

# Use of ResearchGate by the Research Scholars of Pondicherry University: A Study

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## ABSTRACT

ResearchGate is an academic social network site designed primarily for scholars to create their own profiles, upload their scholarly work, and communicate among peers. The present study explores the motives, activities and benefit researcher seek or gain from joining ResearchGate academic social network. The result of the study indicates that ResearchGate is popular among research scholars in Pondicherry University. The motive of joining ResearchGate by scholar are many, however, majority of the scholars agrees that joining ResearchGate enable them to connect with people who have similar interests. Similarly, majority of the scholars stated that the main activity they involve themselves besides many activities in ResearchGate is reading articles and reviewing paper posted by others. Finally, ResearchGate has enhanced their ability to stay abreast with new/latest developments in their field of research. However, seeking employments using ResearchGate is the least research scholars anticipate.

**Keywords:** ResearchGate; Academic social network; Scholarly communication; Pondicherry University

## 1. INTRODUCTION

The Internet, particularly world wide web has changed all walks of life in creating and sharing information in the online environment. The research community of any discipline is not exceptional. The term academic social networking service is used as a broad term referring to an online service, tool, or platform that can help scholars to build their professional networks with other researchers and facilitate their various activities when conducting research. Gewin<sup>3</sup> explains is an offshoot of facebook, an effort for scientist's eager to develop a network focused on shared research interests. Some well-known examples of ASNSs include ResearchGate.net<sup>1</sup>, Academia.edu<sup>2</sup>, Mendeley.com, and Zotero.org. According to Jeng<sup>26</sup>, *et al.* academic social networking sites (ASNSs) provide a platform that allows users to create profiles with academic properties, upload their publications, and create online groups. These sites have included communication and dissemination by integrating a repository for scholastic publications within a social network site for researchers to share<sup>3-6</sup>. Presently, there is an increasing popularity of the social web and network technology resulting to more and more scholars joining online research communities. Krause<sup>7</sup> is of the view that academic social networking services help in maintaining records of current research trends and more importantly build up the relationship with the professionals. Moreover, sharing of scholastic literature using academic greatly increases their visibility among the peer group. Metric such as alternative metrics, article level metrics have also recognised the importance of social networking site inclusion to evaluate research impact. Hence, scholars are taking the

advantage of social networking sites designed specifically for scholars to enhance their visibility, connect and share.

## 2. LITERATURE REVIEW

In recent years there has been an increasing popularity among scholars to share their research electronically using various social networking tools. Specialised academic social networking sites are one such tool scholars use to share their scholarly articles<sup>8</sup>. Since scientist are often pressured to publish to survive, and while doing so, they are expected to conduct thorough literature reviews for their research project and cite the relevant literature. According to Vom Brocke<sup>9</sup>, the importance of literature searching is such that there have been calls for the search steps to be documented in academic articles. However, Dickersin<sup>10</sup>, *et al.* states that it is almost impossible to achieve complete literature. Often, with the information explosion and the lack of accessibility, scholars use various methods in order to identify and acquire relevant research<sup>11-12</sup>. Traditionally, Librarian has made all effort to provide access to all the literature through institutional subscription and library consortia<sup>13</sup>. However, these scholarly subscriptions may not satisfy all the literature required to complete the research. Besides all the effort, a scholar may not provide all the relevant literature needed for the research, hence, the researcher may decide to exclude papers for which it is difficult to obtain full-text copies of similar article that are readily available<sup>6</sup>. As a result of which, social media network and academic social networking sites such as Mendeley, ResearchGate, and Academia.edu have been popular among scholars to share and access scholarly articles<sup>14</sup>. Since, sharing according to Tenopir<sup>14</sup>, *et al.* is intrinsic to scholarship' and scholars will continue to share their research work no matter the consequence.

Ever since its recent establishment, little-known research has investigated the structure, mechanism, and use of academic SNS among research scholars. Academic social networking sites, like Academia.edu and ResearchGate serve the academic audience to ‘(a) construct a public or semi-public profile within a bounded system, (b) articulate a list of other users with whom they share a connection, and (c) view and traverse their list of connections and those made by others within the system’<sup>20</sup> and include additional functions, such as uploading and sharing articles, endorsing colleagues, or finding literature<sup>6,19,21</sup>. ResearchGate, users can create a personal profile with academic information, share publications and data sets, engage in discussions, up/down vote publications and discussion topics, write messages, search for and monitor peers as well as their own impact via the ResearchGate score<sup>22</sup>. However, Gewin<sup>3</sup> critics that it has none emerged as a ‘go-to’ system.

