Social and Democratic Information Behavior of Scientists and Policy makers in India

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Abstract—**This research study reports results of information behaviour by members of faculty and research scholars of various departments of social sciences working at universities with a sample of 300 and Members of Legislative Assembly and Council with 216 samples in Karnataka State, India. The results reveal that 29.3% and 20.3% of Social Scientists indicated medium and high level of awareness of primary sources - Primary Journals are found to be at scale level 5 and 9. The usage of primary journals by social scientists is found to be 28% at level 4, 24% of the respondent's opined use of primary Conference Proceedings at level 5 as medium level of use. Similarly the use of Secondary Information Sources at scale 8 and 9 particularly in case of Dictionaries (31.0% and 5.0%), Encyclopaedias (22.3% and 6.3%), Indexing Periodicals (7.0% and 15.3%) and Abstracting Periodicals (5.7% and 20.7%). For searching information from Journals Literature available in CD-ROM version, Keywords (43.7%) followed by Keywords with logical operators (39.7%) have been used for finding the required information. Statistical inference reveals rejection of null hypothesis `there is no association between designation of the respondents and awareness of primary information resources'. On the other hand, educational qualification possessed by Legislative members, more than half of them possess graduate degree as their academic qualification (57.4%) and just 16.7% of the respondents possess graduate degree while only 26.8% of the respondents possess degree in law and just 1.8% possess post-graduate degree in law. About 42.6% indicated the importance of information required to discharge their duties and responsibilities as a Policy Maker in the scale 8, as a Scholar (27.8%) on a scale 6, as a politician (64.8%) on a scale 10 and as a Councillor (51.9%) on a scale 8. The most preferred information agencies/sources very often contacted for obtaining useful information are by means of contacting the people of Karnataka State Legislative Library, listening Radio programmes, viewing Television programmes and reading the newspapers. The methods adopted for obtaining needed information quite often by means of sending their assistants to libraries to gather information (35.2%) and personally visiting for the information source (64.8%). The null hypotheses `There is no association between Members of Legislature and Opinion on the usefulness of the resources of the Karnataka State Legislature Library' is accepted using F ANOVA test. The studies concludes with a note revamp the existing library system in its structure and adopt latest technologies and educate and train social scientists and Legislators in using these resources in the interest of academic, government policies and decision making of the country.**

I. INTRODUCTION

Identifying and studying Information need, seeking and use of the targeted service community has been the fundamental concern to the Library professionals. It is through the findings of such studies that the library and information centers are able to design information systems, develop resources and plan services that are compatible with, and result in the satisfaction of the community information needs. Information seeking is a natural and necessary mechanism of human existence (Marchionini, 1995) [1]. The Library and Information Centers plays a major role in providing the right information to the right user at the right time and in the right form. The library, therefore, is the most widely used source of information available to literate societies. Use is the purpose of library and a key component of library system. The success of library system revolves around users. The librarian should be aware of what kind of information is being sought, and how it can be obtained. Due to the rapidly escalating cost of purchasing and archiving printed scholarly journals and electronic media, the library has the duty to provide and maintain efficient services.

User research in Library and Information Science is gaining importance since early 1960's. A considerable amount of research has been reported on the use of information sources among the scientists, engineers and technologies, and social scientists. A large chunk of it is concentrated on studies relating to the relative importance and the dependence on the informal and formal sources of information and less on electronic sources. It is noticed that Bernal's (1948) research on scientific information in Great Britain has been followed by "hundreds of studies which have attempted to investigate the methods by which scientists and social scientists obtain the information they need for their research. One of the major studies and a landmark was conducted extensive research on the use of information by social scientists during 1968-1971 at Bath University in UK (Line, Brittain & Cranmer, 1971) [2]. Mahajan (2009) [3] explored the information-seeking behavior of undergraduates, postgraduate students, and researchers in sciences, social sciences, and humanities at the Panjab University, Chandigarh, India, which examined the kinds of academic information needed by respondents, which resources they prefer, whether they are satisfied with the library collections, and the general pattern of information-seeking, with special reference to the influence of course of study.

