A Bibliomatric Analysis of Doctorial Research
(A Case Study of Dr. B.A.M. University, Aurangabad Library)

* Dr. D.K. Veer   **** Mr. Shivaji Sontakke**

Introduction

"The face of truth has been covered up by a golden pot, I, therefore, beseech you, O sun, to Kindly uncover it so that I may know what true and righteous." (Ishavasyopanishad, 15)

Research is a systematic activity to reveal the truth. All round us, we notice that human advancement, inventions and discoveries are feasible because the researchers take pain to be curious and inquisitive.

According to Plutchick R. "Research has its origin in a term which means to go around or to explore... and it is a combination of Re + search" Literally it means search again and again. While Kerlinger says research is a "systematic, controlled, empirical and critical investigation of hypothetical propositions about the presumed relations among natural phenomenon." However the Encyclopaedia of Social Sciences, defines research as "the manipulation of generalizing, extending, correcting or verifying knowledge...". That means research is a fact finding process through the application of scientific methods.

The bibliometric analysis is divided into the following broader areas:
Dr. BAMU: At a glance
University Library: Dr. BAMUL
Bibliometric Analysis
Subject- wise Distribution of theses
Language- wise distribution of theses
Chronological distribution of theses
Distribution of theses by guides

Dr. Babasaheb Ambedkar Marathwada University at a Glance

The 23rd August 1958 will be inscribed in golden letters in the annals of the history of the Dr. Babasaheb Ambedkar Marathwada University, as it was on this day that Shri. Late, Prime Minister of India, Jawaharlal Nehru inaugurated the University. At that time only nine colleges were affiliated to this university now the number increased to 358 colleges. These are government, private aided and private un-aided professional and non-professional colleges. The jurisdiction of University is for four districts i.e. Aurangabad, Beed, Osmanabad and Jalna. Previously the University was named as Marathwada University. From 14th Jan. 1994 the University is renamed as Dr. Babasaheb Ambedkar Marathwada University. Objectives of the university are to disseminates, create and preserve knowledge and understand by teaching, research, extension and service and by effective demonstration and influence of its corporate, extension and society.

The present study deals with the bibliometric analysis of doctoral dissertations available in the library of Dr. BAMU, Aurangabad during the last fifty two years i.e.1958 to 2010.

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* Librarian, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
** Lal Bahadur Shastri Mahavidyalaya, Dharmabad, Dist. Nanded

University Library

University has a central library for all departments. There are 37 various departments in the campus of the university, where Post-graduate courses & doctoral research facilities are available. The central library is housed in an independent spacious building having 5250 sq.mt. area. There are six main sections in library. i.e. Ordering, Technical, Circulation, Periodical, Reference and Internet laboratory. A reading room is attached to the periodical & reference section. Apart from the common reading room, having 500 seating capacity at a time, is provided to the students. Fifty research cubicles for research scholars is another special feature of the library facility.

Library is having 3,56,000 collection of documents, it consists of books (307472), periodical bound volumes (45000) and 3528 Ph.D. theses. On an average 5000 books are added yearly in the library & 500 current journals (National and International) are subscribed annually the library. In the age of information and technology, library introduces modern trends for various library operations. Now-a-days database of total entries of readings materials has been made available by using SOUL 2.0 version of Inflibnet. The work of barcode with magnetic tattle tape has completed for the smooth functioning of library. Library is having internet laboratory with 75 computers. There are around 200 student's daily retrieving variety of scholarly information for their research work. For e-journal access INFONET connectivity with JCCC link is available in the laboratory, user can access more than 10,000 electronic journals through this connectivity. Full text paper is also provided to the researchers on request if the paper is in an abstract form. The purpose of knowing which type of information users are retrieved, web café management solution is installed in the main server of the internet laboratory.

