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A CASE STUDY OF LENTOUT USE OF A SPECIAL LIBRARY

MS Sridhar, *Librarian, ISRO Satellite Centre, Airport Road, Vimanapura Post, Bangalore - 560 017.*

Examines in detail the relevance and dependability of use studies, sets out the scope, methodology and limitations of the present study. A 20% sample books, reports and standards of ISRO Satellite Centre (ISAC) Library are monitored to note down nearly 3,300 lentout use by about 700 users. Average use per document, average use per user, relative use of books in different subject groups, and frequency distribution of use over number of users are presented. In order to counter check the data the circulation sample for about three months have been subsequently examined and results presented. Finally concludes by highlighting the intensive use of ISAC Library made by users and feedback for the system for future planning.

0 Introduction

With the objective of having potentially most useful stock pattern, a library has to strive hard to know optimum size of its collection. In practice it is very difficult to precisely decide how many documents a library should buy and how long they should be kept on active shelves. Yet carefully designed use studies can give some broad guidelines in striking a balance among costs, benefits and utilities.

Use studies contribute to sound acquisition policies. Collection of a library is largely built on anticipated demand based on paternalistic policies. Quite often, document selection itself is based on limited information available at the time of selection. Hence, what has been acquired may or may not be of high utility. The acid test for such acquisitions is the actual use made of the collection.

Apart from evaluating the collection, use studies help to know how much good a library has done. Usage of documents make a quantitative assessment of a library. Use studies help in knowing the need for promotion and also designing ways and means of promoting use of library documents.

Though everyone agrees that the so-called obsolete documents should be discarded from or weeded out of active collection of a library, it is quite difficult in practice to decide which are the obsolete items. Hence a defensive strategy to play safe is normally adopted. However, systematic use study strengthen the hands of library authorities to take bold decisions relating to weeding policies.

Use studies normally "... attempt to determine what is used, how frequently it is used, the time span for which material is useful, the national origins of the materials used, etc." (10).

Further, use studies have been helpful in knowing most frequently used documents, how heavily used documents are used, obsolescence and half life of documents, how many titles can satisfy say 60% of user's needs, which ones to be sent for compact, remote, less expensive storage, who are the intensive users, what should be procured in duplicate, what back volumes of periodicals be bought, right type of binding policies, balanced budget for future acquisition, future use pattern, etc. By and large, "... researchers agree that past use is the best indicator of the future use of material" (5).

It is very difficult to define use of library documents. Even in economics, the term use is vaguely defined. Use of a document is often defined as a process of extracting content of a message to meet a need. Interestingly, it is possible that a document is used without using its information and vice-versa (9). Leave alone measuring the benefit derived from use, what could be treated as one use of a document is very vague. A document inadvertently or reluctantly taken out of shelf, a document casually glanced, a document curiously browsed, a document seriously consulted in the library, a document borrowed from the library and sublent, returned without reading, read but not put into action, renewed without yet reading, etc. are often equated and considered as one use. Further, the ultimate use of library document is not measurable.

Likewise, a 'document' as utilised by use studies has a very wide variations in volume, size and content.

Use of documents when operationally defined essentially constitutes inhouse use, circulation or lentout use, inter library loan use and use through reprographic service. Thus "... total library use can hardly be expressed in terms of circulations statistics which are, at best, only a rough indication of trends in the use of a library [and]... library use cannot be measured merely in terms of loan figures" (15).

Use of a library can be viewed from two principal angles. One is looking at use from the angle of a set of documents of the library with its various characteristics such as subject, age, year of acquisition of document, etc. for a given period by a defined set of users. The other is looking at use of a set of documents of the library from the angle of a defined set of users having various characteristics such as psychological, environmental and demographic characteristics.

Based on the method of data collection, use studies could be either synchronous or diachronous. "*Synchronous* studies are made on records of users or references at one point in time and compare the uses against the age distribution of the material used or cited and *Diachronous* studies follow the use of particular items through successive observations at different dates" (6).

The present study was designed predominantly to know the use of ISAC library documents, particularly books, hardcopy reports, standards and journals by scientists, engineers and other technical staff of the Centre. How users of different characteristics have used documents has been taken up as part of a separate study. This study incidentally making use of the data looks at how various types of documents are used based on synchronous method. Since slightly different data collection method and analysis are adopted journals are taken up separately. Thus this paper presents use of ISAC library books, hard copy reports and standards only at the overall level. Longitudinal use, subjectwise analysis of use, distribution of use over year of publication, year of acquisition, etc. of books and reports are planned for separate papers.

