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ORIGINAL ARTICLE

The digital footprint of academics in Karnataka: A study of research engagement and performance on ResearchGate

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ABSTRACT

Objective. This study explored the research engagement and performance of faculty members from selected universities in Karnataka, India, on ResearchGate (RG). The study assessed several metrics, including research contributions, forms of publications, and the availability of full-text documents. The objective was to identify the most productive universities, departments, and individual faculty members. Furthermore, the study undertook a multifaceted examination of the correlation between various RG metrics, with the objective of elucidating their interrelationship.

Methodology. A representative sample of universities in Karnataka was selected based on academic reputation and diversity. Data were collected from the profiles of 330 faculty members who had created RG profiles, including details on publications read, profile views, citations, H-index, participation in the question and answers (Q&A) section, research interest (RI) score, followers, and following. Subsequent correlation analyses were conducted to assess the relationship among these metrics.

Results. The study revealed that a mere 38.02% of faculty members across a selection of universities in Karnataka have established RG profiles. The University of Mysore demonstrated the highest level of research productivity, with 5,235 publications and 71,814 citations. Among the faculty members, K. R. Kini from the University of Mysore exhibited the highest RI score (7,712), followed by Gireesha B. J. from Kuvempu University, who attained an RI score of 5,261. The Department of Chemistry at Karnatak University demonstrated the highest level of productivity, with a total of 1,004 documents and an RI score of 8268.3. Statistical analyses revealed a significant positive correlation between university age and the number of RG profiles, as well as between the number of publications and citations. However, the correlation between the number of publications and the RI score was moderate and not statistically significant.

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Conclusions. This study underscored the growing role of academic social networking platforms in scholarly communication. By identifying key trends in research visibility and engagement, the study provided valuable insights for researchers seeking to optimize their RG presence. While the study identified correlations among various RG metrics, its reliance on publicly available profile data, which may be subject to updates and inconsistencies, was a limitation.

Keywords: altmetrics; ResearchGate, academic social networking sites; research performance and evaluation; faculty engagement; citation analysis; citation impact; Karnataka universities.

1. INTRODUCTION

Academic social networking sites (ASNS) have transformed scholarly communication by enabling researchers to share their findings, collaborate with peers, and enhance the visibility of their work. These digital platforms, including ResearchGate, Mendeley, and Academia.edu, offer tools for networking, monitoring publication impact, and facilitating professional discourse (Meishar-Tal & Pieterse, 2017). The integration of formal and informal academic communication on these platforms has been instrumental in reshaping how research is disseminated and evaluated (Blümel, 2021). Conventional impact assessment methodologies depend on citation counts and journal impact factors (Goodyear *et al.,* 2009). However, emerging altmetric indicators offer real-time insights into scholarly engagement, including regards, downloads, and social media mentions (Piwowar & Priem, 2013; Wildgaard, 2014). The dissemination of scholarly work, both formally and informally, has always been a crucial aspect of academic life and intellectual exchange (Guédon, 2001; Kronick, 2001). As Van Noorden (2014) points out, "Academic Social Networking Sites have gained significant importance in scientific communication due to their large user base and unrestricted access." ResearchGate (RG), founded in 2008, has emerged as a prominent ASNS, boasting over 20 million researchers worldwide as its user base (ResearchGate, 2023). The platform offers a range of features, including the ability to share publications, track citations, and calculate a research interest (RI) score, which quantifies academic influence based on engagement metrics.

It is imperative to differentiate ASNSs from other academic platforms. In contradistinction to reference management tools such as Zotero or Google Scholar, which chiefly function as repositories for research tracking and citation monitoring, ASNSs enable active engagement and collaboration between researchers. Content management systems such as WordPress, which are employed for academic blogging, do not offer the interactive and networking features characteristic of ASNSs. Despite the global prevalence of ASNSs, the engagement of Indian academics with ResearchGate remains a relatively unexplored field. There is a paucity of research on how faculty members across universities utilize the platform, the factors influencing their participation, and the correlations between different ResearchGate metrics. This study aims to address this knowledge gap by conducting a comprehensive analysis of ResearchGate profiles of faculty members in selected universities in Karnataka. The analysis will assess their research engagement, productivity, and the relationships between various impact indicators. Comprehending the manner in which faculty members engage with ResearchGate is imperative for evaluating the platform's function in research dissemination and collaboration. By evaluating the number of publications, citations, and full-text availability, this study offers insights into research visibility and academic networking. The findings of this study can inform institutional strategies to enhance digital scholarship and promote academic engagement on online platforms.

