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Digital Literacy and Scholarly Communication among Faculty and Researchers at Goa University: A Survey

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ABSTRACT

This study investigates the digital literacy level and scholarly communication practices among the faculty members and research scholars at Goa University. The data for the study was collected through a structured Google Form. The study comprised of 101 respondents. The survey investigated multiple dimensions, including digital competency levels, research communication practices, institutional support mechanisms, and barriers to digital adoption. The findings reveal that while 82.2% of respondents are proficient in basic computer skills, significant gaps exist in advanced digital competencies. Only 23.7% regularly use open-access repositories, and 48.5% lack programming knowledge relevant to their research field. The study identified major challenges including financial barriers (70.3%), limited access to digital resources (71.3%), and a perceived digital divide (61.4%). A majority of the respondents (75.3%) acknowledge the impact of digital literacy on the effectiveness of research, with 91.1% supporting the inclusion of digital literacy training in the curriculum. The research also revealed that 72.3% of the respondents were assistant professors, indicating a relatively young academic population with varying digital needs. The study concludes with recommendations for enhancing digital literacy and scholarly communication through structured digital literacy training programmes, improved institutional support, and infrastructure development.

KEYWORDS: Digital Competency, Digital Literacy, Higher Education, Scholarly Communication, Institutional Support.

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INTRODUCTION

The digital transformation of academic research and scholarly communication has fundamentally altered how knowledge is created, shared, and disseminated in higher education. As academic institutions worldwide embrace

digital technologies, researchers' ability to make efficient use of these tools has become increasingly crucial for successful scholarly communication and academic advancement. This digital shift has created new opportunities for research dissemination while simultaneously presenting challenges for researchers with varying digital literacy levels.

At Goa University, like many academic institutions in developing regions, the transformation to digital scholarly communication presents both opportunities and challenges. The research landscape requires academics to navigate various digital platforms, manage research data, and engage with global scholarly networks. However, the varying digital literacy levels among researchers can create disparities in research visibility and impact.

Recent studies have highlighted the increasing significance of digital skills in academic research, yet there remains a a significant gap in understanding how researchers in regional universities adapt to and utilize digital tools and technologies for scholarly communication. While existing literature has focused on digital transformation in well-resourced institutions, less attention has been paid to the particular difficulties and requirements of researchers in developing regions.

This study focuses on Goa University's academic community, examining the current state of digital literacy and scholarly communication practices. The results of this investigative study have important implications for institutional policy development and support mechanisms aimed at enhancing digital scholarly communication practices.

The objectives of the study are as follows:

- ✓ To assess the current levels of digital literacy among researchers at Goa University
- ✓ To examine the patterns and preferences in digital scholarly communication practices
- ✓ To identify barriers and challenges in adopting digital tools for research communication
- ✓ To evaluate the impact of digital literacy on research dissemination and visibility
- ✓ To determine institutional support needs for enhancing digital scholarly communication

REVIEW OF LITERATURE

Digital literacy is increasingly recognized as a crucial skill for faculty and researchers, enabling them to effectively engage with digital tools and platforms for scholarly communication. This encompasses a range of competencies, from managing digital resources to navigating the complexities of scholarly publishing. The integration of digital literacy into academic practice is essential for enhancing research visibility and ensuring ethical publishing practices. Below are key aspects of digital literacy and scholarly communication among faculty and researchers.

Digital literacy is crucial for faculty and researchers to navigate scholarly communication effectively. It enables them to manage manuscripts, comply with publication guidelines, and enhance the visibility of their research. The study conducted by Jha (2024) emphasizes the need for techno-literacy training to address challenges in digital publishing, ensuring that valuable research findings are disseminated efficiently. This advancement in digital skills ultimately contributes to the progression of medical knowledge and improves patient care outcomes.

The Tenya et al. (2024) in their research paper highlight that while academic staff in Kenyan universities claim to be digitally literate, they struggle to effectively use these skills for accessing and utilizing information on digital resource platforms. This gap in practical application affects scholarly communication, as faculty and researchers may not fully leverage digital tools for teaching and research. The study recommends continuous digital literacy training for both academic and library staff to enhance their capabilities in scholarly communication through improved access to digital information.

