

# An Investigation into the Doctoral Thesis Awarded in Bharathidasan University from 1996-2010: A Bibliometric Study

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**Abstract** – Research is an indispensable component for any branch for the generation of new knowledge. Much of the research work in many disciplines is carried out through academic research programmes leading to M.Phil. and Ph.D degrees. The present article is devoted to bibliometric analysis of Ph.D theses generated in Bharathidasan University, Tiruchirappalli, for a period of fifteen years between 1996-2010. The University offers programmes in various disciplines including the Bharathidasan Institute of Management (BIM). Out of twenty one schools, Seventeen schools offer Ph.D programmes. This article also makes an attempt to trace the subject-wise and gender-wise research output and to determine the trend of research programme. The finding reveals 753 Ph.D awarded in 17 disciplines and count on averages of the performance subject-wise as well as gender-wise. It indicates the strength and trend of research in every discipline. This analysis can be used as a significant indicator to measure the progress of research in a particular faculty.

**Keywords:** Bharathidasan University, Bibliometrics, Disciplines, Ph.D Theses

## I. INTRODUCTION

Much of the research work in many disciplines is carried out through academic research programmes leading to M.Phil. and Ph.D degrees. Through an analysis of doctoral thesis of Bharathidasan University an attempt is made to find out the research trends prevalent in the particular university. This article tries to evaluate and analyse the subject-wise distribution of research output in various disciplines by using bibliometric techniques. Bibliometrics utilizes quantitative analysis and statistics to describe pattern of the research problem within a given field or body of literature. It provides information about the structure of knowledge and how it is communicated. Studies of the size and growth of literature can show developing and declining areas over a time. Here the strength of research programmes in the particular areas can be measured with precision and determines the trends of research.

Research is an indispensable component for any branch for the generation of new knowledge. Analytical studies of doctoral dissertations which are the products of research activity form an important source of information. A number of such studies based on dissertations have been conducted by various universities in India and abroad. They are actually inaccessible and the analytical study on them disseminate valuable information to researchers and the other users.

## II. OBJECTIVES OF THE STUDY

The main objectives of the study are:

1. To study the trend of doctoral research programme.
2. To know the subject-wise distribution of research programmes.
3. To know gender-wise research output to establish relationship of the variables.
4. To determine the trend of research programme.

## III. ABOUT BHARATHIDASAN UNIVERSITY

Bharathidasan University established in February 1982, was named after the great revolutionary Tamil Poet, Bharathidasan (1891-1968). The motto of the University “We will create a brave new world” has been framed from Bharathidasan’s poetic words “Puthiyathor Ulagam Seivom”. The University endeavours to be true to such a vision by creating in the region a brave new world of academic innovation for social change. The year 2006-07 is the Silver Jubilee year for this great and vibrant University. The University offers programmes in various disciplines including the Bharathidasan Institute of Management (BIM). Out of twenty one schools, Seventeen schools offer Ph.D programmes.

The campus is located in a sprawling area of over 1000 acres of land on the Tiruchirappalli - Pudukkottai Highway (NH 210). Besides this main campus, there is a city campus at Khajamalai housing Department of Economics, Department

of Education Technology, Department of Computer Science, the Institute for Entrepreneurship and Career Development (IECD), the Bharathidasan University Technology Park (BUTP) and a few more Departments. The Bharathidasan Institute of Management (BIM) is located in the B.H.E.L. Campus, with whose partnership, the BIM has emerged as one of the top Business Schools of the country.

The affiliating jurisdiction is over seven districts with 104 Arts & Science and Fine Arts Colleges and 13 Approved Institutions. Eighteen of the affiliated colleges are autonomous. Among the affiliated colleges, more than 50% are offering PG programmes and 25% are offering M.Phil./Ph.D programmes. A good number of them are nationally recognized for quality education. The programmes offered through affiliated colleges are so diversified that they number more than 250. The student strength in the affiliated colleges is over 1.50 lakhs.

#### A. Ph.D Programme

The university has religiously embarked to organize its Ph.D programme in various disciplines with great care and attention. A liberal allocation has been incorporated for the Ph.D programmes in the annual budget and has naturally given rise to a steady growth in the number of Ph.D awardees every year.