2. REVIEW OF LITERATURE

A study by Singson and Amees (2017) assessed the motivations, actions, and benefits of Pondicherry University research scientists who became members of ResearchGate. According to the statistics provided by the platform, ResearchGate is utilized extensively by academics, primarily to establish connections with other scholars who share similar interests. Furthermore, the majority of participants indicated

that their primary engagement on ResearchGate was perusing and assessing papers from other scholars, with the intent of maintaining currency with the latest advancements in their respective fields. To collect data on this subject, Shrivastava and Mahajan (2017) examined 173 RG profiles of faculty members from various departments, conducting individual visits to gather data. The authors collected data from faculty RG profiles. Subsequent to the collection of this data, the researchers proceeded to evaluate the relationships among the various metrics provided by ResearchGate. The authors then proceeded to examine the correlations and trends across ResearchGate indicators, thereby offering valuable insights into the nature of these relationships. Concurrently, Ali and Richardson (2017) obtained altmetric data from the ResearchGate profiles. The subsequent analysis of the data was conducted using SPSS version 21. Their findings revealed a positive correlation between publications, reads, and citations. Notably, the majority of these publications were not published in high-impact-factor journals. Sheeja and Mathew (2019) conducted an altmetric analysis of 64 Indian Naval architectural researchers. The authors found that 65% of researchers had an account on RG, and most of them received 1-50 citations, an H-index of 1-5, 1,000-5,000 reads, and RG ratings of 10-15. The researchers also identified a correlation between altmetric and scientific indicators.

A study by Vinay *et al.* (2020) identified that 61.17% of science faculty members in Karnataka State Universities created ResearchGate profiles. The analysis revealed that the University of Mysore exhibited the highest number of citations (23,821) and an RG score of 1016.78. Building upon these findings, Césars *et al.* (2021) undertook a comprehensive study that utilized quantitative data from prominent academic platforms, including ResearchGate, Scopus, and Google Scholar. Their findings revealed that 19% of the 12,731 citations pertained to the environment, 19.3% focused on health, 59.9% centered on agriculture, and 1.8% addressed other sectors. The study revealed a strong positive association between the number of citations on ResearchGate and Google Scholar, as well as the number of citations on ResearchGate and Scopus. Kumar and Singh's (2021) study, which was conducted on ResearchGate profiles across 32 departments at King George's Medical University (KGMU), Lucknow, further substantiates these findings. Their findings revealed that a total of 1,196 publications had been uploaded to these ResearchGate profiles. Of these publications, 34.9% were accessible in full text. In a separate study, Ali (2021) examined the top 10 Library and Information Science (LIS) faculty publications, citations on ResearchGate, RI score, and reads. The study found that 46% of the full-text documents were uploaded on ResearchGate by the LIS faculty members and found a correlation between the publication and the citations.

Sulakshana *et al.* (2022) found that 70 faculty members had set up ResearchGate profiles at Kuvempu University, Karnataka, and 18% of the faculties that made RG profiles were in the scientific discipline. In addition, 3,029 documents were uploaded to ResearchGate and received a total of 5,84,966 reads, 39,228 citations, and 480 H-indexes. In a subsequent study, Sulakshana and Sampath Kumar (2023) examined the ResearchGate profiles of faculty members at the University of Mysore, finding that 78 of them had RG profiles. They also found that 5,205 papers had been uploaded by faculty members who had created RG profiles and that these faculty members had received 1,527,647 reads, 71,814 citations, and a 912 H-index. Finally, the researchers found that faculty members in the science department had an RI score of 7,712. Panda and Kaur's (2023) study examined the top 15 cited Indian researchers and their research performance on ResearchGate. The authors found that Sujit K. Bhattacharya received the highest number of citations (17,210) and published 505 research items. His H-index and RI scores were 70 and 8,991, respectively. The analysis further revealed that the majority of the targeted researchers' contributions were research articles (71.95%), and 49.10% of these articles were available in full text. The authors also performed Pearson's correlation test among five interconnected variables and found a positive correlation. A thorough review of the extant literature reveals a paucity of in-depth studies focusing on the subject under investigation. Consequently, this study was conducted to assess the research performance of University Academics of Karnataka on ResearchGate.

3. OBJECTIVES AND HYPOTHESES

The objective of this study is to investigate the research performance and publications uploaded on the ResearchGate profile by faculty members of selected universities in Karnataka. The following objectives and hypotheses have been formulated to guide the study:

- To identify the number of faculty members who created RG profiles.
- To examine faculty members' research contributions as reflected in their respective RG profiles.
- To analyze the number of full-text publications uploaded to ResearchGate.
- To identify the most productive universities, departments, and faculty members based on RI score.
- To explore the correlations between various ResearchGate metrics.
- **Hypothesis H1.** There is a positive correlation between the age of the university and the number of publications uploaded to ResearchGate.
- **Hypothesis H2.** There is a positive correlation between the number of publications uploaded to ResearchGate and the number of citations.
- **Hypothesis H3.** The number of publications uploaded to ResearchGate and the RI score are positively correlated.
- **Hypothesis H4.** The number of publications uploaded to ResearchGate profiles by faculty members and the reads are positively correlated.