Ciro and Perez (2023), emphasizes the importance of scholarly communication literacy, particularly for novice researchers, to navigate the challenges of deceptive publishing practices. It highlights that many researchers, especially younger and less experienced ones, struggle with understanding these issues. The proposed workshops serve as a pedagogical strategy to enhance awareness and provide training, ultimately aiming to inform and protect researchers from predatory publications. This approach is seen as an effective means to improve digital literacy in scholarly communication.

Goodfellow and Lea (2013), discusses the intersection of literacies and learning with learning technologies, emphasizing the importance of digital literacy in the context of scholarly communication among faculty and researchers. It highlights how understanding and integrating these literacies can enhance teaching practices and research dissemination in the digital university. By bridging the gap between traditional literacy approaches and modern technological tools, the volume aims to foster new conversations that can improve scholarly communication and collaboration in academic settings.

The paper by Capobianco (2013), discusses the conceptual model of digital literacy by Eshet-Alkalai, which encompasses various cognitive and non-cognitive skills essential for effective communication in digital environments. It suggests that understanding these skills can enhance scholarly communication among faculty and researchers by utilizing ICT resources like e-mail, blogs, and virtual communities. By adapting this model, researchers can develop methods to assess and improve digital literacy, ultimately facilitating better communication and collaboration in academic settings.

While digital literacy is crucial for effective scholarly communication, it is important to recognize the diverse needs and contexts of different academic disciplines. Continuous adaptation and development of digital literacy training programs are necessary to address these varied requirements and to keep pace with evolving digital landscapes.

METHODOLOGY

This study employed a quantitative research approach using a survey design to assess digital literacy and scholarly communication practices among researchers at Goa University. The study population comprised researchers from Goa University. Data collection utilized a structured Google form questionnaire designed to assess various dimensions of digital literacy and scholarly communication. Data analysis was conducted using Jamovi (Version 2.4.14), employing descriptive statistics to analyse frequency distributions and patterns in the responses. All participants were informed about the study's purpose and their right to withdraw at any time.

FINDINGS OF THE STUDY

Table 1: Demographic Characteristics of Respondents

Category	Subcategory	Frequency	Percentage of Total (%)
Designation	Senior Professor	5	5.00%
	Professor	7	6.90%
	Associate Professor	10	9.90%
	Assistant Professor	73	72.30%
	Research Scholar	6	5.90%
Gender	Male	51	50.50%
	Female	50	49.50%
Age Group	25-35	38	37.60%
	35-45	26	25.70%
	45-55	21	20.80%
	Above 55	16	15.80%
Research Experience	Less than 1 year	3	3.00%
	1 year - 5 years	30	29.70%
	5 years - 10 years	28	27.70%
	10 years - 15 years	10	9.90%
	More than 15 years	30	29.70%

From Table 1, it is seen that the majority (72.3%) of respondents are Assistant Professors. Associate Professors constitute 9.9%, while Professors and Senior Professors make up 6.9% and 5% respectively. Research Scholars represent 5.9% of respondents. The gender distribution is nearly equal with 50.5% male and 49.5% female respondents. 37.6% of the respondents are aged 25-35 years, 25.7% are 35-45 years, 20.8% are 45-55 years and 15.8% are above 55 years. When it comes to experience as a researcher, equal proportions (29.7% each) have 1-5 years and >15 years of experience. 27.7% have 5-10 years' experience and 9.9% have 10-15 years' experience. Only 3% have less than 1 year experience

Table 2: Assessment of Digital Literacy

Proficiency	Scale	Frequency	Percentage (%)
Proficiency in Using Basic Computer Software	Very proficient	23	22.80%
	Proficient	60	59.40%
	Somewhat proficient	18	17.80%
Comfort with Online Searches	Very comfortable	43	42.60%
	Comfortable	50	49.50%

