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Quantitative Analysis of the Status of Scientific Productions of Al-Zahra University Faculty Members

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ABSTRACT

The present study intended to examine the status of scientific production of faculty members in Al-Zahra University (PBUH) to determine the extent to which Al-Zahra University (PBUH) has been successful in scientific-research tasks. Goal: The present study was conducted to investigate the status of scientific production of faculty members in Al-Zahra University over 2005-2009. Method: This research has been done by survey method. The data were collected through checklists and descriptive-analytical statistical methods were used in this study. The research population was 299 faculty members of Al-Zahra University (PBUH); their required information was collected by the university research portfolio, University Jihad Scientific Database, Research Institute Database and Iranian Scientific Document Information, Iranian Magazines Reference (magiran), Simorgh database, Documents Organization and National Library of Iran and Web of Science database of ISI Scientific Information Institute. Findings: Findings show that the highest percentage of papers are related to internal and international journals in 2008, the highest percentage of book production in 2009, the most works presented in internal and international conferences in 2006, research projects in 2005, and guidance of theses in 2006. The scientific production published 471 internal scientific research papers, 266 internal review papers, and 921 papers indexed in international journals. Also, over the years, 192 books have been authored, 23 books translated, 541 works presented in internal and international scientific conferences, 538 research projects, and 1574 cases related to the thesis's guidance. Regarding the language of productions, the study shows that out of 1475 scientific productions, 921 titles are in Persian, 532 titles are in English, and 22 titles are in Arabic. In all faculties, the highest number of productions is related to the guidance of the thesis. Testing the hypotheses shows a significant difference between the variables of degree and academic rank with the scientific output of faculty members. However, there was no significant difference between the gender variable and the scientific output of faculty members. Originality/Value: Since the status of scientific production of Al-Zahra University faculty members has not been studied so far; this study can show the share of Al-Zahra University for the country's scientific production.

Keywords: Scientific Productions, Faculty Members, Al-Zahra University

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Introduction

The actual scientific capacity is one of the indices of growth and development of any country. The promotion of this capacity depends on improving the production of scientific information, which scientific research leads to the realization of it. Since the increase and deepening of research activities are the main basis for the development and progress of a country, today a significant part of the facilities of the developed countries of the world is spent on the researches. Therefore, directing research to the priorities derived from the needs is inevitable to achieve the country's development goals. The continuous review and analysis of research activities of university faculty members and researchers of research institutes are one of the essential steps in identifying the needs of the country, which plays a pivotal role in directing and defining future researches.

Faculty members are responsible for the most important and leading position in producing scientific knowledge in the country [1]. They can be selected as a representative community of researchers and producers of scientific information, which are the primary consumers of scientific information in any society to conduct academic research.

The main task of educational centers, including universities, is to promote the level of science in the country, and the study of this task is one of the main concerns of the country's research community. Therefore, the present study intends to examine the status of scientific production of faculty members in Al-Zahra University (PBUH) to determine the extent to which Al-Zahra University (PBUH) has been successful in scientific-research tasks.

Indeed, one of the essential factors in the dynamism and growth of countries are scientific and academic centers and researchers (Moradi, 2007). As the most important actors in science with the production of science and technology, they play a vital role in developing society's economic, social, political, and cultural infrastructure.

Regarding the present study, which considers the scientific productions of the faculty members in Al-Zahra University to examine its research performance over 2009-2010 quantitatively, it should be said that Al-Zahra University, as one of the scientific pillars of the country, currently has nearly 299 faculty members with eight faculties and 37 departments. So far, no detailed and comprehensive study has been done on the scientific productions of its faculty members. Therefore, this study examines the scientific productions of the faculty members of Al-Zahra University over 2005-2009.

Method

This research has been done by survey method. The required data were collected through checklists, and descriptive-analytical statistical methods were used in this study. The research population is 299 faculty members of Al-Zahra University (PBUH); their required information is collected through the university research portfolio, University Jihad Scientific Database, Research Institute Database and Iranian Scientific Document Information, Iranian Magazines Reference (magiran), Simorgh database, Documents Organization and National Library of Iran and Web of Science database of ISI Scientific Information Institute.

Literature Review

Many pieces of research have been done on this topic in the country. Here are some of them.