Access to desired information is crucial to library and information centre, yet explorations of its conceptual nature have been limited and there is a need for research to create a better understanding of the concept and its roles in all activities and information behaviours of user community. In fact, since the beginning of human existence, humankind has sought, organized and used information as it evolved patterns and practices of human information behaviours. Due to an increasing focus on developing an understanding of everyday life information behaviours, researchers need to consider the appropriateness of the methods and techniques utilized in empirical research in this area. In this context, the study aims to provide insight about the information use behaviour of Social Scientists in academic environ and State Legislators, who are involved in democratic and policy making decisions in Indian context.

II. LITERATURE REVIEW

The major studies carried out on Information use behaviour in the Indian context has been reviewed as under: Subrahmanyan [4] found that the research workers in social sciences did not make heavy use of bibliographical tools such as bibliographies and indexing and abstracting periodicals to retrieve references. Garg and Ashok Kumar's [5] study on the scientists working in different R and D laboratories found the use of periodicals to a larger extent than conference proceedings, research reports, reports and reviews. Suriya, Sangeetha and Nambi [6] carried out a research work on Information seeking behaviour of Faculty Members from Government Arts Colleges in Cuddalore District. The purpose of their study was to investigate, how faculty members seek information from the library. It mentions that most of the respondents 61 (38.12 percent) visited the library several times a week to meet their information needs. Maheswarappa and Trivedi [7] have found that the journal literature was the most important form of literature used by Indian Food Scientists accounting for 54.33% and it was followed by abstracting and indexing journals (27.68%) and books (20.68%). Sridhar's study (1987) indicated that 52% of Indian Space Technologists depend mainly on journals, discussion with colleagues (13%), and trade literature (9%). Besides these, the books, reports, newspapers, preprints and lectures were also considered quite useful for technologists for keeping up-to-date in their field. Mahapatra and Panda [8] provided an insight into various behavioral approaches of working

journalists in seeking and searching information. Padmamma and Kumar [9] conducted a study of the information seeking behaviour of Vishweshvaraih Iron and Steel Limited (VLSL) scientists, Bhadravathi, Karnataka. Shokeen and Kaushik [10] aimed to investigate Information seeking behaviour of psychologists and sociologists working in the universities situated in Delhi and Haryana. Singh and Lahiri [11] analyzed the information needs, seeking behaviour, channels used, relevance of information services, etc. of the healthcare paraprofessionals.

Probably Naresh Singh [12] is the first researcher to have published a research article pertaining to information needs of legislators tracing the development of legislative council library in Indian context and emphasizing the library services and research services that are essential to cater to the information needs of the legislators, as a basic step towards their political empowerment. Shailendra and Hari Prakash [13] investigated the information needs of Members of the Legislative Assembly (MLAs) of Delhi. It aims to provide a study of information sources used by them. It also includes the library use by MLAs, their awareness about various library services, and deals with the problems/hindrances faced by MLAs during the process of information seeking. The study was conducted with the help of a structured questionnaire and semi-structured interview schedule. The respondents marked their response on a graphic scale which was converted into a rating scale for obtaining the inferences.

III. OBJECTIVES OF THE STUDY

The objectives of the study are to determine

- Understand the extent of awareness, use and preference of print / electronic format of primary, and secondary resources among social scientists.
- Elucidate the searching methods adopted for finding information from information resources particularly primary resources including print, CD-ROM/DVD version.
- Understand and evaluate the extent of importance of Library Resources, Reference and Research Services, and the Resources and Services of other Libraries and information Centers and
- Explore the different methods adopted obtained for obtaining needed information in discharging their duties and responsibilities of State Legislators in a democratic setup.

IV. RESEARCH METHODOLOGY

The investigator employed questionnaire and interview method for the collection of data. The user group comprises of Social Scientists mainly teaching faculty and research scholars of Universities in Karnataka, India and members of legislative assembly and council involved in administration of the country for policy making decisions. A total of 415 Questionnaires were distributed to teaching faculty and Research scholars of six Universities, out of which 300 questionnaires were duly received with a feedback of 72.2%. A total of 300 questionnaires were distributed to the members of legislative assembly and council, Karnataka Legislature, out of which 216 questionnaires were duly filled and obtained with a response rate of 72%. The research data collected has been tabulated using Statistical Package in Social Sciences (SPSS) ver.15 and hypotheses are tested using ANOVA by calculating the scores of each facets and grouping into very low, low, medium and high scores.

