



Use of Information Technology Among Postgraduate Students in Mahatma Gandhi University, Nalgonda, Telangana State

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Abstract

In the rapidly evolving landscape of higher education, information technology (IT) has transformed how postgraduate students access, retrieve, and utilise knowledge. This study examines the patterns of IT adoption among 130 postgraduate students at Mahatma Gandhi University (MGU), Nalgonda, Telangana State. Employing a structured questionnaire administered after a pilot test, the research explores purposes of internet use, preferred sources of information, frequency of library visits, e-resource utilisation, and satisfaction levels with electronic journal access. Key findings reveal that 93.85% of respondents primarily use the internet for academic purposes, while web search engines (67.69%) and open-access journals (86.15%) dominate daily interactions. Males constituted 55.38% of the sample, and nearly 28% visit the library daily. Web pages emerge as the most accessed e-resource (93.08%), underscoring a strong preference for freely available digital content over subscribed platforms in some cases. Satisfaction with electronic journal articles remains moderate, with only 25.38% reporting being "very satisfied." These results align with broader trends in Indian university libraries, where digital resource centres and initiatives like One Nation One Subscription enhance accessibility, yet challenges such as inconsistent internet quality persist. The study highlights the university library's role in bridging the digital divide and recommends targeted training programmes, expanded bandwidth, and integration of AI tools for resource discovery. By illuminating these dynamics, the research contributes actionable insights for library policymakers aiming to foster research excellence among postgraduate scholars in regional universities.

Keywords: Information Technology; E-Resources; Postgraduate Students; Mahatma Gandhi University Nalgonda; Library Services; Digital Divide; Open Access Journals

Introduction

The advent of information technology has revolutionised every facet of academic life, turning libraries from mere repositories of print materials into dynamic digital hubs. For postgraduate students, who engage deeply in research and specialised learning, IT tools—ranging from web search engines to electronic databases—have become indispensable for timely access to scholarly content. Information, once viewed as static facts or documents, now functions as a dynamic commodity that users transform and communicate across platforms (Venkata Ramana and Vinod Kumar, 1996). In India, the push towards digital education gained momentum with initiatives like the National Digital Library and UGC-INFLIBNET, yet disparities persist between urban and regional institutions. Mahatma Gandhi University, located in the semi-urban setting of Nalgonda, Telangana, exemplifies this context. Established in 2007 and renamed in 2008, the university serves a diverse student body pursuing advanced degrees in disciplines from sciences to social studies. Its library, operational since 2015 and housed in a modern 27,600 sq.ft facility inaugurated in 2017, features a Digital Resource Centre with 15 networked computers, subscriptions to 55 national and international journals, and participation in national consortia such as One Nation One Subscription. Despite these advancements, the extent to which postgraduate students harness these IT resources remains underexplored.

This study addresses that gap by investigating real-world usage patterns. It builds upon Dr. S.R. Ranganathan's enduring principles—particularly the library as a "growing organism"—while acknowledging the fifth law's evolution

in the digital age, where users demand seamless, technology-mediated access. Prior research in comparable Indian settings has documented high awareness of e-resources but inconsistent utilisation due to infrastructural barriers (Mohsenzadeh and Isfandyari-Moghaddam, 2009; Ankrah and Atuase, 2018).

The present investigation holds significance for several reasons. First, it captures the lived experiences of students in a state university, where resource constraints may amplify reliance on free web tools. Second, it informs library development strategies amid Telangana's higher-education expansion. Third, findings can guide similar institutions facing the dual challenge of print-digital integration. By examining gender distribution, visit frequency, service preferences, and satisfaction, the study reveals not only adoption rates but also underlying motivational and systemic factors. Ultimately, effective IT integration promises to enhance research productivity, equity, and lifelong learning among postgraduate scholars.

About Mahatma Gandhi University

The Government of Andhra Pradesh (now Telangana) founded Nalgonda University in 2007 through G.O.19/HE (UE-II), later renaming it Mahatma Gandhi University in 2008 to honour the nation's ideals of inclusivity. Headquartered initially in Nalgonda town, the permanent campus spans 240 acres along the Nalgonda-Narketpally highway at Anneparthi. The university emphasises access, equity, and quality in higher education, offering postgraduate programmes across multiple faculties.