1 Data Collection Method and Sample

Due to obvious reasons the entire collection could not be subjected to use study. A 20% stratified, biased, purposeful sample was made for books. Similarly, a simple systematic 20% random sample was adopted for reports and standards. The actual sample reports and standards are checked against the stratified sample.

For the purpose of stratification, UDC class numbers for books, originating organisations as found in primary report numbers for reports and issuing agencies for standards are adopted as the respective criteria. Based on classified catalogue, report number catalogue and standard number catalogue approximate number of documents in each strata is measured. To check on this estimation, linear length of shelves of all the subject groups/stratas have been measured at a later date when almost entire stock was brought back to shelves for some other purpose.

Actual collection of data is spread over five months and to minimise biases in sample, while choosing sample documents proportional representation was given to documents on shelves, documents being used in the library, documents on circulation (i.e. those issued out) and reserved documents.

The number of times the sample documents are issued out of the library ever since acquired (Library started from the end of 1972) and details of users who borrowed sample documents during last ten months were noted down based on information found on the due date slip. Rarely due date slips have been replaced with new slips and to that extent data is error prone. In order to have a counter-check on data so collected by 'collection sample', the 'circulation sample' for about three months have also been subsequently collected and examined.

2 Limitations of the study

Use and user studies have many built-in limitations and hence expecting more than what they deserve might misguide the reader. As Show puts it "These [use]... studies can... be considered to give no more than very rough outlines of the nature and scope of the problem of communication through literature" (11).

Utility is very difficult to measure "...there are not objective means for measuring benefit from materials use" (3). Though use is not equivalent to usefulness, they are almost made equivalent in use studies. Use studies present a quantitative assessment rather than qualitative assessment.

Though use should include inhouse use interlibrary loan use and use through reprographic service apart from lentout use, this study confines to lentout or circulation use of documents. However, an assessment of other types of use is being done as part of separate studies. "The recorded circulation use of books is a reasonably reliable index of all use, including the unrecorded consultative or browsing use within the library" (1). "... external circulation data can be utilized with a high level of confidence to measure total book use..." (4).

For example, one of the earlier surveys showed that "Only 5% of stock receives recorded in library use but does not issue" (2).

There are an array of factors which affect the use data. Age dependent factors like growth of literature, book publishing rate over years, book publishing rate in different subject groups, collection changes, changes in user population, absence of volumes for binding, etc. affect use considerably. Quite often larger part of collection consists of recent publications. It is more so in case of ISAC Library which grew fast since 1978. Further, use studies are subjected to internal biases such as library stock and external biases such as readers' knowledge of that stock (7).

As the collection increases, there is a tendency of decreased marginal utility. In other words as the ratio of collection to user increases, the use per document decreases.

The system is dynamic. Apart from growth in user and collection components, the objectives, scope and interest of the parent organization and hence the subject areas of interest of library do not remain constant.

Some of the factors which inflate use data are repeated use by the same user, cursory glance by user, overdue charge system, limited period of issue (lending period), duplicate copies, renewal

system, etc. Similarly, the factors deflating use data are lack of physical comforts and congestion in the library (much affects inhouse use), limitations of borrowing facility, library timings, nature of work of users, collection to user ratio, extent of reprographic service, etc. In other words "use studies are affected by changes in library policy, issue regulations, accessibility, etc..." (8).

The total number of borrower tickets in use in ISAC Library over years is shown in Table 1. Two major limitations on number of borrower tickets in use are : till 1978 many issuing transactions were also done on registers and though borrower tickets are nontransferable, occasionally users were allowed to borrow on others' tickets.

TABLE 1. Number of Borrower Tickets in Use

Year	No. of Tickets in Use	% Increase Over Previous Year
1973	520	—
1974	786	51.2
1975	884	12.5
1976	987	11.7
1977	1451	47.0
1978	1854	27.8
1979	2510	35.4
1980	3191	27.1
1981	3498	9.6
1982	4127	18.0
1983	4889	18.5

The data based on 'circulation sample' was collected after one year of 'collection sample' data and by that time there was not only marginal increase in size of collection and users but also a considerable change in the environment. Firstly, the centre has been shifted to fairly spacious own building in the city. Library was closed for 31 days for the purpose of shifting just prior to collecting 'circulation sample' data. During that time few sections of the centre were not completely shifted to new campus. Lastly, library has been housed in a more spacious centrally located place in the new campus, though the building is unsuitable for library.