	Somewhat comfortable	7	6.90%
	Not comfortable	1	1.00%
Confidence in Managing Research Data	Very confident	11	10.90%
	Confident	54	53.50%
	Somewhat confident	33	32.70%
	Not confident	3	3.00%
Familiarity with Programming/Coding Languages	Very familiar	4	4.00%
	Familiar	18	17.80%
	Somewhat familiar	30	29.70%
	Not familiar	49	48.50%
Use of Digital Citation Management Tools	Very often	16	15.80%
	Often	17	16.80%
	Occasionally	39	38.60%
	Rarely or Never	29	28.70%

From Table 2 it can be inferred that 82.2% of respondents rate themselves as proficient or very proficient in basic computer proficiency, whereas, 17.8% are somewhat proficient. No respondents rated themselves as not proficient. 92.1% of respondents are comfortable or very comfortable with online searches and only 1% report being not comfortable. 64.4% of the respondents are confident or very confident in managing research data, 32.7% are somewhat confident and 3% are not confident. 48.5% of respondents are not familiar with relevant programming languages. Only 4% are very familiar whereas, 47.5% have some level of familiarity.

Table 3: Research Communication and Publishing

Question	**Response**	**Frequency**	**Percentage (%)**
Participation in Online Courses	Frequently	8	7.90%
	Occasionally	56	55.40%
	Rarely	29	28.70%
	Never	8	7.90%
Publishing in Open-Access Repositories	Yes, frequently	8	7.90%
	Yes, occasionally	16	15.80%
	No, but I am interested	60	59.40%
	No, and I am not interested	17	16.80%
Staying Updated with Digital Tools	Attend workshops and seminars	40	39.60%
	Collaborate with digitally savvy peers	17	16.80%

	Read online blogs and forums	41	40.60%
	Other	2	2.00%
Research Communication Methods	Conference presentations	18	17.80%
	Online academic journals and repositories	58	57.40%
	Traditional print publications	22	21.80%
	Social media and blogs	2	2.00%
	Other	1	1.00%
Collaboration Through Digital Platforms	Very frequently	11	10.90%
	Frequently	24	23.80%
	Occasionally	47	46.50%
	Rarely or never	19	18.80%
Use of Online Platforms for Research Sharing	Research Gate	45	44.60%
	Institutional repositories	28	27.70%
	Academia.edu	10	9.90%
	None	12	11.90%
	Other	6	5.90%
Social Media Use for Networking	Yes, regularly	18	17.80%
	Occasionally	37	36.60%
	No, but considering it	31	30.70%
	No, and not interested	15	14.90%
Importance of Open-Access Publishing	Very important	51	50.50%
	Important	36	35.60%
	Somewhat important	14	13.90%

Data in Table 3 reveals that, online academic journals are the primary communication method (57.4%). Research Gate is seen to be the most preferred platform (44.6%) followed by institutional repositories (27.7%). Open access publishing is highly valued with respondents rating important to very important garnering a cumulative percentage of 86.1%. Social media usage is moderate with respondents using using it regularly or occasionally for research (54.4%)

Table 4: Challenges and Barriers

Challenge/Barrier	Response	Count	% of Total
Challenges in Accessing Digital Resources	Yes, frequently	30	29.70%
	Occasionally	42	41.60%

	Rarely	22	21.80%
	Never	7	6.90%
Obstacles in Adopting Digital Tools	Concerns about data privacy/security	23	22.80%
	Insufficient digital skills/knowledge	25	24.80%
	Lack of access to resources	52	51.50%
	Resistance from colleagues/institutions	1	1.00%
Time and Effort Using Digital Tools	Less time and effort	51	50.50%
	About the same	6	5.90%
	Slightly more time and effort	31	30.70%
	Much more time and effort	13	12.90%
Long-Term Preservation of Digital Outputs	Yes, frequently	17	16.80%
	Occasionally	37	36.60%
	Rarely	23	22.80%
	Never	24	23.80%
Perception of Digital Divide Among Researchers	Yes, a significant divide	35	34.70%
	Yes, a minor divide	27	26.70%
	No, there's no divide	16	15.80%
	Not sure	23	22.80%
Issues with Data Interoperability	Yes, frequently	12	11.90%
	Occasionally	34	33.70%
	Rarely	26	25.70%
	Never	29	28.70%
Financial Barriers to Accessing Digital Tools	Yes, frequently	41	40.60%
	Occasionally	30	29.70%
	Rarely	16	15.80%
	Never	14	13.90%