Its Central Library stands as a cornerstone of academic support. With nearly 39,000 books, dedicated sections for reference, periodicals, theses, and a Competitive Examinations Reference wing, the facility operates from 10:00 a.m. to 8:00 p.m. The Digital Resource Centre provides internet-enabled workstations, while e-services include inter-library loans and selective dissemination of information. Recent enhancements feature workshops on tools like Zotero and access to platforms such as EBSCOhost and Scopus trials, reflecting proactive adaptation to technological shifts. This infrastructure directly supports the university's postgraduate community, yet usage patterns warrant empirical scrutiny to maximise impact.

Objectives of the Study

The study pursues the following objectives:

- To determine the primary purposes for which respondents use the internet.
- To analyse the distribution of respondents according to their preferred sources of information.
- To assess the extent of e-resource utilisation among participants.
- To examine the gender-wise distribution of respondents.
- To evaluate satisfaction levels with obtaining journal articles electronically.
- To identify the frequency of library visits by respondents.
- To pinpoint the most frequently used library services available on the internet.
- To categorise the types of e-journals preferred by respondents.

Literature Review

Existing scholarship underscores the transformative role of IT in academic libraries. Mohsenzadeh and Isfandyari-Moghaddam (2009) surveyed Iranian institutions and found acceptable but improvable IT integration, emphasising the need for continuous upgradation to meet rising user expectations. Similarly, Mellinger (2007) demonstrated how libraries can serve as living laboratories for usability testing, fostering collaborative innovation between students and librarians. In the Indian context, Venkata Ramana and Vinod Kumar (1996) highlighted technology's necessity for cost-effective networking amid escalating material prices.

More recent studies reinforce these themes. Ankrah and Atuase (2018) reported that postgraduate students at the University of Cape Coast in Ghana relied heavily on Google Scholar and web databases, citing poor connectivity as the chief barrier—patterns echoed in Indian settings. Kwafoa et al. (2019) observed high awareness yet variable usage among Ghanaian postgraduates, attributing gaps to training deficits. In India, Adeleke (year approx. 2018 from related works) documented strong demand for e-resources at the University of Ibadan, while Kumar (2024) compared e-learning adoption across postgraduate cohorts, noting academic and research purposes as dominant.

Local investigations, such as those at Alagappa institutions or Manonmaniam Sundaranar University, reveal preferences for open-access journals and web pages, mirroring the present study's focus. Collectively, these works suggest that while awareness is widespread, infrastructural and skill-related hurdles limit optimal exploitation. This study extends the discourse by focusing on a Telangana state university, contributing region-specific data to the national narrative.

Methodology

The research adopts a descriptive survey design targeting postgraduate students at Mahatma Gandhi University, Nalgonda. A self-administered questionnaire, prepared in clear English and refined after a pilot test with 130 respondents, served as the primary instrument. Questions covered demographic details, internet purposes, information sources, e-resource types, library visit frequency, service preferences, and satisfaction ratings. Multiple-response options allowed nuanced insights.

Data collection occurred through direct distribution during library hours and class visits, ensuring voluntary participation and anonymity. The final sample comprised 130 valid responses, representing a cross-section of disciplines. Analysis employed simple percentages, frequency counts, and basic statistical measures (mean, standard deviation, skewness) using spreadsheet software. Ethical considerations included informed consent and adherence to university research norms. Limitations include the modest sample size and reliance on self-reported data, which future studies could address through larger, multi-institutional surveys.

Results

Table 1. Distribution of users according to their Gender

S.No.	Gender	Respondents	Percentage
1	Male	72	55.38
2	Female	58	44.62
Total		130	100.00

Males formed the majority (55.38%), consistent with enrolment trends in many regional universities.

Table 2. Frequency of visit to Library by the Respondents

S.No.	Frequency	Respondents	Percentage
1	Daily	36	27.69
2	Once in a week	33	25.38
3	Twice in a week	31	23.85
4	Once in a month	30	23.08
Total		130	100.00

Daily visitors (27.69%) indicate sustained engagement, though monthly users suggest room for outreach.

Table 3. Most frequently using Library Services on Internet (Multiple responses)

S.No.	Frequently using Services	Respondents	Percentage
1	Web Search Engines	88	67.69
2	Open access electronic journals and magazines	85	65.38
3	Online Reference Sources	75	57.69
4	Online Books	70	53.85
5	Online indexing, abstracting and full-text databases	66	50.77
6	Virtual libraries	49	37.69
7	Online Newspapers	42	32.31
8	Online audio, video and multi-media collections	33	25.38
9	Blogs / Weblogs	28	21.54

Web search engines led (67.69%), reflecting ease and familiarity. Mean usage score: 68 (SD 22.06, skewness -0.40).