In a study conducted by Chakraborty<sup>15</sup> in North Eastern Hill University, the popularity of ResearchGate is confined to just a few scholars, while a few scholars from the science discipline does not find academic social networking site scholarly. Similarly, Thelwall<sup>16</sup>, *et al.* findings indicated the popularity of ResearchGate among users from Brazil, India and Iran and countries such as France, Spain, the Netherlands, Brazil, and Sweden all have relatively high ResearchGate scores. According to them, developing countries are taking advantage of ResearchGate based solely on the membership. Similarly, Hammook<sup>16</sup>, *et al.* study on the collaboration of Canadian Computer Science Scientist in ResearchGate provided evidence of collaboration in ResearchGate with collaboration mechanisms such as questions and answers being extensively used<sup>16</sup>.

Yu<sup>17</sup>, *et al.* investigated the effectiveness of ResearchGate score at the researcher level by comparing the correlation between ResearchGate score and FWCI of SciVal. The result of their finding suggests that RG score is an effective indicator at the individual level<sup>17</sup>. Various studies have been conducted to validate the reliability of ResearchGate metric as an alternative metric beyond download counts<sup>14,18,19</sup>. Based on a case study conducted by Hoffmann<sup>19</sup>, *et al.* among a sample of Swiss management scholars, they analyse how centrality measures derived from the participants’ interactions on the academic SNS. The study indicates that, ‘platform engagement, seniority, and publication impact contribute to members’ in degree and eigenvector centrality on the platform, but less so to closeness or betweenness. Using a mixed methods approach, Jeng<sup>23</sup>, *et al.* collected and grouped 413 posts across three distinct interfaces of ResearchGate’s communication platform and found that scholars were politer in the initial group discussion interface but user interface design did not change the core communication patterns of sharing information and opinions among scholars. Similar studies were also conducted on Arab students by Elsayed<sup>24</sup>, the study reveals that three-quarters of the respondents use ASNs to share publications, and most researchers subscribed to more than one ASN, however RG was the most frequently used one. The findings of the study show that academic discipline appears to play a role in defining Arab researchers within RG, as the majority of them were from the pure and applied sciences. Also, Ameez

and Singson<sup>25</sup> conducted Pondicherry University institutional contribution in ResearchGate account and found that there was a correlation between citations and downloads.

### 3. OBJECTIVES

The objectives of the study are as follows:

- (i) Investigate the level of awareness on SNSs among the research scholars of Pondicherry University
- (ii) Find out the perceived motives of research scholars of Pondicherry University in joining ResearchGate.
- (iii) Find out the various activities performed by the research scholars of Pondicherry University through ResearchGate.
- (iv) Explore the various benefits research scholars have garnered by using ResearchGate.

### 4. METHODOLOGY

For the present study simple random sample was used to select 140 users having accounts in ResearchGate. The respondents were self-administered with closed ended questionnaire consisting of two sections. The first section consisted of questions regarding personal information while the second section consisted of multiple choice questions and three tables of 26 questions which measured respondents’ attitudes using a Likert scale. Questions in the table were concerned with the user’s motive of joining ResearchGate as well as current activities and benefits of using ResearchGate. From the 140 questionnaires distributed, only 100 questionnaires were deemed fit for analysis. Finally, MS-Excel 2016 software was used to analyse the collected data. The descriptive statistics were represented using percentage and graphics to provide a general picture of ResearchGate use by research scholars in Pondicherry University.

### 5. RESULTS AND DISCUSSION

In total, 100 research scholars responded to the questionnaire, therefore, the analyses in this section are based on the 100 completed responses. As shown in Table 1, majority (79%) are male and 21 females (21%). 60% respondents are from the science discipline followed by social science with just 40 respondents.

The frequency of ResearchGate use, as represented in Table 1 indicates that 21 respondents visited their accounts on a daily basis, while 21 respondents visited their account on an alternate basis, 43 respondents visited their account weekly, 8 of them accessed fortnightly and 7 of them accessed the site at least once per month. Out of total 100 respondents, majority (40%) of the respondents stated that they have been using ResearchGate for more than 3 years, 27% stated about 27-36 months, 19% for just 6-12 months and 14% of respondents stated just 6 months.

