

Undergraduates' Preferences and Information Use Behaviour

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Abstract

The current study is a descriptive survey of undergraduate students of the National Institute of Technology, (NIT), Srinagar. The lacunae observed may lead to a better understanding of the information needs of present day college students and how they are satisfying these information needs. A survey was conducted from April to June 2017. A questionnaire was distributed to 130 undergraduate students of NIT, Srinagar. Out of which 107 filled-in questionnaires were returned. The disproportionate random sampling method was adopted. The study revealed that library is regularly used and there is a notable change in using the library resources by the undergraduates. The web resources are used scarcely. It is envisaged that the study will benefit the NIT library to improve their resources as per the need and demands of the users.

Keywords: Information Needs, Information Seeking, NIT, Professional Students, Srinagar

1. Introduction: Basic Reading Skills

Learning is a form of academic development. Digital reading platforms like Amazon Kindle, iPad and others have changed the reading behaviour of students worldwide. The sale of electronic resources grew by 46.60% between 2008 and 2012 (Milliot, 2013), though it decreased relatively in 2016 (Publishers sales down, 2016). The learning environment is pivotal in developing the learner's reading behaviour and also, what they learned (Raphael, 1984). Reading can be for knowledge, for pleasure and for cognizance (Adler, 1940).

Nowadays, academic institutions provide learning material online rather than asking students to read them in print-on-paper. This is both cost effective and easy to access. The other reason for the adoption of this could be the presumption that the young generation is more inclined to use smart mobile phones, laptops, the Internet and so on.

This study examines the undergraduate students' preferences and behaviour that may have changed with the availability of resources in electronic format.

2. Review of Literature

Recent years have seen tremendous innovations in information technology. Therefore, students are attracted to the internet, cell phones, websites, multi-media and other electronic devices. Students these days read fewer books and indulge more in watching television, chatting online and in using social media on their phones. This changed environment has provoked several researchers to investigate students' changed reading habits over the past two decades.

It was observed during the review of literature on the subject that while studies had been conducted on information seeking behaviour and information needs very few were focused on reading and learning behaviour.

A number of surveys since the 1990s have suggested that electronic resources are preferred by college going students (Austin and Taylor, 2007b; Dhingra and Mahajan, 2011; Dilevkoa and Gottlieb, 2002). There have also been studies that suggest that students are more oriented towards printed matter rather than online resources (Trivedi and Joshi, 2009; Kapoor, 2010; Agboola, 2010). Sehn (2015) reported a palpable synergy in reading

habits of users in their use of both e-books and printed books. Even students using e-resources were found to get printouts for reading (Hughes, 2004; Austin and Taylor, 2007a; Austin and Taylor, 2007b). The reasons mentioned by readers for not preferring on-screen reading are slow speed, headaches, discomfort in reading, the media being more distracting etc. Quality of image was also reported to be a crucial factor for not using on screen reading (Dillon, McKnight, and Richardson, 1988; Fenton, 2014; Lorbeer, 2015). Additionally, e-texts or other enhanced features like digital highlighting, note taking etc were underutilized by students (Ackerman and Goldsmith, 2011; Internet2, 2012; Wu and Chen, 2012; Robinson, 2011; and Woody *et al.*, 2010).

3. Purpose

The purpose of this study is to find answers to questions” - Why, where and how students use library resources; what is the preferred format for reading books; what are the factors that affected their preferences and behavior.

4. Objectives of the Study

The purpose of the study is threefold. Firstly, the study seeks to ascertain - where and how students use print or electronic resources of the library for academic needs. This would be based on determining which source is consulted first and how frequently it is used. Secondly, the study seeks to define the purpose of using print or electronic resources. Thirdly, the study examines the factors that affect their preferences and reading behavior and may even tend to influence learning as well. The study aims to identify how undergraduates feel about the available print and electronic resources and their choice of format for purposes of study. The study is restricted to undergraduates of NIT library, Srinagar.

5. Methodology

National Institute of Technology, Srinagar, was established in 1960. It is an autonomous institute having the status of a Deemed University, since 2003. The institute offers B.Tech, M.Tech, M.Phil and Ph.D Programmes. Its vision is to develop high quality technical manpower as well as technological resources. The mission of NIT, Srinagar, is to train students into highly motivated engineers, scientists and technologists.

5.1 Sampling Methods Used

There are 2169 users of library resources in NIT, Srinagar of which 89.53 per cent are undergraduates, 4.10 percent are postgraduates, 1.29 per cent are research scholars and 5.25 per cent are faculty members. The Table 1 gives the actual figures. The present study is, however, focused on undergraduates.

The disproportionate random sampling method was adopted and 130 UG students (6%) were selected for the survey.

5.2 Tools of Investigation

A structured questionnaire was administered. The instrument was validated with the use of Cronbach Alpha method of establishing reliability coefficient, with a reliability coefficient of 0.75. Data collected was analyzed using Simple percentages, Mean scores, Standard Deviation and ranking.

5.3 Schedule of Data Collection

The survey was conducted from April to June 2017. Out of the 130 circulated 107 filled-in questionnaires were returned and analyzed.

Table 1. Users of NIT library

Sr. No	Institute	No. of UG Students	No. of PG students	No. of Research scholars	Faculty	Total No of users
1	National Institute of Technology, Srinagar	1942	85	28	114	2169

6. Data Analysis and Interpretation

Statistical analysis of the collected data was done using SPSS. Chi-Square test was used to derive the variance between the expected and the observed frequencies of data. The Likert scale was utilized to understand the students' preferences especially pertaining to reading behaviour. In the following sections the analyzed data is presented in tabular and graphic formats.

7. Gender Status

Figure 1 shows the distribution of respondents by gender.



Figure 1. Distribution by gender.

