

A survey on collaboration rate of Semnan University faculties in producing scientific papers during 2002- 2009 Years

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Abstract

Collaboration in research and production of scientific publications is common in all academic areas. The Importance of collaboration in the production of scientific publications in today's complex world where in the age of technology is very apparent. Most of Scientists have realized that in order to get their work widely used and cited by other experts, they supposed to collaborate together. Scientific cooperation can be considered as a process that during it individuals and groups to research and scientific activities can help each other. Current research aims to survey the rate of collaboration among Semnan University Faculties in production of scientific articles during the 2002- 2009 years. In this research, in addition to survey on quantity amount of Semnan University faculties scientific articles, the amount of their collaboration together and with other domestic and foreign professors were studied. Data were collected through research documents that are publishing by Semnan University annually. Findings indicate that Engineering College in Semnan University with 316 articles has highlighted role in scientific productions in Semnan University. From 316 articles, 69 articles were individual and 247 articles were team. After them, Science College with 157 articles (51 articles individual and 106 articles team) has second rank.

Key words: Scientific papers, Collaboration, Semnan University Faculties- Iran

1 Introduction

The scientific knowledge throughout the world has been enhanced due to a rapid increase number of interdisciplinary courses in recent decades. As a result, scientists in different scientific categories are not able to maintain researches individually anymore, instead “discussion group” scientific round table, “study group” have benefited the researchers to exchange viewpoints on different aspects of science in order to achieve advancements and improvement in science and technology (Osareh,2005). The number of international group articles has been increased throughout the world consistently. However, from the average of 7.8% between the years of 1986-1988 it's increased to 14.8 % during the period of 1995-1997 (Goupta, Dhavan and Osareh, 2004). This is mostly due to the effect of the international scientific collaboration on research areas which leads to a development of human resource and labor force, facilities, advancement of technology and innovative shared knowledge.

2 Importance of research

In current era, researchers do not trend to individual action, they are eager to produce research publication by collaboration together. In recent years the establishment of E-mail networks and the advance of information and communication technology have resulted in the increase of communication and collaboration of researchers. Although collaboration in scientific areas has existed for a very long time, but this collaboration has in recent year's experienced significant increase in social science especially in

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LIS. Evidence in the Library and Information sciences articles is suggestive of the existence of a relationship between the rate of collaboration and the better quality of articles, i.e. the greater collaboration the better the quality of the articles (Hart 2000). Semnan University was established in 1974 and was called Complex of Semnan Higher Education. Until 1993 Semnan University was developed rapidly and different colleges were established in this University. Semnan University is new in Iran, but has an important role in increasing scientific production of Iran. So current research wants to survey of collaboration among faculties of Semnan University for scientific productions.

3 Aims of the research

Main aim of current research is to survey the rate of collaboration among Semnan University Faculties in production of scientific articles during the 2002- 2009 years. Secondary aims are:

1. The identification of the colleges that have the most collaborations and scientific productions.
2. The determination of the number of individual and team articles in each college.

4 Research questions

1. How many articles have been produced in each college in Semnan University during 2002-2009?
2. In which years there has been the most collaboration among faculties of Semnan University?
3. Which colleges have the most scientific productions?

5 Research Method

This survey is a descriptive one with a statistical procedure. The required information was obtained from through research documents that are publishing by Semnan University annually. All data were analyzed by Excel Software.

6 Literature review

Studies that have been carried out on the collaboration and especially scientific collaboration of Iranian researchers in the production of scientific material in some database are as follows:

Noruzi and Alimohammadi (2006) measured the number of contributions by Iranian librarians and information professionals published in international journals indexed by the ISI citation indexes. It is concluded that the number of papers published by Iranian librarians and information professionals is low, although there is an increase since 1992. The study also shows that the scientific collaboration between Iranian information professionals and between them and their international peers is weak. Writing articles in English is recommended to increase the rate of contribution of Iranian LIS professionals in the international level.