4. METHODOLOGY

The study systematically extracted the names and designations of faculty members from the official websites of their respective universities (see Annexure 1). A list of universities in Karnataka was verified using the University Grants Commission (UGC) website (www.ugc.ac.in). The initial list comprised 41 universities in Karnataka; however, after a thorough evaluation process, 10 universities were selected based on their academic reputation and diversity. Subsequently, the researchers utilized ResearchGate's search function to ascertain if each faculty member had a ResearchGate profile. Those faculty members with profiles were then categorized based on their academic designations (professors, associate professors, and assistant professors) and further classified according to their respective departments. Subsequently, data were collected from the profiles of 330 faculty members who had created RG profiles. An additional effort was made to access each RG profile to obtain the actual data, including details on the number of publications, reads, profile views, citations, H-index, participation in the question and answers (Q&A) section, RI score, followers and following, and availability of full-text research documents. To ensure the accuracy of the collected data, each RG profile was visited individually. The collected data were then meticulously organized in an MS Excel spreadsheet and subjected to rigorous analysis using statistical tools such as t-tests, Chi-square tests, and Pearson correlation tests. The methodology employed is characterized by its transparency, and the list of university websites utilized for data collection is provided in Annexure 1. The collected data were then subjected to a descriptive analysis to understand the distribution of faculty members' profiles and their research engagement with ResearchGate across different universities. The data were then used to fulfill the research objectives and to create a ranking of faculty members, universities, and departments based on various metrics, including the RI score, H-index, and research output.

5. DATA ANALYSIS AND INTERPRETATION

Table 1 presents the number of faculty members who have created ResearchGate (RG) profiles. An analysis of the data reveals that among the 868 faculty members, only 330 (38.02%) have created ResearchGate profiles. The institution with the highest percentage of faculty members who had created RG profiles was Kuvempu University, with 66.28% of its faculty members having done so. It was followed by "Dr. B. R. Ambedkar School of Economics University," which had the highest percentage of faculty members (54.55%), and Gulbarga University (53.85%), indicating a relatively higher level of engagement with academic research and sharing on the ResearchGate platform. Conversely, Karnataka State Open University exhibited

the lowest percentage of faculty members with ResearchGate profiles (5.00%), indicating a comparatively lower level of adoption of these profiles among its faculty members. The study identified a statistically significant positive correlation ($r = .838$, $p = .002$) between the age of the university and the number of faculty members who had created ResearchGate profiles.

Sl no.	Universities	Year of establish.	Age	Total number of faculty members	Number of faculty members who have created RG profiles	Percentage (%)
1.	University of Mysore	1916	107	171	77	45.03
2.	Karnatak University	1949	74	153	69	45.10
3.	Bangalore University	1964	59	118	32	27.12
4.	Gulbarga University	1980	43	52	28	53.85
5.	National Law School of India University	1986	37	38	19	50.00
6.	Kuvempu University	1987	36	86	57	66.28
7.	Karnataka State Open University	1996	27	120	6	5.00
8.	Karnataka State Akkamahadevi Women's University	2003	20	59	11	18.64
9.	Tumkur University	2004	19	60	25	41.67
10.	"Dr. B. R. Ambedkar School of Economics University"	2017	6	11	06	54.55
	Total			**868**	**330**	**38.02**

Table 1. Creation of ResearchGate profiles by the universities.

The distribution of ResearchGate profile creators is presented in Table 2, categorized according to their academic designations. This reveals that professors had the highest percentage (63.94%) of profile creators among the three designations. In contrast, associate professors exhibited the lowest proportion of profile creators (10.61%), whereas the fewest percentage related to assistant professors (25.45%). The statistical analysis indicates that associate and assistant professors are less inclined to possess ResearchGate profiles in comparison to professors (Figure 1). This disparity might be attributed to varying levels of research participation, career stages, networking interests within the academic community, and the dissemination of research within these academic positions. This study employed the Chi-square test to ascertain the association between faculty designation and ResearchGate profile creation. The findings revealed a statistically significant association between faculty designation and the creation of ResearchGate profiles ($\chi^2 = 91.827$, $p = .000$).

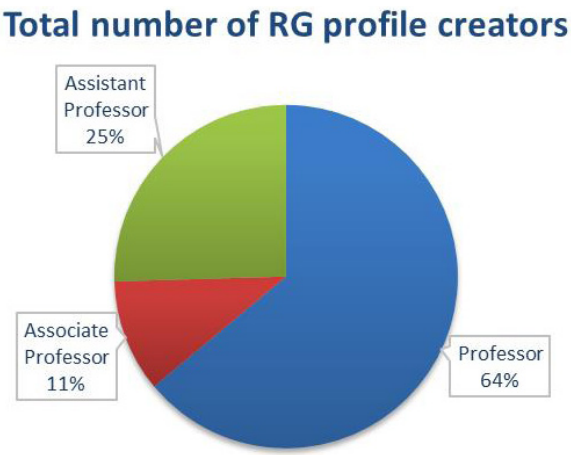

Figure 1. ResearchGate profile creation by designation.

