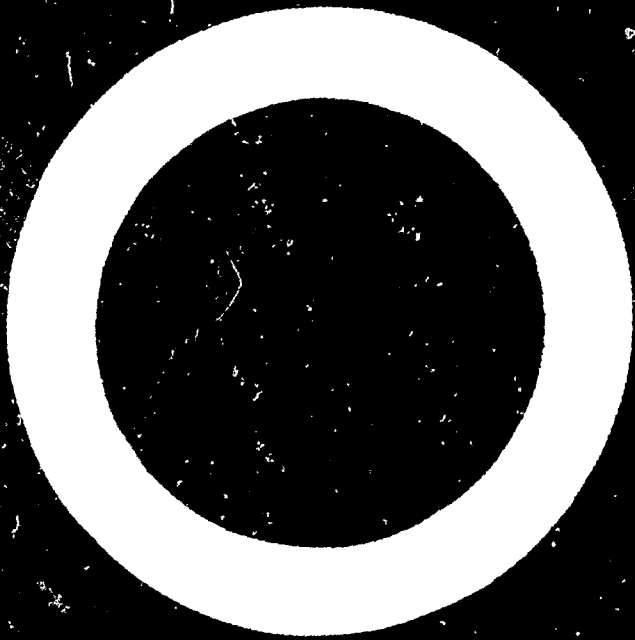


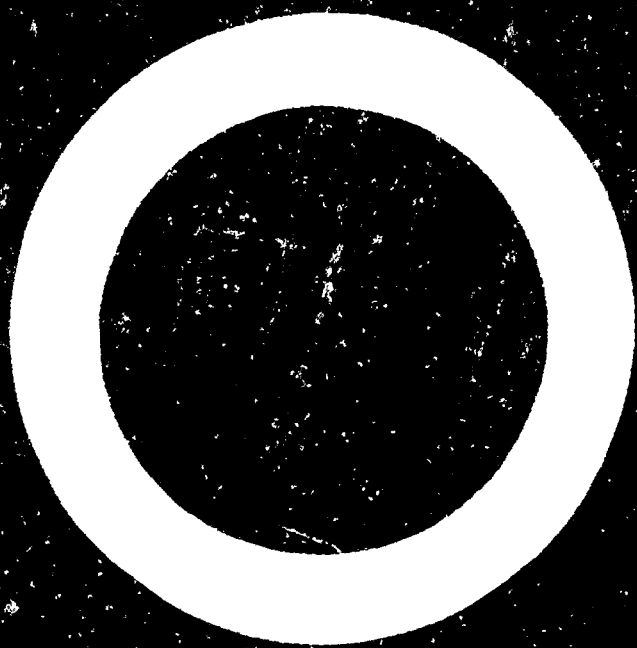
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**A SELECTIVE BIBLIOGRAPHY ON USER NEEDS
FOR SCIENTIFIC & TECHNICAL INFORMATION**

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1. INTRODUCTION

Bibliographies, literature surveys and reviews emphasize significant changes, major contributions and thus serve as effective tools for the bibliographic control of the ever-increasing volume of published information in a particular subject field. The present bibliography is a modest attempt in this direction.

The growth of literature in the field of information science and technology is more or less parallel to the growth of literature in various scientific and technical fields. The FID lists 517 periodicals in the field of library science and documentation out of which 47 are reported as indexing and abstracting periodicals in the year 1968. There are 7350 citations for the five published volumes of the Annual Review of Information Science and Technology (ARIST). Though these citations are not unique, the number of citations does indicate the volume of literature published in the field. The number of bibliographies in this field has also increased from about 50 in 1950 to about 800 in 1961 and 1500 in 1971. Even in a narrower subject field like user studies for information needs of scientists and engineers, the literature is vast.

Here, an attempt has been made to take an overall view of the literature published and not to critically review the findings of various user studies.

2. TYPE OF DOCUMENTS

2.1. Bibliographies

There are comprehensive and selective bibliographies on the user studies for information requirements. The Table I indicates the period covered and the number of references included for some of the bibliographies.