Abbaspour [2] studied the status of information production by faculty members of Guilan University of Medical Sciences over 1996-2000. The findings showed that the quantitative production of information by faculty members during five years was 1548 cases. The greatest number of information production (592 cases, 38.24%) was related to the guidance of university theses with an average of 2.75, and the lowest production of information was related to the authorship and translation of books (72 cases, 4.65%) with an average of 0.34. The medical school with 1349 cases (87%) with an average of 6.27 had the most, and the Anzali School of Nursing with 3 cases (0.19%) with an average of 0.01 had the lowest information production. Associate professors with 1122 cases (72.48%) and an average of 5.2 had the highest, and professors with 58 cases (3.74%) and an average of 0.26 had the lowest information production. Clinical Department with 1130 cases (72.99%) and an average of 5.25 had the highest number of information production and health education group with 51 cases (3.29%), and an average of 0.23 had the lowest number of information production.

Fahimian [3] studied the status of scientific information production of the Faculty of Engineering and Technology of Tarbiat Modares University faculty members from 1991 to 2000. The results showed that in terms of degree, 66.6% had an internal bachelor's degree, 4/4 21% international bachelor's degree, 24% internal masters, 68% international masters, 4% internal doctorates, and 90.6% had international doctorates degree. In terms of scientific rank, 2.7% were instructors, 68% assistant professors, 25.3% associate professors, and 4% were professors. Out of 1726 titles of complete information references produced by faculty members, 4.06% were the book. 34% in the form of Persian papers, 47.68% Latin papers, and 47.67% were research project reports. The most important ones were Latin papers (47.68%), and the least important ones were books (4.06%). Also, the results of data analysis show that the production of scientific information has developed significantly during the study years.

Asadzadeh [4] has studied the number of productions of scientific information by faculty members of Zabol

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University and the influential factors in reducing and increasing the production of information. Findings show that in terms of sexual distribution, 88.8% of them are men, and 11.2% of them are women. In terms of degree, 69 (70.4%) have a master's degree; 68 are instructors, one person is the assistant professor. Twenty-nine ones equal to 29.6%, have a doctoral degree; 7 are instructors, and 22 are assistant professors. Out of 431 titles of complete information resources produced by faculty members, there are 24 authored books equivalent to 5.9%, 12 translated books equivalent to 3%, 147 authored papers equivalent to 36.4%, 15 translated papers equivalent to 3.7%, 48 posters equivalent to 11.9% and 185 research projects equivalent to 39.1%. Also, data analysis shows that most of the information produced is in Persian and factors such as interest in research, familiarity with international languages, communication with internal and international research and scientific centers, management style and policy of the university, budget allocation, and level of familiarity with computers and the Internet has the most significant impact on science production. Factors such as approval time of research projects and reports, employment in administrative work, administrative regulations for participation in seminars, and living problems for professors are some practical barriers to the production of science.

Rostami [5] has studied the status of scientific production of faculty members in the Faculty of Agriculture of Tarbiat Modares University over 2001-2006. The study population is 62 faculty members of the Faculty of Agriculture, Tarbiat Modares University. The results show that 98.4% are men and 1.6% are women. 30.6% have a doctorate, and 69.4% have a specialized doctorate. 27.4% are educated inside and 72.6% are educated abroad. Out of 5508 internal and international scientific productions, 1987 ones are papers for the journal, 2420 ones are seminar papers, 169 ones are book authoring and translation, 149 ones are research project, and 783 ones are thesis guides. In terms of language distribution, 75% of papers are Persian and 25% Latin. 10% of books are Latin, and 90% are Persian. The Spearman correlation test results showed a significant relationship between the academic rank of professors and their scientific productions. Also, the results of the analysis of variance showed that there is no significant difference between different fields of study in the population in terms of scientific productions. The results showed that scientific productions had a growing trend during the research years. In examining the influential factors in scientific productions, personal factors with an average rank of 3.56 had the most impact from the respondents' perspective.

In this field, some researches have also been done abroad as follows.

