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## CITATION ANALYSIS OF PH.D THESES AWARDED IN SOCIAL WORK BY TATA INSTITUTE OF SOCIAL SCIENCES (TISS), MUMBAI : A STUDY BEFORE THE INTERNET ERA.

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# CITATION ANALYSIS OF PH.D THESES AWARDED IN SOCIAL WORK BY TATA INSTITUTE OF SOCIAL SCIENCES (TISS), MUMBAI : A STUDY BEFORE THE INTERNET ERA

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## *Abstract*

The present study is based on 6,649 (Six Thousand, Six Hundred Forty Nine only) citations cited in 46 (Forty Six) Ph.D theses awarded in Social Work by Tata Institute of Social Work, Mumbai period of before the Internet era (till 2000) has been carried out to know the citation pattern. The data was collected using Shodhganga e-theses database or SDTM Library, TISS, Mumbai. The study carried out for parameters such as age of references, bibliographical format, title of pages, abstract and references of each Ph.D thesis. The softcopy and hardcopies were examined concerning name of the citations, number of citations, title of Ph.D thesis in social work, year of Ph.D thesis awarded, types of works cited, subject area covered and the total of each cited work. The study found that the total of 2,926 (Two Thousand, Nine Hundred Twenty Six only) books citations and 2,207 (Two Thousand, Two Hundred Seven only) journal citations were cited in 46 (Forty Six) theses. The Indian journal 'Economic and Political Weekly (EPW)' has been cited 126 (One Hundred Twenty Six) times and stands first in the rank list of journals. 'Indian Journal of Psychiatry (IJP)' has been referred to numerous occasions stands second circumstance in the rank overview with 91 (Ninety One) times references. 'Administrative Science Quarterly (ASQ)' journal stays in the third circumstance in the rank summary with 88 times references. The rank overview of country wise journals showed that journals published from India have extraordinarily high instances of references followed by journals dispersed from USA and UK. The study highlights the constraints faced by Ph.D scholars prior to the advent of internet and online access era in developing their scholarly work.

**Keywords:** *Citation analysis, Bibliography study, Shodhganga e-theses database, Social work, Ph.D Thesis.*

## **1. Introduction:**

Citation analysis of Ph.D thesis has given great insights into how the Ph.D students affiliated with various national and international universities have collated the academic articles, which have influenced their research objectives. Post the year 2000, there have been a spike in number of articles that evaluates citation analysis of Ph.D thesis (or journal articles) and identify various online sources (journals, web pages, news articles etc.) that have been referred by the researchers. However, less is known about how do the students, before the advent of internet era, referred the academic and non-academic articles for their Ph.D study. What kind of academic materials (book, journals, news articles etc.) they use to refer for their study and whether they were constrained in accessing the national and international publications. In order to address these research gaps, the present study takes the case of

Ph.D students, who graduated before the year 2000 from Tata Institute of Social Sciences (TISS), Mumbai as case in point and evaluate their Ph.D thesis to understand various academic sources they referred. The study of citation analysis could give great insights into the resources available at the disposal of Ph.D students from a premier Indian social sciences university (TISS, Mumbai) before the internet era kicked in. It could potentially identify the key books, journals, authors or publishers who shaped up the creation of knowledge during the pre-internet era. This study reviews the outcomes of a longitudinal study of over 6,649 citations from forty six (46) Ph.D theses awarded in social work by TISS, Mumbai, till 2000.

The present study has selected 46 Ph.D theses awarded in Social Work by Tata Institute of Social Sciences (TISS), Mumbai till 2000. While the quality of research output by TISS is well acknowledged, there exist a literature gap on what kind of reference material do TISS Ph.D scholar refer to for writing their thesis. It is still unknown if the Ph.D researcher use predominantly the western literature pool or like to refer the work published in mainstream social sciences journals of Indian origin.

The remaining article is divided into four parts. The upcoming part discusses the existing literature on citation analysis and identify how various authors have approached the subject of citation analysis. It is followed by a section on methods where an outline of the data collection and data analysis is highlighted. The section on data analysis and presentation showcase the results of the study followed by a discussion and conclusion section. The conclusion section also outlines the key limitations of the study and future scope of research.

## **2. Review of Literature:**

Citation analysis has become an indispensable tool to study the utilisation of library resources and identify which journals or database should they subscribe to. With the expenses rising on the subscription cost, each institute want to rationalise their access to only those database or platforms which is considered to be useful by the community members or research scholars of the particular institute. While this is true for the modern internet era, it was a challenge for the libraries to provide high quality resources and research material to their research scholars before the internet era kicked in. TISS Mumbai, which was established in the year 1936 has provided great research output that has guided and served generations of students. In this regard, it could be interesting to know that how it managed to provide good quality resources to its student so that they could compete with the world class institutes of western origin. This literature review will briefly identify what kind of citation analysis of Ph.D thesis has happened both in India and across other countries.