Finally, due to limitations of manual lending system, a systematic disynchronous or longitudinal approach could not be adopted for the present study.

3 Overall Usage of ISAC Library based on 'Collection Sample'

Two thousand and ninetyone sample books have been issued out 14,674 times so far and of which 3158 times during last 10 months to 708 library users. Similarly 617 sample reports have been issued 416 times so far and 137 times during last 10 months to 72 users. Use data at this broad level is tabulated in Table 2.

As could be seen from the table, books have been quite heavily used. However, reports have been used much less than books and the number of users using reports are very much less than those using books. It is generally believed that the technical reports are the lifeblood for research workers in the areas of space science, satellite technology, aeronautics, energy, environment, etc. Yet, as revealed in the table, technical reports are almost scarcely used by a limited number of space technologists. The possible reasons for such a low use of reports are as follows. Firstly, the library started building its reports collection from 1978 onwards. Secondly, reports being semi-formal publications are available as gratis to many users. Thirdly, many internal and Indian reports received free by library are otherwise accessible to users. Fourthly, fairly adequate and free reprographic service has enabled many users to possess their own copies of reports. Fifthly, since reports deal with specific area of a subject very few defined set of users would be interested in a report. Further, out of about 1,100 members, about 800 members are technical staff and out of these technical staff many have broad specialisation such as mechanical engineering, electronics and computer science. But there are few reports in these broad disciplines.

It may be seen from the table that books have an average use of 1.51 during last 10 months and an average of 7.02 users so far (16).

Average number of uses per user during last 10 months is 22.3 in case of books and 9.5 in case of reports. About 708 users have borrowed books at least once in a 10 month period. In case of reports only 72 have borrowed at least once in 10 month period.

TABLE 2. Total Use of Sample Books and Reports

Type of Document	Collection	Sample		Use During Last 10 Months		Cumulative Use so Far		No. of Users Used	Average Use per User
		No.	%	No.	Av.	No.	Av.		
Books	10,089	2,091	20.7	3,158	1.51	14,674	7.02	708	22.3
Reports	3,232	617	19.1	137	0.22	416	0.67	72	9.5

TABLE 3. Lentout Use as per 'Circulation Sample'

	Books	Reports	Standards	Journals	Total
No. of times issued in 3 months	4,846	30.2	11	895	6,054
Percentage of total issues	80.0	5.0	0.2	14.8	100.0
Number of Users	698	123	5	228	759
Percentage of Users (1,100)	63.5	11.2	0.5	20.7	69.0
Average use per User per year	27.8	9.8	8.8	15.7	31.9
Number of Documents	10,500	4,000	2,800	7,500*	24,800
Average use per Document per year	1.8	0.3	0.0	0.5	1.0

* Very approximate. Includes loose issues as well as bound journals.

Standards are much less borrowed than even reports. Like reports, standards collection was also started from 1978 and standards other than ISI were acquired much recently. As such, except ISI no other sample standards were borrowed. Secondly, many standards such as MIL, JSS are decentralised and concerned groups have much stronger collection than library. In fact part of library's standards collection was earlier transformed from collection of different groups and few have been given as gratis by individuals. Thirdly, since standards are issued for 3 days without renewing facility, unlike books and reports which are issued for 21 days with renewing facility, users probably would prefer to consult standards within the library.

4 Overall Use based on 'Circulation Sample'

Before making further observations on use patterns of library documents, the overall picture of use based on three months 'circulation sample' subsequently collected may be examined as shown in the Table 3. There were 6,054 lentout uses in all during three months. As could be seen from the table, books constituted 80% of daily issues, followed by journals with 14.8%. The reports have a meagre 5% and standards a negligible 0.2%. In other words, ISAC Library has experienced over 24,000 lentout uses during the year. The data remarkably confirms with upward trend in use, the lentout use data projected in Table 2 based on 'Collection sample' especially the average use per document and average use per user.

5 Trend of Daily Issues

Daily issue statistics for the same period, revealed that average issues per day was 84 (books—69, Reports—3.6, Standards—0.2, and Journals—11.6).

Frequently tables made for daily issue statistics have further revealed that number of books issued per day varied from 34 to 112; issue of reports issued varied from 0 to 8 and journals varied from 1 to 25 per day. However the total issue itself varied from 46 to 125.

In another tabulation the average daily issue per days been found to be a maximum of 96 for September 1984, understandably (as explained in recent study (12) of library visit and inhouse use) due to general season of reviews for departmental promotions.

