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Use of Periodicals in Physics in Burdwan University Library and Visva Bharati University Library: A Comparative Study.

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Abstract: *The papers deals with the use studies of Physics Periodicals of the Burdwan University Library and Visva Bharati University Library : A comparative study. How they use physics periodicals of the two Institutions.*

Keywords: Physics Periodicals

I. INTRODUCTION

Every type of the library is facing the growing need for library spaces and the problem of working within ever shrinking space allotments.

In addition, there are serious restraints, acceleration in journal subscription prices and many other difficulties. As a result of these, the library collection has to be fragmented, the journal subscriptions, to some less-needed title have to be cancelled, and new acquisitions have to be limited, and many other deflationary actions takes. These affect the library users both directly and indirectly.

An interest in the informational needs of users has prompted this study, a survey of in-room use patterns of the Physics periodicals literature at the Science Library, Burdwan University Library &Visva-Bharati University Library. It was hoped that the data obtained could possibly help to answer the following questions:

1. Which Physics periodicals are not frequently used, and therefore constitute the core Physics periodicals collection in the library?
2. Which Physics periodicals are in less demand, and therefore could be continued for other remote storage, discard or cancellation?
3. Which periodicals should retained to satisfy a specific position of the users need?
4. What should be a library's physics periodicals budget for a core collection which can satisfy the user's need?
5. When a library is short of prime storage space, which Physics periodicals should be made most readily accessible? And which could be considered for remote storage?
6. What are the 'point of obsolescence [(1)] and the half life [(2)] of Physics periodicals?
7. In what Languages are the most used periodicals published? From what countries do they originate?
8. How is Physics periodicals used during the regular library hours?

Despite the value of every use studies, one should bear in mind that it has an inherent limitation. Namely it can only give quantitative evaluation rather than qualitative. Therefore, the findings should be used very cautiously for every decision making process. For example, the less used periodicals may be of much greater importance than a use study can quantitatively indicate.

Statistical data has been given for the use of photocopying periodicals at the Sikhya Bhavan Science Library, the Visva Bharati University. The Visva Bharati University library has maintained the record of photocopying periodicals.

Questionnaire had been distributed to the research scholars, faculty members, M.Tech. Students and the P.G Students i.e. M.Sc. Students of the Department of Physics, Burdwan University Library & Visva Bharati University Library. Then questionnaires were collected and analyzed on the basis of a number of characteristics like type of research being done by the respondent, age group of the respondent and so on also on the basis of institutions to which the respondent belongs. Statistical data was given in this dissertation.

USE STUDIES: A REVIEW

Surveys which are conducted to find out the use of any communication medium, such as a primary periodical, and the secondary periodical etc. are called the use studies.

A large number of use studies have been conducted to find out the relative use of different channels in response to questions like 'when would you search for information' or how did you find reference' etc. The possible channels that could be named in response to such questions are by chance, personal recommendation, from abstracting and indexing services, as often references, through regular personal of periodicals, etc. At the Washington Conference a number of papers on such studies were presented. [3] Since then many more surveys have been made and their findings are available.

The important studies of this nature – Average of previous surveys'--- both published in 1961 are by Vickery and Voigt respectively. [4, 5] With this clarification, it becomes clear that both Vickery and Voigt identified ''By Chance' (including regular personal) as the important means or channel locating information. In Voigt's average most important channels i.e. 'abstracts and indexes' in Vickery's average, although personal recommendation has quite high ranking also. The greatest deviation is regarding the channel 'abstracts and Indexes' which comes down to the fifth of last rank in Voigt's average. It appears the ranking of this consistently high in most of the surveys. A large number of use studies have been conducted to find out the relative use of different channels in response to questions like 'when would you search information'? Or how did you find the reference'? etc. The possible channels that would be named in response to many questions are—by Chance, Personal recommendation. From abstracting and indexing services as often references, through regular personal of periodicals etc. As the Washington Conference a number of papers on such were presented.[3]Since then, many more surveys have been made and their finding are available.

