

# *Patterns of user-visit, movement and length of stay in a special library : a case study* \*

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**Abstract:** A case study is presented, based on personal observations, of the patterns of library visits, library traffic, user-movement and length of stay of the Indian space technologists (IST) as users of their primary library at ISRO Satellite Centre (ISAC). The study depicts the relative use of different service areas of the library, the inhouse use of library documents and the intensity of use of the library by the IST. It is concluded that there is a total lack of studies of physical interactions of users with the library though knowledge of real time interactions and behaviour of users helps in planning and evaluating physical layouts of the library and understanding information behaviour of the users.

## **1. Introduction**

The user-behaviour within the library in terms of physical interactions with various library services and facilities is an interesting and less explored area in user-research. Such a study has to necessarily exclude the nonusers of the population. Like 'use of library', user-interactions with a library is also a phenomenon of a minority of users. In fact, both the use of library and user-interactions with library are highly interdependent and related. However, there is not much work done to study and understand user-interactions with libraries. What is available in literature can be termed as fragmentary stray attempts to study some interactions of users with libraries. This may be partly due to the time-consuming observation technique to be followed for the purpose. For the same reason many use-studies also did not venture to consider the inhouse use of library documents.

## **2. Some Past Findings about Interactions of Scientists and Engineers with Library**

A user visits the library for many purposes. Interestingly, Slater and Fisher (1969, p 29) found that 38% of their respondents visited their libraries for work space (11% exclusively

for work space). Even in the study of science library at MIT (Bush et.al., 1956, P 88) a considerable number of persons used the library only as a study hall to make use of their own material. On the contrary, Scott (1959, P 113) found that 59% of the respondents claimed to do most of their journal reading at home followed by 27% at place of work, 2% during journey on train, 3% in a library, 1% in other places and 2% of the respondents did no reading of technical journals. In a study of inhouse use of library documents and seat occupancy, the space technologists were found to visit the library more during departmental reviews for promotion. The distribution of user-visit data over a typical day was bimodal, roughly symmetric and the same was cyclical over a typical week with maximum during mid of a working week (Sridhar, 1982). Like use of library documents, the reservations made by the space technologists for lentout documents followed skewed distribution and year of acquisition of a document had a stronger effect on its chances of getting more reservations than year of publication (Sridhar, 1983). In another study, it was found that less than one-fourth of the space technologists have had participated in collection development of the library (Sridhar, 1983). Yet another case study showed non-use of classified catalogue, heavy use of subject catalogue and a roughly symmetric biomodal distribution of card catalogue consultation over a typical day by the space technologists. Further, card catalogues are consulted most of the time either to locate a document on the shelf or to interact with the circulation counter than for literature search (Sridhar, 1986).

There are not many worth citing studies in user-research about specific aspects of user-behaviour within library as far as scientists, engineers, technologists and technicians are concerned. Most of the findings of user movement / traffic, card catalogue-consultation, inhouse use, length of stay, seat occupancy, etc. Studies are that of academic or public library users. Apart from science library at MIT mentioned above, Pings and Anderson's (1965) study of user movement/flow pattern, the study made by the University of Cambridge Library Management Research Unit (1975) about seat occupancy, and Campbell and Schlechter's (1979) study of library design influences on user-behaviour are some of the studies in this direction.

### **3. Interactions of the Space Technologists with their Primary Library<sup>1</sup>**

As an extension of a previous study (Sridhar, 1982), a limited sample of the space technologists drawn from the population have been observed for their broad behaviour regarding physical interactions with their 'primary library'<sup>2</sup>. The observations relate to the patterns of library visits, library traffic/ user movement, use of various services and facilities (within the library) and length of stay of the users in the library. The 'Primary library' in this study is ISAC Library and it is housed in a centrally located area as part of the main building of the organisation on a plinth area of about 10,000sq.ft. Approximately one-fourth of the plinth area consists of mezzanine floor. The building was neither designed for the library nor is it adequate to house the library at the time of study.

#### **3.1 Pattern of User-visit to the Library**

Based on the data recorded on 24 randomly chosen days during October 1984 and January 1985, it was found that on an average 200 users visit the library (on a working day), of which 55 visited the mezzanine floor of the library where current journals, bound volumes of journals, standards, reprints and product catalogues are housed. It may be noted that sampling is done for selection of days and user visit data was collected for the entire selected day.

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1. It may also be noted that, by and large, the users who have made more use of library documents also tend to make more interactions with the library and vice versa. Those who made more use of one type of document or more interactions of one type with the library tend to make more use of other types of documents or more interactions of other types. It is the nonusers of the library who have remained nonusers of almost all the services and facilities of the library tending eventually to become isolated group of nonusers. The library-use index of the IST has correlated moderately and positively ( $r=0.53$ ,  $df=393$ ,  $p<0.05$ ) with their library-interaction index (Sridhar, 1988).
  2. Just like every library will have a defined set of primary members, every user will have a primary library on which he depends substantially for his information requirements and the primary library enables him to enter the network or system of libraries.

### **3.2 User-movement/traffic within the Library**

Further, 13 purposeful biased sample of the space technologists (other than those who visited library for a very short time for an issue or return transactions or for indenting or collecting xerox copies) were observed during January 1985 for their movement within the library. In this observation, on an average, a user spent 58 minutes on a visit to the library in 4 to 5 units out of 13 such units within the library. The mapping of users movement indicated that, by and large, the users moved in near critical path avoiding zig zag movements (except when they deliberately wanted to pay repeated visits to a particular unit). Eight out of the 13 only moved on to mazzanine floor and three of them came down to ground floor for use of books and reports and to make enquiries at the circulation counter. The users have often made more than one entry/interaction/visit to the following units: circulation counter, book stack and reading area for books and reports.

