

# Changing Scenario of Information Use Pattern in the Engineering Colleges in Tamil Nadu

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**Abstract** - This paper analyses the changing scenario of information use pattern in the academic libraries of Tamilnadu. Libraries play a vital role in higher education and research. In fact, it collects a number of printed documents such as books, journals, magazines, encyclopedia, dictionaries, yearbooks, news papers and non-printed materials like CDs, Microfiche, Microfilms, Databases, e-learning resources related to the courses offered in the college/university in order to meet the various information requirements of users at graduate, post graduate and research levels. The ancient libraries preserved and circulated the information sources in the printed or written forms. But, the development of science and technology have modernized the form of documents and changed the information use pattern of users. It is seen that the present users prefer non-printed materials to printed one. In other words, the demand for non-printed materials is more than the printed one and the time utilized in the information communication technological based information sources and services is more than that in printed documents circulation section. It shows that there is a change in the information use pattern of users in higher educational libraries. Hence an attempt is made to find out the changing scenario of information use pattern and factors motivating it in the higher educational libraries of Tamilnadu.

**Keywords:** Printed documents, non-printed materials, information sources, higher education, information and communication technology, academic factors, physical factors, service factors, human factors.

## I. INTRODUCTION

This is an information world in which the need for information sources and services has been increasing for academic, research and knowledge development at regional, national and international levels. Information is the centre of all activities and progress. It is available in different forms. So the present users not only depend on printed documents but also non-printed materials to get required information. It means they use either printed documents or non-printed one or both according to their availability and the demand for information. However, the users prefer non-printed sources to printed one. It may be due to get world wide information in all disciplines and fields. As a result, the demand for non-printed sources and services as increasing where as the use of printed sources as decreasing in the information world. It reveals that there is change in the information use pattern in higher educational institutions. Hence, the study of factors

influencing the information use pattern has drawn the attention researchers at micro and macro levels.

## II. REVIEW OF LITERATURE

The study on the information use pattern based on information sources and services is not a new area of research in library science. In fact, a lot of studies have been carried out in India and foreign countries. But, this kind of study was limited in the past due to the lack of choice of information sources and services. But, the modernization of information sources and services has brought about rapid changes in the information use pattern in all types of higher educational libraries. As a result, the number and type of information sources and services have increased in all libraries. Therefore, the students can use printed or non-printed or both online databases, and network services according to their nature of studies and availability of different information sources and services. The study of William Bair and Lisha Li (2009) pointed out that the library has traditionally been seen as the heart of information flowing outward learning while in the modern times, technology plays an ever growing role in education and research. Natarajan (2012) observed that availability of infrastructure and resources are quite important in searching and information use pattern. Kannappanaver and Manjunatha (2010) concluded that there was a positive relationship among the engineering faculties regarding the usefulness of the sources of information and unequal use of library services among them. Selvi (2012) found that the users aware of library services whereas they have lack of time to utilize the library even though they were interested. Nilaranjan Barik (2013) viewed that academic technology, existence of resources, information services and staff's proficiency determined the information usage. Jamali and Nicholas (2008) revealed that there were significant differences among the physicists and astronomers with regard to information-seeking behavior. Information seeking behavior of a faculty is wide ranging. Significant studies by Ernest et. al (2005), Fourie (2006), Koganoormath (1992), Kebede (2008), Steinerova (2005), and Tanni (2008), reviewed the information seeking behavior of researchers and faculties. They concluded that information behavior in learning tasks may be attributable to various explanatory factors and the characteristics of the

resulting documents in the fields. Adelani (2002) found out spectrums of factors affecting information needs and this includes age, linguistic ability, job, experience and nature of work.

### III.SIGNIFICANCE OF THE STUDY

A host of studies are available to comprehend the information use pattern in higher educational libraries (Abifarín 1994, Bradley M. Hemminger 2007, Kannappanavar 2010, Doraiswamy 2013, Jaya kumara and Khaiser Nikam 2013). But such studies are partial and fail to analyse the factors which motivate information use pattern. The present study is significant one because it examines the changing scenario of information use pattern and also factors causing such changes in the higher academic libraries.

### IV.OBJECTIVES OF THE STUDY

This study is carried out with the objectives given below.