Osareh and Wilson (2002) in a research undertaken to survey the rate of international collaboration in the scientific works of the Iranians in the area of science citation index during the years 1995-1999 and in comparison with their previous study on the same theme found that the scientific works of the Iranians in science and technology in three five year periods in this area has increased. Iran has increased its publications by two fold in the first two periods and by 2.8 times in the third period. The greater part of the Iranian's international collaboration in these three periods has been with American and British coauthors and collaboration with the authors of other nations has also had a significant increase. Osareh and Marefat (2005) in a research surveyed the growth and development of the articles submitted by Iranian researchers in foundation sciences and inter- medicinal areas to the medical science information network Medline in the years 1976 to 2003 and identified the Iranian universities, journals and researchers who had produced the most scientific articles and indicated those subject areas which these researchers

were were interested in. The results of this study indicated that articles and materials submitted to Medline by Iranian researchers had increased significantly so that during the period under research 2695 articles from 9373 coauthors has been published where the average number of authors collaborating on an article was 3.4 authors. In the international scale there have been many researches on collaboration in the production of scientific material. Sarrafzadeh(2000) in her masters thesis studied the state of the Iranian articles indexed on the CAB and Agris databases since the beginning till 1997 with the aim of the determination of the share of the Iranian articles from the total number of the articles that had appeared on these databases and the clarification of the extent of the collaboration of each of the nations educational and research centers in the production of the articles present in these databases. The results indicate a reduction in the number of Iranian articles submitted after the Islamic revolution in Iran (1979) which he attributes to the occurrence of events such as the Iranian Revolution, The closure of the universities and the Iran-Iraq war. However, from the nineties onward there has again been an increase in the appearance of Iranian articles on these databases. Other data indicated that from the 47 centers which had contributed more than 5 articles to these databases, The University of Tehran had the biggest share and The Semnan Agricultural Research Centre the least. Liang, Kretschmer, Guo, Beaver (2001) had a study on age structures of scientific collaboration in Chinese computer science. Analysis reveals some special age structures in scientific collaboration in Chinese computer science. Most collaborations are composed of scientists younger than thirty-six (Younger) or older than fifty (Elder). For two-dimensional collaboration formed by first and second authors, Younger-Elder and Younger-Younger are the predominant age structures. For three-dimensional collaboration formed by first, second and third authors, Younger-Younger- Elder and Younger-Younger-Younger are the most important age structures. Collaboration between two authors older than 38 amounts to only 6.4 percent of all two-person collaborations. Collaboration between two middle-aged scientists is seldom seen. they suggest a tentative explanation based on analyses of the age composition of all authors, the age distributions of the authors in different ranks, and the name-ordering of authors in articles written by professors and their students. Gupta & Dhawan (2007) reviewed the present status of Indian physics, particularly with regard to the nature of research system, nature of institutions involved, type of education available and outturn at postgraduate and Ph.D level, the extent of extra-mural funding support available from various agencies, and the nature of professional organizations involved Analyses the growth of Indian physics output, as reflected in mainstream international journals covered in Expanded Science Citation Index (Web of Science) during 1993-01. Discusses the various features of Indian physics research output, such as growth, institutional publication productivity, nature of collaboration, and the quality and impact of its research output.

7 Research findings

The findings of this research are illustrated in the following tables:

Table 1- Number of published articles in Science college of Semnan University

year	Individual articles	Team articles
2002	4	5
2003	•	7
2004	2	24
2005	22	35
2006	23	35
Total	51	106

As it can be observed from the table1, in 2006 Science college faculties of Semnan University had most articles that 22 articles were individual and 35 articles were team.

Table 2- Number of published articles in Engineering college of Semnan University

year	Individual articles	Team articles
2002	9	25
2003	18	28
2004	5	17
2005	19	89
2006	18	88
Total	69	247

This table indicates that in 2005 most team articles were written in Engineering college of Semnan University.

Table 3- Number of published articles in Humanity College of Semnan University

year	Individual articles	Team articles
2002	8	2
2003	5	2
2004	7	4
2005	18	5
2006	18	6
Total	56	19

This table shows that faculties in Humanity College of Semnan University tended to write Individual articles.