Bibliometrics and Librametry broadly have threefold objectives. First, it deals with quantitative analysis of scientific literature that includes citation and content analysis. In addition, elements like utilisation of library resources, information handling and information processing of libraries are evaluated. Citation analysis has been identified as “*the examination of the frequency, patterns, and graphs of citations in articles and books*” Richard (2010). Citation analysis is also an important parameter used by journals, where they evaluate the quality and impact of scholarly articles by evaluating its citation pattern over a period of time. The citation analysis pattern also determine the journal ranking and identify the key books that are referred widely in a particular discipline. For instance Thomson Reuter Journal Citation Report is one such outlet which analyse such citation

patterns, thus determining quality of academic work. Yet another widely studied element is that of co-authorship pattern which could potentially reveal the underlying network in which the academician work and publish.

Hargen (2000) classified two types of literature refereed by scholars who are engaged in research work. The first approach is to cite the latest articles on a particular topic, irrespective of the theoretical foundation relevance. This approach essentially means that the researcher want to showcase they are updated and thorough with the latest work in the discipline. Often such citations do not engage in basic theoretical discussion which could be decades old in the field. The second approach is to focus more on the old literature, which are very fundamental to understanding the phenomenon being discussed by the researcher. The downside of this approach is that the reviewers might come back arguing that the latest set of literature are not referred. It has been argued that the hardcore science discipline follow the strategy of referring the latest set of research work, while the social sciences discipline tend to ignore the latest work and focus more on the fundamental work in that particular discipline.

There have been studies that have explored what materials does the graduate, post-graduate and PhD students use from library and how does it influence the management efforts in building the database or book stock (Johnson, 2002; McKain and Bobick, 1982; Zipp, 1996). Authors have even focussed on the demographic background of students such as how do gender, citation format and methods vary across different schools or universities (Slutz, 1997; Buttler, 1999; Thomson, 2000). Yet other studies have focussed on disciplinary affiliation and intellectual boundaries of thesis. For instance, scholars from a particular school of thought or a particular university tend to cite their own work more than any other rival group located in other universities (Kärkii, 1996; Ding et al., 199).

### **2.1 Citation Analysis of Ph.D Thesis:**

Ph.D scholars in universities or research institutes are considered to be the flag-bearer of the academic research community, who are full time dedicated to producing new knowledge in the concerned field. If one has to gauge to the research productivity of any institute, a look at their Ph.D scholars and their publications track record will tell if they have a robust research culture at place or not. In this regard, the kind of books or articles referred by the Ph.D scholars become very important as it will reflect the focus of the institute and what their faculty members are expert in.

### **3. Statement of the Problem:**

1. It is unknown that before the advent of internet era, what kind literature related to books, journals, reports and databases were referred by Ph.D students of Social Work?
2. It is also unknown if the literature cited were of foreign or Indian origin and if they were authored by single or group of individuals?
3. The citation frequency of the important journals, books or magazines, which shape up the research trajectory of Ph.Ds, are unknown?

#### **4. Objectives of the study:**

The objectives of the present study are threefold:

- i. To analyse the types of literature referred (books, journals, magazines, reports, database) and its citation frequency in the Ph.D theses
- ii. To identify the origin of the literature referred (Indian or foreign origin) along with authorship pattern (single or multiple authors)
- iii. To find the most frequently cited journals, books or magazines along with their number of citations

#### **5. Methodology :**

The article relies on the online platform of Shodhganga and TISS Mumbai library to source all the Ph.D thesis soft copies awarded from the inception of institute till year 2016. All the references of the Ph.D thesis were transferred in excel sheet with all the necessary details. Once the data was transferred several cross tabulation and other analysis (as mentioned in results section) were ran to find the upcoming pattern. The first step in data analysis of Ph.D thesis submitted was to get a year wise breakup of the number of Ph.D awarded by TISS on or before the year 2000. The year 2000 was taken as cut-off year as after that some of the Indian universities saw adoption of computers in their teaching curricula. It should however be noted that internet was still an expensive service and it remained underutilised even couple of years post 2000. It was also confirmed with the library authorities of TISS Mumbai that any work before the year 2000 did not utilised any online resources.

The data from all the theses were entered manually into Excel sheet and thereby various analysis like frequency distribution, cross tabulation, and rank order were generated.

#### **6. Data Analysis, Findings and Discussion:**

##### **6.1 Distribution of Citations:**

**Table 1**, give year wise breakup of the Ph.D thesis awarded by TISS Mumbai. It could be noted that the rate of production of Ph.D scholars in TISS Mumbai was very low, where in the year 1981, 1982, 1997 and 2000 witnessed not even a single student securing a Ph.D degree. The highest number of Ph.D degrees awarded in a year was to four students and for most of the years the number of students passing Ph.D remained dismally low. While it is not sure what could be reason behind such trajectory, but one possibility could be that TISS was focussing more on its masters level programme and did not aggressively hired Ph.D research scholars.