For increasing efficiency in the work of employees of the library, university has set-up 15 IP based cameras in the various sections of the library. Now library is engaged in the preparation of 4000 smart cards for library users. University has spent more than seven crores of rupees for the all-pervasive development of library during the last five years.

Bibliometric Analysis

The term bibliometric was first used by Alan Pritchard (1969) in his article "statistical Bibliography of bibliometric.' Pritchard defines that bibliometric is the "application of mathematical and statistical method of books and other media of communication (David Nicholas and Maureen Ritchie, 1975, p.9). As per concise Oxford Dictionary (2007,p.130) bibliometric means "statistical analysis of books or other publications".

Bibliometric is used for:

To study research trends and growth of knowledge

To identify authorship trends in documents on various subjects.

To identify past, present publishing trends as well as forecast future publishing trends.

To study productivity of institutions/individuals and disciplines.

To prepare a rank list of guides

To know the quantum of documents by year, subjects and guides.

Chronological Distribution

Year-wise analysis also highlights that there is steady increase in quantum of theses. Maximum (275) theses are accepted by the university in 2002 because of the University Grants Commission released a circular of exemption in the NET/SET Examination for Ph.D. holders. The chronological distribution of theses is presented in the Table 1.1

The University was established in 1958. After four years of gap i.e.1962 first thesis was accepted by university. In the first twelve years that is during 1958-1970 there were only 66 doctoral degrees awarded by the university. In the next ten years that is during 1971-1980 the university awarded 315 doctoral degrees. It is also observed from the Table that on an average 67 theses were accepted by the university during fifty two years.

Table No. - 1.1
Chronological Distribution of Ph.D.Theses

Year wise Distribution of Ph.D.Theses							
Sr.No.	Year	No. of Theses	Percentage	Sr.No.	Year	No. of Theses	Percentage
1	1962	2	0.06	26	1987	49	1.39
2	1963	1	0.03	27	1988	68	1.93
3	1964	2	0.06	28	1989	68	1.93
4	1965	4	0.11	29	1990	90	2.55
5	1966	3	0.09	30	1991	95	2.69
6	1967	9	0.26	31	1992	101	2.86
7	1968	16	0.45	32	1993	88	2.49
8	1969	14	0.40	33	1994	82	2.32
9	1970	15	0.43	34	1995	88	2.49
10	1971	10	0.28	35	1996	81	2.30
11	1972	30	0.85	36	1997	78	2.21
12	1973	26	0.74	37	1998	85	2.41
13	1974	42	1.19	38	1999	84	2.38
14	1975	26	0.74	39	2000	82	2.32
15	1976	43	1.22	40	2001	103	2.92
16	1977	29	0.82	41	2002	275	7.79
17	1978	22	0.62	42	2003	81	2.30
18	1979	36	1.02	43	2004	108	3.06
19	1980	51	1.45	44	2005	150	4.25
20	1981	49	1.39	45	2006	169	4.79
21	1982	52	1.47	46	2007	155	4.39
22	1983	71	2.01	47	2008	209	5.92
23	1984	32	0.91	48	2009	146	4.14
24	1985	24	0.68	49	2010	322	9.13
25	1986	62	1.76	Grand Total		3528	100

Table No. - 1.2

Quantum of Theses by Decade			
Sr.No	Year	No.of Theses	Percentage
1	1962-1970	66	1.87
2	1971-1980	315	8.93
3	1981-1990	565	16.01
4	1991-2000	864	24.49
5	2001-2010	1718	48.70
Total		3528	100

Language-wise Distribution

The researchers are submitted their theses in various languages i.e. English, Hindi, Marathi, Urdu, Pali and Sanskrit. The data regarding language-wise distribution of doctoral dissertations is presented in the Table No. 1.2. The Table indicates that Of the 3076 theses 2345 (76.23) were in English, 482 (15.67) were in Marathi, 212 (6.89%) in Hindi 27(0.88%) in Urdu, 8(0.26%) in Sanskrit and 2 in Pali. This is presented with the help of pie-chart also.