1. To identify the changing scenario of information use pattern in engineering colleges
2. To find out the factors influencing the information use pattern
3. To examine the problems of information use pattern

### V.HYPOTHESES

1. Decrease in the use of printed materials.

2. Academic factors influence the use of information pattern.
3. Lack of computer with internet based services affects information use pattern in the study area.

### VI.METHODOLOGY

The present study has been conducted in Coimbatore District of Tamilnadu. This district is chosen for analysis due to the gap and high rate of literacy. Engineering colleges were selected because its number (68 colleges) is more than Arts and Science College (59 colleges) and Medical Colleges (2 colleges) in the study area during 2014 – 2015. The study has used primary data. It has selected 10 librarians in the top ten engineering college as respondents to analyse the changing scenario of information use pattern and 150 students are selected randomly (15 students from each college) to find out the factors influencing information use pattern. The study has used factor analysis to identify the factors which are influencing the information use pattern mostly in the study area. Besides, percentage analysis is used to indicate the changing scenario of information use pattern in the engineering colleges.

### VII.RESULTS AND DISCUSSION

There is a change in information use pattern in the academic libraries. The number of respondents using printed documents is decreasing where as those who use non-printed materials are increasing in the study area. It is shown in Table I.

TABLE I CHANGE IN INFORMATION USE PATTERN OF USERS

Sl. No.	Year	Number of Users		Total
		Printed documents	Non-printed documents	
1	2010 – 2011	119 (79.3)	31 (20.7)	150 (100)
2	2011 – 2012	105 (70.0)	45 (30.0)	150 (100)
3	2012 – 2013	94 (62.7)	56 (37.3)	150 (100)
4	2013 – 2014	82 (54.7)	68 (45.3)	150 (100)
5	2014 – 2015	62 (41.3)	88 (58.7)	150 (100)

Source: Field survey

Note: Figures in parentheses represent percentage

Table I reveals the number of users using printed and non-printed materials from the academic years 2010 – 2011 to 2014 – 2015. It is seen that out of 150 users the number of users of printed documents decreases from 79.3 per cent in 2010 – 2011 to 41.3 per cent in 2014 – 2015 where as the number of users using non-printed materials increasing from 20.7 per cent in 2010 – 2011 to 58.7 per cent in 2014 – 2015. This is due to the demand for current, worldwide information and cost and non availability of printed documents. Moreover, it is identified that users are not interested in using printed documents.

The study has found that academic, information sources, library services, human and physical factors influence the information use pattern in the study area. Academic factor

(Factor – 1) is research, projects, examinations seminars assignments, workshop, and discussion. Information source factor (Factor – 2) includes internet, computer, books, e-books, journals, e-journals and CDs/DVDs. Library services factor (Factor – 3) consists circulation, reference, reprographic, current awareness, and SDI and guidance services. Human factors (Factor – 4) are faculties, library staff, friends, user himself and parents. Physical factors (Factor – 5) includes strength of libraries, comfortable seating, classification, separate reading room, working hours, number of library staff, new arrivals, ventilation and air conditioned rooms.

The rotated factor matrix for factors motivating information use pattern is given in Table II.

TABLE II ROTATED FACTOR MATRIX FOR FACTORS MOTIVATING INFORMATION USE PATTERN.

