

Research Productivity of Faculties of Science Department of SNDT Women's University, Mumbai

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Abstract :

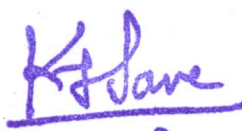
The present study shows the research contribution carried out by faculties of science departments of SNDT women's university, Mumbai. Study reveals that 19 faculty members have published 195 research papers. This study shows that majority of the paper published are in the area of Pharmaceutical Chemistry, Pharmacy and Analytical Chemistry. Out of 19 faculty members only 7 are single author and rest by multi authored with degree of collaboration 0.63

Keywords: Research Productivity, Scientometrics, Higher Education, Degree of Collaboration.

Introduction :

It is well known that "Knowledge is Power" which enabled all of us more capable superior and intellectual beings in society. It is also said that the man who hold knowledge even gods are his well wishers. Humans are clearly distinguished from animals on the basis of thinking ability and knowledge. Knowledge is the important factor to civilize and modernize society. Knowledge helps to understand and introspect within us. Helps to find weakness, it also helpsto learn the ideal way of life.

Research work done by faculties directly benefits to students and also to faculties in many ways like reading, learning and implementation of knowledge and research in daily life. The quality research is not only useful to academicians but also to students, the society and the country. Right of ancient times India always keeps the track record of research in all fundamental sciences but today there is much need of promotion to research in a most populous, multi lingual, multi religious and diverse country like India will help to evolve the Indian community to march with global community.



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According to former and late president APJ Abdul Kalam, "The five capacities required to be built through the education process are research and inquiry creativity use of high technology entrepreneurial and moral leadership" (Message of APJ during the inauguration of J & K Edusat Network Vikram Hall, SAC, Ahmedabad 28-04-2006).

Teaching faculties are the key part of academic environment and need to produce new knowledge and involves in all research activities. Professionals need up to date information along will the research in their field.

Research Productivity:

Activities in the form of any presentation of information which is self-reported by teaching faculty via a checklist and statistically manipulated to achieve productivity Index. The index provides a criterion for judging the extent of individual and collection of research practices of teaching faculty.

Blackbum et.al (1991) research productivity consists of a seven item scale. Which includes an article for publication in an academic or professional journal, published chapter in book, submitted a research proposal to a governmental or private agency, written a research report for an agency, institution or other group, scholarly articles published, grant proposal submitted and professional writing published or accepted for publication.

Scientometrics:

Scientometrics is the study of quantitative features and characteristics of science, scientific research and scholarly communications. In practice, scientometrics is often done using Bibliometrics that is measurement of (scientific) publications. In 1969, Nalimov & Mulchenko coined the Russian equivalent of the term scientometrics (Naukomtriya). (Zhao 2014)

Tague (1992) defines scientometrics as "The study of the quantitative aspects of science as discipline or economic activity. It is a part of society of science of has application to science policy"

Role of Research Productivity in Higher Education:

Over the past decades new dimensions of research have emerged in each of the key domain of higher education, research and innovation. In scientific research “Research for innovation and research on innovation”. In practice this new principle denotes the synergy amongst higher education, scientific research & innovations. Knowledge must be socially inclusive and oriented towards the social developments priorities of both the state and the family of Nation. (Meck 2009)

In universities, colleges & various research institutions, research is produced in different forms in terms of quantity and quality of publications. There is also evidence that research & teaching do not form a single dimension of academic performance.(Paul 1994)

Teaching & research at college and universities contribute significantly to the society and to the Nation’s economic activity, both directly and through their impact on future growth, central & state govt. support research with billions of taxpayers’ as many as individuals, communities and the country gain from the teaching & innovations that occurs in higher education. For higher education productivity improvement increasing the number of graduates, amount of learning & innovative inputs used.

Objectives of the study :

1. To find out the Gender wise Research Productivity.
2. To find out the Subject wise Research Productivity
3. To study source of communication.
4. To study the international collaborative effort by the academics.
5. To determine the degree of collaboration.

Scope and Limitation of the Study:

The present study efforts to research productivity of science faculties of SNDT Women’s University, Mumbai. Researcher studied the research productivity of faculties of Science departments SNDT Women’s University.