Table No.1.3

Language wise Distribution of Ph.D. Theses			
Sr.No	Language	No. of Theses	Percentage
1	English	2633	74.63
2	Hindi	259	7.34
3	Marathi	592	16.78
4	Pali	2	0.06
5	Sanskrit	7	0.20
6	Urdu	35	0.99
Grand Total		3528	100.00

Subjectwise Contribution

There are 37 departments in the university campus that produce post graduates as well as doctorates in the concern subject. Apart from that there are several affiliated colleges where a research facility is provided in a variety of discipline. As per the data collected regarding quantum of doctoral dissertations available in the library in various disciplines. It is presented in the Table No.1.4

Table No.1.4   Quantum of Ph.D. Theses by subjects

Subject wise Distribution of Ph.D. Theses							
Sr.No	Subject	No. of Theses	%	Sr.No	Subject	No. of Theses	%
1	Agriculture	1	0.05	31	Home Science	9	0.48
2	Anthropology	1	0.05	32	Journalism	44	2.37
3	Ayurveda	1	0.05	33	Law	24	1.29
4	Bio-Chemistry	66	3.55	34	Library and Inf. Science	21	1.13
5	Biology	1	0.05	35	Management Science	33	1.77
6	Biophysics	5	0.27	36	Marathi	227	12.20
7	Biotechnology	1	0.05	37	Mathematics	67	3.60
8	Botany	362	19.46	38	Medical Biology	1	0.05
9	Chemical Technology	8	0.43	39	Medical Microbiology	1	0.05
10	Chemistry	262	14.09	40	Medical Science	5	0.27
11	Civil Engineering	2	0.11	41	Microbiology	20	1.08
12	Civil Structure	1	0.05	42	Music	6	0.32
13	Commerce	126	6.77	43	Pali& Buddhism	8	0.43
14	Computer and IT	1	0.05	44	Pharmacy	10	0.54
15	Computer Science	28	1.51	45	Philosophy	2	0.11
16	Dramatics	3	0.16	46	Physical Education	54	2.90
17	Economics	188	10.11	47	Physics	196	10.54
18	Education	138	7.42	48	Political Science	134	7.20
19	Electrical Engineering	2	0.11	49	Psychology	52	2.80
20	Electronics Engineering	2	0.11	50	Public Administration	31	1.67
21	Engineering And Technology	5	0.27	51	Sanskrit	8	0.43
22	English	135	7.26	52	Social work	1	0.05
23	Entomology	1	0.05	53	Sociology	91	4.89
24	Environmental Science	114	6.13	54	Statistics	74	3.98
25	Food Technology	1	0.05	55	Structural Engineering	1	0.05
26	Foreign Language	1	0.05	56	Tourism	7	0.38
27	Geography	46	2.47	57	Urdu	39	2.10
28	Geology	5	0.27	58	Zoology	502	26.99
29	Hindi	261	14.03		Grand Total	3528	100.00
30	History	92	4.95				

It is observed from the Table – 1.4 that majority (502) of doctoral dissertations produced are in the Subject of Zoology followed by Botany (362). Table also indicates that there are 58 disciplines in which research was done. It is also observed that the discipline like Chemistry, Hindi, Marathi, Economics, Physics, Political science, Education, English, Environmental Science, English & Commerce produced more than hundred doctorates. However the discipline like Anthropology, Biology, Biotechnology, Entomology, Food Technology Foreign Language, Food Technology, and Medical Biochemistry & Medical Microbiology produced only single doctorate.