Osadebe [6], in a study entitled "Study of Scientific Educational Productions and Scientific Publications of Faculty Members of Higher Education Centers at The University of Texas," examined three main factors that affect scientific production, which was: 1 Supportive environment (resource research and group collaboration) 2. Individual characteristics (gender, position, teaching experience) 3. Educational experience (professional experience, faculty, teaching, and research). This study showed that assistant professors and instructors had more scientific productions than associate professors and professors. Visiting professors were reluctant to publish and participate in development programs. Women's scientific productions were lower than average compared to male colleagues. Data analysis showed that male professors participate in career advancement programs more than women. It was also found that 50% of the total scientific productions is done by faculty members with 5-12 years of educational experience, while a small number of scientific productions was quite evident in faculty members with 25 years of educational experience and above.

Caridad and Fernandez (2004), in their research entitled "Scientific Production of Health in Spain over 1994-1999" discussed the use of bibliometric indices in the output of international medical sciences in Spain. Science bibliography information and social science citation index were used for each resource.

Findings indicate that Spanish scientific production in health has increased to 53,878 degrees during the years under study. Among the Spanish communities, the most productions are for Madrid (31%) and Catalonia (29%). The prominent institutions include hospitals (51%) and universities (44%). Most scientific productions are for biochemistry, biomolecular, general medicine, and pharmacology. The identification of top centers in the field of health has been another result of this research.

Dakik [7], in his research entitled "Scientific Productions of The Faculty Members of The American University of Beirut" has examined the quantity and quality of the scientific productions of the faculty members in the American University of Beirut over 1996-2001. The study's statistical population includes all faculty members of the Medical School in the American University of Beirut, numbering 203 people. The study was done through the search method in the Medline database for each member over 1996-2001. Research findings show that 881 scientific productions have been obtained. The average of their productions was 1.24, with an impact factor of 2.69. 18% of the faculty members have not had any scientific production during the years under study. Only 20% of them had two or more scientific productions. This study is also one of the first studies to review the research

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productions of medical faculty members at universities in a developing country.

Analysis of Research Findings

This section analyzes the research findings and answers the basic questions.

Basic Question 1. What is the number of scientific productions (books, papers, papers presented in conferences, research projects and thesis guides) of the faculty members of Al-Zahra University over 2009-2010?

To answer this question, the scientific productions of the faculty members of Al-Zahra University over 2005-2009 have been analyzed in the mentioned formats.

Table 1

Frequency distribution of authored and translated books published by date of publication.

Date of book publication	Published-Compiled book		Published-translated book		Total	
Date of publication	frequency	percentage	frequency	percentage	frequency	percentage
2005	45	23.44	2	8.70	47	21.86
2006	38	19.79	8	34.78	46	21.40
2007	29	15.10	5	21.74	34	15.81
2008	33	17.19	3	13.04	36	16.74
2009	47	24.48	5	21.74	52	24.19
total	192	100	23	100	215	100

Table 2

Frequency distribution of papers published in internal and international journals by date of publication.

papers	Internal scientific-research papers		Internal review papers		Papers indexed in international journals		Total	
year	frequency	percentage	frequency	percentage	frequency	percentage	frequency	percentage
2005	86	18.26	35	13.16	110	11.94	231	13.93
2006	81	17.20	74	27.82	176	19.11	331	19.96
2007	74	15.71	43	16.17	127	13.79	244	14.72
2008	97	20.59	68	25.56	274	29.75	439	26.48
2009	133	28.24	46	17.29	234	25.41	413	24.91
total	471	100	266	100	921	100	1658	100

As Table 1 shows, 192 authored books and 23 translated books have been published by the faculty members over 2005-2009. The highest percentage of published books is for the year 2009 and the highest percentage of translated books is for the year 2006.

B) Papers in Internal and International Journals

In terms of article production, Table 2 shows that out of 1658 papers, 471 internal scientific-research papers and 266 internal review papers and 921 papers indexed in international journals have been produced over 2005-2009.

C) Conference Papers

Table 3 shows that 541 works have been presented in prestigious internal and international scientific conferences over 2005 to 2009. Most of the works presented are for the year 2006.