Table 4- Number of published articles in Learning college of Semnan University

year	Individual articles	Team articles
2002	3	3
2003	•	•
2004	2	3
2005	•	•

2006	.	.
Total	5	6

Data in table 4 indicates that role of faculties in Learning college of Semnan University in scientific productions were very low.

Table 5- Number of published articles in Veterinary College of Semnan University

year	Individual articles	Team articles
2002	.	.
2003	.	4
2004	.	3
2005	1	7
2006	.	7
Total	1	21

This table shows that faculties in Veterinary College of Semnan University tended to team articles.

Table 6- Number of published articles in Psychology College of Semnan University

year	Individual articles	Team articles
2002	-	-
2003	-	-
2004	-	-
2005	-	-
2006	.	1
Total	.	1

This table shows that faculties in Psychology College of Semnan University were very weak in scientific productions.

Table 7- Number of published articles of Semnan University 2002-2008

year	Individual articles	Team articles	total
2002	24	35	59
2003	23	41	64
2004	16	51	67
2005	6	136	196

2006	59	137	196
2007	51	176	227
2008	88	458	546
Total			1355

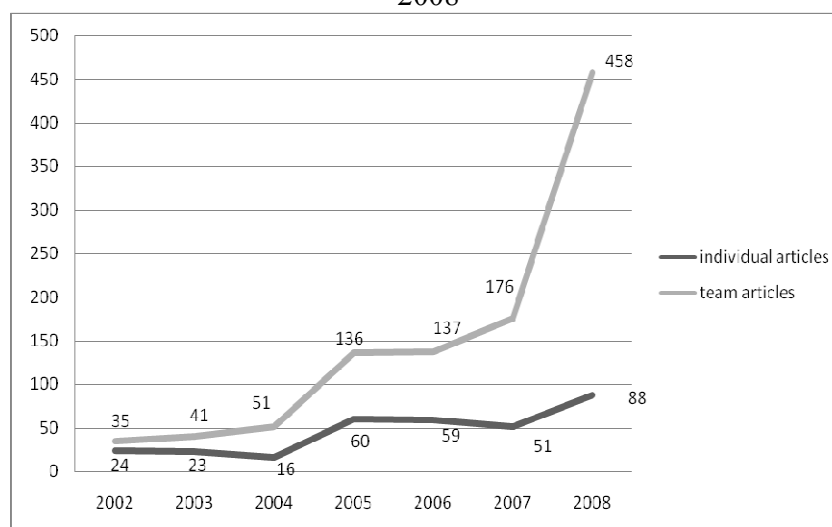
This table shows that scientific productions in Semnan University had rapidly growth. Also this table indicated that faculties in Semnan University tended to team articles. Most team articles in 2008 were in 2008.

Table 8- Number of published individual and team articles in Colleges of Semnan University 2002-2008

College	Individual articles	Team articles	Total
Science	51	106	157
Engineering	69	247	316
Humanity	56	19	75
Learning	5	6	11
Veterinary	1	21	22
Psychology	•	1	1

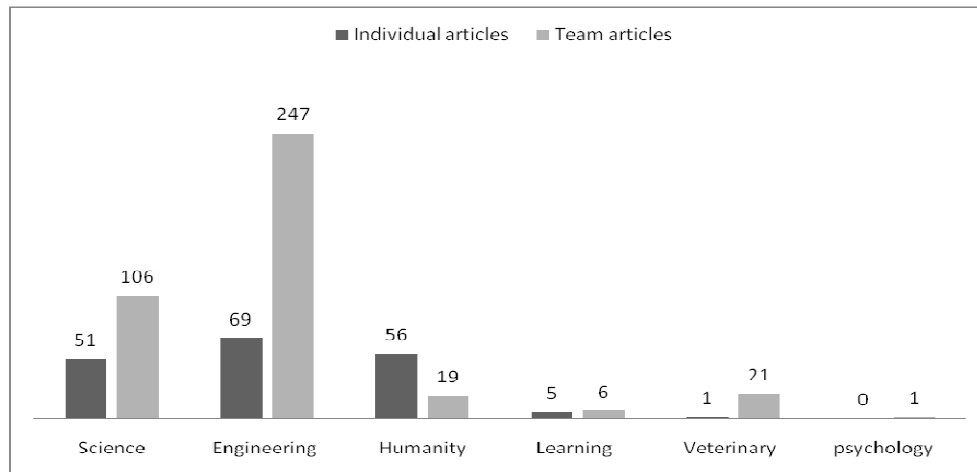
The data in this table indicates that faculties of Engineering in Semnan University had the most roles in scientific productions. Faculties of this College with 247 team articles tended to collaboration and team working, but faculties of Psychology in Semnan University had weak role in scientific productions.

