A REVIEW OF ONLINE DOCTORAL RESEARCH ON MULTIDISCIPLINARY INFORMATION NEEDS

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Abstract. *We all are experiencing the need for information in our daily life. Research on the information needs and satisfaction of information needs are carried out by the researchers. The present online research has been carried out to find out the research on information needs in Indian universities. The outcome of this research in terms of doctoral thesis has been made available online for further research. The researchers have conducted studies of the various disciplines of faculty members, students, scientists, researchers, communities, and professionals. There are many factors that are influencing the satisfaction of the information needs, few of them are considered here. The number of research conducted on information needs has increased over a period. The satisfaction level of the study group consisting of multidisciplinary people varies according to constituents of the group, the geographical location of the group in terms of implementation of the library legislation, etc.*

Keywords: Communities, Educationalists, Information Needs, Professionals, Shodhganga (online reservoir of Indian Thesis).

1. INTRODUCTION

The information has been defined by various authors in different ways. Case [1], has listed the assumptions that are turned out to be problematic while applying the definition. Those five assumptions are Utility, Physicality, Structure/Process, Intentionality, and Truth. The information which does not have usefulness to humans may not have utility. If the information or its effects are not observable then it will not be useful for scholarly study. The information shall comprise elements in fixed relation to others in a structured way. The information shall be intended to communicate it to other entities. If the information is not true then it will be misinformation [1].

According to Wilson [2] a human being may get facts, consultation or reactions in script form or in spoken form for which he is anxious while the transfer of the information is taking place. Miller [3], a psychologist, referred information to the occurrence of one out of a set of alternative stimuli. Madden [4] proposed the definition of information as a stimulus originating in one system that affects the interpretation by another system of either the second systems related to the first or of the relationship the two systems share with the given environments.

All of us are experiencing the power of information in our daily life. The political decision making will also be affected by the information provided [5]. Despite the abundance of information, the mismatch between the information needed and the information available resulted in insufficient information [6]. The human capital stored in human beings such as stock of education, skills, culture, and knowledge leads to the development of society [7]. Considering these multi-disciplines, the study groups can be divided into:-1) students & faculty, 2) communities 3) researchers & scientists and 4) professionals.

2. A BRIEF LITERATURE REVIEW

Satija [8] concluded in her study that information is the most overused and least understood term without which life is nothing yet it needs life to be born. Parvez [9], in his study on the information needs of managers in Indian financial institutions concluded that the information providers should focus on providing customized information solutions and serious thought is needed on the part of the government and the private agencies for providing timely and credible information to the institutions for research and analysis. Feather [10] mentioned that the information professionals should be key players in the information society. Bigdeli, [11] while studying information needs of engineers in an agro-industry company summed up by stating that staff members shall be treated as remote customers and librarians shall arise with modern & inventive approach to satisfy their needs.

The study of "Australian general practitioners information resources needs" concluded that further educational inference on complementary medicines need to be furnished to general practitioners to advance their knowledge of complementary medicines and to improve their communication with patients about their use [12]. Patterson et al. [13] emphasized the need for access to the latest patient information being a hurdle to paramedics delivering correct end-of-life care, which will help community-based care.

Kawasaki, Henry, and Meguro [14] in their survey found that many hurdles to the compilation of

disaster information and arrangements still remained for overseas peoples, both in Japan and in other disaster-prone countries with more distinct persons.

The improvement in the collections and services at the University of Lethbridge has been done by applying the knowledge gained after examining the information needs of university students in foundational foreign language courses [15]. The study of information needs of the farmers, their access and constraints faced in getting information, concluded that the arrangements and focused transmission of agricultural information to modest growers continue to be a challenge and recommended for developing information and communication technology-based information management systems [16].

3. OBJECTIVE ANND METHODOLOGY

In review of the above studies, this paper aims at determining the following objectives:-

1) To examine the trend of doctoral theses in Indian universities over a period of time on the study of information needs.

2) To study the overall outcome in terms of the satisfaction of various groups' information needs.