The study also shows that 95% of respondents are aware of full-text sharing of research articles via ResearchGate platform, whereas only 5% of the population are unaware of this service. From the 95% population aware of sharing service, 77% of the population are satisfied, 11% of the population are very satisfied, 4% neutral, 2% dissatisfied, and 1% very dissatisfied. In addition, Table 1 also shows that majority of the respondents (57%)

**Table 1. Demographic profile of the respondents**

	Variables	Frequency
School	Social science	40
	Science	60
Gender	Male	79
	Female	21
Frequency of use	Daily	21
	Alternate days	21
	Weekly	43
	Fortnightly	8
	Monthly	7
Membership status	Less than 6 month	14
	6-12 months	19
	13-36 months	27
	3 year or over	40
Aware of mutual sharing full-text research	Yes	95
	No	5
Satisfied with full text sharing	Very dissatisfied	1
	Dissatisfied	2
	Neutral	4
	Satisfied	77
Posting question in ResearchGate	Yes	57
	No	43
Question answered	Yes	55 (96%)
	No	02 (3.5%)
Rating of answer posted in ResearchGate (total 55 respondents)	Extremely dissatisfied	-
	Very dissatisfied	-
	Satisfied	46
	Very satisfied	7
	Extremely satisfied	2

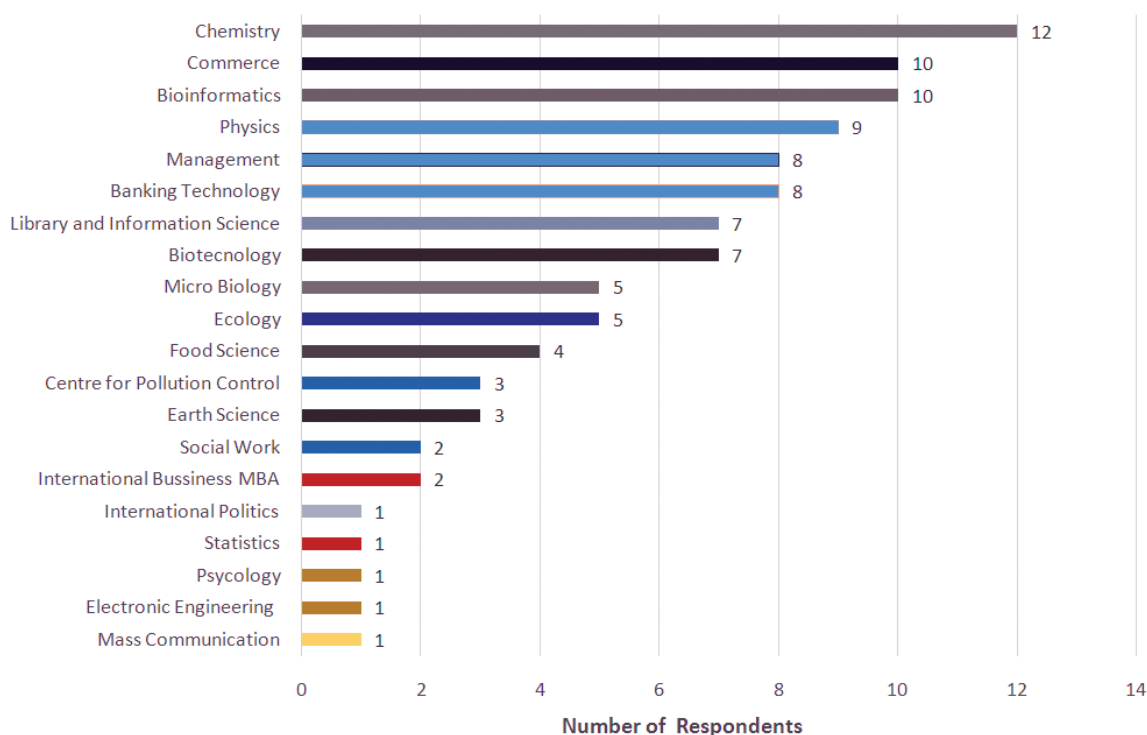
users posted the question on ResearchGate, whereas a minority 43 (43%) users did not post any question on ResearchGate for clarification. From the 57 who posted questions, only 55 respondent stated that they were responded to the questions they have posted whereas only 2 respondent stated that they did not receive any answer to their queries. Similarly, from the 55 respondent who stated that they posted a question, 46 respondent stated that they were satisfied, 7 respondent were very satisfied and just 2 were extremely satisfied. Lastly, none of the research scholar stated dissatisfaction to the answers posted in ResearchGate.