The important studies of this nature 'Average of previous surveys' – both published in 1961 are by Vickery and Voigt respectively. [4, 5] With the clarification it becomes clear that both Voigt and Vickery identified 'By Chance '(including regular personal) as the most important means or channels of locating information. In Voigt's average the second most important channels i.e. 'abstracts and indexes' in Vickery's average, although personal recommendation have ranking also. The greatest deviation is regarding the channel's 'abstracts' and indexes', which comes down to the fifth or last rank in Voigt's average. It appears the ranking of this channel is consistently high in most of the British studies, including studies by Bernal, Urqhurt and other BLLD studies. In fact, in one of the surveys reported by Urquhart it was found, 38 per cent the Physicist questions stated that they had found the reference in an abstract Journal.

This compares with a total of 49 per cent an abstracting journal". [6] Similarly, in Later studies it was revealed that 21 per cent of the Social Scientist and 30 per cent of the Bio-medical workers that the reference had been obtained form an abstracting journal. But in most of the other surveys this occupies an unexpectedly low position. The high ranking of these channels in BLLD surveys as against personal recommendation has been tried to be example by Wood thus "The explanation for this must lie in the fact that the literature borrowed from BLLD is acquire on inter-library loan. It is obtained, therefore, through a library that is most cases do not hold the item. Local research workers, consequently, are less likely to have heard of the item and therefore, to have referred their colleagues [7]

However, it can be said in general that the choice of the appropriate channel is influenced by a number of consideration like, job function, also organization, qualifications, place of employment, academic discipline, accessibility of information sources, etc, Thus, it has been observed that those who have research and development responsibilities make more use of formal channels like scientific periodicals and abstracting

periodicals, than those whose responsibilities are geared to 'Industrial' Production, testing, design etc. Similarly, it has been observed that technologists make more use of oral communication than do research workers. Scientists also use oral or other informal channel, mainly current information. Base of use or easy accessibility seems to be important consideration in the choice of channel irrespective of the amount of information expected.

The John Hopkins University Center for research in scientific communication and the American psychological Association have conducted number of independent studies to find out the efficacy of conference as a communication channels. John Hopkins University studies have revealed that 50 to 68 per cent of the authors of papers had previously made oral presentation of their ideas at regional meetings. Between 32 and 50 per cent of them made written presentation also of the same work. Usually as report of thesis, it was also found out that 78 to 94 per cent authors were to present the same work as periodical articles within three months of the Conference. From the participants point of view it could be said that most of the information gathered from attending of Conference come through informal discussions with authors and others.

Several compilations of use studies exist. The most inclusive bibliography is that compiled by Article [8] in 1971. Her collection of 687 studies for all types of libraries except for special libraries is based upon a review of 1200 studies during the two decades 1950-1970.

A recent analysis by Ford [9] examines over 100 studies conducted in academic libraries. W. Wood [10] presents a useful analysis and summary of the major studies of library use in the period 1930-1964.

D. N. Wood [11] lists use studies conducted during 1966-1970. The compilation by Bates [12] cities 181 studies up to 1968. A major listing has been accomplished by De Weese [13] 597 items and although including several Journal readership surveys, there are many use studies listed.

In 1970 the New York library Association [14] issued a publication including an annotated bibliography on user requirements. This is a selected list 20 pages of paper dealing with use, the making of surveys, and the problems of library use instruction.

At least one specialized collection of use studies exists. This is the compilation of and review of fifty four catalogue use studies by Krikelas[15] which includes a chronology of catalogue use studies, 1931-1970.

The rationale for Library use studies has discussed by Lipetz [16] and Ford Researchers have (or should have) these general theoretical of goals which they wish to

1. Explanation of observed phenomena in library use;
2. The production of user behavior;
3. Control of user behavior by manipulation of conditions.

Questions are the most common devices employed in measuring library use. Among the root appealing attributes of a question is that it allows for easy categorization of questions and tabulation of results. The way in which questions are asked in questionnaire varies. They can be open-ended, multiple choice, or a variety of attitude scales. The most important aspect in the design questionnaire is the careful and appropriate working of the questions used. The techniques of distributing questionnaire are also varied obviously. They can be handed out randomly at exists entrances of buildings, mailed out to a library's real and potential clientele, given to users as they charges out books, or made available to users at their point of conduct within a library. This last method refers to a study [17] that allowed users to register repeatedly their not findings books on the shelf at a large university research library.

The critical incident technique [18] involves the user non-user telling of memorable event in his information seeking activation. This type of questions can be asked in questionnaires or in interviews. An example of a critical incident technique is the asking of a library user he was or was not satisfied with library services. The collective response to such a question could be analyzed to reveal trends and elements in satisfaction or dissatisfaction.