Table 3

Frequency distribution of papers presented in prestigious internal and international scientific conferences by date of publication.

article	Internal Conference		International Conference		Total	
year	frequency	percentage	frequency	percentage	frequency	percentage
2005	48	14.68	25	11.68	73	13.49
2006	93	28.44	51	23.83	144	26.62
2007	42	12.84	49	22.90	91	16.82
2008	71	21.71	38	17.76	109	20.15
2009	73	22.32	51	23.83	124	22.92
total	327	100	214	100	541	100

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D) Research Projects

In this section, research projects approved by the Vice Chancellor for Research of Al-Zahra University have been examined over 2005-2009. Table 4 shows that the most research projects conducted over 2005-2009 are for the year 2005.

Table 4
Frequency distribution of research projects by date of publication.

Research Project	frequency	percentage
2005	178	33.09
2006	63	11.71
2007	78	14.50
2008	105	19.52
2009	114	21.19
total	538	100

D) Thesis

Table 5
Frequency distribution of theses by date of publication.

	master		Doctorate	
Year of thesis defense	frequency	percentage	frequency	percentage
2005	215	13/9	3	10/3
2006	355	23	11	37/9
2007	204	13/2	3	10/3
2008	234	15/1	2	6/9
2009	537	34/8	10	34/5
Total	1545	100	29	100

In total, 1574 theses have been supervised by faculty members during the research years.

Basic Question 2. What is the linguistic distribution of the scientific productions of the faculty members in Al-Zahra University?

Table 6
Frequency distribution of scientific productions by language.

Scientific productions	Persian		English		Arabic		Total	
	frequency	percentage	frequency	percentage	frequency	percentage	frequency	percentage
Scientific-research papers of	423	45/92	41	7/7	13	59/9	471	32.33
		88.67		8.59		2.72		100
International Journal Papers	0	0	285	53/57	-	0	921	19.32
		0		100		0		0
Conference Papers	302	32/79	206	38/72	-	0	541	34.44
		59.44		40.55				100
Compilation of books	196	21/28	-	0	9	40/9	215	13.89
		95.6		0		4.39	100	1475
Total	921	100	532	100	22	100		

As observed in Table 2, in the section of scientific-research of papers internal journals, the percentage of papers published in Persian is 88.67, which is the highest percentage, 59/8% in English, and finally 72/2% have been published in Arabic. In total, scientific papers constitute 32.33% of the total scientific productions in three languages.

In the field of scientific-research papers of international journals, 100% of publications have been in English.

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International papers make up 19.32% of the total scientific productions in three languages.
In the conference papers section, 59.44% was in Persian and 40.55% in English. Conference papers constitutes 44/34% of the total scientific publications in three languages. 95.6% of the books have been published in Persian and 4.39% in Arabic. Book authorship constitutes 13.89% of the total scientific production in three languages.
Basic Question 3. How is the production process by faculties over 2005-2009?

Table 7
Frequency distribution of scientific productions for the Faculty of Literature by the study year

Faculty of Literature	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	8	11.26	14	19.71	6	8.45	25	35.21	18	25.35	71	100
International research papers	1	11.11	1	11.11	1	11.11	5	55.55	1	11.11	9	100
Internal review papers	11	12.5	13	14.77	9	10.22	43	48.86	12	13.63	88	100
conference	8	20.51	21	53.84	2	5.12	5	12.82	3	7.69	39	100
Research Project	12	20.33	3	5.08	8	13.55	10	16.94	26	44.06	59	100
book authorship	12	19.67	14	22.95	6	9.83	15	24.59	14	22.95	61	100
Thesis	29	10.74	65	24.07	33	12.22	31	11.48	112	41.48	270	100
book translation	0	0	0	0	2	100	0	0	0	0	2	100

Table 7 shows the trend of scientific productions based on different years in the Faculty of Literature. As observed, the frequency of papers (internal, international and review papers) in 2008 includes the highest percentage. In the conference section, the highest frequency is for the year 2006 (53.84%) and the frequency of research project is higher in 2009 (44.06%). Also, the rate of book authorship in 2008 (24.59%) and thesis in 2009 (41.48%) had the highest frequency. In the field of book translation, two books have been translated only in 2007.

Table 8
Frequency distribution of scientific productions for the Faculty of Theology by the study year.