#### IV. REVIEW OF LITERATURE

Many researches have been carried out in similar lines to analyse the trend of research carried out in various subjects in different universities. The literature covered in three databases for the period 1984-2003 was considered. P.Padma carried out a Scientometric analysis of the research performance of the Madurai Kamaraj University. To quantify the Ph.D output from the 18 schools of the Madurai Kamaraj University as awarded between 1989 to 2005. Research programmes at the Ph.D level in Library and Information Science carried out in India during the seven years (1997-2003) have been analysed by Mahapatra and Sahoo to find out the trends and areas of research. In the case studies of citation analysis of Ph.D thesis of NEERI scientists in the field of Environmental science and engineering during (1977-1991) has been carried out by Madkay and Rajyalekshmi. J.Ramakrishnan and B. Ramesh Babu carried out a bibliometric analysis of the literature output in the field of hepatitis covered in three bibliographic databases namely MEDLINE, CINAHL and IPA. Write three more of such research. K.R.Vijay and

Raghavan conducted a Bibliometric analysis of 779 article published, along with citations in five volumes 37(2000) to 41(2004). S.Thanuskodi carried out a bibliometric analysis of the journal titled "Library Herald" for the period between 2006 to 2010. The analysis cover mainly the number of articles, authorship pattern, subject-wise distribution of article, average number if references per articles, forms of documents cited, year-wise distribution of cited journals. A.Senthamilselvi, S.Srinivasaragavan, M.Surulinathi and G.Amudha have studies on Mapping of IEEE Transaction on Power Electronics: A Scientometric Analysis and they analysed the number of articles published in the Journal, "IEEE Transaction on Power Electronics" from the year 1999-2010.

#### V. DATA ANALYSIS

Table I represents the year-wise distribution of Ph.Ds awarded by the Bharathidasan University during 1996-2010 for a period of 15 years. It can be seen that there were 753 Ph.D awarded during this period. It is interesting to note that 2009 shows the highest number of theses awarded. The prediction of pattern of literature is one of the important aspects of bibliometric research. Here the number of researches appeared in various subjects during different years of study are analysed in terms of their number of counts.

TABLE I YEAR-WISE DISTRIBUTION OF PH.D AWARDS (1996 TO 2010)

S. No.	Year	Count	Percentage
1	1996	43	5.71
2	1997	40	5.31
3	1998	33	4.38
4	1999	26	3.45
5	2000	21	2.79
6	2001	39	5.18
7	2002	38	5.05
8	2003	36	4.78
9	2004	42	5.58
10	2005	34	4.51
11	2006	60	7.97
12	2007	78	10.36
13	2008	70	9.3
14	2009	107	14.21
15	2010	86	11.42
Total		753	100

Year Wise Distribution of Ph.D awards 1996 to 2010

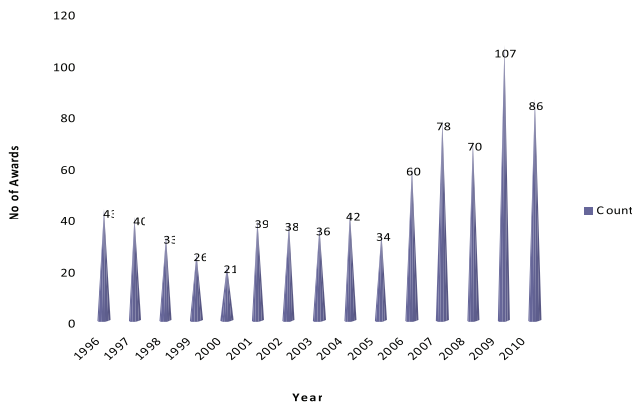


Fig. 1 Year-wise distribution of Ph.D awards 1996-2010

Many studies have been made on the growth pattern of the area under study. To conduct such analysis the number of Ph.D awarded in different years of study are analysed.

TABLE II ANNUAL AVERAGE GROWTH RATE 1996 TO 2010

S.No.	Year	Count	Growth Rate
1	1996	43	
2	1997	40	-0.07
3	1998	33	-0.17
4	1999	26	-0.21
5	2000	21	-0.19
6	2001	39	0.85
7	2002	38	-0.02
8	2003	36	-0.05
9	2004	42	0.16
10	2005	34	-0.19
11	2006	60	0.76
12	2007	78	0.36
13	2008	70	-0.1
14	2009	107	0.53
15	2010	86	-0.2
Total		753	1.46

Table II shows the annual growth rate of Ph.D awards. The growth rate is found to be at a maximum in the year 2009. Further it is found that there is a negative growth rate in 10 years out of 15 years. The average growth rate works out to be 1.46 which is quite low.