Research publications seem to have provided the best available base for measuring the outputs of individual scientist or researcher as there is a good correlation between the eminence of scientists and their sustained scholarly publication.

Research Methodology for the Present Study:

Survey research is employed in the study to explore the factors associated with research productivity of faculties of Science Department of SNDT Women's university. Structured questionnaire is used in survey as primary tool of data collection along with Curricula Vitae (CV) & Annual reports of SNDT Women's University were used to collect data among this study. A datasheet was prepared in MS EXCEL to record the data & then the data was entered. The details regarding authorship pattern, subject wise publication, Gender wise publication are collected to fulfil the objectives of the present study.

Data Analysis

Table 1.1
Information sources Used for Publication

Sr.No	Sources	Total	Percentage
1	Journal	106	54.35 %
2	Book	5	2.56 %
3	Conference/Seminar/Workshop	84	43.09%
		195	100

Depending on the research topic researchers need to use a wide variety of information sources which may include primary or secondary. Most academic research is published in academic journal, book or conference. From the above detail it has been clear that maximum research published by science teaching faculties in journal 106 (%) next to this publication in conference/seminar i.e. 84(%) book publication is very less is only 5 (%).

Table 1.2
Subject Wise Research Publication

Sr.No	Subject	Total	Percentage
1	Analytical Chemistry	31	15.89
2	Applied Science	5	2.56
3	Applied chemistry	3	1.53
4	Electronics	4	2.05
5	Mathematics	1	0.51

6	Nursing	4	2.05
7	Organic Chemistry	5	2.56
8	Pharmacy	49	25.12
9	Pharmaceutical Chemistry	90	46.15
10	Pathology	3	1.53
		195	100

Publication is a big term for all published works (a book, a research paper, a new article, a poem, an essay) and includes any type of paper and is a specific type of work that involves original research which showcases new findings. (Quora.com)

From the above mentioned table it is shown that out of total 195 publications, maximum research is from pharmaceutical chemistry 90(46.15%) next to this pharmacy 49(25.12%) & analytical chemistry 31(15.89%) respectively, whereas mathematics department & organic chemistry have published very less publications 05(2.56%) respectively.

Table 1.3
Publication at National and International Level

Sr.No	Level	Total	Percentage
1	National	94	48.20
2	International	104	53.33
		195	100

Research publication at National and International level is a poor proxy for research quality. In the age of Information Technology and widespread internet facilities, every quality research gets reputation on the basis of their publication on National or International level.

From the above table it is clear that maximum publications of science faculties are published their research at International level 104(53.33%) next to this at National level 94(48.20%).

Table 1.4
Gender Wise Respondent

Sr.No	Gender	Total	Percentage
1	Male	4	21.05
2	Female	15	78.94
		19	100

Present table show the analysis of research performance through gender wise. It is clear that men publish fewer articles compared to female.

Table 1.5
Author wise Publication

Sr.No	Author	Total	Percentage
1	One	7	36.84
2	Two	5	26.31
3	Three	5	26.31
4	More Than	2	10.52
		19	10000

From the above table no.1.5 present the trends in authorship pattern and authors collaborative research.

The single authorship pattern was dominant to multi authors i.e. single authors publication is 7(36.84%) next to this two or three authors publication are equally same 5(26.31%) where as very less publication are from more than three authors i.e. 2 (10.52%)

Degree of Collaboration –

A count of number of authors contributing to articles offers some indication to the degree of collaboration on between authors. The extended of collaboration is measured with the help of formula given Subramanyam (1983) which states that the degree of collaboration is the ratio between the number of multiple authored papers and number of multiple authored papers plus number of single authored papers

$$DC = \frac{NM}{NM + NS}$$

$$= \frac{12}{12+7}$$

$$= 0.63$$

Conclusion :

The study has been able to record the actual stats of research publication trend of teaching faculty from the above analysis & Interpretation it can be concluded that the maximum research publication are from pharmaceutical chemistry, pharmacy & Analytical Chemistry, Single author publication are dominant than multi author publication with 0.63 degree of collaboration.

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ISSN: 0474-9030

Vol-68-Issue-30-February-2020

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