Designation	Total number of RG profile creators	Percentage (%)
Professor (n=493)	211	63.94
Associate professor (n=84)	35	10.61
Assistant professor (n=291)	84	25.45
Total (N=868)	**330**	**100**

Table 2. Creation of ResearchGate profiles by designation.

Table 3 presents data regarding the participants' gender and designation, as well as the composition of RG profiles. A comparison of the two genders reveals that male creators outnumber female creators in every category. Within the "professor" category, males comprise 81.04% of profile creators, with females making up 18.96%. A similar trend is observed in the "associate professor" category, where males constitute the majority (65.71%) compared to females (34.29%). With regard to the overall distribution, considering all designations in aggregate, male profile creators constitute a substantial majority at 75.15%, while female creators comprise 24.85% of the total (Figure 2). These data suggest a gender imbalance among RG profile creators, with males being more prominently represented across all academic ranks. The study established a substantial correlation between the number of faculty members who created the RG profile and their gender ($\chi^2 = 34.523$, $p = .000$).

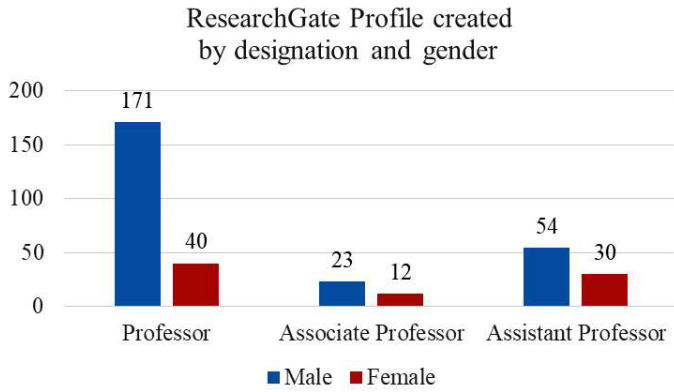

Figure 2. Creation of ResearchGate profile by designation and gender.

Designation	Total number of RG profile creators	
	Male	Female
Professor (n=211)	171 (81.04%)	40 (18.96%)
Associate professor (n=35)	23 (65.71%)	12 (34.29%)
Assistant professor (n=84)	54 (64.29%)	30 (35.71%)
Total (N=330)	**248 (75.15%)**	**82 (24.85%)**

Table 3. ResearchGate profiles created by designation and gender.

Table 4 presents data on research publications and metrics for various universities. The University of Mysore has the highest number of publications (5,235) and citations (71,814) among all the universities included in the study. It also has the highest H-index (912) and a substantial RI score (43429.2), indicating its research's strong presence and impact on ResearchGate. Karnatak University exhibits a notable publication output of 3,576 and a substantial citation count of 43,888, though its H-index (580) and RI score (283,063) are lower than those of the University of Mysore. Kuvempu University, with 2,933 publications, 46,094 citations, and an H-index of 478, ranks third. Its RI score of 28384.3 is also relatively high, reflecting a significant research impact (RI). Conversely, the "Dr. B. R. Ambedkar School of Economics University" exhibits the lowest research productivity, with the smallest number of publications (14), citations (69), and H-index (8).

Universities	Number of publications	Number of citations	H-index	RI score
University of Mysore	5,235	71,814	912	43429.2
Karnatak University	3,576	43,888	580	283063
Kuvempu University	2,933	46,094	478	28384.3
Gulbarga University	1,361	18,108	302	11299
Tumkur University	1,278	20,878	204	11090.7
Bangalore University	1,194	12,457	238	9243.6
Karnataka State Akkamahadevi Women's University	160	702	29	508.9
Karnataka State Open University	67	723	26	409.7
National Law School of India University	28	22	5	32
"Dr. B. R. Ambedkar School of Economics University"	14	69	8	78.9

Table 4. Research publications of the universities on ResearchGate.