3) To study the impact of the adoption of library legislation on the satisfaction of information needs by the respective state governments where the group is geographically located.

The work of Information and Library Network (INFLIBNET) with regards to Indian Electronic Thesis and Dissertation (ETD) online free availability of all the multidisciplinary doctoral research work conducted in India is praiseworthy work [17]. This Indian ETD repository Shodhganga has been accessed online to find out research work done in the field of Information needs of Faculty, Students, Scientists, Researchers, Communities, and Professionals.

The important keyword for search used was "Information needs". A total of 62 number of the theses were retrieved under the keyword information needs doctoral thesis conducted under the Library and Information Science department from Shodhganga. Out of these, two theses were in other than the English language and the conclusion of the three theses was ambiguous so, 57 theses were used for the study. Researchers of four of these theses studied two groups each. Thus, data sets of 61 groups of information needs were available for the study.

The large primary data collected by the doctoral researchers on information needs is considered enough to be studied. The inter-group statistical comparison of the distribution of categorical variables is tested using the Chi-Square test or Fisher's exact probability test. All the results are tabulated to visualize the statistically significant difference with more clarity. In the entire study, the p-values less than 0.05 are considered to be statistically significant. The entire data is statistically analyzed using the Statistical Package for Social Sciences (SPSS version 22.0, IBM Corporation, USA) for MS Windows.

4. RESULTS AND DISCUSSIONS

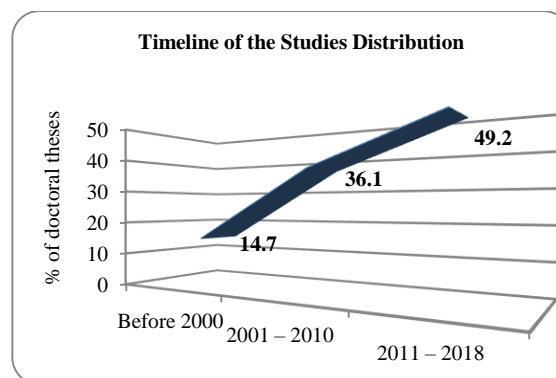### A. *Chronological Distribution of Doctoral Theses on Information Needs*

Table 1 shows the chronological distribution of the doctoral theses submitted in Indian universities on the study of information needs. The data shows that the doctoral theses on information needs have increased over three times during two decades as a period of time.

Table 1. Chronological Distribution of Studies

Year of Study	Number of Doctoral Theses	%
Before 2000	9	14.7
2001-2010	22	36.1
2011-2018	30	49.2
Total	**61**	**100.0**

Source: Realized by the authors

A timeline restates the dynamics and underlines the truth of these real scientific and doctoral needs as in figure no.1

Source: Realized by the authors

Fig. 1. Timeline of the Studies Distribution in Percentages

B. *Structural Distribution by Groups of the Doctoral Theses on Information Needs*

The doctoral scholars did research on information needs of various structural groups of Indian peoples. These groups can be clubbed thematically into four major structural classes:
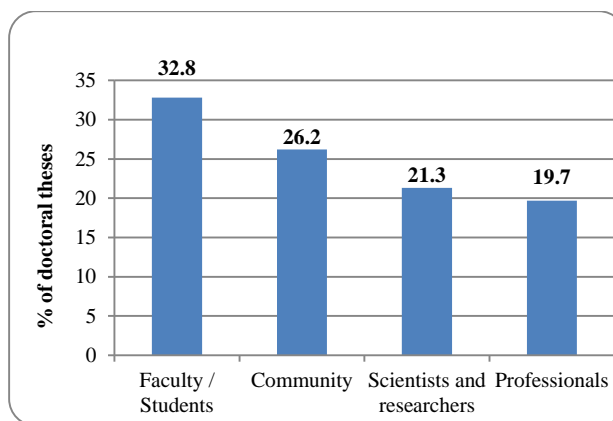
1. Study of information needs of faculty members & students of educational institutions.