TABLE 1

**BIBLIOGRAPHIES ON THE USER STUDIES FOR
INFORMATION NEEDS**

S. No.	Compiler	Period	Coverage	No. of refs.
25	Auerbach Corporation	1965	Comprehensive	676
51	Davis & Bailey	1964	"	438
54	DeWeese	1966	"	547
18	New York Library Association	1970	Selected	74

2.2 Reviews

The Annual Review of Information Science and Technology has been reviewing annually information needs and user studies since 1966. Besides, a number of reviews are published. Table II indicates a few selected reviews on the subject.

TABLE II

REVIEWS ON USER STUDIES FOR INFORMATION NEEDS

Sr. No.	Author	Source	Period reviewed	No. of items reviewed
143	Menzel	ARIST Vol. 1	1963-1965	23
85	Herner	Vol. 2	1966	38
157	Paisley	Vol. 3	1967	
9	Allen	Vol. 4	1968	58
124	Libetz	Vol. 5	1969	114
65	Fishenden)Aslib Proc.	1965	
238	Wood		1966-1970	69
98	Jahoda	FID Conf '65	1965	
32	Branes	J. Docum.	1964	

2.3 Conferences

A number of conferences have devoted part or full sessions to study the information needs of scientists. The Indian Association of Special Libraries and Information Centres (IASLIC) devoted its second seminar in 1962 to special libraries and information centres and user services, the International Federation for Documentation also has held conferences from time to

time, the latest one being in 1970. Currently, IASLIC and DRTC, Bangalore, are devoting one session each for their annual seminars in 1971.

2.4. Other Publications

There are periodical articles, government reports, technical reports, project reports etc on various aspects of the information needs of the users in special libraries and information centres.

3. LITERATURE DISTRIBUTION

For comparison, in Table III five subject areas have been ranked on the basis of the number of citations and their literature distribution in the fifth volume of the ARIST.

TABLE III
SUBJECT AREAS RANKED ON THE BASIS OF CITATION
ANALYSIS OF THE ARIST VOL. 5

Subject area	J	R	P	B	Total	Unique Periodicals	Rank
Library automation	107	37	34	4	182	40	1
Current awareness dissemination	88	48	6	2	144	26	2
Design & evaluation of information systems	53	50	29	2	134	17	3
Information needs and uses	52	36	17	9	114	25	4
Management information system	73	18	2	12	105	31	5

(Source: Saracevic, Tefko; Five years, five volumes and 2345 pages of the ARIST. Inform. Stor. 7, 127-139, 1971)

J=Journal articles, R=reports, P=Patents, B=Books

It is evident that "Library automation" tops the list with 182 citations and 40 unique periodicals, followed by 'Current awareness and dissemination of information' with 144 citations and 26 unique periodicals. The 'Information needs and users of scientific and

technical information' is fourth in the table with 114 citations and 25 unique periodicals. Similar to other subject fields, more periodical articles are published than other forms of publications such as reports, books etc. covering information needs user studies. It is further pointed out by Saracevic that for the first ranked subject area, Journal of Library Automation seems most cited with 16 number of citations and for the fourth ranked subject area Journal of the American Society for Information Science is favoured more with 8 citations. There are 8.56 per cent citations for this subject area out of the total number of citations in the fifth volume of ARIST.

3.1. Inference

This indicates two points, the first being the increase in the number of user studies and their subsequent reporting in published literature and the second one calls for some clear determination and/or further break-up of the subject field using some definite attributes. It is because of this fact user studies for information needs are often linked with various subject fields such as design of information storage and retrieval systems, the performance of IR system, evaluation of indexing systems, etc. The recent developments in the computer processing of information have produced Selective Dissemination of Information (SDI), Current Awareness Service (CAS), Key Word in Context (KWIC), permuted title index and so on. These are often evaluated and modified making use of the feed-back from users. The studies reporting these aspects are also increasing in number. In fact, the 'User studies' as a subject has increased in extension and obviously decreased in intention. Probably this led Saracevic to remark "It is my interpretation that these two chapters (Information needs and uses; Design and evaluation of information systems) are not core subject areas or even any subject areas, but they are used as catch-all experimental and theoretical work".