The study established a correlation between age and the number of publications (r = .984, p = .000), with older universities demonstrating the highest number of publications (Figure 3). Consequently, Hypothesis H1 is validated. The table offers insights into the research productivity and impact of select universities in Karnataka, as measured through their presence on ResearchGate. It is evident that institutions with a higher number of publications, citations, and H-index tend to exert a more substantial RI. Conversely, institutions with lower metrics might have the potential for enhancement in their research output and visibility. The RI score provides a comprehensive metric of RI, with higher scores indicating universities with more influential research output on the ResearchGate platform. The Pearson correlation coefficient (r) indicates a positive correlation between the number of publications and citations (r = .992), and the correlation is statistically significant (p = .000) at the .01 level. This finding supports Hypothesis H2, suggesting that there is a positive relationship between the number of publications and citations (Figure 4). This finding suggests a positive relationship between the number of publications uploaded to ResearchGate and the subsequent citations received by researchers. This finding aligns with common expectations in academia, where increased visibility and accessibility of research papers often lead to increased citations. The Pearson correlation coefficient (r) reveals a moderate positive relationship (r = .537) between the number of publications uploaded to ResearchGate and the RI score (Figure 5). However, this correlation is not statistically significant, as evidenced by the p-value of .110, which exceeds the .05 threshold for statistical significance. Consequently, Hypothesis H3 is rejected. The study also identified a highly positive correlation (r = .985) between the number of publications and the H-index, with a statistically significant correlation (p = .000) at the .01 level.

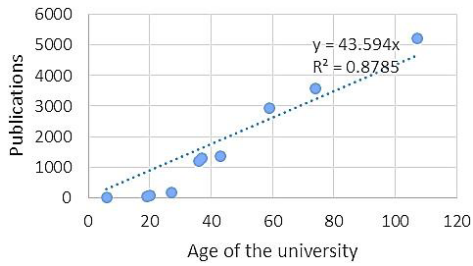

Figure 3. Scatter plots of linked correlation pairs of age of the university vs. publications.

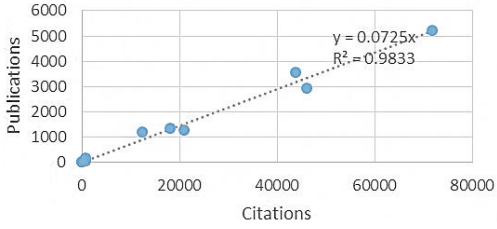

Figure 4. Scatter plots of linked correlation pairs of publications vs. citations.

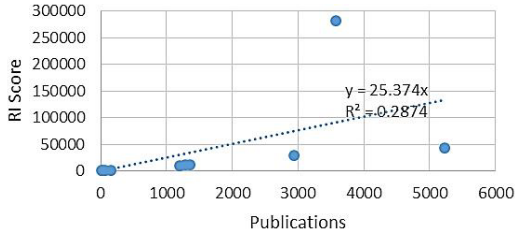

Figure 5. Scatter plots of linked correlation pairs of publications vs. RI score.

As illustrated in Table 5, the publication record of the selected universities has a significant impact on the field. The University of Mysore has the highest number of publications (5,235) among all the universities included in the study. It also has the highest number of reads (1,527,647) and citations (71,814), indicating that its research papers are widely accessed and cited by others. Karnatak University exhibits a substantial publication count (3,576), a considerable number of reads (856,685), and a notable number of citations (43,888). ResearchGate data reveal numerous recommendations (16,981), suggesting that its research papers are well-regarded and endorsed by other researchers. Kuvempu University holds the third position in terms of the total number of readings, which is 724,495, and the number of key citations, which is 46,094. This finding suggests that the academic community is closely monitoring and has a strong interest in the institution's research output. In contrast, the "Dr. B. R. Ambedkar School of Economics University" exhibits comparatively diminished levels of research activity and impact in comparison to the other institutions mentioned.

Name of the universities	Publications	Reads	Recommendations	Citations
University of Mysore	5,235	1,527,647	5,075	71,814
Karnatak University	3,576	856,685	16,981	43,888
Kuvempu University	2,933	724,495	3,597	46,094
Gulbarga University	1,361	328,296	856	18,108
Tumkur University	1,278	445,914	890	20,878
Bangalore University	1,194	401,173	575	12,457
Karnataka State Akkamahadevi Women's University	160	40,819	79	702
Karnataka State Open University	67	6,866	29	723
National Law School of India University	28	3,386	07	22
"Dr. B. R. Ambedkar School of Economics University"	14	3,579	19	69

Table 5. Impact of publications on the universities.

The statistical analysis reveals a Pearson correlation (r) value of .989, indicating a substantial positive relationship between the number of articles uploaded to ResearchGate and the number of reads (Figure 6). The observed association has a high degree of statistical significance at the .01 threshold, with a p-value of .000. This finding suggests a positive correlation between the increase in the number of articles and the corresponding increase in the number of readers. The data provide substantial support for Hypothesis H4, suggesting a robust correlation between the number of articles published to faculty members' ResearchGate accounts and the number of reads. The research also employed the Pearson correlation coefficient to assess the relationship between the number of reads and citations. The findings reveal a substantial positive correlation ($r = .983$, $p = 0.000$) between the number of reads and citations. This finding suggests that as the number of reads of a publication increases, there is a strong tendency for the number of citations to increase. This finding aligns with the prevalent pattern in academic and scientific literature, suggesting that publications with higher readership tend to be cited more frequently. Researchers are more likely to cite papers that have been read and deemed influential in their field.