Sl. No.	Variables	Components				
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	Research	0.863	0.229	0.321	0.572	0.480
2	Projects	0.841	0.406	0.207	0.187	0.304
3	Examinations	0.829	0.163	0.085	0.246	0.283
4	Seminars	0.814	0.188	0.230	0.173	0.150
5	Assignments	0.798	0.341	0.169	0.261	0.177
6	Workshop	0.786	0.268	0.310	0.393	0.162
7	Discussion	0.732	0.334	0.155	0.342	0.226
8	Internet	0.508	0.861	0.156	0.205	0.182
9	Computer	0.416	0.844	0.230	0.188	0.130
10	Books	0.394	0.809	0.101	0.413	0.371
11	e-books	0.400	0.786	0.218	0.108	0.217
12	Journals	0.376	0.752	0.350	0.250	0.324
13	e-journals	0.280	0.707	0.107	0.081	0.103
14	CDs/DVDs	0.305	0.671	0.088	0.312	0.202
15	Circulation Service	0.256	0.281	0.845	0.453	0.260
16	Reference service	0.207	0.418	0.827	0.379	0.300
17	Reprographic service	0.274	0.291	0.800	0.604	0.218
18	Current awareness	0.342	0.382	0.761	0.570	0.404
19	SDI	0.286	0.201	0.638	0.403	0.171
20	Guidance service	0.403	0.181	0.633	0.130	0.175
21	Faculties	0.188	0.344	0.173	0.817	0.276
22	Library Staff	0.126	0.223	0.119	0.771	0.381
23	Friends	0.203	0.477	0.236	0.733	0.278
24	User himself	0.310	0.146	0.127	0.685	0.183
25	Parents	0.217	0.151	0.142	0.626	0.088
26	Strength of libraries	0.355	0.201	0.207	0.342	0.811
27	Comfortable seating	0.172	0.096	0.119	0.271	0.794
28	Classification	0.202	0.143	0.098	0.210	0.687
29	Separate reading room	0.169	0.104	0.122	0.108	0.672
30	Working hours	0.241	0.067	0.338	0.203	0.665
31	No. of library staff	0.327	0.183	0.126	0.250	0.647
32	New arrivals	0.291	0.270	0.209	0.163	0.635
33	Ventilation	0.253	0.316	0.304	0.221	0.622
34	Air conditioned rooms	0.154	0.265	0.178	0.180	0.608

Source: Computed data

Extraction Method: Principal Component Analysis  
 Rotation Method : Varimax with Kaiser Normalization  
 Rotation converged in five iterations.

The present study on information use pattern consists of thirty four variables relating to motivation have been identified in the study with five main factors and the result of variables is exhibited in Table III.

TABLE III SELECT VARIABLES RELATING TO MOTIVATIONAL FACTORS

Sl. No.	Factors	No. of variables	Reliability co-efficient	Eigen value	Per cent variation	Cumulative percentage
1	Academic	7	0.787	14.848	51.210	51.210
2	Source of Information	7	0.609	2.803	9.671	60.881
3	Library Service	6	0.732	2.402	8.275	69.156
4	Human	5	0.641	1.578	5.460	74.616
5	Physical Factors	9	0.719	1.322	4.549	79.165

Source: Computed Data

Kaiser – Meyer – Olkin Measures of Sampling Adequacy = 0.684  
 Bartlett’s Test of Sphericity: Chi square = 33762.24  
 Degree of Freedom = 419  
 Significance = 0.000

Table III displays that the Eigen value of the first factor namely Academic factor is 14.848 which reveal that this factor contains much higher motivation than all other factors. The percentage variance is 51.210. The academic

factor motivates the students in making information use pattern at the maximum level. The second and third factors namely Source of Information and Library service factors account for 9.671 per cent and 8.275 per cent variance with Eigen value of 2.803 and 2.402 respectively. The fourth and fifth factors namely human and physical factors account for 5.460 per cent and 4.549 per cent variance with Eigen values of 1.578 and 1.322 respectively. Thus, factor academic factor one is the most important factor in motivating information use pattern of the students.

After finding the motivating factors in information use pattern of the respondents, the next possible step in the study is to find out the relationship between the factors and information use pattern by the respondents. The ‘Multiple Regression Analysis’ has been used to identify the relationship between the factors and information use pattern of the sample respondents in the study area. The analysis lies in the following form

$$\text{Log } Y = \text{Log } b_0 + b_1 \text{Log } X_1 + b_2 \text{Log } X_2 + \dots + b_y \text{Log } X_y + e^u$$

Where,

- Y = Overall score on by the respondents
- X<sub>1</sub> = Academic Factors
- X<sub>2</sub> = Source of Information Factors
- X<sub>3</sub> = Library Service Factors
- X<sub>4</sub> = Human Factors
- X<sub>5</sub> = Physical Factors
- b<sub>0</sub>, b<sub>1</sub>, b<sub>2</sub>, . . . b<sub>y</sub> are the parameters of independent variable to be estimated
- B<sub>0</sub> = Regression Constant
- e<sup>u</sup> = error term

In order to define the significance of the estimated parameters b<sub>0</sub>, b<sub>1</sub>, b<sub>2</sub>, . . . b<sub>5</sub>, t – test of the following formula has been used.

$$\text{The 't' test formula is } (t) = b_1 / S_e b_1$$

Where,

$$S_e b_1 = \text{Standard error of } b_1$$

The regression co-efficient of the independent variables has been computed and the results are shown in Table IV.