Faculty of Theology	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	5	13.51	7	18.91	3	8.1	14	37.83	8	21.62	37	100
International research papers	0	0	0	0	0	0	0	0	1	100	1	100
Internal review papers	5	11.62	15	34.88	1	2.32	9	20.93	13	30.23	43	100
conference	3	14.28	6	28.57	0	0	5	23.8	7	33.33	21	100
Research Project	10	32.25	6	19.35	4	12.9	5	16.12	6	19.35	31	100
book authorship	2	22.22	1	11.11	2	22.22	3	33.33	1	11.11	9	100
Thesis	4	5	6	7.5	8	10	14	17.5	48	60	80	100
book translation	1	50	1	50	0	0	0	0	0	0	2	100

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In the Faculty of Theology, in the section of research papers, the highest frequency is for the year 2008, (37.83%). In the field of international research papers, only one article was published in 2009. In the field of the internal review papers, the most frequency is for the year 2006 (34.88%). In the field of the conferences, the most frequency is for the year 2009 (33.33%), and the most frequency in the field of the research project is for the year 2005 (32.25%); in the field of the book authorship, the most frequency is for the year 2008 (33.33%) and in the field of the thesis, the most frequency is for the year 2009 (60 %).

Table 9

Frequency distribution of scientific production for the Faculty of Physical Education based on the study year.

Physical Education	2005		2006		2007		2008		2009		total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	3	11.53	3	11.53	6	23.07	8	30.76	6	23.07	26	100
International research papers	0	0	1	3.84	1	3.84	10	38.46	14	53.84	26	100
Internal review papers	0	0	1	16.66	4	66.66	1	16.66	0	0	6	100
conference	4	9.75	2	4.87	10	24.39	7	17.07	18	43.9	41	100
Research Project	4	22.22	0	0	8	44.44	5	27.77	1	5.55	18	100
book authorship	1	7.14	2	14.28	2	14.28	2	14.28	7	50	14	100
Thesis	0	0	6	15.78	4	10.52	7	18.42	21	55.26	38	100
book translation	0	0	1	11.11	3	33.33	1	11.11	4	44.44	9	100

The table above shows the number of scientific productions for the Faculty of Physical Education. In the field of internal research papers, the highest frequency is for the year 2008 (30.76%). In the field of international research papers, the highest frequency is for the year 2009 (53.84%). In the section of review papers, the highest frequency is for the year 2007 (66.66%). In the conference section, the highest frequency is for the year 2009 (43.9%), in the research project section, the highest frequency is for the year 2007 (44.44%), and in the book authorship, thesis and book translation section, the highest frequency is for the year 2009.

Table 10

Frequency distribution of scientific productions for the Faculty of Social Sciences by the study year.

social Sciences	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	24	25.53	8	8.51	13	13.82	20	21.27	29	30.85	94	100
International research papers	7	21.87	5	15.62	4	12.5	5	15.62	11	34.37	32	100
Internal review papers	1	3.03	16	48.48	10	30.30	3	9.09	3	9.09	33	100
conference	16	19.51	34	41.46	8	9.75	9	10.97	15	18.29	82	100
Research Project	19	40.42	5	10.63	4	8.51	10	21.27	9	19.14	47	100
book authorship	10	37.03	7	25.92	2	7.4	6	22.22	2	7.4	27	100
Thesis	65	16.62	100	25.57	43	10.99	61	15.6	122	31.2	391	100
book translation	0	0	1	25	0	0	3	75	0	0	4	100

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In the Faculty of Social Sciences, the highest frequency of research papers (internal and international) is for the year 2009. The highest percentage of review papers and conferences is for the year 2006 and the highest percentage of book project and authorship is for the year 2005. The highest rate of thesis guidance and advice is for the year 2009 (31.2%) and the highest level of book translation is for the year 2008.

Table 11

Frequency distribution of scientific productions for the Faculty of Basic Sciences by the study year.