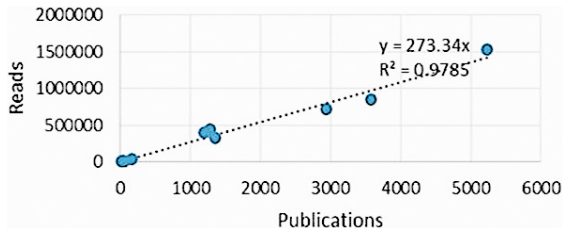

Figure 6. Scatter plots of linked correlation pairs of publications vs. reads.

As illustrated in Table 6, the University of Mysore has the highest H-index (912) among all the universities included in the study, suggesting that it has a significant number of publications that have been cited extensively. After the exclusion of self-citations, the H-index persists at a relatively elevated level of 825, thereby signifying the impact of its research beyond the confines of its academic community. Karnatak

University exhibits a substantial H-index (580) and maintains a commendable H-index (520) after excluding self-citations, suggesting that its research has garnered recognition from external researchers. A similar observation can be made about Kuvempu University, which also demonstrates a strong RI with a notable H-index (478). Its H-index, excluding self-citations, is 439, indicating a considerable influence beyond internal citations. Furthermore, the table also depicts that the National Law School of India University, Karnataka State Open University, Karnataka State Akkamahadevi Women's University, Tumkur University, and "Dr. B. R. Ambedkar School of Economics University" have lower H-index values, indicating a relatively lower RI compared to other universities in the table. Moreover, these universities exhibit minimal fluctuations in their H-index values after the exclusion of self-citations, suggesting that their RI is predominantly driven by external recognition. Moreover, the "t-test" result signifies a statistically significant discrepancy between the H-index and the H-index excluding self-citations ($t = 2.383$, $df = 9$, $p = .041$). This finding suggests that, on average, the H-index is higher when including self-citations compared to when excluding them.

Universities	H-index	H-index excluding self-citations
University of Mysore	912	825
Karnatak University	580	520
Kuvempu University	478	439
Gulbarga University	302	300
Bangalore University	238	219
Tumkur University	204	188
Karnataka State Akkamahadevi Women's University	29	26
Karnataka State Open University	26	26
"Dr. B. R. Ambedkar School of Economics University"	8	7
National Law School of India University	5	5

Table 6. H-index and H-index excluding self-citations.

Table 7 categorizes faculty members based on their RI ratings. ResearchGate employs a set of criteria, including publications, citations, and the H-index, to assess and evaluate a researcher's academic productivity and influence. These metrics are considered essential indicators of scholarly impact. The faculty members are assigned scores ranging from 1 to 10. K. R. Kini, a researcher from the Biotechnology Department at the University of Mysore, holds the top position with a 7,712 RI score, having published 573 articles and garnered 15,885 citations, resulting in an H-index of 70, which attests to his global recognition and influence.

Faculty members	Universities	Department	Publications	Citations	H-index	RI score	Rank
K. R. Kini	University of Mysore	Biotechnology	573	15,885	70	7,712	1
Gireesha B. J.	Kuvempu University	Mathematics	370	8,924	54	5,261	2
Nagabhushana H	Tumkur University	Physics	489	11,192	54	4,999	3
H. N. Murthy	Karnatak University	Botany	265	7,336	47	4,457	4
Basavaraj Angadi	Bangalore University	Physics	124	1,303	24	2,274	5
J. C. Umavathi	Gulbarga University	Mathematics	246	3,687	31	1,990	6
Babu R Lamani	Karnataka State Akkamahadevi Women's University	Bioinformatics	37	387	10	208.6	7
Vasantha Kumar S	Karnataka State Open University	Chemistry	8	452	8	200.3	8
Sumirtha Gandhi	"Dr. B. R. Ambedkar School of Economics University"	Economic	8	45	04	57.8	9
Yashomati Ghosh	National Law School of India University	Law	6	11	2	10.5	10

Table 7. Ranking of faculty members based on RI score.

This outstanding achievement underscores his sustained relevance within the academic community. Gireesha B. J., a faculty member from the Department of Mathematics at Kuvempu University, has secured the second position. His RI score stands at 5,261, a figure bolstered by 370 publications and 8,924 citations. Furthermore, he possesses an H-index of 54, indicating a notable impact on his field. The findings suggest that his work has been extensively cited by other scholars, indicating a substantial academic influence. Faculty members in higher ranks have been shown to have a more significant RI, as evidenced by the frequency with which their work is cited and the size of the audience to which it reaches within the academic community on ResearchGate. This grade may be valuable for identifying distinguished scholars and fostering academic collaborations.