**Table- 1.** Year-wise Distribution of Ph.D Theses during till 2000:

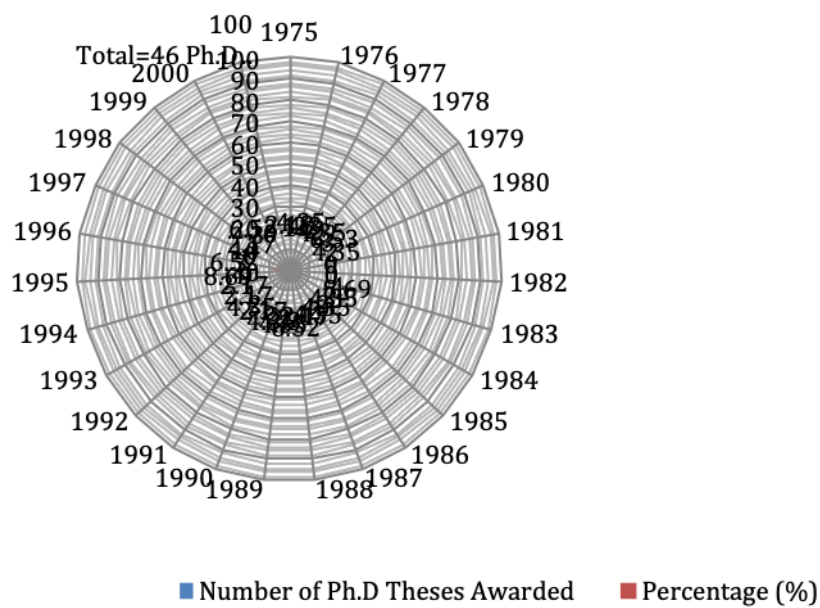
| <b>Table- 1 - Year-wise distribution of Ph.D Theses Awarded in Social Work by TISS, Mumbai during Upto 2000</b> |                                      |                       |                                    |                                      |                       |
|---|--------------------------------------|-----------------------|------------------------------------|--------------------------------------|-----------------------|
| <b>Yearly of Ph.D Theses Award</b>  | <b>Number of Ph.D Theses Awarded</b> | <b>Percentage (%)</b> | <b>Yearly of Ph.D Theses Award</b> | <b>Number of Ph.D Theses Awarded</b> | <b>Percentage (%)</b> |

|              |   |      |      |           |            |
|--------------|---|------|------|-----------|------------|
| 1975         | 1 | 2.18 | 1988 | 3         | 6.52       |
| 1976         | 2 | 4.35 | 1989 | 2         | 4.35       |
| 1977         | 2 | 4.35 | 1990 | 2         | 4.35       |
| 1978         | 2 | 4.35 | 1991 | 1         | 2.17       |
| 1979         | 3 | 6.53 | 1992 | 2         | 4.35       |
| 1980         | 2 | 4.35 | 1993 | 1         | 2.17       |
| 1981         | 0 | 0    | 1994 | 1         | 2.17       |
| 1982         | 0 | 0    | 1995 | 4         | 8.69       |
| 1983         | 4 | 8.69 | 1996 | 3         | 6.52       |
| 1984         | 2 | 4.35 | 1997 | 0         | 0          |
| 1985         | 2 | 4.35 | 1998 | 1         | 2.17       |
| 1986         | 2 | 4.35 | 1999 | 3         | 6.52       |
| 1987         | 1 | 2.17 | 2000 | 0         | 0          |
| <b>Total</b> |   |      |      | <b>46</b> | <b>100</b> |

**Source:** own analysis of data sourced from Shodhganga and TISS Mumbai

Figure 1 presents an alternative way of visualising the PhD thesis awarded in specific year.

**Figure- 1- Year-wise Distribution of Ph.D Theses Awarded in Social Work by TISS, Mumbai during Upto 2000**



The next step in data analysis was to analyse the average number of citations made by the Ph.D scholars of TISS Mumabi. For calculating this part, average number of citations by the Ph.D graduates were analysed. The results have been presented in Table 2. The striking feature of this analysis is that on an average a Ph.D scholar was citing only around 150 references, which could be considered to be on lower side by the present day standards. Currently, average number of citations per Ph.D thesis well runs above 300. While it does not mean that someone citing 300 articles are doing a better job in research, it could well be considered that the Ph.D scholars before the year 2000 did not had easy access to a lot of resources that are made available by platforms like Google Scholar.

**Table 2** Average total number of citations in each Ph.D Thesis

| <b>Table 2</b> - Shows the year-wise allocation of Ph.D Theses Awarded in Social Work, the equivalent total number of citations and the average number of citations each thesis. |             |                           |                         |                                     |
|--|-------------|---------------------------|-------------------------|-------------------------------------|
| <b>S.No.</b>   | <b>Year</b> | <b>No. of Ph.D Theses</b> | <b>No. of Citations</b> | <b>Average Citation Each Thesis</b> |
| 01.  | 1975        | 1                         | 115                     | 115                                 |
| 02.  | 1976        | 2                         | 107                     | 53.5                                |
| 03.  | 1977        | 2                         | 124                     | 62                                  |
| 04.  | 1978        | 2                         | 207                     | 103.5                               |
| 05.  | 1979        | 3                         | 427                     | 142.33                              |
| 06.  | 1980        | 2                         | 465                     | 232.5                               |
| 07.  | 1981        | 0                         | 0                       | 0                                   |
| 08.  | 1982        | 0                         | 0                       | 0                                   |
| 09.  | 1983        | 4                         | 525                     | 131.25                              |
| 10.  | 1984        | 2                         | 399                     | 199.5                               |
| 11.  | 1985        | 2                         | 281                     | 140.5                               |
| 12.  | 1986        | 2                         | 482                     | 241                                 |
| 13.  | 1987        | 1                         | 95                      | 95                                  |
| 14.  | 1988        | 3                         | 610                     | 203.33                              |
| 15.  | 1989        | 2                         | 143                     | 71.5                                |
| 16.  | 1990        | 2                         | 348                     | 174                                 |
| 17.  | 1991        | 1                         | 243                     | 243                                 |
| 18.  | 1992        | 2                         | 495                     | 247.5                               |
| 19.  | 1993        | 1                         | 85                      | 85                                  |
| 20.  | 1994        | 1                         | 162                     | 162                                 |
| 21.  | 1995        | 4                         | 224                     | 56                                  |
| 22.  | 1996        | 3                         | 500                     | 166.66                              |
| 23.  | 1997        | 0                         | 0                       | 0                                   |
| 24.  | 1998        | 1                         | 230                     | 230                                 |
| 25.  | 1999        | 3                         | 382                     | 127.33                              |
| 26.  | 2000        | 0                         | 0                       | 0                                   |
| <b>Total</b>   |             | <b>46</b>                 | <b>6649</b>             | <b>144.57</b>                       |