Table 1 presents the average user visits to ten service areas (units) within the library together with average length of stay. As could be seen from the table, book stack and circulation counter have accounted for more than half of the total visits(56.8%). Display of new arrivals and reading area for books and reports have been moderately visited by the users. A maximum average time of 27.1 minutes per visit has been spent at the display of new arrivals of journals and current journals followed by 20 minutes in the reading area for books and reports and 16 minutes in the bound journals, standards, reprints and product catalogues unit.

*Table 1*  
*User-Visits to Service Areas within the Library and Length of Stay*

| Sl. No. | Service Area  | Average No. of user-visits per day | Percentage of total visits | Average length of stay (in minutes) |
|---------|---|------------------------------------|----------------------------|-------------------------------------|
| 1.      | Circulation counter                                     | 170.2                              | 27.7                       | 3.1                                 |
| 2.      | Reprographics service                                   | 17.3                               | 2.8                        |                                     |
| 3.      | Micrographics unit                                      | 3.0                                | 0.5                        | NA                                  |
| 4.      | Card catalogues   | 32.0                               | 5.2                        | 8.0                                 |
| 5.      | Report stack  | 6.4                                | 1.0                        | 10.0                                |
| 6.      | Book Stack  | 178.8                              | 29.1                       | 12.0                                |
| 7.      | Reading area (books & reports)                          | 67.0                               | 10.9                       | 20.0                                |
| 8.      | Display of new arrivals (books, reports & standards)    | 82.5                               | 13.4                       | 5.3                                 |
| 9.      | Display of new arrivals (Journals) and current journals | 44.5                               | 7.3                        | 27.1                                |
| 10.     | Bound journals, standards, reprint & product catalogues | 12.0                               | 2.0                        | 16.0                                |
| Total   |   | 613.7                              | 99.9                       |                                     |

Key : NA, Not available

### 3.3 Length of Stay of the Space Technologists in the Library

About 30 randomly selected Indian space technologists were observed for their length of stay in the library during December 84 and January 85. Counting was done from the time the user stepped into the library till the time he stepped out. In order to consider serious inhouse users, all those who visited either for reprographic service or exclusively to select and borrow documents were excluded. As such no one in the sample had spent less than 20 minutes.

One hundred and eighty minutes was the maximum length of stay by one user, followed by 120 minutes each by two users. The average length of stay of the users based on mean of the ranges is 58 minutes. About 58% of the respondents spent 5-30 minutes per

visit in the library in Raitt's (1984, p242) study. The number of users and their length of stay in the library based on mean of the ranges are given in Table 2. The data in Table 2 also indicates that only 7 out of 30 users stayed beyond an hour in the library.

**Table 2**  
***Number of Users Vs Mean Length of Stay  
of Users in the Library***

| <b>Time in minutes (t)</b> | <b>No. of users (N)</b> | <b>N(t) (No. of users staying longer than t minutes)</b> |
|----------------------------|-------------------------|--|
| 30                         | 9                       | 30   |
| 45                         | 8                       | 21   |
| 60                         | 6                       | 13   |
| 75                         | 2                       | 7  |
| 90                         | 2                       | 5  |
| 120                        | 2                       | 3  |
| 180                        | 1                       | 1  |
| <b>Total</b>               | <b>30</b>               | <b>30</b>  |

In Raitt's study (1984, p242), 15% of his respondents spent more than one hour in the library. When this data was plotted on graph, i.e., t, the time in minutes plotted against N(t) the number of users staying longer than t minutes, it resulted in a reverse J shaped curve (Bush, et. al., 1956).

One interesting feature is that the average time spent by the users in journals section is much longer than that spent in books and reports sections despite the fact that fewer users have used journals than books. This partly explains the quantitative under-usage of journals by the Indian Space Technologists. It may be noted (\*) that the total number of users in Table 3 is shown as 45(i.e. 15 in excess of samples), as they were common users of both ground floor as well as mezzanine floor service areas during a visit. In other words, almost 50% of those who used books also used journals when they visited the library.

**Table 3**  
**Frequency Distribution of Length  
of Stay of Users**

| Time in<br>Minutes | No. of users    |                    |            |
|--------------------|-----------------|--------------------|------------|
|                    | Ground<br>Floor | Mezzanine<br>Floor | Total      |
| < 20               | 4               | 3                  | 7          |
| 20-30              | 8               | 0                  | 8          |
| 30-40              | 7               | 5                  | 12         |
| >40                | 5               | 13                 | 18         |
| <b>Total</b>       | <b>24</b>       | <b>21</b>          | <b>45*</b> |

**Key: \***, Total does not tally to 30 due to 15 users using both the ground floor and the mezzanine floor.

#### **4. Conclusion**

From even a cursory glance at the literature on user-research, it appears that there is a total lack of sound studies of user- interactions with libraries in general and interactions of scientists, engineers, technologists and technicians in particular. A real-time study of physical interactions of users with libraries provide lot of insight for planning physical layouts of libraries, understanding relevance and utility of various services and information-behaviour of users. It is also possible that the existing layout, facilities and services considerably influence user-interactions with a given library. Generally less used and less visited units within a library are more compactly and remotely located causing further reduction in user-visit to those units and hence reduction in use of such services. The profession is far behind in thinking of

evolving norms and standards for assessing quantitatively the user-visits, movement and length of stay in libraries.

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