Observation of the user is one way in which to study use without putting any obvious on the part of the user. Observation could involve following a user (with his consent) about the library and seeing what the user

comes up against. This could be unnerving for the user but highly revealing to the observer. An example of the unobtrusive observation in the use of a time-lapse camera in a catalogue room to observe the use of the card catalogue.[19]

Another interesting example of the unobtrusive method is Sommens's study [20] of seating arrangement and performance among library users. His findings, through observation have several implications for library interior design and reveal same characteristics of library users.

THE PROBLEM

Use studies of Physics periodicals may be understood as the use of periodicals by Physicists covering reading room use, home use and photocopying use for their study purpose. Physicists for the study have been defined having at least a master's degree in physics.

OBJECCTIVE OF THE STUDY

(i) To identify the core periodicals of Physics;
(ii) To estimate the total expenditure on the core periodicals of Physics;
(iii) To identify the most heavily used Physics periodicals;
(iv) To identify the least used periodicals in Physics;
(v) To identify Physics periodicals this would be made most readily Accessible? And which could be considered for made storage?
(vi) To determine the age of the Physics periodicals that are used?
(vii) To identify how do readers find about the relevant periodical articles that the /read? , That is, whether they are directed by references from secondary periodicals or form some other sources?
(viii) To determine how often Photostat request is made?
(ix) To determine how often inter-library loan request is made?
(x) To determine how often periodicals literature is used by a Physicists?
(xi) To determine whether or not they are using periodicals other than English Language? That is, listing of periodicals on the basis of Language: and
(xii) To suggest change regarding use of periodicals which could lead their effective use?

HYPOTHESES

The most important is to state the hypotheses for the research. Stating the hypothesis helps in the selection of data gathering methods and instruments. It brings to the force the expectations of the person conducting research.

Keeping the purpose of the study in mind the following hypotheses were formulated:
1. Most of the Physicists use the Physics periodicals frequently;
2. Most of the Physicists find out their journal articles from the indexing, abstracting and review periodicals;
3. Physics abstracts are most used abstracting service;
4 Physics Review Solid State Communication and Journal of Applied Physics are the most used periodicals;
5 Nature and New Scientist is the used periodical other than their area of research;
6. Chemical Review, and Optics;
Communication is the most used for photocopying purpose;
7. The overall periodicals collections are adequate;

PHOTOCOPYING USE:

The data was collected from photocopying request forms filled up by the users of the Science Library, Visva Bharati University later a rank list of a periodicals were prepared on the basis of number of photocopying request forms at Science Library Visva Bharati.

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PERSONAL OPINION OF THE USER:

This data was collected by circulating the questionnaire to the faculty members and research scholars of the Department of Physics Burdwan University Library & Visva-Bharati University Library to collect their personal opinion on periodicals use. First a questionnaire was prepared and standardized after taking the data from the users. Then the final standardized questionnaire was circulated to the research scholars, teachers and post graduate students of the Burdwan University & Visva Bharati University of the Department of Physics. The duly filled up questionnaires were collected from the research scholars and teachers.

The questionnaires contained 12 basic questions on all aspect of periodicals use of the library. The data from questionnaire was analyzed. Later a rank list for the core periodicals and another for allied subject periodicals was also prepared.

After the data was collected on the basis of the three above indicators, the correlation of ranks among the periodicals was observed.

Table -1: Ranking of the Periodicals Consulted in Visva Bharati University.

S.No.	Name of Periodicals	Rank No.	No. of Respondents	% of Respondents
1	Physical Review	1	53	60.25%
2	Physics Letters	2	35	39.77%
3	Physical Review Letters	3	28	31.81%
4	Journal of Applied Physics	3	28	31.81%
5	Physical Status Solidi	4	27	30.68%
6	Solid State Communication	4	27	30.68%
7	Journal of Mathematical Physics	4	27	31.68%
8	Soviet Physics Solid State	4	27	30.68%
9	Journal of Physics	5	26	29.54%
10	Nuclear Physics	6	10	11.36%
11	Review of Modern Physics	7	9	10.22%
12	IEEE Transactions	7	9	10.22%
13	Journal of Crystal Growth	8	8	9.09%
14	Annals of Physics	9	7	7.95%
15	Journal of Theoretical Physics	9	7	7.95%
16	Journal of Optical Society of America	10	6	6.81%
17	Journal of Applied Physics Letters	10	6	6.81%
18	Journal of Non-Crystal Solid	10	6	6.81%
19	Physics of Fluids	11	5	5.68%
20	Soviet Physics Semiconductors	12	4	4.54%
21	Journal of Physical Society	12	4	4.54%
22	Japanese Journal of Applied Physics	12	4	4.54%

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Table -2: Ranking of the Periodicals Consulted in Burdwan University.