Basic Sciences	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	17	17.7	24	25	15	15.62	19	19.79	21	21.87	96	100
International research papers	39	20.96	39	20.96	20	10.75	45	24.19	43	23.11	186	100
Internal review papers	7	36.84	3	15.78	3	15.78	3	15.78	3	15.78	19	100
conference	19	11.37	27	16.16	37	22.15	44	26.34	40	23.95	167	100
Research Project	68	28.57	30	12.6	31	13.02	57	23.94	52	21.84	238	100
book authorship	6	23.07	6	23.07	7	26.92	4	15.38	3	11.58	26	100
Thesis	53	12.41	96	22.48	56	13.11	57	13.34	165	38.64	427	100
book translation	0	0	3	100	0	0	0	0	0	0	3	100

The above table shows the scientific productions for the Faculty of Science. The highest percentage of research papers is for the year 2006 (25%). In the field of international research papers, the highest percentage is for the year 2008 (24.19%). In the section of review papers, the highest rate is for the year 2005 (36.84%) and in the conference section, the highest rate is for the year 2008 (26.34%). The highest rate of research project is for the year 2005 (28.57%) and the highest rate of book authorship is for the year 2007 with 26.92%. Also in the thesis section, the highest number is for the year 2009 (38.64%). In the field of translation, only three books were translated in 2006.

Table 12

Frequency distribution of scientific productions for the Faculty of Educational Sciences by the study year.

Educational Science	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	28	23.52	14	11.76	22	18.48	8	6.72	47	39.49	119	100
International research papers	6	27.27	6	27.27	2	9.09	3	13.63	5	22.72	22	100
Internal review papers	0	0	3	20	5	33.33	4	26.66	3	20	15	100
conference	15	11.81	30	23.62	23	18.11	20	15.74	39	30.70	127	100
Research Project	31	43.66	9	12.67	13	18.3	4	5.63	14	19.71	71	100
book authorship	13	44.82	2	6.89	4	13.79	2	6.89	8	27.58	29	100
Thesis	40	9.5	80	19	54	12.82	52	12.35	195	46.31	421	100
book translation	1	50	1	50	0	0	0	0	0	0	2	100

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The year 2009 has the highest number of internal research papers in the Faculty of Educational Sciences (39.49%). Most of the international research papers are done the years in 2005 and 2006 (27.27%). In the section of review papers, the most papers are for the year 2007 (33.33%). In the conference section, the highest rate is for the year 2009 (30.70%). In the research project section, the highest number is for the year 2005 (44.82%) and in the thesis section, the most activity is for the year 2009 (46.31%). The translation of the book has been done in the years 2005 and 2006.

Table 13

Frequency distribution of scientific productions in the Faculty of Engineering by the study year.

Technical	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	0	0	1	25	1	25	2	50	0	0	4	100
International research papers	0	0	3	60	2	40	0	0	0	0	5	100
Internal review papers	0	0	9	81.81	0	0	2	18.18	0	0	11	100
conference	2	8.69	9	39.13	3	13.04	9	39.13	0	0	23	100
Research Project	10	76.92	2	15.38	0	0	0	0	1	7.69	13	100
book authorship	0	0	1	40	2	60	0	0	0	0	3	100
Thesis	0	0	6	31.57	2	10.52	9	47.36	2	10.52	19	100
book translation	0	0	0	0	0	0	0	0	0	0	0	0

The table above shows the number of scientific productions in the Faculty of Engineering during different years. According to the items presented in the table, the highest number of internal research papers is for the year 2008 (50%) and international research papers for the year 2006 (60%); The highest number of review papers are for the year 2006 (81.81%). In the conference section, 2006 and 2008 had the same number of production (39.13%). In the book authorship section, 60% was related to the year 2007 and the most active year for the thesis was 2008 (47.36%).

Table 14

Frequency distribution of scientific productions in the Faculty of Arts by the study year.

Art	2005		2006		2007		2008		2009		Total	
	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%	frequency	%
Internal research papers	0	0	6	35.29	7	41.17	2	11.76	2	11.76	17	100
International research papers	0	0	3	75	1	25	0	0	0	0	4	100
Internal review papers	10	25	12	30	5	12.5	3	7.5	10	25	40	100
conference	4	11.76	11	32.35	7	20.58	10	29.41	2	5.88	34	100
Research Project	23	38.33	8	13.33	9	15	12	20	8	13.33	60	100
book authorship	3	11.11	6	22.22	4	14.81	1	3.7	13	48.14	27	100
Thesis	55	31.25	59	33.52	33	18.75	18	10.22	11	6.25	176	100
book translation	0	0	1	100	0	0	0	0	0	0	1	100

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According to the table, the most scientific productions related to internal research papers are for the year 2007 (41.17%); In the field of international and review research papers and conferences, the most ones are for the year 2006. In the research project section, the most ones are for the year 2005 (38.33%) and in the book authorship section, the most ones are for the year 2009 (48.14%). In the thesis section, the most ones are for the year 2006 (33.52%). In the book translation section, only one book has been translated in 2006.