TABLE IV IMPACT OF MOTIVATING FACTORS

Sl. No.	Factors	Notation	Elasticity of co-efficient	Standard error	't' value
1	Overall scores on information use pattern	Y	-	-	-
2	Constant	B <sub>0</sub>	2.519	0.394	4.921
3	Academic	X <sub>1</sub>	0.723*	0.264	3.724
4	Sources of Information	X <sub>2</sub>	0.836*	0.138	2.876
5	Library services	X <sub>3</sub>	0.281**	0.034	4.635
6	Human	X <sub>4</sub>	- 0.123 <sup>NS</sup>	0.043	- 1.861
7	Physical	X <sub>5</sub>	0.156 **	0.067	2.342

Source: Computer Data

$$R_2 = 0.786$$

$$F - \text{Test} = 168.913$$

NS = Not Significant

\* Significant at 5 per cent level

\*\* Significant at two per cent level

Table IV Reveals that among the various motivating factors analyzed, the factors such as Academic, Source of information and Library services have proved to be significant factors in making information use pattern whereas, Human and Physical factors have no significant impact on the respondents. The R<sup>2</sup> has been 0.786 and the value of the ‘F’ test was 167.633. So, it can be inferred from the study that Academic factors such as, research, projects, examination, seminars, assignments, workshop and discussion and Sources of Information factors such as, Internet, computer, books, e-books, journals, e-journals and CD/DVDs and Library services factors like, circulation, reference, reprographic, current awareness, SDI, and guidance services play a significant role in the motivating of information use pattern level.

Moreover, the elasticity of co-efficient for the variables of academic factors is 0.723 which exhibits that this factor plays an important role in motivating the information use pattern. This is significant at five per cent. The sources of information factor are another important variable in motivating the students at five per cent significant.

The variables of Human factor are less motivating factor in the information use pattern. Their co-efficient are – 0.123 and has not significant at indicating that faculties, library staff, friends, user himself and parents have less influence in motivating the respondents in information use pattern. It is important to note that the role of Physical factors in motivating the use of information pattern and its co-efficient is 0.156. This is significant at two per cent level. It is inferred from the study that physical factor is not a significant factor in motivating information use pattern. Moreover, the study makes it clear that library service factor is significant at one per cent level and its elasticity of co-efficient is 0.281 and the ‘t’ value is 4.635. The users have met with various problems in the information use pattern of the select college libraries. The problems are shown in table V.

TABLE V PROBLEMS OF INFORMATION USE PATTERN

Sl. No.	Problems	Number of respondents	Percentage
1	Lack of non-printed materials	115 / 150	76.7
2	Inconvenient working hours	99 /150	66.0
3	Lack of ICT	94 / 150	62.7
4	Lack of guidance	89 / 150	59.3
5	Lack of information services	82 / 150	54.7

Source: Field survey

Table V presents the problems of information use pattern in the study area. The study observes 76.7 per cent respondents face the problem of lack of non-printed materials, 66.0 per cent in suffer from inconvenient working hours, 62.7 per cent meet the lack of ICT facilities, 59.3 per cent face the lack of guidance in locating required information and 54.7 per cent suffer from lack of information services. Thus, the study observes that more than 50 per cent of the respondents face various problems in the information use pattern in Coimbatore District.

**VIII.CONCLUSION**

The study identified that the users prefer non-printed materials to printed one for current and worldwide information. Hence, the five factors which influence the respondents in motivating the information use pattern are academic, source of information, library services, human and physical factors. Every factor analysis has its own sub factors. They are each factor analysis has more than expressed as a mathematical linear combination of the underlying factors. The amount of variance in a variable shares with all other variables included in the analysis is referred to as communality. All the attributes form high association among themselves in each factor. The association of each factor is estimated with the statistical device. The ‘t’ test is used to show the significant of the factors. The factors such as academic and sources of information have proved to be at five per cent level of significant, while library service factor and physical factor have two per cent level of significant in motivating the information use pattern in the study area. It is noted that human factors are not significant. Thus, there is a positive relationship between the information use pattern and factors such as, academic, information sources, physical and library services.

Further this study has found that the users face the problems such as lack of non-printed materials, inconvenient working hours, lack of information and communication technology, lack of guidance and lack of information services. Therefore, academic libraries should be developed with all facilities to make information use pattern effective and successful.

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