CITATION ANALYSIS OF Ph.D. THESES ON MATHEMATICS AND
STATISTICS SUBMITTED TO DR. BABASAHEB AMBEDKAR
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Abstract:-

Citation analysis is a technique of bibliometrics. It is an important research tool understanding the subject, which we analyze the structure and direction of the subject. Citation analysis is useful for librarians, Teachers and Information Scientists to represent the relationship which exist between the cited and citing document, the technique of citation analysis involve the process of collection, counting and analysis given in various types of literature. This is the direct method to analyze the library record to determine the actual use of the documents. This type of information can provide useful idea for acquisition of important material selection of documents. This can help the information system designers to plan their products and services, giving credit or related work, providing background reading, correcting the work of others, criticizing previous work, alerting forth coming work. Therefore citation analysis is important study for any discipline of pure sciences and social sciences.

The present study, citation analysis of Ph. D. theses submitted to Dr. Babasaheb Ambedkar Marathwada University. 151 Ph. D. theses of Mathematical Sciences (Mathematics and Statistics) were chosen as a sample from the year 1965 to 2013. There were 12194 citations appended to 151 theses. The data was collected from the bibliographical entries listed at the end of the theses, which was used by the researchers for completing the theses. The citations were photocopied and the data was collected.

The results are based on the analysis of collected data, year-wise distribution of Mathematics and Statistics theses in Mathematics majority of the theses were submitted during the year 2012 and 2013 and in Statistics majority of the theses were submitted during the year 1994, 2002 and 2004, the frequency distribution of different forms of documents used by
researchers in Mathematics and Statistics, heavily depend on journal literature that is 4457 (69.53%) citations were in Mathematics literature and in Statistics 3482 (60.20%) citations were on journal literature, the chronological distribution of citations was measured by number of years which elapsed between the publications of a document. Maximum number of citations were covered during the period of 1960-1969 accounting to 1518 (23.68%), citations and the least number of citations followed by the year 1680-1689, 1770-1779, 1820-1829, 1860-1869 accounting to 01 (0.02%) citations in Mathematics literature and in Statistics literature the maximum number of citations were covered during the period of 1968 -1977 accounting to 1238 (21.40%) citations and least number of citations followed by the year 1768-1777 accounting to 01 (0.02%) citations respectively, the half life period of Mathematics literature cited by the researchers was calculated as 260 years from 1680 – 1939 with 185 (2.88%) and the half life period of Statistics literature cited by the researchers was calculated as 170 years from 1768 - 1937 with 152 (2.62%). In the present study the single author publication was more in number in Mathematics with 3980 (62.09%) and in Statistics 3307 (57.17%) Citations are by single author, the author who is most preferred by researchers, that document is most important to keep in the library for that purpose author ranking is essential to librarians as well as researchers. In present study “Soundalgekar V.M.” scores the top position with 224 (2.36%) citations; second rank goes to “Lakshmikantham V.” and “Pachpatte B.G” with 175 (1.84%) citations, followed by “Zemanian A.H.” with 102 (1.07%) citations respectively in Mathematics literature. In Statistics literature “Prabhu Ajgaonkar S.G.” scores the top position with 84 (0.92%) citations; second rank goes to “Pachpatte B.G.” with 49 (0.54%) citations, followed by “Dantzig George B.” with 43 (0.47%) citations respectively in Statistics literature, in the ranking of publishers the analysis of data shows “Tata McGraw-Hill Publishing company Ltd.” scores the top position with 209 (3.26%) citations, second rank goes to “Academic Press” With 152 (2.37%) citations, followed by “Springer-Verlag” with 142 (2.22%) citations in Mathematics literature, and in Statistics literature “John Wiley and Sons.” scores the top position with 162 (2.80%) citations, second rank goes to “Tata McGraw Hill Publishing Co, Ltd” With 115 (1.99%) citations, followed by “Academic Press” with 76 (1.31%) citations in Statistics literature, the most cited documents in Mathematics literature were from USA Scored the top position with 590 (9.20%) citations, second rank goes to UK with 154 (2.40%) citations, followed by India with 141 (2.20%) citations respectively in
Mathematics literature and in Statistics literature USA Scored the top position with 712 (12.31%) citations, second rank goes to India with 443 (7.66%) citations, followed by UK with 141 (2.44%) citations respectively, Indian and Foreign distribution of citations of Mathematics and Statistics literature are reveals that the researchers of Mathematics depend heavily on foreign publications with 804 (12.54%) citations and researchers of Statistics depend heavily on foreign publications with 1006 (17.39%) citations which indicates that the researchers mostly depend on foreign literature than Indian literature, the researchers used Multilanguage literature in Mathematics and Statistics were in English language was a predominant language used by both the researchers with 6341 (98.92%) citations in Mathematics and 5772 (99.79%) citations of English language in Statistics literature, Journals are most preferred document used by the researchers of Mathematics and Statistics, in Mathematics literature the “Mathematical Analysis and Applications.” scores the top position with 244 (5.47%) citations and in Statistics literature “Operation Research” scores the top position with 148 (4.25%) citations, in book ranking the book “Generalized integral transformation” scores the top position with 40 (3.08%) citations in Mathematics literature and “Operation Research” scores the top position with 52 (3.78%) citations in Statistics literature.

**Keywords:** Citation, Citation analysis, Ph.D. Theses, Mathematical Sciences, Mathematics, Statistics, Dr. Babasaheb Ambedkar Marathwada University