V. RESULTS AND DISCUSSION

Primary sources are the current sources to meet the nascent information needs of social scientists. The level of awareness about the primary information sources i.e. Journals, Conference Proceedings, Research Reports and Theses and Dissertations is shown in Table 1.

About 29.3% and 20.3% of the respondents have indicated medium and high level of awareness of primary sources - Primary Journals are found to be at level 5 and 9. Similarly, awareness towards primary information sources especially Conference Proceedings (35.3% at level 5 and 18.3% at level 6), Research Reports (20.7% at level 6 and 23.7% at level 8) and Theses and Dissertations (20.7% at level 5 and 20.3% at level 9). As a whole, the level of awareness with respect to various primary sources is quite positive in the increasing order of the scale 0-9.

TABLE I: AWARENESS OF PRIMARY INFORMATION SOURCES

Information Sources	Awareness									
	No				High					
	0	1	2	3	4	5	6	7	8	9
Primary Journals	5 1.7	-	29 9.7	5 1.7	38 12.7	88 29.3	29 9.7	9 3.0	36 12	61 20.3
Conference Proceedings	5 1.7	-	29 9.7	-	35 11.7	106 35.3	55 18.3	14 4.7	19 6.3	37 12.3
Research Reports	5 1.7	5 1.7	29 9.7	-	29 9.7	38 12.7	62 20.7	25 8.3	71 23.7	36 12.0
Theses and Dissertations	5 1.7		39 13.0	10 3.3	24 8.0	62 20.7	33 11.0	20 6.7	46 15.3	61 20.3

TABLE II: USE OF PRIMARY INFORMATION SOURCES

Information Sources	Use									
	No				High					
	0	1	2	3	4	5	6	7	8	9
Primary Journals	-	5 1.7	29 9.7	19 6.3	84 28.0	31 10.3	31 10.3	35 11.7	15 5.0	41 13.7
Conference Proceedings	5 1.7	5 1.7	34 11.3	5 1.7	68 22.7	72 24.0	34 11.3	35 11.7	15 2.7	27 9.0
Research Reports	5 1.7	5 1.7	48 16.0	5 1.7	14 4.7	61 20.3	49 16.3	67 22.3	15 5.0	31 10.3
Theses and Dissertations	-	-	39 13.0	14 4.7	41 13.7	44 14.7	19 6.3	66 22.0	26 8.7	46 15.3

As seen from the table 2, the use of primary journals by social scientists is found to be 28% at level 4 and above 10% of respondents at level 5, 6, 7 and 9. Similarly 24% of the respondents opined use of primary Conference Proceedings at level 5 as medium level of use and slightly above 11% at level 6 and 7. Slightly more than 20% of the respondents indicated the use of Research Reports at level 5 and 7. On the same lines, 22% of respondents indicated better use of Theses and Dissertations at level 7 and 15.3% at level 9 as very high use of Theses and Dissertations.

TABLE III: PREFERENCE OF PRIMARY INFORMATION SOURCES IN DIFFERENT FORMATS

Information Source	Format/Version/Access Used		
	Print Format	CD-ROM Version	Through Internet
Primary Journals	271 90.3	4 1.3	80 26.7
Conference Proceedings	256 85.3	29 8.0	67 22.3
Research Reports	267 89.0	24 9.7	68 22.7
Theses and Dissertations	290 96.7	29 9.7	31 10.3

The preference of primary sources in different formats is seen from table 3 reveals that, the respondents of the study prefer Primary Journals in print medium (90.3%) against Internet (26.7%), Conference Proceedings in print (85.3%) against Internet (22.3%), Research Reports (89.0%) against Internet (22.7%) and Theses and Dissertations (96.7%) against Internet (10.3%). However, the preference of primary sources in CD-ROM format is quite less as compared to print and Internet medium.