Table 4 presents average number of documents issued per day over a typical week. It is interesting to note that issues are maximum on Saturdays and the daily issues over typical week depicts exactly the reverse pattern of inhouse use (13) i.e. minimum in the mid of the week and maximum in the beginning and end of the week. Diagram 1 incorporating the result of earlier inhouse use study, shows how lentout use over a typical week is in the reverse pattern of inhouse use.

TABLE 4. Average Daily Issues per Day

Day	Books	Reports	Journals	Total
Monday	68	4.3	12.4	85
Tuesday	70	3.5	10.8	84
Wednesday	63	2.7	10.0	76
Thursday	70	3.2	11.4	85
Friday	71	4.1	11.3	86
Saturday	72	4.1	14.4	91
Total	69	3.6	11.5	84

6 Frequency Distribution of Use over User based on 'Collection Sample'

Lastly, the use data relating to latest ten months has been tabulated in the form of a frequency distribution over number of users. As noted earlier, 708 users have, in an average, borrowed 22.3 books in a ten month period. Similarly, 72 users have borrowed, on an average, 9.5 reports per user during last 10 months. Use of books per user is quite high. One user has borrowed little more than one book per week and another seven have borrowed almost one book per fortnight. In case of reports, highest borrowing of eight times is done by two users during last ten months.

Diagram 2.

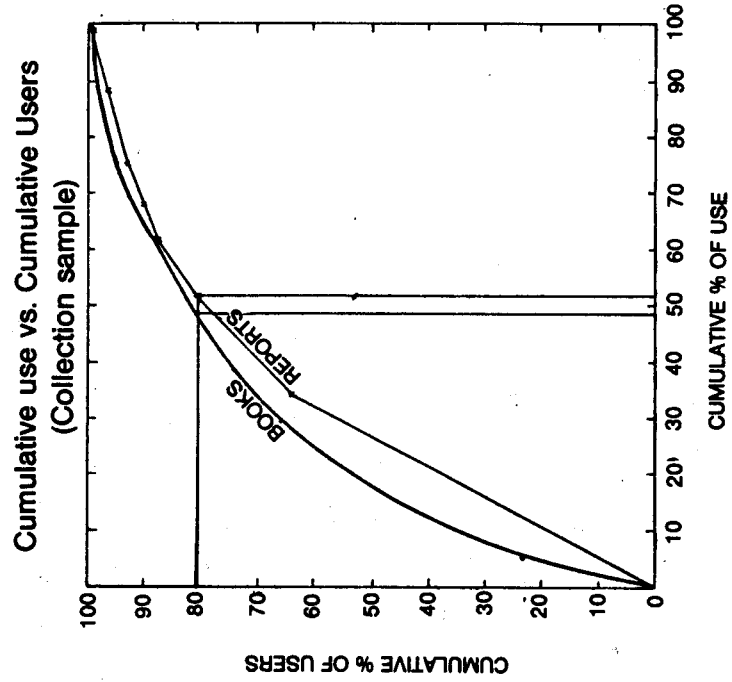


Diagram 1.
Lentout and inhouse use over a typical week

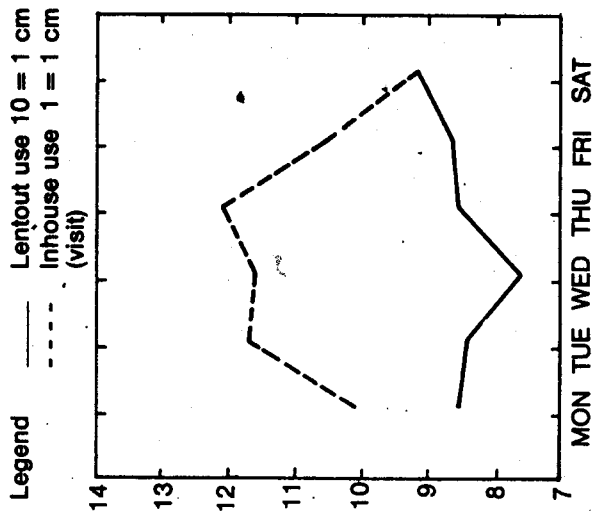


Diagram 3A.
Cumulative user vs. Cumulative users (Circulation sample)