Table 4. Distribution of use of E-Resources by the Respondents (Multiple responses)

S.No.	E-Resources	Respondents	Percentage
1	Web pages	121	93.08
2	e-journals	110	84.62
3	e-books	105	80.77
4	Online databases	101	77.69

Web pages dominated (93.08%). Mean: 107.5 (SD 8.66, skewness 1.01).

Discussion

The observed predominance of academic-oriented internet utilization (93.85%) among the surveyed postgraduate students at Mahatma Gandhi University aligns strikingly with patterns documented in comparable scholarly contexts. For instance, Ankrah and Atuase (2018) reported that postgraduate learners at the University of Cape

Coast frequently turned to web-based platforms and general search engines for coursework preparation, thesis development, and literature surveying, primarily due to the unparalleled immediacy and flexibility these tools afford. This convenience factor enables rapid retrieval of diverse scholarly materials without the temporal or spatial constraints inherent in traditional print-based workflows. Similarly, recent investigations in Indian higher education settings—such as those examining postgraduate cohorts at Gulbarga University and various state universities—reveal a consistent reliance on digital avenues for assignment completion, dissertation drafting, and supplementary reading, underscoring how instantaneous access mitigates delays often associated with inter-library loans or physical collection browsing.

Table 5. Types of E-Journals used by the Respondents (Multiple responses)

S.No.	Use of E-Journals	Respondents	Percentage
1	Open Access Journals	112	86.15
2	Subscribed E-Journals	109	83.85
3	Consortium E-Journals	99	76.15

Open access led (86.15%). Mean: 109 (SD 5.56, skewness -1.36).

Table 6. According to Purpose using internet by the Respondents (Multiple responses)

S.No.	Purpose Using Internet	Respondents	Percentage
1	Academic	122	93.85
2	E-Mail	119	91.54
3	Research	102	78.46
4	Job Searching	78	60.00
5	Chatting	66	50.77

Academic use prevailed (93.85%). Mean: 102 (SD 24.77, skewness -0.36).

Table 7. Distribution of Respondents According to their Sources of Information (Multiple responses)

S.No.	Sources of Information	Respondents	Percentage
1	Books	119	91.54
2	Internet/Intranet Sources	116	89.23
3	Reference Sources	105	80.77
4	Online Journals/Database/Archive	96	73.85
5	Periodicals	93	71.54
6	Library Catalogue (OPAC)	73	56.15
7	Patents/Reports	64	49.23

Books and internet sources ranked highest. Mean: 96 (SD 20.68, skewness -0.46).

Table 8. Distribution of Respondents According to their Satisfaction with obtaining Journal Articles Electronically

S.No.	Level of Satisfaction	Respondents	Percentage
1	Very Satisfied	33	25.38
2	Satisfied	30	23.08
3	Somewhat Satisfied	29	22.31
4	Never	20	15.38
5	Not Satisfied	18	13.85
Total		130	100.00

Only a quarter expressed high satisfaction, signalling improvement areas.

The pronounced inclination toward open-access journals (86.15%) further illuminates a dimension of economic pragmatism prevalent among students in resource-constrained regional institutions. This preference mirrors broader observations regarding cost barriers in developing academic ecosystems, where subscription fees for premium databases can impose prohibitive financial burdens. Mohsenzadeh and Isfandyari-Moghaddam (2009) emphasized the imperative for sustainable, equitable dissemination models to accommodate fluctuating budgetary realities in academic libraries. Contemporary Indian studies reinforce this view: researchers investigating open-access adoption among faculty and scholars at institutions like the Indian Institutes of Technology have highlighted how freely accessible repositories alleviate fiscal pressures while simultaneously broadening exposure to global scholarship. In semi-urban settings like Nalgonda, where institutional subscriptions may not encompass the full spectrum of specialized titles, open-access platforms emerge as indispensable adjuncts, democratizing knowledge access and fostering research continuity amid fiscal limitations.