**Source:** Own analysis from data collated from Shodhganga and TISS Mumbai.

While the average number of thesis cited is well below 150, there are incidences where PhD scholars have cited over 500 references in their thesis. While their numbers are low, it does reflect that some of them were able to source wide range of material to build their thesis. It is also interesting to note that

the lowest number of citations by one Ph.D scholar was 85. While the number of citations are vital, it could be even more revealing if the type of resources referred by the Ph.D scholars is known. Table 3 gives this much needed insights by identifying the key literature types referred by the Ph.D scholars.

An interesting revelation from Table 3 is that a major chunk of literature referred in Ph.D theses were derived from books and monographs. This was well predictable because before the era of internet, most of the libraries were known to stock huge number of books and monographs. Therefore over 44 percent of the literature cited came from books. The second highest used resource for citations were from journal articles. It could be noted that over 2000 citations came from journal articles, which were around 33 percent of total citations in the Ph.D theses. TISS Mumbai being a premier institute for social science research has always been proactive in securing journals from reputed publishers and have their own in-house journal publication. As expected, there were no web resources or web links cited by the Ph.D researchers, which highlighted the vacuum or conspicuous absence of online databases or research websites.

**Table- 3** Distribution of citations according to the literature types

| <b>Table-3 - Distribution of citations according to bibliographic forms/type of literature referred in</b> |                                      |                            |                       |
|--|--------------------------------------|----------------------------|-----------------------|
| <b>S.No.</b>   | <b>Bibliographic forms</b>           | <b>Number of Citations</b> | <b>Percentage (%)</b> |
| 01.  | Books and Monographs                 | 2926                       | 44                    |
| 02.  | Journals                             | 2207                       | 33.2                  |
| 03.  | Reports                              | 898                        | 13.5                  |
| 04.  | Govt. Reports                        | 181                        | 2.72                  |
| 05.  | Newspaper                            | 94                         | 1.41                  |
| 06.  | Conference Proceedings               | 66                         | 0.99                  |
| 07.  | Magazines                            | 48                         | 0.73                  |
| 08.  | Working Paper                        | 47                         | 0.7                   |
| 09.  | Theses and Dissertations/Unpublished | 43                         | 0.65                  |
| 10.  | Census/NSSO Dataset                  | 10                         | 0.16                  |
| 11.  | Web Resources                        | 0                          | 0                     |
| 12.  | Not Identified (N.I.)                | 129                        | 1.94                  |
| <b>Grand Total</b>   |                                      | <b>6649</b>                | <b>100</b>            |

**Source:** Own analysis from data collated from Shodhganga and TISS Mumbai

Another interesting fact about the resources used by the Ph.D scholars constitutes a significant number of government/non-government published reports. One potential reason for such a phenomenon is related to the nature of studies and projects undertaken by TISS as an institute. TISS positioned itself as a leading social science institute whose mandate is to bring tangible difference in the life of people. Therefore a wide range of projects ranging from livelihood, health, labour, urban studies, women studies etc. are undertaken every year, churning out good quality reports. The students often refer to those reports to understand the ongoing challenges and debates in a particular segment. Therefore both the reports published by government as well as non-governmental actors are well cited in the Ph.D thesis. These reports at time also affect the choice of Ph.D topics as at times, a Ph.D scholar might also be engaged in building reports for some socially relevant study projects. Yet another source for data worth mentioning here is National Sample Survey (NSSO) conducted by the government of India. Many of the scholars in the field of social sciences rely on the government provided data to run their own analytics about the upcoming pattern on the various socio-economic



indicators. The NSSO data is one of the most comprehensive data set that is collated by the Government of India through their extensive survey across the country.

A further deep-diving on the types of resources is related to the origin of the books, journals and reports cited by the Ph.D scholars. The primary objective here is understand how many references were of Indian origin and how many of them had foreign origin. This data has potential to reveal the if a large number of foreign authors guided the theoretical or empirical framework used by the Ph.D scholars of TISS Mumbai. Taking this line of enquire further, Table 4 provides an elaborate account of the number of citations that had foreign authors or of foreign origin and number of citations that were of Indian origin. The data in Table 4 also reveal if the research article/book/reports were single authored or co-authored.