The data in Table 4 reveals that there are significant financial barriers. 61.4% of respondents believe that there is either a significant or minor divide among researchers. Main challenges include lack of access to digital resources (51.5%) and insufficient digital skills (24.8%). Time perception varies: 50.5% say digital tools require less time than traditional methods.

Table 5: Impact of digital literacy

Question	Response	Frequency	Percentage (%)
Do you believe that your level of digital literacy affects your ability to effectively communicate your research findings?	Strongly agree	42	41.60%
	Agree	34	33.70%
	Disagree	12	11.90%
	Neutral	13	12.90%
Have you observed any differences in the impact of your research communication efforts based on your digital literacy level?	Yes, it significantly impacts the impact	44	43.60%
	Yes, it somewhat impacts the impact	43	42.60%
	No, it does not impact the impact	9	8.90%
	Not sure	5	5.00%
In your experience, have researchers with higher digital literacy levels been more successful in reaching wider audiences with their research?	Yes, consistently	51	50.50%
	Yes, sometimes	43	42.60%
	No, not necessarily	5	5.00%
	I'm not sure	2	2.00%
How do you think digital literacy can enhance collaboration and knowledge dissemination among researchers?	By enabling efficient data sharing	17	16.80%
	By facilitating online collaboration tools	32	31.70%
	By increasing research visibility	12	11.90%
	All of the above	40	39.60%

From Table 5, it can be inferred that digital literacy significantly impacts scholarly publishing and research.

Table 6: Institutional Support, Individual Motivation and Future Needs

Question	Response	Frequency	Percentage (%)
Institutional Support for Scholarly Communication	Encouraging collaboration through online platforms	33	32.70%
	Establishing institutional repositories	35	34.70%
	Providing funding for open access publishing	27	26.70%
	All of the above (including conference proceedings)	4	4.00%

Role of Professional Organizations in Digital Literacy	Advocating for open access and digital research ethics	18	17.80%
	Giving researchers sufficient time for research	1	1.00%
	Hosting conferences and workshops on digital topics	37	36.60%
	Offering grants and awards for digital initiatives	41	40.60%
	All of the above	4	4.00%
Formal Training in Digital Literacy during Academic Career	Yes, extensively	3	3.00%
	Yes, to some extent	48	47.50%
	No, but I've sought informal training	30	29.70%
	No, I haven't received any training	20	19.80%
Importance of Digital Literacy in Academic Curricula	Extremely important	51	50.50%
	Very important	41	40.60%
	Somewhat important	9	8.90%
Differences in Willingness to Adopt Digital Tools by Discipline	Yes, researchers in all disciplines are equally willing	25	24.80%
	Yes, researchers in some disciplines are more willing	50	49.50%
	No, there is no noticeable difference	12	11.90%
	Not sure	14	13.90%
Encouraging Digital Scholarly Communication	Creating incentives for digital engagement	15	14.90%
	It feel it needs to be self-driven	1	1.00%
	Providing targeted training programs	65	64.40%
	Showcasing success stories of researchers	18	17.80%
	All of the above	2	2.00%
Policies to Improve Digital Literacy at Goa University	Yes, and I have specific recommendations	14	13.90%
	Yes, but I don't have specific recommendations	53	52.50%
	No, I don't think any changes are needed	4	4.00%
	Not sure	30	29.70%
Researchers' Proactive Role in Digital Literacy	Collaborating with digitally proficient colleagues	41	40.60%
	Hands-on training workshops	1	1.00%