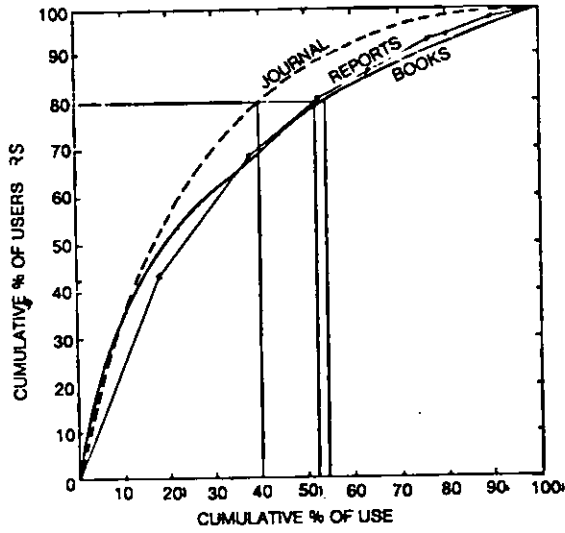
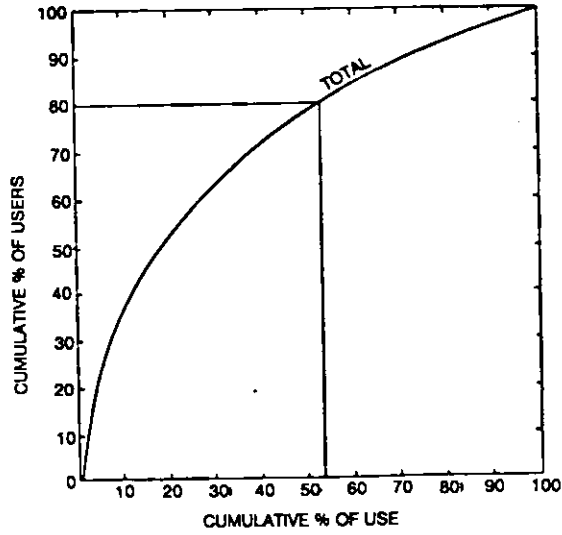


Diagram 3B.
Cumulative use vs. Cumulative users (Circulation sample)



It may also be seen from diagram 2 which plots cumulative percentage of use over cumulative percentage of users that 20% of users have made 52% and 48% of total use of books and reports respectively. The distribution is very close to a parabolic or asymptotic or Zipfian type distribution.

By going through the list of 25 intensive users of books and eight intensive users of reports, it is noticed that many intensive borrowers were also intensive inhouse users and those made relatively more suggestions for documents (14). However a clear picture of cross correlation of borrowed use, inhouse use, suggestions, reservations, etc. will be known after completion of a separate study being done. Nine of these intensive users have borrowed books in as many as 7 to 12 different subject groups during last 10 months. This shows the multidisciplinary and heterogeneous nature of the field and varied interest of users.

7 Frequency Distribution of Use over User based on 'Circulation Sample'

The frequency tables based on 'circulation sample' for books and reports being identical with that of 'collection sample' confirmed the trend seen earlier, though the range slightly differed due to difference in sample sizes.

These two frequency tables together with the frequency table for use of journals has been plotted in diagram 3A in terms of cumulative percentage of use and cumulative percentage of users. Diagram 3B presents the total use of all documents. It roughly conforms to asymptotic or parabolic or zipfian type distribution and other observations made earlier. Diagram 3A further shows the difference in trend among books, reports and journals. Journals depicted a much sharper curve than the other two, thereby indicating that smaller number of users (say 20%) have made much more use of journals than books and reports.

8 Non-users

With approximately 10,000 member at the time of first survey based on 'collection sample', about 292 were non-user members as

lentout use of books are concerned. Similarly there were 92 non-users of reports.

In case of subsequent survey based on 'circulation sample', 341 registered members out of 1,100 have not borrowed any document during the quarter. These users were holding 890 borrower tickets (excluding 30 division tickets) out of 5,000 tickets. In other words, 39% of members have idled 18% of total borrower tickets during the quarter without borrowing any document from the library. However, non-users in case of books, reports, and journals respectively are 401, 977 and 872. The total non-users (non-borrowers) of reports and journals are quite high.