Table 8 presents a comprehensive overview of the departments with the highest number of papers published by faculty members, their RI scores, and their respective rankings. The Department of Chemistry at Karnatak University has the distinction of having the highest number of research publications, with a total of 1,004. Notably, this department also boasts the second-highest RI score (8268.3), underscoring the high regard in which its research output is held and its substantial impact on ResearchGate. The Computer Science department at the University of Mysore follows closely behind, with 759 documents uploaded to RG. The RI score of 3566.4 further substantiates the significant RI and visibility of the University of Mysore's Computer Science department. The Biotechnology Department of Kuvempu University is ranked third on the site, with 607 submitted papers and an RI score of 8942.7, indicating a significant RI. The table also shows that the Department of Economics at the "Dr. B. R. Ambedkar School of Economics University" is placed tenth (Rank 10), with 14 documents published by faculty members. Its RI score of 78.9 suggests a notable research influence, though it falls short of the top-ranked departments. The table illustrates the departments that have demonstrated the most significant productivity in terms of the number of publications uploaded to ResearchGate by faculty members. Furthermore, it offers insight into the RI of these departments, as measured by their RI scores. Departments that have obtained higher rankings and RI scores are likely to have a more significant research presence, visibility, and influence on the ResearchGate platform.

Name of the departments	Name of the universities	Total number of publications uploaded	RI score	Rank
Chemistry	Karnatak University	1,004	8268.3	1
Computer Science	University of Mysore	759	3566.4	2
Biotechnology	Kuvempu University	607	8942.7	3
Physics	Bangalore University	469	2768.1	4
Biochemistry	Tumkur University	266	3790.3	5
Biotechnology	Gulbarga University	214	1558.6	6
Library & Information Science	Karnataka State Akkamahadevi Women's University	45	191.2	7
Physics	Karnataka State Open University	31	90.5	8
Law	National Law School of India University	28	32	9
Economics	Dr. B. R. Ambedkar School of Economics University	14	78.9	10

Table 8. Most productive departments based on the number of documents uploaded by the faculty members (top 10).

Table 9 presents the number of full-text documents available on ResearchGate by faculty members. The University of Mysore has the highest number of full-text documents (2,365), followed by Karnatak University (1,375), and Kuvempu University's faculty members have uploaded 1,123 full-text documents. These universities have been identified as the top three institutions that have established ResearchGate profiles. Notably, the National Law School of India University has not uploaded any full-text documents. However, the university has

19 faculty members with ResearchGate profiles, suggesting the possibility of alternative research outputs from these individuals. A Pearson correlation test was employed to ascertain the relationship between the number of faculty members who had created ResearchGate profiles and the number of full-text publications submitted. The findings indicated a correlation coefficient (r = .952), suggesting a robust positive association. The calculated p-value for the test is .000, which is less than the accepted value of .01. This finding suggests a strong and positive correlation between the number of faculty members and the number of full-text uploads to ResearchGate at institutions. This significant correlation suggests that as the number of faculty members increases, the number of full-text uploads also increases, indicating a potentially advantageous connection between faculty presence and the dissemination of research on the ResearchGate network.

Universities	Total number of faculty members created RG profile	Total number of full texts uploaded
University of Mysore	77	2,365
Karnatak University	69	1,375
Kuvempu University	57	1,123
Gulbarga University	28	633
Bangalore University	32	560
Tumkur University	25	548
Karnataka State Akkamahadevi Women's University	11	97
Karnataka State Open University	6	37
"Dr. B. R. Ambedkar School of Economics University"	6	10
National Law School of India University	19	0
Total	**330**	**6,748**

Table 9. Total number of full texts uploaded by the faculty members.

Table 10 provides significant information on the social media presence of several Karnataka institutions, as shown by the number of academic members who have established ResearchGate accounts. The University of Mysore emerges as the institution with the highest number of academic members, having a total of 77 individuals with active profiles on ResearchGate. The university's profile garnered a notable number of followers, reaching 6,099 individuals, while also maintaining a substantial following of 4,381 individuals. The Karnataka University has 69 faculty profiles, 4,200 followers, and 2,395 followings. It is noteworthy

Universities	Number of faculty members created RG profile	Number of followers	Number of followings
University of Mysore	77	6,099	4,381
Karnatak University	69	4,200	2,395
Bangalore University	32	1,778	1,384
Gulbarga University	28	1,953	1,229
National Law School of India University	19	336	57
Kuvempu University	57	3,076	2,090
Karnataka State Open University	6	99	82
Karnataka State Akkamahadevi Women's University	11	130	132
Tumkur University	25	1,442	916
"Dr. B. R. Ambedkar School of Economics University"	6	111	184
Total	**330**	**19,224**	**12,850**