An interesting pattern that is revealed here is that a large number of references made by the Ph.D researchers were of foreign authors, who in maximum likelihood were the sole authors of the books. A total of 1535 such references were cited by the Ph.D researchers. On similar lines, the total number of citations from the books written by individual Indian authors were noted to be 675. This is an interesting phenomenon considering the fact that most of the books, irrespective of the local or international origin, were single authored. However this pattern is not consistent when data from journal articles are discussed. From the Table 4, it is evident that most of the journal articles cited by the Ph.D students were having two or more number of authors.

**Table 4:** Number of Indian and Foreign authors along with authorship pattern of citations

| <b>Table- 4</b> The data suggests for the total number of Indian and Foreign Authorship Pattern of Cumulative Citations in Social Work |           |                      |       |              |           |                      |       |              |           |                      |       |              |
|--|-----------|----------------------|-------|--------------|-----------|----------------------|-------|--------------|-----------|----------------------|-------|--------------|
| Authorship Pattern   | Books     |                      |       |              | Journals  |                      |       |              | Reports   |                      |       |              |
|  | Citations | Cumulative citations | %     | Cumulative % | Citations | Cumulative citations | %     | Cumulative % | Citations | Cumulative citations | %     | Cumulative % |
| Indian Single  | 675       | 675                  | 23.07 | 23.06        | 483       | 483                  | 21.89 | 21.88        | 364       | 364                  | 40.58 | 40.57        |
| Foreign Single   | 1535      | 2210                 | 52.47 | 75.52        | 895       | 1378                 | 40.56 | 62.43        | 386       | 750                  | 43.03 | 83.61        |
| Indian Double  | 113       | 2323                 | 3.87  | 79.39        | 143       | 1521                 | 6.48  | 68.91        | 55        | 805                  | 6.14  | 89.74        |
| Foreign Double   | 466       | 2789                 | 15.93 | 95.31        | 406       | 1927                 | 18.4  | 87.31        | 50        | 855                  | 5.58  | 95.31        |
| Indian Triple  | 17        | 2806                 | 0.59  | 95.89        | 38        | 1965                 | 1.73  | 89.03        | 11        | 866                  | 1.22  | 96.54        |
| Foreign Triple   | 87        | 2893                 | 2.98  | 98.87        | 123       | 2088                 | 5.58  | 94.6         | 14        | 880                  | 1.57  | 98.1         |
| Indian Fourth  | 4         | 2897                 | 0.13  | 99           | 17        | 2105                 | 0.77  | 95.37        | 4         | 884                  | 0.44  | 98.55        |
| Foreign Fourth   | 19        | 2916                 | 0.64  | 99.65        | 50        | 2155                 | 2.26  | 97.64        | 4         | 888                  | 0.44  | 98.99        |
| Indian Fifth   | 1         | 2917                 | 0.03  | 99.69        | 6         | 2161                 | 0.27  | 97.91        | 0         | 888                  | 0     | 98.99        |
| Foreign Fifth  | 2         | 2919                 | 0.06  | 99.76        | 12        | 2173                 | 0.54  | 98.45        | 0         | 888                  | 0     | 98.99        |
| Indian more than Five  | 1         | 2920                 | 0.03  | 99.79        | 9         | 2182                 | 0.4   | 98.86        | 0         | 888                  | 0     | 98.99        |