2. Study of information needs of various communities.

3. Study of information needs of scientists & researchers.

4. Study of information needs of various professionals.

Figure no. 2 shows numbers of doctoral research conducted on various structural groups, thematically distributed as above. It can be seen that the research has been conducted on all of these groups. The minimum 19.7 % study has been conducted on professionals and maximum 32.8% study has been conducted on faculty & students. All these structural distributions, caused by the faculty & students are easily approachable by researchers.

Source: Realized by the authors

Fig. 2 Structural Distributions by Group of Study Undertaken by the Doctoral Thesis

C. Overall Distribution of Satisfaction/Suggestive Satisfaction of Information Needs of All the Groups Studied by the Doctoral Researchers

The doctoral researchers have tried to find out the level of satisfaction for the information needs of various groups. They have analyzed the data collected by them and concluded based on the majority the opinion of the groups.

Some studies clearly concluded the level of satisfaction for information needs of the groups, others have indicatively concluded about the level of satisfaction for the information needs of the groups. Table 2, shows the distribution of outcome of all the doctoral theses about the level of satisfaction for information needs. Non-satisfactory outcomes of these are more than that of the satisfactory.

Table 2. Distribution of Overall Outcome (Conclusion) on the Level of Satisfaction for Information Needs Amongst the Doctoral Thesis Studied.

Outcome	Number of Doctoral Theses	%
Satisfactory	28	45.9
Non Satisfactory	33	54.1
Total	**61**	**100.0**

Source: Realized by the authors

D. Chronological Distribution of Satisfaction/Suggestive Satisfaction of Information Needs of All the Groups Studied by the Doctoral Researchers

Table 3 shows the chronological distribution {1) before the year 2000, 2) year 2001 to 2011 and 3) 2011-2018}, of the outcome of doctoral theses about the level of satisfaction for information needs. It is clear that a higher proportion of theses completed in recent years showed relatively higher levels of satisfaction compared to the theses completed in the older years.

However, the difference did not reach statistical significance (P-value>0.05). Distribution of level of satisfaction did not differ significantly across the three groups of the time period of study (P-value>0.05).
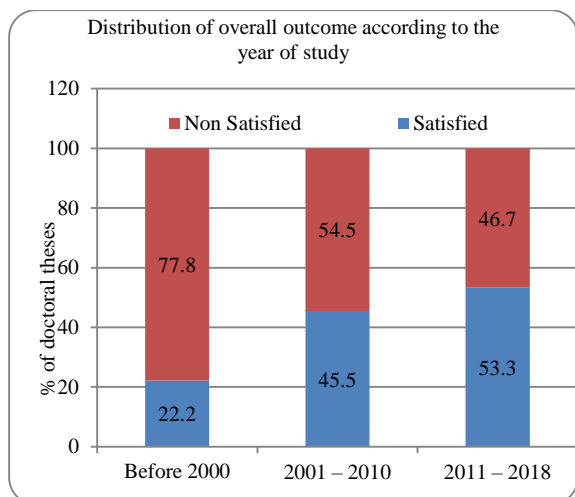
Table 3. Distribution of Overall Outcome (Conclusion) on the Level of Satisfaction for the Information Needs According to the Year of Study

Outcome (Conclusion) on the Satisfaction				
	Satisfied		Non-Satisfied	
Year of Study	Number of Theses	%	Number of Theses	%	p - value
Before 2000	2	22.2	7	77.8	
2001 to 2010	10	45.5	12	54.5	
2011 to 2018	16	53.3	14	46.7	0.259[NS]
Total	**28**	**45.9**	**33**	**54.1**	

Values are n (% of cases), P-value by Chi-Square test P-value<0.05 is considered to be statistically significant. NS-Statistically non-significant

Source: Realized by the authors

The percentage of satisfaction is increasing significantly during the last two decades as in figure no.3.

Distribution of overall outcome according to the year of study

Source: Realized by the authors

Fig. 3. Distribution of Overall Outcome (Conclusion) on the Level of Satisfaction for the Information Needs According to the Year of Study.