The ambiguity and loosely defined terms such as information, needs, users, information communication, information channels, information flow, etc. also contribute to the confusion in this subject field. It may be worthwhile to point to an effort made by Allen and Fairthorne (9) in defining and limiting the meanings of such terms.

4. INDIAN EFFORTS

Since the second seminar of IASLIC in 1962 which was devoted to special libraries, information centres and user services, there has been a considerable growth in literature in this subject field. Though the IASLIC seminar was applauded for raising various problems in serving the user community, it did not touch the heart of the problem. In reviewing the seminar proceedings,

Batten (J. Docum. 24:4, 311-312; Dec. 1965) suggested that the real problem is not that what user is normally expected to need but what he normally is not expected to ask for.

This year, IASLIC is devoting one session of its 9th annual seminar to 'Scientific and technical information user's needs and services' and the Documentation Research and Training Centre (DRTC), Bangalore, has also included "Pattern of ^{use of} documents by specialists" as one of its topics for the 9th annual seminar. Comparing the wordings of the two topics, with due respect to IASLIC and its staff, one is tempted to say that their topic is vague, ambiguous and can be stretched to include the entire field of documentation or information science and technology. It is, however, hoped that some useful discussion and suggestions may result after the seminars.

In the present bibliography, only 9 papers recently published by Indian authors have been included. Dr. S.R. Ranganathan (171), A. Neelameghan (150), Krishan Kumar (111), K.S. Nagarajan (148) and A.S. Raizada (170) are among the many other Indian authors whose recent papers have been included in this bibliography. They examine the problem from different angles.

Ranganathan categorizes three kinds of psychological hazards to which the documentation service is exposed, psychology of intellect, (ii) psychology of interest and (iii) psychological complexes. He analyzes the different interests considering the example of an industrial concern. According to him the documentalist or information officer should be guided by the psychology of interest of the specialist user. He elaborates with illustrations as to how the documentalist should conduct himself in serving a specialist user with inferiority complex, traumatic complex and superiority complex respectively. He emphasises a special kind of training 'in the psychology-in-action' for documentalist to serve specialised user with success.

It may be noted here that the 'psychological' approach is also studied by 'American Psychological Association' and there are also some attempts to seek a 'behaviourial approach' to the user studies in assessing, the information needs in other countries. Probably, Ranganathan's contribution is the first successful Indian attempt in this direction.

Neelameghan mentions the need for the analysis of the subjects of questions put by the specialist readers to document finding system. He gives data on the facet structures of the subjects of 323 questions in the field of high-speed aerodynamics and aeronautical engineering. He tries to establish a scientific way to understand the user query with facet analysis.

Krishan Kumar has followed a more popular method of conducting a survey through interviews and questionnaires to find out users' information habits and needs and the means of ensuring effective use of library resources. He has limited his survey to the teachers, research scholars in the Department of Chemistry, University of Delhi. The findings of the survey tabulated in some 40 tables throw some light on the users' information habits of the particular environment. Here, it may be worth mentioning the critical appraisal of this user survey by Dr. Ranganathan which appeared in the Annals of Library Science and Documentation Vol. 17 No. 1 Mar-June 1970 as "Annotation on users survey". He has emphasised the need for such studies by other special librarians in the country to assess the users' needs for information in different environments. Similarly Nagarajan's survey tries to identify the needs of scientific, technical and managerial information among technocrats in Indian industries. Raizada attempts to find out the user-acceptability of computer print-out which are generally bulky and do not have as attractive a layout and format as a printed document.

5. SCOPE OF THE BIBLIOGRAPHY

This selective bibliography includes documents such as articles in periodicals, technical reports, books, bibliographies proceedings of conferences, symposia etc. published during the period 1960 - Aug. 1971. The subject-scope of the the bibliography encompasses various procedures and methods employed for user studies; surveys, reviews of user studies, information gathering, formal and informal channels of information and their effectiveness, etc. along with a few studies on feed-back from users of computerized services. Primarily, user studies for information requirements in pure and applied sciences are included. However, a few major studies in social sciences are also included.

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