As compared with broader area of subject like Science, Social Science, Language, Commerce and Management and Engineering and Technology. The Same data is presented in the Table-7.2

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Table-1.5
Faculty -Wise quantum of theses

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Faculty wise Quantum of Ph.D Theses			
Sr.No.	Discipline	No. of Theses	Percentage
1	Commerce & Management	240	6.80
2	Engineering & Technology	23	0.65
3	Language	679	19.25
4	Science	1659	47.02
5	Social Science	927	26.28
Grand Total		3528	100.00

TableNo-1.5 shows that the highest number (1659) of doctorates is in the Science faculty followed by social science (927) and Language (679). However Engineering & Technology has very less (23) theses.

Guide-wise Distribution

However the same data was analyzed by a number of researchers guided by the range is presented in the Table No.1.6

Table No.1.6

	Guide wise Distribution		
Sr.No	No. of Researchers Guided	No. of Guides	Percentage
1	Below 10	524	73.91
2	10 to 20	73	10.30
3	20 to 30	19	2.68
4	30 to 40	4	0.56
5	40 to 50	1	0.14
6	50 to 60	0	0.00
7	60 to 70	3	0.42
8	Independent	85	11.99
Total		709	100

Table 1.6 indicates that maximum (73.91%) guides guided below ten researchers. While 57 (10.30%) guides guided the researchers in the range of 10-20. It is also observed that of the total 709 guides, 85(16.29%) guides did their research independently.

As Per the data collected regarding theses, the researcher wants to know the quantum of research guides in various disciplines. And the same is presented in the Table No.1.6

Table-1.6 indicates that there are maximum (70) theses guided by Dr. B.N. Pande in the Subject of Zoology, Botany & Environmental Science However Dr. G.B. Shinde is on Second rank, he has guided 65 researchers followed by Nagbhushanam (64). It is also observed that these guides guided the researchers in more than one subject. That means these are interdisciplinary recognized guides. Table also shows that there are 39 research guide considered as a top twenty guide, who guided more than 17 to 70 researchers each.

Table No.1.7

Rank List of Guides							
Sr.No.	Name of Guides	No.of Ph.D. Scholars	%	Sr.No.	Name of Guides	No.of Ph.D. Scholars	%
1	Pande B.N.	70	6.83	16	Khan A.K.	21	2.05
2	Shinde G.B.	65	6.34	16	Mungikar A.M.	21	2.05
3	Nagbhushanam	64	6.24	17	Bajaj V.H.	20	1.95
4	Bhise V.B.	41	4.00	17	Pathan Y.M.	20	1.95
5	Tilak S.T.	35	3.41	17	PrabhuAjgaonkar	20	1.95
6	Shingare M.S.	32	3.12	17	Sharma Narayan	20	1.95
7	JadhavSudam	31	3.02	17	Thakur L.B.	20	1.95
8	Lomte V.S.	30	2.93	18	Bhogle S.K.	19	1.85
9	Gangawane L.V.	29	2.83	18	Kulkarni G.K.	19	1.85
10	Bichile G.K.	28	2.73	18	Nikam G.A.	19	1.85
11	MandhaneDhanraj	27	2.63	19	Jadhav B.U.	18	1.76
11	Mehrotra S.C.	27	2.63	19	Khan A.G.	18	1.76
12	Pawar S.S.	26	2.54	19	Mane U.H.	18	1.76
12	Salunke R.S.	26	2.54	20	Arbad B.R.	17	1.66
13	Wagh S.B.	25	2.44	20	Dhuley D.G.	17	1.66
14	Kothekar V.S.	24	2.34	20	Kachole D.D.	17	1.66
15	Dharurkar V.L.	23	2.24	20	Ranade P.V.	17	1.66
15	Mukadam D.S.	23	2.24	20	Sarojini R.	17	1.66
15	Somwanshi S.A.	23	2.24	20	VyavhareSharad	17	1.66
16	Behere S.H.	21	2.05	Grand Total		1025	100.00

Concluding Remark

The university has established fifty two years back. During that period university has awarded on an average 67 Ph.D. degrees per year. Majority of the doctoral dissertation was in the discipline of Science followed by social sciences. However maximum doctoral dissertation was in the English language.

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