E. Structural Distribution of Satisfaction/ Suggestive Satisfaction of Information Needs of all the Groups Studied by the Doctoral Researchers

Table 4, shows the distribution of the level of satisfaction for information needs of groups clubbed thematically. It is clear that the level of satisfaction differs significantly across various groups studied in the doctoral theses (P-value<0.05). Significantly a higher proportion of scientists & researchers and faculty & Students had higher satisfaction compared to the other groups such as professionals and communities (p-value<0.05).

Table 4. Distribution of Overall Outcome (Conclusion) on the Level of Satisfaction for Information Needs According to the Group of the Study.

Outcome (Conclusion) on the satisfaction					
Group	Satisfied		Non-Satisfied		p-value
	Number of Theses	%	Number of Theses	%	
Faculty & Students	12	60.0	8	40.0	
Community	4	25.0	12	75.0	
Scientists & Researchers	9	69.2	4	30.8	0.025*
Professionals	3	25.0	9	75.0	
Total	**28**	**45.9**	**33**	**54.1**	

Values are n (% of cases), P-value by Chi-Square test. P-value<0.05
is considered to be statistically significant. *P-value<0.05.

Source: Realized by the authors

F. Distribution of Satisfaction of Information Needs According to the States which have Implemented Library Legislation

Ranganathan's untiring efforts resulting in the enactment of the library legislation [18]. After independence, two-third of the Indian states have passed the library legislation because of educational revolution and spread of knowledge under the literary mission aiming spread of education and dissemination of knowledge through establishing public libraries in India, Table 5 shows chronological enactment of public legislations in different states of India [19].

Table 5. The Indian States Which has passed the Public Libraries Act

State	Year of Enactment	State	Year of Enactment
Tamil Nadu	1948	Mizoram	1993
Andhra Pradesh	1960	Gujarat	2001
Karnataka	1965	Orissa	2001
Maharashtra	1967	Uttaranchal	2005
West Bengal	1979	Uttar Pradesh	2006
Manipur	1988	Rajasthan	2006
Haryana	1989	Bihar	2007
Kerala	1989	Chhattisgarh	2007
Goa	1993	Arunachal Pradesh	2009

Source: Realized by the authors

Analysis is done for the satisfaction of information needs by bifurcating the groups studied in doctoral theses according to their residence in the states that have a library legislation and those states which do not have library legislation.

Table 6, shows the distribution of satisfaction of information needs according to the states which have implemented library legislation. It is evident that the level of satisfaction differs significantly across groups of states who implemented and who did not implement the library legislation (P-value<0.05). Significantly a higher proportion of theses completed in the library implemented states had higher satisfaction compared to the states who did not implement the library legislation (P-value<0.05).

Table 6. Distribution of Overall Outcome (Conclusion) on the Level of Satisfaction for the Information Needs According to the Implementation of the Library Legislation

Outcome (Conclusion) on the Satisfaction					
Library Legislation	Satisfied		Non-Satisfied		p-value
	Number of Doctoral Theses	%	Number of Doctoral Theses	%	
Implemented	22	55.0	18	45.0	0.049*
Not Implemented	6	28.6	15	71.4	
Total	28	45.9	33	54.1	

Values are n (% of cases), P-value by Chi-Square test. P-value<0.05 is considered to be statistically significant. *P-value<0,05.

Source: Realized by the authors

5. CONCLUSION AND FURTHER RESEARCH

Doctoral theses on information needs have increased over a period of time in Indian universities. This shows the importance of investigating the information needs of various groups. It is also seen that over a period of time there is an increase in satisfaction of information needs amongst various groups studied. The groups comprising faculty & students and scientists & researchers are largely satisfied with their information needs. While groups comprising communities and professionals are largely not satisfied with their information needs.

The analysis indicates that groups that are located in the states which have public library legislation are more satisfied than the groups which are located in states which do not have public library legislation. This aspect needs further research to be carried out as the doctoral researchers do not have this object in their research. There are many other questions needed to be answered to comment on the impact of library legislation. So the impact of the library legislation cannot be concluded from the present study.

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