Investigation of Research Hypotheses

In the first hypothesis based on "there is a significant difference between gender and the number of scientific productions of the faculty members", parametric t-test is used with two independent samples. It is used due to the distance scale of scientific production and the existence of two groups (men and women).

Table 15
The results of testing the hypothesis of significant difference between men and women in terms of scientific production.

	Groups	Number	Mean	Standard deviation	T value	Degrees of freedom	Significance level (P)
Internal research papers	female	196	1/81	3/13	2/09	297	0/03
	male	103	1/11	1/78			
International research papers	female	196	1/28	2/93	1/97	297	0/04
	male	103	6/50	36/83			
Internal review papers	female	196	0/80	1/61	0/96	297	0/33
	male	103	1/05	2/97			
Conference papers	female	196	1/93	4/11	0/81	297	0/41
	male	103	1/56	3/13			
Research Project	female	196	1/68	2/02	1/15	297	0/251
	male	103	2	2/73			
book authorship	female	196	0/53	1/09	1/88	297	0/06
	male	103	0/85	1/86			
Thesis	female	196	5/70	6/38	1/17	297	0/24
	male	103	6/59	5/83			
book translation	female	196	0/09	0/41	0/98	297	0/32
	male	103	0/04	0/21			
Total scientific production	female	196	13/85	14/17	1/76	297	0/07
	male	103	19/74	42/41			

The results show that there is no significant difference between men and women in all scientific productions for the internal promotional papers, conference papers, research project, book authorship. Since in total scientific productions, the calculated t-value is more than 0.05, the research hypothesis is rejected and the null hypothesis is confirmed. In other words, there is no significant difference between gender and the number of scientific productions of faculty members.

In the second hypothesis based on "there is a significant difference between the degree and the scientific productions" t-test with two independent samples is used.

Table 16
The results of testing the hypothesis of a significant difference between individuals with a bachelor, master and doctorate degree in terms of the scientific productions.

	Groups	Number	Mean	Standard deviation	T value	Degrees of freedom	Significance level (P)
Internal research papers	master	45	0/22	0/55	3/64	297	0/01
	doctorate	254	1/81	2/92			
International research papers	master	45	0/06	0/25	1	297	0/31
	doctorate	254	3/61	23/64			
Internal review papers	master	45	0/31	0/84	1/93	297	0/054
	doctorate	254	0/99	2/32			
Conference	master	45	0/31	0/84	2/89	297	0/01

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papers	doctorate	254	2/07	4/06			
Research Project	master	45	0/84	0/76	3/07	297	0/01
	doctorate	254	1/96	2/42			
Book authorship	master	45	0/15	0/42	2/52	297	0/01
	doctorate	254	0/72	1/50			
Thesis	master	45	1/97	3/30	4/91	297	0/01
	doctorate	254	6/72	6/32			
book translation	master	45	0/0	0/0	1/54	297	0/12
	doctorate	254	0/09	0/39			
Total scientific production	master	45	3/88	4/60	3/22	297	0/01
	doctorate	254	18/01	29/25			

The results show that there is a significant difference between the students with master and doctoral degree in internal research papers, conference papers, research project, book writing, and thesis in all scientific productions. Thus, members with doctoral degrees have more scientific productions.

In the third hypothesis based on "there is a significant difference between the scientific rank and the scientific productions", F-test or one-way analysis of variance has been used. In performing this test, academic rank has been selected as a group (factor variable) and faculty members' scientific production has been selected as a dependent variable.

Table 17

Results and findings of F-test to compare the scientific production of faculty members according to their academic rank.