|                        |               |                      |       |              |  |                      |       |              |                        |                      |       |              |                 |                      |
|------------------------|---------------|----------------------|-------|--------------|--|----------------------|-------|--------------|------------------------|----------------------|-------|--------------|-----------------|----------------------|
| Foreign more than Five | 0             | 2920                 | 0     | 99.79        | 18                                     | 2200                 | 0.81  | 99.68        | 0                      | 888                  | 0     | 98.99        |                 |                      |
| Not Identified (N.I.)  | 6             | 2926                 | 0.2   | 100          | 7                                      | 2207                 | 0.31  | 100          | 9                      | 897                  | 1     | 100          |                 |                      |
| Total                  | 2926          | --                   | 100   | --           | 2207                                   | --                   | 100   | --           | 897                    | --                   | 100   | --           |                 |                      |
| Authorship Pattern     | Govt. Reports |                      |       |              | Newspaper Articles                     |                      |       |              | Conference Proceedings |                      |       |              |                 |                      |
|                        | Citations     | Cumulative citations | %     | Cumulative % | Citations                              | Cumulative citations | %     | Cumulative % | Citations              | Cumulative citations | %     | Cumulative % |                 |                      |
| Indian Single          | 174           | 174                  | 96.13 | 96.13        | 82                                     | 82                   | 87.24 | 87.23        | 35                     | 35                   | 53.03 | 53.03        |                 |                      |
| Foreign Single         | 5             | 179                  | 2.77  | 98.89        | 10                                     | 92                   | 10.64 | 97.87        | 21                     | 56                   | 31.81 | 84.84        |                 |                      |
| Indian Double          | 1             | 180                  | 0.55  | 99.44        | 2                                      | 94                   | 2.12  | 100          | 4                      | 60                   | 6.06  | 90.9         |                 |                      |
| Foreign Double         | 1             | 181                  | 0.55  | 100          | 0                                      | 0                    | 0     | 0            | 2                      | 62                   | 3.03  | 93.93        |                 |                      |
| Indian Triple          | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 0                      | 62                   | 0     | 93.93        |                 |                      |
| Foreign Triple         | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 1                      | 63                   | 1.52  | 95.45        |                 |                      |
| Indian Fourth          | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 1                      | 64                   | 1.52  | 96.96        |                 |                      |
| Foreign Fourth         | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 0                      | 64                   | 0     | 96.96        |                 |                      |
| Indian Fifth           | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 0                      | 64                   | 0     | 96.96        |                 |                      |
| Foreign Fifth          | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 0                      | 64                   | 0     | 96.96        |                 |                      |
| Indian more than Five  | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 0                      | 64                   | 0     | 96.96        |                 |                      |
| Foreign more than Five | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 0                      | 64                   | 0     | 96.96        |                 |                      |
| Not Identified (N.I.)  | 0             | 0                    | 0     | 0            | 0                                      | 0                    | 0     | 0            | 2                      | 66                   | 3.03  | 100          |                 |                      |
| Total                  | 181           | --                   | 100   | --           | 94                                     | --                   | 100   | --           | 66                     | --                   | 100   | --           |                 |                      |
| Authorship Pattern     | Magazines     |                      |       |              | Theses and Dissertations / Unpublished |                      |       |              | Census/NSSO Dataset    |                      |       |              | Total Citations | % of total Citations |
|                        | Citations     | Cumulative citations | %     | Cumulative % | Citations                              | Cumulative citations | %     | Cumulative % | Citations              | Cumulative citations | %     | Cumulative % |                 |                      |
| Indian Single          | 38            | 38                   | 79.17 | 79.16        | 32                                     | 32                   | 74.41 | 74.41        | 10                     | 10                   | 100   | 100          | 1893            | 29.25                |
| Foreign Single         | 8             | 46                   | 16.67 | 95.83        | 10                                     | 42                   | 23.26 | 97.67        | 0                      | 10                   | 0     | 100          | 2870            | 44.35                |
| Indian Double          | 0             | 46                   | 0     | 95.83        | 1                                      | 43                   | 2.33  | 100          | 0                      | 10                   | 0     | 100          | 319             | 4.93                 |
| Foreign Double         | 2             | 48                   | 4.16  | 100          | 0                                      | 43                   | 0     | 100          | 0                      | 10                   | 0     | 100          | 927             | 14.33                |
| Indian Triple          | 0             | 48                   | 0     | 100          | 0                                      | 43                   | 0     | 100          | 0                      | 10                   | 0     | 100          | 66              | 1.02                 |

|                        |    |    |     |     |    |    |     |     |    |    |     |     |      |      |
|------------------------|----|----|-----|-----|----|----|-----|-----|----|----|-----|-----|------|------|
| Foreign Triple         | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 225  | 3.48 |
| Indian Fourth          | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 26   | 0.4  |
| Foreign Fourth         | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 73   | 1.13 |
| Indian Fifth           | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 7    | 0.1  |
| Foreign Fifth          | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 14   | 0.22 |
| Indian more than Five  | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 10   | 0.15 |
| Foreign more than Five | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 18   | 0.27 |
| Not Identified (N.L.)  | 0  | 48 | 0   | 100 | 0  | 43 | 0   | 100 | 0  | 10 | 0   | 100 | 24   | 0.37 |
| Total                  | 48 | -- | 100 | --  | 43 | -- | 100 | --  | 10 | -- | 100 | --  | 6472 | 100  |

**Source:** Own analysis from data collated from Shodhganga and TISS Mumbai

The authorship pattern where two or more authors have collaborated to write a journal article was also valid in the case of Indian authors. It is also evident that the magazines, theses/dissertation were mostly of Indian origin. For the magazine articles, it was unusual to have more than two authors, be it of Indian or foreign origin.

Other than knowing the type of publications (i.e. books, journals, magazines etc.), yet another vital analysis is about the frequency with which a few journals in social sciences were cited. This data is of great significance because it could reveal the top journals referred and cited by the Ph.D scholars. Table 5 gives details about the name of journals that received maximum citations and the corresponding numbers of citation frequency for the same. It is evident that Economic and Political Weekly, a reputed journal in the field of social sciences topped the chart. Most of the Ph.D scholars refer EPW as one of the primary source for articles related with their topics. It is quite interesting to note that EPW publishes a wide range of contemporary topics related to economics, social sciences, business, health, anthropology, sociology etc. and therefore is a sought after journals by all the academic institutes related with social sciences.