9 Conclusion

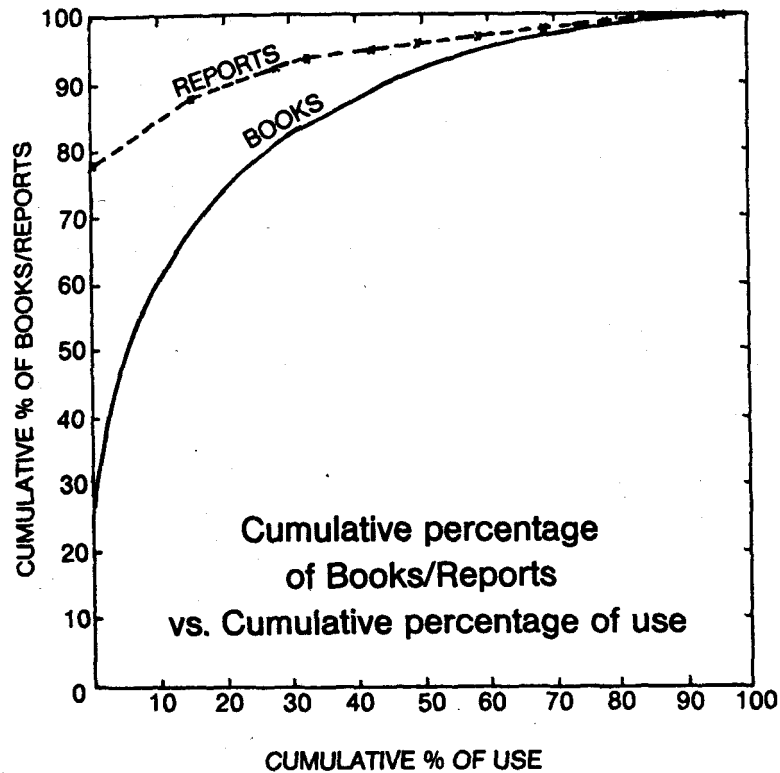
To recall certain salient results and observations, books are issued out on an average 1.51 times and reports 0.22 times in a ten month period. However, the same average for lentout use so far are 7.02 and 0.67, respectively for books and reports. Average use per user during ten month is 22.3 in case of books and 9.5 in case of reports.

Reports, are, by and large, used much less than books and standards much less than reports.

Based on a three month 'circulation sample' it is observed that books constitute 80% of daily issues followed by journals with 14.8%. The reports have a meagre 5% and the standards negligible 0.2%. The 'circulation sample' data remarkably confirmed the result of 'collection sample' data.

The data further confirmed an earlier observation that the use of library during reviews for departmental promotion reaches maximum. An interesting observation is that lentout use over a typical week is in the reverse pattern of inhouse use.

The frequency distribution of cumulative use over cumulative number of users depicted an asymptotic or parabolic or zipfian type distribution. About 20% users were responsible for nearly 52% of total use. Nearly 39% of members have idled 13% of total borrower tickets during the quarter without borrowing any document from the Library. The total non-borrowers of journals, reports and standards are very high.

Diagram 4.

The study enabled library to know the overall usage pattern of ISAC Library. As mentioned earlier, separate studies have been completed on use (both inhouse and lentout) of current journals based on 'collection/title sample', a longitudinal lentout use of books and reports and detailed use studies of books and reports with subject, year of publication, and year of acquisition-wise analysis. A further study of correlating use with various user characteristics is being done separately.

10 Acknowledgement

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16. "For all items circulating externally during the period 1969-1975, the average was 5.024 transaction per item", as per Allen Kent *et al. Idem.* p. 29. Though the magnitude, methodology and environmental parameters differ and Kent's study is very much disputed as "remarkably superficial and unidimensional", "simultaneously aggressive and evasive", "highly subjective and political" and "question the validity of the hypothesis, research methods, conclusions and recommendations" vide the Senate Library committee, University of Pittsburgh, *The study of library use of pitt by professor Allen Kent et al. A Pittsburgh reply*, Pittsburgh: University of Pittsburgh, July 1979, the same has been cited in this paper for comparison purpose.

About the Author

Dr. M. S. Sridhar is a post graduate in mathematics and business management and a doctorate in library and information science. He is in the profession for last 35 years. Since 1978 he is heading the Library and Documentation Division of ISRO Satellite Centre, Bangalore. Earlier he has worked in the libraries of National Aeronautical Laboratory (Bangalore), Indian Institute of Management (Bangalore) and University of Mysore. Dr. Sridhar has published four books ('User research: a review of information-behaviour studies in science and technology', 'Problems of collection development in special libraries', 'Information behaviour of scientists and engineers' and 'Use and user research with twenty case studies') and 74 research papers, written 19 course material for BLIS and MLIS, presented over 22 papers in conferences and seminars, and contributed 5 chapters to books. **E-mail:** sridharmirle@yahoo.com, mirlesridhar@gmail.com, sridhar@isac.gov.in ; **Phone:** 91-80-25084451; **Fax:** 91-80-25084475.