S.No.	Name of Periodicals	Rank No.	No. of Respondents	% of Respondents
1	American Mathematical Society	1	53	60.25%
2	Analysis Mathematica	2	35	39.77%
3	Physical Review Letters	3	28	31.81%
4	Journal of Applied Physics	3	28	31.81%
5	Acta Informatica	4	27	30.68%
6	Solid State Communication	4	27	30.68%
7	Journal of Mathematical Physics	4	27	31.68%
8	Acta Mathematica Hungarica	4	27	30.68%
9	Acta Mathematica Sinica	5	26	29.54%
10	Nuclear Physics	6	10	11.36%
11	Review of Modern Physics	7	9	10.22%
12	IEEE Transactions	7	9	10.22%
13	Journal of Crystal Growth	8	8	9.09%
14	Computational Statistics	9	7	7.95%
15	Algebra and Logic	9	7	7.95%
16	Journal of Optical Society of America	10	6	6.81%
17	Journal of Applied Physics Letters	10	6	6.81%
18	Journal of Non-Crystal Solid	10	6	6.81%
19	SIAM Review	11	5	5.68%
20	Soviet Physics Semiconductors	12	4	4.54%
21	Journal of Engineering Mathematics	12	4	4.54%
22	Japanese Journal of Applied Mathematics	12	4	4.54%
23	Japanese Journal of Applied Physics	12	4	4.54%

Table -3: Consultation of Periodicals in area, other than there area(s) of Research

No. of Respondents	Visva Bharati University	Burdwan University
Yes	73 (82.95%)	70 (87.5%)
No	15 (17.05%)	10 (12.5%)
Total	88 (100%)	80 (100%)

Table -4: Ranking of periodicals in area other than their area of research (V.U)

S.No.	Name of Periodicals	Rank No.	No. of Respondents	% of Response
1	Nature	1	54	61.36%
2	New Scientist	2	45	51.13%
3	Science	3	44	50.13%

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S.No.	Name of Periodicals	Rank No.	No. of Respondents	% of Response
4	Scientific American	3	44	50.13%
5	Physics Today	4	43	49.12%
6	Discovery	5	42	48%
7	Science Today	5	42	48%
8	Physics News	5	42	48%
9	Technology Management	5	42	48%
10	Science Reporter	5	42	48%

Table-5: Ranking of periodicals in area other than their area of research (B.U)

S.No.	Name of Periodicals	Rank No.	No. of Respondents	% of Response
1	Nature	1	54	61.36%
2	New Scientist	2	45	51.13%
3	Science	3	44	50.13%
4	Scientific American	3	44	50.13%
5	Physics Today	4	43	49.12%
6	Discovery	5	42	48%
7	Science Today	5	42	48%
8	Physics News	5	42	48%
9	Technology Management	5	42	48%
10	Science Reporter	5	42	48%

II. CONCLUSION AND SUGGESTIONS

1. Review articles and abstracting and indexing periodicals are usually the source where from Physicists find out their periodicals articles. Consultation with experts/seniors and colleagues comes next. The Library is really asked for any help of such nature.
2. Most of the Physicists who are doing their research in V.U and B.U belong to age group below 35 years, the largest group of respondents at V.U & B.U and falls in the category of age 36-50 years.
3. Most of the research scholars have M.Sc. degrees Physicists of teachers of V.U and possess Ph.D. degrees. Most of the Research Scholars belongs M.Sc. degrees at Burdwan University.
4. Research scholars and teachers at V.U and B.U are conducting research in seventeen broad areas of specialization.
5. Most of the Physicists are working on experimental and applied research at V.U., Most of the Physicists working on theoretical research.
6. 53-77 per cent research scholars and physicists have used physics periodicals frequently for their study/research. 44.44 per cent have used Physics periodicals sometimes and the rest have used occasionally.
7. Scientific periodicals are considered the most important source for specific information. References found while reading literature, preprints or reprints received directly from authors, and research reports are next in importance.
8. Physics Abstracts and Current Papers in Physics are used by a fairly large proportion of the respondents, Current contents received by air by all the libraries is being used by fifty per cent of the respondents, Current

Physics Index, Applied Science and Technology Index, Science citizen index and solid state Abstracting are used by more than 40 per cent of the respondents.