**Table 5: Journals citation frequency and its rank order**

| S. N. | Rank | Title of Journals                   | No. of Citation (Frequency) | Com. Citation | Percentage (%) | Com. Percentage (%) | Country | Impact Factor   | Publisher Name  |
|-------|------|-------------------------------------|-----------------------------|---------------|----------------|---------------------|---------|---|-----------------|
| 1     | 1    | Economic and Political Weekly (EPW) | 126                         | 126           | 5.7            | 5.7                 | India   | 0.31 (2018-19) / (RG Journal Impact:0.19 – 2018-19) [SIR Ranking of India (44 H Index)] | Sameeksha Trust |

|   |   |  |    |     |      |       |                |  |  |
|---|---|--|----|-----|------|-------|----------------|--|--|
| 2 | 2 | Indian Journal of Psychiatry (IJP)             | 91 | 217 | 4.12 | 9.83  | India          | 1.122 (2018-19) [SIR Ranking of India (26 H Index)]  | Medknow Publications on behalf of the Indian Psychiatric Society (India)                                     |
| 3 | 3 | Administrative Science Quarterly (ASQ)         | 88 | 305 | 3.98 | 13.81 | New York       | 5.878 (2017)   | SAGE Publications  |
| 4 | 4 | Journal of Studies on Alcohol and Drugs (JSAD) | 53 | 358 | 2.4  | 16.22 | United States  | 2.616 (2017)   | Alcohol Research Documentation   |
| 5 | 5 | Journal of Applied Psychology Monograph (JAPM) | 64 | 422 | 2.89 | 19.12 | United States  | 7.508 (5-Year Impact Factor)   | Association for Applied Psychology (AAP) by Stanford University Press (California)                           |
| 6 | 6 | The Indian Journal of Social Work (IJSW)       | 56 | 478 | 2.53 | 21.65 | India          | 0.09 (RG Journal Impact-2018/2019) / (0.116 - SJR – 2018) [SIR Ranking of India (7 H Index)] | Tata Institute of Social Sciences (TISS)   |
| 7 | 7 | Social Science and Medicine (SSM)              | 48 | 526 | 2.17 | 23.83 | United Kingdom | 1.72 (RG Journal Impact – 2018-19) [SIR Ranking of United Kingdom (213 H Index)]             | Elsevier Ltd.  |
| 8 | 8 | Journal of Marriage and Family (JMF)           | 38 | 564 | 1.72 | 25.55 | United States  | 2.582 (2018)   | Wiley-Blackwell on behalf of the National Council on Family Relations  |
| 9 | 9 | American Journal of Orthopsychiatry (AJO)      | 33 | 597 | 1.49 | 27.05 | United States  | 2.601 (5-Year Impact Factor) / 1.531 (2017)  | American Psychological Association on behalf of the Global Alliance for Behavioral Health and Social Justice |

|    |    |   |    |      |      |       |                        |   |  |
|----|----|---|----|------|------|-------|------------------------|---|--|
| 10 | 10 | British Journal of Addictions (BJA)                     | 33 | 630  | 1.49 | 28.54 | United Kingdom         | 6.851 (2018)                                | Society for the Study of Addiction (SSA) |
| 11 | 11 | American Sociological Review (ASR)                      | 27 | 657  | 1.22 | 29.76 | United States          | 5.391 (2018) / 7.380 (5-Year Impact Factor) | SAGE Publications                        |
| 12 | 12 | Human Relations (HR Journal)                            | 24 | 681  | 1.08 | 30.85 | United Kingdom         | 3.043 (2017)                                | SAGE Publications                        |
| 13 | 13 | International Journal of Intercultural Relations (IJIR) | 22 | 703  | 0.99 | 31.85 | Amsterdam, Netherlands | 1.183 (2016)                                | Elsevier                                 |
| 14 | 14 | Journal of Occupational Psychology (JOP)                | 21 | 724  | 0.95 | 32.8  | Canada                 | 4 (H-Index_2018)                            | North American Business Press (NABP)     |
| 15 | 15 | 2 journals with 31 citations                            | 62 | 786  | 2.8  | 35.61 | NA                     | NA  | NA                                       |
| 16 | 16 | 2 journals with 23 citations                            | 46 | 832  | 2.08 | 37.69 | NA                     | NA  | NA                                       |
| 17 | 17 | 3 journals with 20 citations                            | 60 | 892  | 2.71 | 40.41 | NA                     | NA  | NA                                       |
| 18 | 18 | 4 journals with 19 citations                            | 76 | 968  | 3.44 | 43.86 | NA                     | NA  | NA                                       |
| 19 | 19 | 2 journals with 18 citations                            | 36 | 1004 | 1.63 | 45.49 | NA                     | NA  | NA                                       |
| 20 | 20 | 2 journals with 17 citations                            | 34 | 1038 | 1.54 | 47.03 | NA                     | NA  | NA                                       |
| 21 | 21 | 4 journals with 16 citations                            | 64 | 1102 | 2.89 | 49.93 | NA                     | NA  | NA                                       |
| 22 | 22 | 2 journals with 15 citations                            | 30 | 1132 | 1.35 | 51.29 | NA                     | NA  | NA                                       |
| 23 | 23 | 1 journals with 14 citations                            | 14 | 1146 | 0.63 | 51.92 | NA                     | NA  | NA                                       |
| 24 | 24 | 2 journals with 12 citations                            | 24 | 1170 | 1.08 | 53.01 | NA                     | NA  | NA                                       |
| 25 | 25 | 6 journals with 11 citations                            | 66 | 1236 | 2.99 | 56    | NA                     | NA  | NA                                       |
| 26 | 26 | 5 journals with 10 citations                            | 50 | 1286 | 2.26 | 58.26 | NA                     | NA  | NA                                       |
| 27 | 27 | 3 journals with 9 citations                             | 27 | 1313 | 1.22 | 59.49 | NA                     | NA  | NA                                       |
| 28 | 28 | 8 journals with 8 citations                             | 64 | 1377 | 2.89 | 62.39 | NA                     | NA  | NA                                       |
| 29 | 29 | 12 journals with 7 citations                            | 84 | 1461 | 3.8  | 66.19 | NA                     | NA  | NA                                       |