The use of Secondary Information Sources at scale 8 and 9 towards high se of secondary sources are found to be in case of Dictionaries (31.0% and 5.0%), Encyclopaedias (22.3% and 6.3%), Indexing Periodicals (7.0% and 15.3%), Abstracting Periodicals (5.7% and 20.7%), Review Periodicals (13.7% and 3.3%), Statistical Sources (15.3% and 5.7%), Year books (1.7% and 4.0%), Handbooks and Manuals (4.3% and 20.3%). However, the use of other secondary sources viz, Bibliographies, Biographical Sources, Geographical Sources, Government Publications, State of the Art Reports, Trend Reports, Sources of Current Affairs, Year books, Almanacs, Directories, Book Reviews, Union Catalogues and Library Catalogues / OPACs are relatively less used secondary sources as compared to other sources.

TABLE IV: USE OF SECONDARY INFORMATION SOURCES

Secondary Information Sources	Use									
	No				High					
	0	1	2	3	4	5	6	7	8	9
Dictionaries	5 1.7	-	34 11.3	34 11.3	19 6.3	51 17.0	29 9.7	20 6.7	93 31..0	15 5.0
Encyclopaedias	5 1.7	26 8.7	53 17.7	5 1.7	15 5.0	18 6.0	63 21.0	29 9.7	67 22.3	19 6.3
Bibliographies	-	17 5.7	80 30.0	33 11.0	25 7.7	33 11.0	24 8.0	45 15.0	15 5.0	5 1.7
Biographical Sources	32 10.7	10 3.3	105 35.0	10 2.3	31 10.3	37 12.3	25 8.3	35 11.7	10 2.3	5 1.7
Geographical Source	42 14.0	15 5.0	110 36.7	19 6.3	13 4.3	37 12.3	20 6.7	35 11.7	5 1.7	4 1.3
Government Publications	-	5 1.7	116 38.7	10 3.3	17 5.7	47 15.7	55 18.3	8 2.7	15 5.0	17 5.7
Indexing Periodicals	26 3.7	5 7.7	55 17.7	4 1.3	34 11.3	46 15.3	51 17.0	14 4.7	21 7.0	46 15.3
Abstracting Periodicals	15 5.0	-	72 24.0	15 5.0	10 3.3	42 14.0	50 16.7	19 6.3	17 5.7	60 20.7
Review Periodicals	-	10 3.3	63 21.0	4 1.3	40 13.3	36 12.0	72 24.0	4 1.3	41 13.7	10 3.3
State of the Art Reports	46 15.3	15 5.0	53 17.7	9 3.0	51 17.0	68 22.7	24 8.0	15 5.0	19 6.3	-
Trend Reports	47 13.7	19 6.3	67 22.3	5 1.7	56 18.7	22 7.3	49 16.3	-	30 10.0	5 1.7
Current Affairs sources	-	15 5.0	94 31.3	10 3.3	50 16.7	77 9.0	29 9.7	8 2.7	21 7.0	17 5.7
Statistical Sources	26 8.7	36 12.0	63 21.0	23 7.7	10 3.3	37 12.3	24 8.0	18 6.0	46 15.3	17 5.7
Year books	15 5.0	10 3.3	53 17.7	14 4.7	94 31.3	33 11.0	55 18.3	9 3.0	5 1.7	12 4.0
Directories	32 10.7	16 5.3	49 16.3	14 4.7	83 27.7	32 10.7	39 13.0	4 1.3	26 8.7	5 1.7
Handbooks & Manuals	38 12.7	5 1.7	58 19.3	10 3.3	37 12.3	42 14.0	19 6.3	14 4.7	16 4.3	61 20.3
Book Reviews	-	5 1.7	44 14.7	5 1.7	52 17.3	51 17.0	19 6.3	66 22.0	17 5.7	25 8.3
Union Catalogues	52 17.3	15 5.0	68 22.7	4 1.3	69 23.0	35 11.7	34 11.3	19 3.0	14 4.7	-
Library Catalogues / OPACs	31 10.3	5 1.7	53 17.7	38 4.7	24 8.0	59 19.7	24 8.0	29 9.7	20 6.7	17 5.7

As seen from Table 5, direct browsing (72.7%) is the popular method for searching information in the Journals Literature and this is followed by subject index (57%), Indexing periodical (53.7) and using Current

Awareness Bulletin (53%). Similarly, for searching information in the Conference Literature and research reports, direct browsing (58.7% and 61% respectively) is the popular method used to find information. However in case of Thesis and Dissertations, Cumulative Indexes (78%) and then followed by browsing (71%) are the methods adopted for searching information.