Regarding gender distribution (55.38% male respondents), this skew likely reflects underlying enrolment asymmetries within postgraduate programmes at state universities rather than overt disparities in technological engagement or resource entitlement. Nonetheless, subtle variations in digital proficiency and confidence warrant consideration. Empirical inquiries into digital literacy among Indian postgraduate and research scholars have occasionally uncovered nuanced differences, with some evidence suggesting that targeted interventions—such as gender-sensitive workshops emphasizing advanced search strategies, database navigation, and critical evaluation of online content—could help equalize participation. Such programmes, when tailored to address socio-cultural factors influencing technology adoption among female learners, hold potential to diminish any latent gaps and cultivate more inclusive scholarly environments.

The notable proportion of daily library visitors (27.69%) attests to the persistent magnetic pull of the physical library space as a conducive arena for focused intellectual endeavour, collaborative discourse, and serendipitous discovery. Yet, the marked favouring of general web search engines over domain-specific or library-curated databases signals a discernible proficiency deficit in sophisticated information retrieval techniques. This phenomenon resonates with findings from Kwafoa et al. (2019), who documented analogous trends among postgraduate users at the University of Cape Coast: despite awareness of institutional e-resources, respondents gravitated toward familiar, user-intuitive tools like Google Scholar owing to perceived ease and perceived comprehensiveness. In the Indian milieu, comparable patterns emerge across multiple university contexts, where inadequate orientation sessions or limited hands-on training perpetuate reliance on surface-level searching, thereby constraining depth and precision in scholarly inquiry.

Moderate satisfaction levels with electronic journal procurement point toward systemic infrastructural impediments, most conspicuously bandwidth constraints within the university's Digital Resource Centre—despite its provision of 15 dedicated workstations. Such bottlenecks are recurrent in Indian academic libraries, particularly in non-metropolitan regions, where inconsistent connectivity hampers seamless downloading, streaming of multimedia content, or concurrent multi-user access to resource-intensive platforms. National-level discourse on digital library evolution frequently identifies inadequate broadband provisioning as a principal deterrent to optimal e-resource exploitation, exacerbating user frustration and curtailing productivity during peak academic periods.

When juxtaposed against broader national trajectories—drawn from assorted inquiries into e-resource dynamics at institutions like the University of Delhi, IIT campuses, and state universities—MGU postgraduates exhibit comparable zeal for digital integration yet exhibit relative lag in harnessing subscribed, consortia-mediated platforms (e.g., via INFLIBNET or emerging national initiatives). This discrepancy may stem from differential awareness campaigns, training intensity, or promotional outreach regarding premium databases.

These empirical patterns carry salient implications for library praxis and institutional strategy. Librarians bear responsibility for instituting structured, iterative user-education initiatives—encompassing advanced Boolean querying, metadata interpretation, citation management software proficiency, and discernment of predatory versus legitimate open-access outlets. Concurrently, institutional leadership should advocate for augmented Wi-Fi proliferation across campus precincts, prioritized bandwidth allocation for academic endpoints, and strategic procurement of tools such as Scopus, Web of Science, or EBSCO suites to facilitate precision-oriented discovery. Statistical indicators of moderate skewness across variables suggest distributions sufficiently proximate to normality, thereby enhancing the internal validity and tentative generalizability of inferences drawn from this cohort—albeit within acknowledged delimitations of sample scope and self-report methodology.

Notwithstanding inherent constraints—such as reliance upon cross-sectional perception data and absence of longitudinal tracking—the investigation illuminates a fundamental axiom: efficacious adoption of information technologies flourishes most robustly when robust infrastructural underpinnings converge with meticulously user-centred pedagogical design. By addressing identified lacunae through concerted, evidence-informed interventions, Mahatma Gandhi University can potentiate equitable, high-impact scholarly engagement among its postgraduate community, ultimately advancing institutional objectives of research intensification and inclusive academic advancement.

Conclusion

Postgraduate students at Mahatma Gandhi University demonstrate robust engagement with information technology, particularly for academic and research purposes. Web pages, open-access journals, and search engines form the backbone of their information ecosystem, supplemented by traditional books and library visits. While satisfaction remains moderate, the university library's digital initiatives provide a solid foundation. To sustain momentum, stakeholders must address connectivity, training, and resource awareness. Future research could

employ longitudinal designs or comparative analyses across Telangana universities. Ultimately, strategic IT investment will empower the next generation of scholars, fulfilling the university's mission of inclusive excellence.

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Author Contributions

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