### 5.1 Department Wise Representation

Figure 1 shows the representation of respondents across the different department. From the total number of 100 respondent participating in the survey, the highest number of respondents were from Chemistry department with 12 respondents, followed by Commerce (10), Bio-informatics (10), Physics (9), Management (8), Banking Technology (8), Library and Information Science (7), Micro Biology (5), Ecology (5), Food Science (4), Pollution Control (3), Earth Science (3), Social Work (2), International Business (2) and in department of International Politics, Statistics, Psychology, Electronics Engineering and Mass communication is having only one participant.

### 5.2 Motives of Joining ResearchGate

The respondent was asked to respond what their motive of joining ResearchGate was? It was found that the main reason for researcher joining ResearchGate was to 'Connect with people who have similar interests' (Mean score=1.710), to 'Gain professional visibility with discipline' (Mean Score=1.950) and 'To keep up with activities of fellow researcher' (Mean

**Figure 1. Total number of survey participants.**

**Table 2. Reasons for researcher's motivation**

Motives	SA **	A **	N **	D **	SD **	Mean	SD
1. To keep up with activities of fellow researcher	27	62	11			1.840	.598
2. Research related questions answered	20	57	21	1	1	2.060	.736
3. Follow topics that community is paying attention to	15	53	29	3		2.200	.724
4. Connect with people who have similar interests	36	57	7			1.710	.591
5. Expand current social network	21	32	38	9		2.350	.914
6. To meet researchers from different field of research	12	46	29	10	3	2.460	.936
7. Keeping in touch with researcher I already known	19	47	27	5	1	2.200	.852
8. Gain professional visibility with discipline	28	52	17	3		1.950	.757
9. Because colleagues/Friends introduce	7	26	42	19	6	2.910	.985

\*\*SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree; Multiple answers are permitted

score = 1.840), Gain professional visibility with discipline (Mean score = 1.950), Keeping in touch with researcher I already known (Mean score = 2.200), Research related questions answered (Mean score = 2.060), Follow topics that community is paying attention to (Mean score = 2.200), Expand current social network (Mean score = 2.350), To meet researchers from different field of research (Mean score = 2.460) and the least they stated for the motive they joined ResearchGate was because colleagues/friends introduce it to them (Mean score = 2.910). Overall, the results of the present study indicate that researcher motive of joining ResearchGate was to gain visibility and communicate with fellow researchers.

### 5.3 Activities of ResearchGate Members

Table 3 shows different activities research scholars were engaged in ResearchGate. Findings of the study show that the main activities research scholar on ResearchGate was to read articles and review paper posted by research peers (Mean score = 1.98). Followed by researcher requesting an article that was not accessible to them in their university (Mean score = 2.07). Closely followed by activity such as posting their research article papers and reading comments and reviews on their research publication with a mean score of 2.20 were also considered an important practice by the researcher on ResearchGate. Other activities include sending their papers to fellow ResearchGate users on request (Mean

score = 2.26). However, the study also found that researcher did not consider using ResearchGate as a mean for seeking job.

### 5.4 Benefit Researcher have Gained using ResearchGate

The benefit researcher seeks while joining ResearchGate is as shown in Table 4. From the result of the study, research scholars stated that joining ResearchGate has enhanced their ability to stay abreast of new/latest developments in their field of research (Mean score = 1.890) and it has also enabled them to contact fellow researcher from their home institution (Mean score = 1.98). Other reasons research scholars stated was that 'It has enabled them to share their research article using this platform' (Mean score = 2.050), enhanced the quantity of their scholarly work. (Mean score = 2.060), enhance their citation count (Mean score = 2.270), and their visibility (Mean score = 2.280). However, the majority of the research scholar stated that joining ResearchGate has not enhanced their research performance.