Variable	Groups	Chi square	Degrees of freedom	Mean of squares	F value	Significance level (P)
Internal research papers	Intra-group	177/81	3	59/271		
	Inter group	1982/489	250	7/930	7/47	0/01
	total	2160/303	253	---		
International research papers	Intra-group	20411/501	3	6803/834		
	Inter group	120998/7	250	483/995	14/05	0/01
	total	141410/2	253	---		
Internal review papers	Intra-group	50/61	3	16/87		
	Inter group	1319/370	250	5/277	3/19	0/02
	total	1369/984	253	---		
Conference papers	Intra-group	288/027	3	96		
	Inter group	3885/552	250	15/54	6/17	0/01
	total	4173/579	253	---		
Research Project	Intra-group	414/81	3	138/27		
	Inter group	1076/93	250	4/30	32/09	0/01
	total	1491/74	253	---		
Book authorship	Intra-group	30/06	3	10/02		
	Inter group	546/19	250	2/18	4/58	0/01
	total	576/25	253	---		
Thesis	Intra-group	1433/06	3	477/688		
	Inter group	8699/19	250	34/797	13/72	0/01
	total	10132/256	253	---		
book translation	Intra-group	0/32	3	0/10		
	Inter group	38/59	250	0/15	0/699	0/55
	total	38/91	253	---		
Total scientific production	Intra-group	47455/44	3	15818/482		
	Inter group	169043/5	250	676/17	23/39	0/01
	total	216499	253	---		

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The results show that there is a significant difference between the ranks of the faculty members. In most scientific productions, professors, associate professors, and instructors had the most scientific productions, respectively.

Discussion and Conclusion

The present study has reviewed the scientific productions of the faculty members in Al-Zahra University over 2005 - 2009. In this section, according to the findings:

The scientific productions of Al-Zahra University (PBUH) are in an acceptable condition, although they have not had a regular development trend in the desired period.

Findings show that in terms of sexual distribution, 65.6% of them are women, and 34.4% are men. Forty-five ones had a master's degree and 254 ones had a doctorate in terms of education.

The total number of documents produced (4526 cases) in Al-Zahra University (PBUH) has a significant quantity in the range of research years compared to the results obtained from the other research. Abbaspour [2], in the study of Guilan University of Medical Sciences over 1996 - 2000, reported the scientific productions as 1548 cases; Fahimian [3], in the study of the Faculty of Engineering and Tarbiat Modares University with 75 faculty members, reported the scientific productions as 1726 cases over ten years.

Asadzad (2006), in the study of Zabol University, reported the total scientific productions as 431 cases; Rostami [5] studied the Faculty of Agriculture of Tarbiat Modares University over five years, and 65 faculty members reported the scientific productions as 5508 cases. Dakik [7], in a review of the scientific productions of the faculty members in the American University of Beirut School of Medicine with 203 faculty members, reported 881 cases over six years.

In the study of the number of documents produced by faculty members of Al-Zahra University over 2005-2009, a total of 1574 theses have been guided by faculty members, which is the most scientific productions in the form of thesis guidance. The minor scientific productions have been related to book translation (23 cases). The results of the research are consistent with the results of the researches done by Abbaspour [2] and Fahimian [3] and are not consistent with the results obtained by Asadzadeh [4] and Rostami [5] because in all these researches the thesis guidance has not been studied.

After guiding the thesis, the works presented in the form of papers have significant development. Among the papers, papers presented in international journals with the frequency (921 cases) have the highest rate. Al-Zahra University (PBUH) faculty members have indexed most of their papers in international journals (921 cases). In all researches, internal journals are more accepted than international ones.

Regarding the documents produced by the faculty members of Al-Zahra University over 2005-2009, the works presented in prestigious internal and international scientific conferences have a significant development from 13.49% in 2005 to 22.92% in 2009; the development shows the increase in the role and position of faculty members in prestigious internal and international scientific conferences. From 2005 to 2009, research projects have not had significant development, and it seems that the scientific production of faculty members in this field has been less.

In terms of the language of productions, in general, it can be said that most of the productions (921 titles) were in Persian. The results obtained from the research are consistent with the results of the researches done by Asadzadeh [4] and Rostami [5].

In terms of sexual distribution, 65.6% are women, and 34.4% are men. The results obtained from the study show that the number of women is more than men. The results are not consistent with the results of the researches done by Asadzadeh [4], Rostami [5] because in all these studies, the number of men is more than women.

In the study of scientific productions of the faculties, the most scientific productions are related to the Faculty of Basic Sciences, and the minor scientific production is related to the Faculty of Engineering.

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