In order to determine the direction of research in various disciplines the analysis has been made in subject wise distribution.

TABLE III FREQUENCY DISTRIBUTION OF DIFFERENT SCHOOLS WITH REGARD TO PH.D AWARDS

S.No.	Name of the School	Count	Percentage
1	School of Social Sciences	61	8.1
2	School of Commerce & Economics	106	14.08
3	School of Education	72	9.56
4	School of English & Other Languages	55	7.3
5	School of Indian Languages	36	4.78
6	School of Performing Arts	-	-
7	School of Biomedical Sciences	-	-
8	School of Chemistry	93	12.35
9	School of Computer Science & Engineering Technology	2	0.27
10	School of Environmental Sciences	4	0.53
11	School of Geo Sciences	41	5.44
12	School of Life Sciences	206	27.36
13	School of Marine Sciences	13	1.73
14	School of Mathematics	8	1.06
15	School of Physics	46	6.11
16	School of Library & Information Science	-	-
17	School of Management (BIM)	10	1.33
Total		753	100

The subject-wise analysis of Ph.D programmes shows that there has been considerable amount of in breeding of various disciplines. The number of researches in science field outnumbers the other disciplines. The life sciences researches are maximum with 27.36% whereas school of biomedical sciences, school of performing arts and school of library and Information shows the nil report which needs serious enquiry. The following Table IV clearly shows the subject cluster-wise frequency of Ph.D thesis.

TABLE IV SUBJECT CLUSTER-WISE FREQUENCY OF PH.D AWARDS

S.No.	Discipline	Count	Percent
1	Faculty of Arts	239	31.74
2	Faculty of Indian and Other Languages	91	12.1
3	Faculty of Science and Engineering	413	54.84
4	Faculty of Management ( B I M )	10	1.32
Total		753	100

In order to ascertain the productivity of doctoral theses of male and female scholars of Bharathidasan University, an analysis has been made and the results are shown in the Table V to Table IX.

TABLE V GENDER RATIO AMONG PH.D SCHOLARS

S. No.	Sex	Count	Percent
1	Male	491	65.2
2	Female	262	34.8
Total		753	100

The Table V shows that the numbers of male Ph.D scholars are high with 65.2% than that of female scholars with 34.8%.

TABLE VI SCHOLARS IN FACULTY OF ARTS - GENDER RATIO

S.No.	Sex	Count	Percent
1	Male	135	56.49
2	Female	104	43.51
Total		239	100

It is explicit from the Table VI that with 56.49% the male scholars are in the lead with the female scholars trailing behind.

TABLE VII SCHOLARS IN FACULTY OF INDIAN AND OTHER LANGUAGES - GENDER RATIO

S. No.	Sex	Count	Percent
1	Male	50	54.95
2	Female	41	45.05
Total		91	100

It is clear from the Table VII that the male scholars with the huge difference are in the frontline

TABLE VIII SCHOLARS IN FACULTY OF SCIENCE AND ENGINEERING GENDER RATIO

S. No.	Sex	Count	Percent
1	Male	297	71.91
2	Female	116	28.09
Total		413	100

It can be inferred from the Table VIII that the male ratio is slightly higher than that of the female ratio.

TABLE IX SCHOLARS IN FACULTY OF MANAGEMENT (B I M )

S.No.	Sex	Count	Percent
1	Male	9	90
2	Female	1	10
Total		10	100

The Table IX shows the difference between the male and female scholars and depicts what the male scholars top the female scholars.

To consolidate, the above tables clearly reveal the male population outnumber the female number in every segment of research field. This view could be compared to other universities research programmes regarding the gender-wise contribution.

## VI. CONCLUSION

Scientific research and scientific communication are bound together so closely that the two always go hand in hand. The higher the research output, the higher the publication of literature. Hence this can be used as a significant indicator to measure the progress of research in a particular faculty. It brings out the relational factors affecting the productivity of research. In spite of acquiring different systems and components of modern technologies the negative progress in productivity of research in certain faculties show the indication of the importance of the subject. In the field of academic research the diversification of courses has to be implemented in line with the trend of research and maximise the efforts of disseminating the information to form the basis for furtherance of knowledge.

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