|    |    |                              |             |      |      |       |    |    |    |
|----|----|------------------------------|-------------|------|------|-------|----|----|----|
| 30 | 30 | 13 journals with 6 citations | 78          | 1539 | 3.53 | 69.73 | NA | NA | NA |
| 31 | 31 | 12 journals with 5 citations | 60          | 1599 | 2.71 | 72.45 | NA | NA | NA |
| 32 | 32 | 30 journals with 4 citations | 120         | 1719 | 5.43 | 77.88 | NA | NA | NA |
| 33 | 33 | 36 journals with 3 citations | 108         | 1827 | 4.89 | 82.78 | NA | NA | NA |
| 34 | 34 | 53 journals with 2 citations | 106         | 1933 | 4.8  | 87.58 | NA | NA | NA |
| 35 | 35 | 267 journals with 1 citation | 267         | 2200 | 12.1 | 99.68 | NA | NA | NA |
| 36 | 36 | Not Identified (N.I.)        | 7           | 2207 | 0.31 | 100   | NA | NA | NA |
|    |    | <b>Total</b>                 | <b>2207</b> |      |      |       |    |    |    |

**Source:** Own analysis from data collated from Shodhganga and TISS Mumbai

Some other widely cited journals during this time period were Indian Journal of Psychiatry (IJP) and Administrative Science Quarterly. The inhouse journal of TISS, viz. Indian Journal of Social Work has also been referred and cited widely. It should also be noted that during this period of time, TISS Mumbai had even subscribed to some of the international journals such as American Sociological Review and Human Relations. This also reflects the willingness of the institute in spending money and resources towards acquiring relevant journals of international stature and thereby benefit the research community of TISS. However, if we analyse carefully, the citation frequency of international journals were quite low and even for many of the journals only a few citations were received. This could possibly be attributed to the limitations in number of journals for which hard copies were available with TISS Mumbai library.

## **7. Conclusion and Future Scope of Study:**

The primary objective of the study was to understand the kind of references Ph.D scholars of TISS Mumbai, in the field of Social Work, referred in their Ph.D theses. The time duration chosen for the study was theses that were submitted before the year 2000. The cut-off year was kept as 2000 to understand the kind of references that shaped up the Ph.D work, before the advent of internet era. The findings reveal that a major chunk of references was sourced from books and published monographs, followed by journal articles and reports. The number of references from websites or other electronic resources were zero. This reveals that before the advent of internet era, the research scholars entirely depended on the physical library resources, which in turn use to spend a substantial amount of money in procuring the hard copies of books, journals and reports. It should be noted that the libraries use to have limited number of copies for books, journals and reports and moreover they were not stored in any digital format. Post the internet and digitalization era, libraries have moved beyond the conventional physical resources and invested heavily in subscribing to online journals and database platforms. This has opened up new avenues for the Ph.D scholars who were lucky to

have internet and digital platforms to enable their literature search. However, on the downside, there is a risk of information overload, where a Ph.D scholar is simply overwhelmed by the number of choices or literature they could potentially collect in short period of time. The limited cognitive capacity along with deadline for submission of Ph.D thesis often lead to a trade-off where in order to secure a timely Ph.D, the research scholar might compromise on diving deep into the enormous amount of literature available through online portals. The study does not seem to support Hargen (2000) assertion that social sciences mostly refer to fundamental theories rather than the latest set of literature. In contrast, it is evident that the Ph.D thesis of TISS Mumbai attempted to maintain a fair balance between the old fundamental citations and latest work done at that period of time.

Another important conclusion that could be drawn from the study is that the Ph.D scholars do not disproportionately cited a greater number of journal articles when compared with other materials such as books and reports. The data analysis shows that the Ph.D scholars have cited the journal articles and books in similar frequency range. This is in contrast with some recent studies which argue that due to more availability and accessibility of journal articles online, more and more scholars are referring journal articles than books. It would be interesting to study the citation pattern of the Ph.D scholars who have completed their Ph.D after the year 2000. It could be the case that the frequency of citation of journal articles could be high in the case of Ph.D submitted post 2000. One limitation of the research is that it discusses the case of only TISS Mumbai and does not include other big social science institutes such Jawahar Lal University (JNU) and Hyderabad Central University (HCU) for the sake of comparison. Hence the generalizability of this research is limited and further studies are needed to generate a comparative narrative of different universities. A future scope of study could be to compare the citations pattern for the time period beyond the year 2000. Sometimes during the year 2003-2004, digitization of libraries started to happen and TISS Mumbai library was among the pioneers in terms of adopting this digital transformation. It would be interesting to see how the number of citations and types of citations have changed after the advent of internet. As a part of further study, the authors of this paper are working on this line of thought.

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