Table 10. Universities wise total number of faculty members' followers and followings.

that Bangalore University, Gulbarga University, and National Law School of India University also maintain an active presence on ResearchGate; however, the extent of their engagement varies. The observed disparities in the number of followers and people they follow between universities may indicate variations in their engagement and outreach efforts. For instance, the University of Mysore boasts a substantial number of followers, indicating the presence of a notable research community and a significant impact on the platform. In contrast, institutions such as Karnataka State Akkamahadevi Women's University exhibit a balanced proportion of followers and supporters, indicating a more balanced engagement strategy. The research employed a t-test to ascertain the disparity between the number of followers and the number of followings among university faculty members. The findings revealed that the obtained t-statistic of 2.965 exceeds the t-value for a test with a significance level of .05. This finding indicates a significant disparity in the number of followers and followings across faculty members on ResearchGate, as evidenced by the p-value of .016, which is below the standard significance threshold of .05.

6. RESULTS

- The adaption rate of RG among faculty members in selected universities was 38.02%.
- The University of Mysore led in research output and citation impact.
- Professors were more likely to have RG profiles compared to assistant and associate professors.
- Gender disparities were observed, with male faculty members significantly outnumbering female members on RG.
- The correlation between university age and the number of RG profiles was statistically significant ($r = .838$, $p = .002$).
- A strong positive correlation ($r = .992$, $p = .000$) was found between publications and citations.

7. DISCUSSION AND FINAL CONSIDERATIONS

This study provides a data-driven assessment of the engagement of faculty members from selected universities in Karnataka with ResearchGate. The results of the study indicate variations in the adoption, productivity, and gender disparities of the faculty members, suggesting the necessity for institutional policies to enhance awareness and engagement with digital academic networking. The analysis revealed gender disparities, with a significantly higher number of male faculty members creating profiles compared to their female counterparts. This imbalance may stem from structural and cultural factors, such as differential access to research resources, professional networking opportunities, or institutional biases that affect digital engagement. Addressing these disparities necessitates the implementation of targeted interventions, including mentorship programs and institutional support, to promote digital participation among female faculty members. The study also identified significant variations in publication productivity across universities. The promotion of open-access policies and the facilitation of broader dissemination of research findings have the potential to enhance the academic impact of institutions with lower engagement levels. Furthermore, fostering collaboration between departments with high and low productivity could potentially enhance the research capabilities of universities as a whole.

This study enhances the existing body of knowledge on the use of ResearchGate by faculty members in Karnataka for the dissemination and networking of their research. Despite acknowledging its limitations, including its focus on faculty members with ResearchGate accounts and the possibility of data discrepancies, the study establishes the foundation for future research on the growing use of online platforms in academic communication and cooperation. While the study confirms strong correlations between research output and citation impact, it also underscores limitations in using the RI score as a standalone metric. Subsequent studies may benefit from the exploration of qualitative dimensions, such as faculty perceptions of ResearchGate's efficacy in research dissemination. A comparison of these findings with previous studies reveals that the observed engagement level in Karnataka aligns with trends observed in other Indian states (Panda & Kaur, 2023; Vinay *et al.,* 2020). However, the observed gender disparity and institutional variations necessitate further investigation into

systemic barriers that affect ASNS adaptation among faculty members. Universities with lower engagement levels could benefit from targeted training and policy interventions to enhance their digital presence. By integrating these recommendations, institutions can enhance their research visibility, foster interdisciplinary collaboration, and strengthen faculty members' engagement with global academic networks.

Conflict of interest

The author has no competing interests to declare relevant to this article's content.

Contribution statement

Sulakshana H.V.: Conceptualization, investigation, validation, writing-original draft, writing-review and editing.

B T Sampath Kumar: Validation, writing-review and editing. ●

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ANNEXURE 1.
List of universities selected for the study

Sl no.	Name of the universities	Year of establishment	Web address
1.	University of Mysore	1916	https://uni-mysore.ac.in
2.	Karnatak University	1949	https://www.kud.ac.in/
3.	Bangalore University	1964	https://bangaloreuniversity.karnataka.gov.in/
4.	Gulbarga University	1980	https://gug.ac.in/
5.	National Law School of India University	1986	https://www.nls.ac.in/
6.	Kuvempu University	1987	https://www.kuvempu.ac.in/
7.	Karnataka State Open University	1996	https://www.ksoumysuru.ac.in/
8.	Karnataka State Akkamahadevi Women's University	2003	http://ka.kswu.ac.in/
9.	Tumkur University	2004	https://tumkuruniversity.ac.in/
10.	Dr. B. R. Ambedkar School of Economics University	2017	https://base.ac.in/