TABLE V: SEARCHING HABITS OF PRIMARY INFORMATION SOURCES

Information Sources	Print Sources									
	Indexing Periodicals	Abstracting Periodicals	Current Awareness Bulletins	Contents Pages	Author Index	Subject Index	Title Index	Cumulative Indexes	Browsing	Skimming
Journals Literature	161	120	159	145	140	171	138	34	218	18
	53.7	40.0	53.0	48.3	46.7	57.0	46.0	11.3	72.7	6.0
Conference Literature	60	104	130	79	52	57	34	34	176	20
	20.0	34.7	33.3	26.3	17.3	19.0	11.3	14.7	58.7	6.7
Research Reports	112	83	113	141	94	132	66	19	183	300
	37.3	27.7	37.7	47.0	31.3	44.0	22.0	6.3	61.0	100
Thesis and Dissertations	76	78	121	112	171	147	113	234	213	46
	25.3	26.0	40.3	37.3	57.0	49.0	37.7	78.0	71.0	15.3

The information needed by the Legislator for different issues and purposes and in this context, the extent of importance of these types of information have posed to the respondents to indicate its extent of importance of information on a scale of 0 to 10, where, 0 indicates not important and 10 indicates extremely important. About 40.7% of the respondents need information pertaining to discover the various issues rating at scale 8, 55.5% of the respondents need information for settlement of problems, 48.1% to assess the working of the Government. On the same line, the extent of importance of information opined by the legislators, especially, for knowing views and programmes of a politics parties inside and outside the legislative house (42.6%), reconcile the views of the party (38.9%), finding solution to the problems (59.3%), procedures, rules and official dealings of the use (46.3), knowing grievances of the people (40.7%), needs and aspirations of the people (40.7%), preparing for Assembly Debates, speeches and questions (40.7%), preparing answer to the questionnaire received from the constituency (27.8%), knowing progress and implementation of developmental activities (48.1%), to update their knowledge (57.4%), to give speeches in public functions (63%) and participating in public discussions (55.6%) have been rated on a scale 8 indicating its high value of importance required to the legislators in meeting their nascent information needs to support their legislative functions. pertaining to grievances and aspirations of the people (92.6%), policies programmes and schemes of the Government (30.7%) and to work effectively and efficiently as a Minister (53.7%) have been indicated as extremely important to the legislators at scale 10 (Table 6).

It is found from the Table 7 that, the methods adopted for obtaining needed information quite oftenly are by means of sending their assistants to libraries to gather information (35.2%), personally visiting for the information source (64.8%), asking to the concerned professional (40.7%) and contacting the concerned person / institution over a phone (46.3%). However, the respondents sometimes visiting the library are 63% and contacting the Librarian over phone (35.2%). However, the respondents never used to search the Internet and send e-Mail for obtaining the needed information (64.8%) and 77.8%) respectively.