## 6. DISCUSSION AND CONCLUSIONS

In this study, we examined the research scholars' various motivation factors, activities and benefit for joining an online research community in an academic social networking service - ResearchGate. To the best of our knowledge, investigation on user's attitude toward ResearchGate proved to be fruitful. Since

**Table 3. Activities of researcher in ResearchGate**

Reasons	SA **	A **	N **	D **	SD **	Mean	SD
1. Regularly communicating with researchers around the world	9	35	41	12	3	2.65	.914
2. Regularly visiting updating my profile information	6	36	30	25	3	2.83	.974
3. Posting my research article papers	15	59	18	7	5	2.20	.816
4. Reading comments and reviews on my research publication	21	50	20	6	3	2.20	.942
5. Read articles and reviewing paper posted by others	25	59	11	3	2	1.98	.816
6. Regularly answering questions posted in my area of interest	8	29	44	18	1	2.75	.880
7. Sending my papers to fellow ResearchGate users on request	17	50	24	7	1	2.26	.871
8. Requesting article not accessible to me in my university	24	54	11	9	1	2.07	.901
9. Search for job opportunity	2	11	41	28	18	3.49	.979

\*\*SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree; Multiple answers are permitted



**Table 4. Researcher list of benefits in using ResearchGate**

Reasons	SA**	A**	N**	D**	SD**	Mean	SD
1. It has enhanced my ability to contact colleagues from my home institution	24	59	13	3	1	1.980	.7651
2. It has enhanced my ability to collaborate with colleagues	11	62	25	2	-	2.180	.64165
3. It has enhanced the quantity of my scholarly work.	19	57	23	1	-	2.060	.67898
4. It has enhanced my ability to stay abreast of new/latest developments in my field of research	22	67	11	-	-	1.890	.56667
5. It has enhanced my research performance	3	14	53	27	3	3.130	.79968
6. It has enabled me to share my research article using this platform	20	58	19	3	-	2.050	.71598
7. It has greatly enhanced my visibility/popularity among my peers	9	59	27	5	-	2.280	.69747
8. It has enhanced my citations counts	13	55	24	8	-	2.270	.78951

\*\*SA = Strongly agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly disagree; Multiple answers are permitted

it has explored upon the various motives, activities, and benefits research scholars seek to achieve while using ResearchGate. In line Chakraborty<sup>15</sup>, findings of the study suggest that ResearchGate is very popular among research scholar, particularly among the science disciplines. However, the much-needed motivation or awareness of ResearchGate among social science and humanities was not observed. Otherwise, overall research scholar motivation of joining ResearchGate was to connect, gain visibility and follow fellow researcher. Activities while using ResearchGate includes article upload, commenting, reading and reviewing. In addition, research scholar request for article that is not available in their institution. Finally, research scholar benefit of joining ResearchGate are multifaceted, such as visibility, accessibility, collaboration, and most importantly an update to the latest research. However, research scholars have provided no evidence to suggest that using ResearchGate have enhanced their research performance. Overall, research scholars are indeed utilizing ResearchGate to their advantage in which sharing is one of the core activity. Besides, sharing is intrinsic to scholarship and self-promotion and will continue regardless of the publisher's restriction and embargoes. More importantly, the advent of technology and social media has made sharing much easier now<sup>14</sup>. Therefore, if publishers do not recognise the changing landscape of scholarly communication, they may be left behind<sup>14</sup>.

This study provides the foundation for further research into research scholars' collaborative endeavour, sharing behaviours particularly the differences between sharing one's own and others scholarly work and attitude. More importantly, ResearchGate metric score has been subject to numerous studies. Though ResearchGate metric is yet to establish itself as a credibility evaluation metric among scholarly community, it is gaining momentums by reinventing itself as a social impact measurement. However, large scale relationship study between ResearchGate metrics, establish metrics and institutional metrics have not been undertaken in India. Therefore, validating the credibility of ResearchGate score at institutional level by comparing it with established measurement such as The National Institutional Ranking Framework, Web of Science, SciValor Scopus would contribute immensely into the scientific community and ResearchGate in particular.