Chart1: individual and team articles published by faculties of Semnan University during 2002-2008



In chart 1, data indicate that team articles that were published by faculties of Semnan University have increasingly growth and they tended to collaboration and team working. This process was highlited from2006 up to 2008.

Chart2: number of published individual and team articles in Colleges of Semnan University 2002-2008



Data showd that faculties of Engineering College in Semnan University have the most collaboration in scientific productions.

Chart9: number of published articles by each college of Semnan University 2002-2009

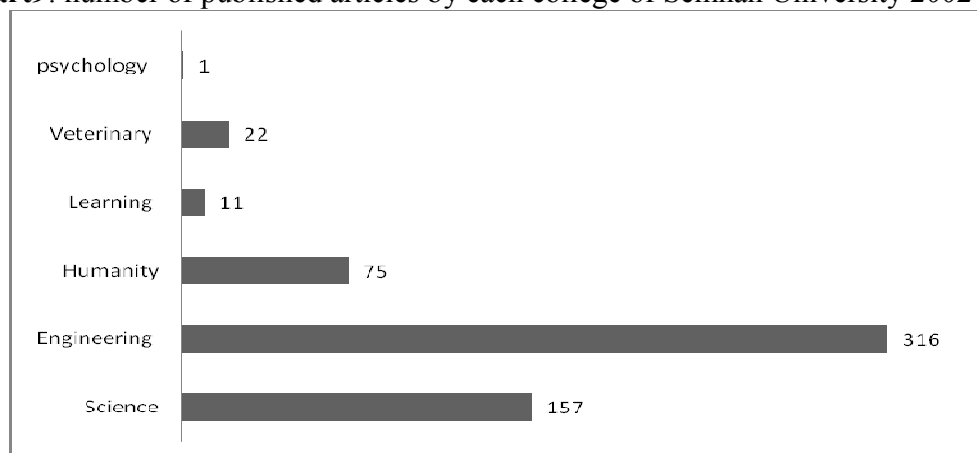


Chart 9 revealed that Engineering College in Semnan University is in the first rank among other colleges in Semnan University.

9 Conclusions and Discussion

Findings indicate that Engineering College in Semnan University with 316 articles has highlighted role in scientific productions in Semnan University. From 316 articles, 69 articles were individual and 247 articles were team. After them, Science College with 157 articles (51 articles individual and 106 articles team) has second rank. Current research indicated that team articles that were published by faculties of Semnan University have increasingly grown and they tended to collaboration and team working. This process was highlighted from 2006 up to 2008. This point must be attentioned that Semnan University is new and young among other Iran University, but during a short time, it reflects outputs of its researches and faculties for scientific productions. This research showed that Psychology College is the weak in scientific collaborations and scientific productions, but we must attention that this college is the newest college among other colleges in Semnan University and it is a natural cause for its weakness in scientific productions. Current research revealed that Iranian researchers in Semnan University interested to scientific collaboration and they tended to share their produced articles to other researchers. The researchers nowadays do not tend to conduct a research individually with compare to the past nevertheless the decrease of individual activities and increase of group articles in a number of scientific courses have been indicated that most scientific publishing in different courses belong to the group articles. The collaborations in both social science and humanities have continually been increased due to access to the newest findings of the researchers.

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