Need for information	Extent of Importance										
	0	1	2	3	4	5	6	7	8	9	10
Discover the issues	-	-	-	4 1.9	4 1.9	32 14.8	38 22.2	32 14.8	88 40.7	4 1.9	4 1.9
For settlement of problems	-	-	-	-	-	-	4 1.9	44 20.4	120 55.5	36 16.7	12 5.6
Assess the working of the Government	-	-	-	4 1.9	-	-	12 5.6	4 1.9	104 48.1	20 9.3	72 33.3
Know the views and programs of a political party inside and outside the Legislative House	-	-	-	-	4 1.9	12 5.6	28 13.0	92 42.6	12 5.6	68 31.5	
Reconcile the views of my party	-	-	-	-	8 3.7	4 1.9	56 25.9	40 18.5	84 38.9	16 7.4	8 3.7
Find solutions to problems	-	-	-	-	4 1.9		4 1.9	40 18.5	128 59.3	32 14.8	8 3.7
Know the rules, procedures, official dealings, business of the house, and acts and rules	-	-	-	-	-	4 1.9		4 1.9	100 46.3	20 9.3	88 40.7
Know the grievances of the people of Karnataka	-	-	-	-	4 1.9		12 5.6	60 27.8	88 40.7	8 3.7	44 20.4
Know the needs and aspirations of people of the State	-	-	-	-	-	4 1.9	24 11.1	40 18.5	88 40.7	12 5.6	48 22.2
Know the grievances and aspirations of the people of my constituency	-	-	-	-	-	-	-	-	4 1.9	12 5.6	200 92.6
Preparing for assembly debates, speeches and questions	-	-	-	4 1.9	4 1.9	12 5.6	36 16.7	32 14.8	88 40.7	20 9.3	20 9.3
Preparing answers to queries received from the constituency	-	-	-	-	4 1.9		20 9.3	40 18.5	60 27.8	40 18.5	52 24.1
Know the progress and implementation of developmental activities	-	-	-	-	-	4 1.9	8 3.7	8 3.7	104 48.1	24 11.1	68 31.5
Policies, programs and schemes of Government	-	-	-	-	-	-	-	28 13.0	84 28.9	16 7.4	88 30.7
Up-date my knowledge regarding the happenings in the State	-	-	-	-	4 1.9	4 1.9	20 9.3	24 11.4	124 57.4	4 1.9	36 16.7
Give speeches in public functions	-	-	-	-	-	4 1.9	12 5.6	32 14.8	136 63.0	32 14.8	-
To participate in public discussions	-	-	-	-	-	-	16 7.4	36 16.7	120 55.6	28 13.0	16 7.4
To work effectively and efficiently as a minister	-	-	-	-	-	8 3.7	8 3.7	4 1.9	40 18.5	8 3.7	116 53.7
For decision making, policy formulation and development of schemes or proposals	-	-	-	-	-	4 1.9	-	16 7.4	56 25.9	36 16.7	104 48.1

Approaches/Methods	Very Often	Often	Sometimes	Rarely	Never
Visit the libraries personally	16 7.4	32 14.8	136 63.0	28 13.0	4 1.9
Send my assistants to libraries to gather information	28 13.0	76 35.2	56 25.9	44 20.4	12 5.6
Contact the Librarian/s over phone and ask for information	8 3.7	44 20.4	76 35.2	64 29.6	24 11.1
Go to the information source personally	24	140	52	-	-

	11.1	64.8	24.1		
Write to the concerned	20 9.3	88 40.7	84 38.9	24 11.1	-
Contact the concerned person/s, institution/s over a phone	80 37.0	100 46.3	32 14.8	4 1.9	-
Search the Internet	8 3.7	8 3.7	8 3.7	52 24.1	140 64.8
Send E-mails to concerned individual, organization and institutions, , associations	-	-	16 7.4	32 14.8	168 77.8
Request the academics, experts for relevant information	4 1.9	56 25.9	84 38.9	36 16.7	-
Delegate the work to my assistants	64 29.6	96 44.4	8 3.7	4 1.9	8 3.7

VI. CONCLUSION

Without the timely information support from the library, it is just impossible to take necessary decisions and policies for the welfare of the society. In this context, the Library has to revamp its policy, upgrade its resources and staff and adopt latest technologies to educate the users to optimise the utilization for academics and in the interest of government policies and decision making. Another way to extend the study's finding would be to explore post-information seeking strategies and activities in a more detailed level by examining how people save, exchange, distribute, organize and provide web information after they find the information at home. Librarians should continue to monitor technology and lifestyle changes. Adoption of technology should be based on evidence that supports adoption; evidence that validates the information seeker's perspective. It is up to the Library staff in the light of the findings of the study to develop need based collections, organize them and provide effective services using technology mediated access.

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