## REFERENCES

1. ResearchGate (2015). <https://www.ResearchGate.net/about> (accessed on 15 November 2016)
2. Academic.edu. <http://www.academia.edu/> (accessed on 15 November 2016)
3. Gewin, V. Collaboration: Social networking seeks critical mass. *Nature*, 2010, **468**, 993–994.
4. Madisch, I.M. ResearchGate scientific network: A first step towards science 2.0. *Clinical Experimental Immunology*, 2008, **154**, 214.
5. Mangan, K. Social networks for academics proliferate, despite some doubts. *Chronicle Higher Education*, 2012, **58**(35), 1–7.
6. Thelwall, M. & Kousha, K. ResearchGate: Disseminating, communicating, and measuring Scholarship? *J. Association Info. Sci. Technol.*, 2015, **66**(5), 876–889.
7. Krause, J. Tracking reference with social media tools: Organizing what you've read or want to read. In *Social media for academics: a practical guide*, edited by D. R. Neal. Oxford: Chandos Pub, 2012.
8. Ovadia, S. ResearchGate and Academia. edu: Academic social networks. *Behavioral Social Sci. Lib.*, 2014, **33**(3), 165–169.
9. Vom Brocke, J.; Simons, A.; Niehaves, B.; Riemer, K.; Plattfaut, R. & Cleven, A. Reconstructing the giant: On the importance of rigour in documenting the literature search process. In *17th European Conference on Information Systems (ECIS 2009)*, 2009. pp. 2206–2217.
10. Dickersin, K.; Scherer, R. & Lefebvre, C. Identifying relevant studies for systematic reviews. *British Med. J.*, 1994, **309**(6964), 1286–1291.
11. Pujar, S.M.; Manjunath, G.K. & Juttiyavar, M.N. Information sharing and dissemination by use of mailing lists. *DESIDOC J. Lib. Info. Technol.*, 1994, **23**(6), 3–8.
12. Haines, L.; Light, J.; O'Malley, D. & Delwiche, F. Information-seeking behavior of basic science researchers: Implications for library services. *J. Med. Lib. Association*, 2010, **98**(1), 73–81.
13. Singson, M. & Hangsing, P. Implication of 80/20 rule in electronic journal usage of UGC-infonet consortia. *J. Academic Lib.*, 2015, **41**(2), 207–219.
14. Tenopir, C.; Allard, S.; Christian, L.; Anderson, R.; Ali-Saleh, S.; Nicholas, D.; Watkinson, A. & Woodward, H.

- No scholar is an island: The impact of sharing in the work life of scholars. *Learned Publishing*, 2016, 1-13.
15. Chakraborty, N. Activities and reasons for using social networking sites by research scholars in NEHU: A study on Facebook and ResearchGate. In PLANNER-2012: Building Participatory Library Services in Digital Era, 1-3 March, 2016, Gangtok, Sikkim. 2016. pp. 19-27.
  16. Hammook, Z.; Misis, J. & Misis, V.B. Crawling ResearchGate. net to measure student/supervisor collaboration. In Global Communications Conference (GLOBECOM), 2015 IEEE: Connecting all through communication, 6-10 Dec 2015, San Diego, CA, USA. 2015, pp.1-6.
  17. Yu, M.C.; Wu, Y.C.J.; Alhalabi, W.; Kao, H.Y. & Wu, W.H. ResearchGate: An effective altmetric indicator for active researchers?. *Comp. Human Behavior*, 2016, **55**, 1001-1006.
  18. Jordan, Katherine. Exploring the ResearchGate score as an academic metric: reflections and implications for practice. In ASCW'15: Quantifying and Analysing Scholarly Communication on the Web, 28 June- 1 July, 2015, Oxford, UK, 2015.
  19. Hoffmann, C.P.; Lutz, C. & Meckel, M. A relational altmetric? Network centrality on ResearchGate as an indicator of scientific impact. *J. Association Info. Sci. Technol.*, 2015, 7(4), 765-775,
  20. Boyd, d. & Ellison, N.B. Social network sites: Definition, history, and scholarship. *J. Comput.-Mediated Commun.*, 2007, **13**(1), 210-230.
  21. Jeng, W.; He, D. & Jiang, J. User participation in an academic social networking service: A survey of open group users on Mendeley. *J. Association Info. Sci. Technol.*, 2015, **66**(5), 890-904.
  22. Giglia, E. Academic social networks: It's time to change the way we do research. *European J. Phy. Rehabilitation Med.*, 2011, **47**(2), 345-350.
  23. Goodwin, S.; Jeng, W. & He, D. Changing communication on ResearchGate through interface updates. In Proceedings of the American Society for Information Science and Technology, 2014, **51**(1), 1-4.
  24. Elsayed, A.M. The Use of Academic Social Networks Among Arab Researchers A Survey. *Social Sci. Comput. Rev.*, 2016, **34**(3), 378-91
  25. Ameez & Singson, M. Faculty contributions and activities on Academic Social Networking Sites: A study on ResearchGate. In National Conference on Future Libraries: Issues and Challenges, 20-21 November 2015, Dindigul, Tamilnadu, 2015.
  26. Jeng, Wei; Daqing, He & Jiepu, Jiang. User participation in an academic social networking service: A survey of open group users on Mendeley. *J. Association Inf. Sci. Technol.*, 2015, **66**(5), 890-904.

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