9. Based on the response regarding use of periodicals. The first five titles are given below in order of rank:
Visha Bharati University
1. Chemical Review
2. Physics Letters
3. Physical Review Letters
4. Journal of Applied Physics
5. Journal of Chemical Science

10. A large number of respondents have used periodicals published between 1980-85, 1995-00, and in 2024.

11. Most of the respondents have used periodicals in other than area of research. The two top most periodicals which have been used by the respondents of are given below:
i) Nature;
ii) New Scientists;
iii) Scientific American.

12. 60, 35 and 25 respondents have requested for photocopies once, twice and thrice in a week respectively. 50 and 25 respondents have requested for photocopies thrice in ten days and twice in a fortnight respectively and 30 respondents have requested for photocopying twice in a month.

13. More than 80 per cent respondents have requested that photocopies are need when time is insufficient and the require articles is most important.

14. More than 90 per cent of the respondents have got photocopying periodical articles published between 1990-2024

15. 42.66 per cent respondents have asked for inter-library loan facilities and 57.34 per cent have not used this facility.

16. 30.66 per cent respondents have used the inter-library loan facilities occasionally, 10.22 per cent used sometimes and 1.33 per cent have used frequently and the rest have not used at all.

BIBLIOGRAPHY

[1]. AKANE (Saleimen, Babutunde). Characteristics of the research literature used in medical research in Nigeria.1983. Loughborough University. Deptt. Of Library and Information Studies Loughborough, 99p.

[2]. ALAHI(G). Statistical analysis of journal usages. Int Labr Rev. 11,1; Jan 79; 141-50.

[3]. ALLDREDGE (N.S) The non-use of periodicals ; A study. Serials Librarian .7.41; Summer 83; 61-4.

[4]. ANTHOMY (L.J H, East) and SLATER(H.J). The growth of the literature of physics. Reports on the progress in Physics. 32;1969;707-67.

[5]. ATKIN(Pauline). Bibliography of use surveys of public and academic libraries. Lab Inf Bull. 14;1971;1-82.

[6]. BALASUBRAHANIAN (Geetha) and BISWAS(S.C) Readers and their reading trends in the British Council Library. Ann Libr Sci Doc. 27,(1-4); Mar-Dec 1980; 66-77.

[7]. BARNES (R.CMM). Information use studies Part 2.Comparision of some recent surveys. J. Doc. 21,3; 1965, 169-76.

[8]. BARUAH (Heena). A Comparative study of the readers use of North-eastern Hill University and Gauhati University Libraries. Int Lib Movement. 3.(223);1981;45-59.

[9]. BASLLE (V.A) and SHITH(R.W). Evolving the 90 per cent Pharmaceutical Library; the use made of periodicals shelved in a restricted storage areas. Sol Libs. 61; Feb 1970; 81-6.

[10]. BEBOUT (Lais). User studies in the humanities a survey and a proposal R.Q 15,1;40-4.

[11]. BORKOWASKI (Casdmir) and MACLBOD (Murdo J) Report on the Kent study of Library use; A University of Pitteburgh reply. Lib Acquations; Practice and theory. 3.(3/4); 1979;125-51.

[12]. BOTTLE (R.J) Ed. Use of chemical literature .1979.3rd ed. Butterworth ; London.

[13]. BOWER(C.A) Patterns of use of the serial literature at the BLLD. BLLD Review. 4;1976;31-6.

[14]. BROADUS (Robert N). The literature of the Social Sciences. Inf Sec Sci J. 23;1971;237p.
[15]. BROADUS (Robert N). Use studies of Library collections. Libr Resour Techn Ser. 24, 4; Fall 1980;317-24.
[16]. BROADUS (Robert N). The use of serial title in libraries with special reference to the Pittsburgh Study. Collection Management. 5,1/2; Spring and Summer 1983; 27-41.