5.37	12	9.30
Tablet	8	2.26	3	2.33

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Table 3 shows that smartphones are the most widely used devices among both students and research scholars. Among students, a very high percentage (94.92%) use smartphones, followed by laptops at 7.06%, desktops at 5.37%, and tablets at 2.26%. Among research scholars, smartphones are also the highest at 94.57%, showing almost equal usage as students. However, laptop usage is higher among research scholars (24.81%) compared to students, indicating greater use of advanced devices for research work. Desktop usage (9.30%) is also higher among research scholars than students, while tablet usage remains low in both groups.

Table 4: Platforms Used for Academic Access

Platform	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Google Scholar	326	92.09	124	96.12
E-Shodhsindhu	282	79.66	129	100.00
ResearchGate	21	5.93	19	14.73

Table 4 shows that the most used platform among students is Google Scholar, with a high percentage of 92.09%. This is followed by E-ShodhSindhu at 79.66%, while only a small percentage of 5.93% use ResearchGate. Among research scholars, E-ShodhSindhu stands out as the highest with 100% usage, showing that all scholars depend on it. This is followed by Google Scholar at 96.12%, and then ResearchGate at 14.73%, which is still relatively low but higher than students.

When compared, both groups heavily use Google Scholar and E-ShodhSindhu, but research scholars show complete reliance on E-ShodhSindhu and slightly more use of ResearchGate than students.

Table 5: Primary Purpose of Internet Use

Purpose	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Academic	351	99.15	91	70.54
Research	23	6.50	129	100.00
Communication	330	93.22	119	92.25
Entertainment	286	80.79	16	12.40

Table 5 clearly shows that academic use is the main purpose for students, with the highest percentage of 99.15%. This is followed by communication at 93.22% and entertainment at 80.79%, while research use is much lower at 6.50%. Among research scholars, research is the highest purpose at 100%, showing that all scholars use the internet mainly for research. This is followed by communication at 92.25%, academic use at 70.54%, and a much lower percentage for entertainment at 12.40%. Comparatively, students focus more on academic and entertainment activities, while research scholars focus strongly on research activities.

Table 6: Level of Digital Literacy

Level	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Very high	208	58.76	77	59.69
High	126	35.59	41	31.78
Moderate	20	5.65	11	8.53
Total	354	100.00	129	100.00

Table 6 shows that most respondents have a high level of digital literacy. Among students, the highest percentage is 58.76% who fall under the very high category, followed by 35.59% in the high category, and only 5.65% in the moderate category. Similarly, among research scholars, the highest percentage is 59.69% in the very high category, followed by 31.78% in the high category, and 8.53% in the moderate category. When compared, both groups show very similar patterns, with a majority having very high digital skills. However, research scholars have slightly more respondents in the moderate category compared to students.

Table 7: Use of Search Techniques

Type of search	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Advanced search	47	13.28	110	85.27
Basic search	307	86.72	19	14.73

Table 7 highlights a clear difference between students and research scholars in their search techniques. Among students, the highest percentage is 86.72% who use basic search, while only 13.28% use advanced search techniques. In contrast, among research scholars, the highest percentage is 85.27% who use advanced search, while only 14.73% use basic search.

Table 8: Awareness of Plagiarism

Awareness	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Yes	286	80.79	129	100.00
No	68	19.21	0	0.00
Total	354	100.00	129	100.00

Table 8 clearly shows that awareness of plagiarism is very high among both groups. Among students, the highest percentage is 80.79% who are aware of plagiarism, while 19.21% are not aware. In contrast, among research scholars, the highest percentage is 100% who are aware, and none reported lack of awareness. When compared, research scholars show complete awareness, while a small portion of students still lack knowledge about plagiarism.

Table 9: Use of Reference Tools

Frequency of use	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Always	118	33.33	70	54.26
Often	72	20.34	56	43.41
Sometimes	52	14.69	3	2.33
Never	112	31.64	0	0.00

Table 9 shows differences in the use of reference tools between students and research scholars. Among students, the highest percentage is 33.33% who always use reference tools, followed closely by 31.64% who never use them. Then, 20.34% use them often and 14.69% sometimes. This indicates mixed usage among students, with a significant number not using these tools at all.

Among research scholars, the highest percentage is 54.26% who always use reference tools, followed by 43.41% who often use them, and only 2.33% who sometimes use them, with none reporting never. When compared, research scholars show much higher and more consistent use of reference tools, while students show irregular usage. This reflects the greater need for proper referencing in research work.

Table 10: Activity Consuming Most Time

Activity	Students		Research Scholars	
	Number	Percentage	Number	Percentage
Academic	320	90.40	0	0.00
Research	0	0.00	129	100.00
Social media	26	7.34	0	0.00
Entertainment	8	2.26	0	0.00

Table 10 shows a clear difference in how students and research scholars spend most of their time on the internet. Among students, the highest percentage is 90.40% for academic activities, showing that most of their time is focused on studies. This is followed by 7.34% who spend time on social media and 2.26% on entertainment, while none reported spending most of their time on research. In contrast, among research scholars, the highest and complete percentage (100%) is for research activities, and none of them reported academic, social media, or entertainment as their main time-consuming activity.

DISCUSSION AND CONCLUSION

The study showed that regular internet use is very common among students and research scholars, while occasional use is quite low. The comparison of students and research scholars shows that smartphones dominate usage in both groups for using the Internet, but research scholars tend to use laptops and desktops more than students. Meanwhile, it create an opportunity to universities to standardize high-speed internet infrastructure across all campuses to ensure reliable access to Internet and e-resources. And it has become inevitable to provide uninterrupted 24/7 internet

access, especially in libraries, PG departments, and research centers where research programmes are offered. The internet has become an important daily tool for academic and research works. Comparatively, students focus mainly on academic learning, while research scholars are fully dedicated to research work. The study also observed that while many research scholars spend good amount of time online compared to students.

The data showed that academic platforms like Google Scholar and e-Shodhsindhu are widely used, with a strong preference for institutional resources. Librarians shall provide frequent orientation and advanced training programs on effective use of these e-resource platforms. The Universities of Kalyana Karnataka region need to ensure seamless institutional access to these resources on ONOS (One National One Subscription) platform. Further, both students and research scholars show high use of Internet for communication. On the other hand, both students and research scholars possess high levels of digital literacy, which supports their effective use of internet resources. However, students are highly use simple search methods, whereas research scholars prefer advanced search techniques for their research work. This difference reflects their varying levels of research experience and needs.

This difference highlights the requirement and importance of academic training and experience. In this regard, awareness of plagiarism is universal among research scholars and high among students, but there is still a need to improve awareness among some students. This creates a room for librarians to create awareness about ethical practices among students. Moreover, the libraries can also teach the use of reference management tools, plagiarism detection methods, citation techniques to students to enhance their level of awareness.

CONCLUSION

The study intends to state that the internet has become an essential part of academic and research activities among students and research scholars in the Universities of the Kalyana Karnataka region. Regular internet use is highly common among both groups where handy tools like smartphones emerged as the dominant device for accessing internet resources. Google Scholar and e-Shodhsindhu are widely used among students and research scholars which make them a common platform for accessing e-resources at university level. Meanwhile, students and research scholars stated that they have a good level of digital literacy which help them to effectively access Internet resources. However, the study observed that there is a need for universities to strengthen high-speed ICT and internet infrastructure to ensure effective institutional support for enhancing academic performance and research productivity.

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