	Joining online research communities and forums	36	35.60%
	Participating in online courses and webinars	19	18.80%
	All of the above	4	4.00%
Support Center for Digital Literacy at Goa University	Yes, strongly agree	54	53.50%
	Yes, agree	27	26.70%
	Disagree	1	1.00%
	Neutral	19	18.80%
Future of Scholarly Communication at Goa University	Greater reliance on open access and online platforms	25	24.80%
	Increased visibility of Goa University research globally	25	24.80%
	More interdisciplinary collaboration through digital means	47	46.50%
	All of the above	4	4.00%
Recommended Measures to Improve Digital Literacy at Goa University	Access to digital resources and tools	30	29.70%
	Digital literacy workshops and courses	53	52.50%
	Faculty Development Program or Refresher Course - Domain wise	2	2.00%
	Financial support to attend workshops (FDP)	1	1.00%
	Mentorship and peer support	12	11.90%
	All of the above	3	3.00%

From Table 6, it can be seen that 80.2% respondents are in support of having a dedicated digital literacy support center and 91.1% believe that digital literacy training needs to be incorporated as part of the curriculum. Digital literacy workshops (52.5%) are the most recommended improvement measure.

DISCUSSION

The demographic analysis reveals a faculty composition predominantly consisting of Assistant Professors, with a balanced gender distribution and a younger age profile. This demographic skew towards early-career faculty members may contribute to the high self-reported digital literacy levels, as younger academics are often more adept with digital tools. However, the underrepresentation of senior faculty could result in an incomplete picture of the overall digital literacy landscape at Goa University.

The digital literacy assessment indicates strong foundational computer and online search skills among faculty. However, there is a notable gap in advanced digital competencies, particularly in programming and digital data

management. This suggests that while basic digital literacy is widespread, there is a need for targeted interventions to develop more specialized technical skills essential for modern research practices.

The survey findings on open-access publishing and data sharing reveal that only 7.9% of researchers frequently share their research data in open-access repositories, despite 59.4% expressing interest. This gap highlights the need for institutional support, clearer guidelines, and education on data security and intellectual property rights to encourage greater participation in open-access data sharing.

Researchers primarily stay updated with digital tools through workshops, webinars (39.6%), and online reading (40.6%), with fewer relying on self-exploration (19.8%). This preference underscores the value of structured learning but also suggests a need to cultivate independent learning habits.

Digital platforms dominate research communication, with 57.4% relying on online academic journals, reflecting a global shift toward digital dissemination. However, moderate use of digital collaboration tools (46.5% occasional use) and professional networking through social media (36.6% occasional use) indicates barriers such as limited tool familiarity, concerns over professionalism, and insufficient institutional support.
The preference for ResearchGate (44.6%) over institutional repositories (27.7%) suggests a need for the university to better promote and integrate its repositories. Additionally, financial barriers (40.6% frequently impacted) and infrastructure issues (71.3% facing access challenges) highlight systemic obstacles to digital engagement.

There is a strong recognition of the importance of open-access resources (50.5% view them as very important), but practical engagement remains limited. Institutional initiatives should focus on providing financial support, enhancing infrastructure, and offering structured training, as 58.4% of respondents desire more institutional support for digital literacy.

CONCLUSION

This study provides valuable insights into the digital literacy and scholarly communication practices at Goa University. Faculty members demonstrate high proficiency in basic digital skills but face challenges in advanced technical competencies, such as programming, data management, and open-access data sharing. Addressing these gaps through targeted training, improved infrastructure, and supportive policies is essential for enhancing digital engagement and research productivity.

Key recommendations include implementing regular technical workshops, offering structured training on open-access data sharing, improving access to digital resources, and fostering collaborative knowledge-sharing initiatives. Additionally, promoting institutional repositories, addressing financial barriers, and developing clear guidelines for digital engagement can empower faculty to integrate digital tools more effectively into their research practices.

Future research should focus on longitudinal studies to track progress over time, comparative analyses across institutions and disciplines, and assessments of the impact of digital initiatives on research output. By addressing these areas, Goa University can strengthen its digital literacy landscape and contribute more effectively to global scholarly communication.

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