The discipline-wise distribution of respondents is shown in Figure 2 were from Chemical Engineering (3.74 percent), Civil engineering (18.69 percent), Computer Science (4.67 percent), Electrical Engineering (9.35 percent), Electronics (18.69 percent), Metallurgy (7.48 percent), IT (11.21 percent) and Mechanical engineering (26.17percent). This is shown in Figure 2 in the form of a bar graph and Figure 3 is a depiction of the frequency of visits to the library made by the sample.

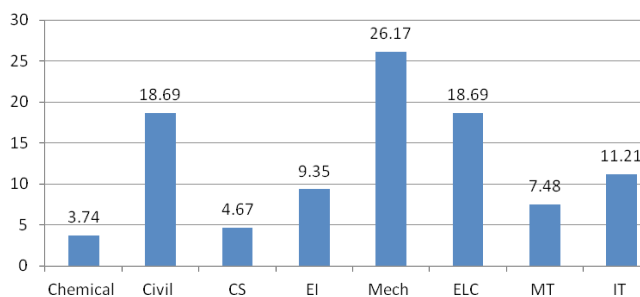


Figure 2. Distribution by discipline.

Note: Chemical = Chemical Engineering, CS = Computer Science, EL = Electrical, Mech = Mechanical, ELC = Electronic and communication engineering, MT = Metallurgy, IT = Information Technology

8. Frequency of Library Visits

It was found that about 7 per cent of the respondents had never visited the library. This is a significant fact

considering the sample comprised undergraduate students. Also a sizable number visited the library only once a month. There were 7 per cent who went to the library on a fortnightly basis while about 32 per cent visited the library on a weekly basis. The reasons for this have been explored further. Only 5.61% of UG students visited the library daily (Figure 3). The major reason for not frequently visiting the library is that the respondents accessed online resources at their homes

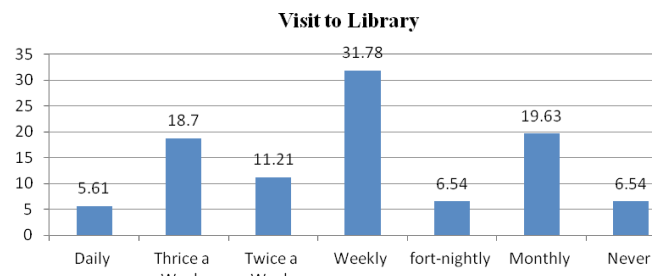


Figure 3. Frequency of visits to the library.

9. Undergraduates' Preference for Learning and Reading

An objective of this study was to identify user preferences with regard to print and electronic media. It was observed that a notable number of users used both print as well as electronic resources (Figure 4). Around one fourth of the users preferred print resources over electronic resources. The findings clearly showed that the undergraduate's reading behavior was changing steadily and was no longer limited exclusively to print-on-paper resources.



Figure 4. Preference for learning and reading.

The frequency of use of either of print or electronic media was also queried ascertain whether the reading behaviour of students had changed to any great extent. The number of users of the print media and electronic media was almost the same at about 50 per cent each. This almost equal usage is indicative of the fact that this is a transition period.

Table 2. Frequency of using resources

Frequency	Daily	Thrice a Week	Twice a Week	Weekly	Forth-nightly	Monthly	Never	Total	Chi-Square test	p-Value
Academic audio-visual	16 (14.95)	12 (11.21)	6 (5.61)	16 (14.95)	6 (5.61)	11 (10.28)	40 (37.38)	107 (100)	33.9	0.000
Use Print resources	27 (25.23)	25 (23.36)	13 (12.15)	8 (7.49)	9 (8.41)	8 (7.48)	17 (15.88)	107 (100)	17.0	0.009
Use e-resources	37 (34.58)	18 (16.82)	8 (7.48)	7 (6.54)	8 (7.48)	17 (15.89)	12 (11.21)	107 (100)	8.46	0.206

Further, when they were asked about the ease of gathering and using information, a majority of the respondents were more comfortable with print resources; however, 68 percent easily used and gathered information through electronic resources as well. The responses to a question on ease of use of print-on-paper vis-à-vis e-resources is tabulated below (Table 3).

Table 3. Ease of gathering and using information

Type	Very easy	Easy	Moderate	Difficult	Very difficult	Total	Chi-Square test	p-Value
Print resources	29 (27.10)	44 (41.12)	30 (28.04)	4 (3.74)	0 (0.00)	107 (100)	0.295	0.961
Electronic resources	31 (28.97)	31 (28.97)	30 (28.04)	15 (14.02)	0 (0.00)	107 (100)	6.64	0.084

There was no significant difference in user assessment of ease of use of the two types of resources.

A large proportion of students (85 %)indicated that they spent up to 0-2 hours on searching for print resources. However, an almost equivalent 81 percent spent about 0-2 hours time on electronic resources. There was a small percentage that spent more than four hours on searching information in both formats. This is indicative of the information needs of the students. In most cases the students turned to the electronic medium only after spending time in the library and conducting some research to locate required documents. Later they access the electronic medium to supplement print resources. This is shown in Figure 5.

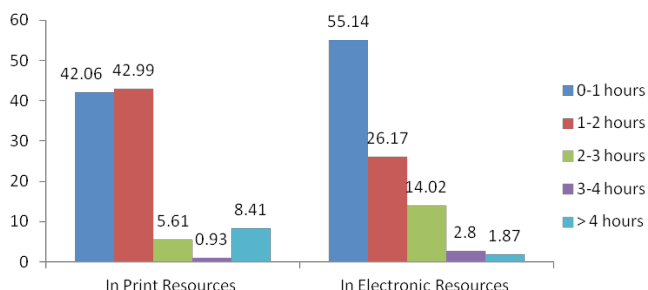


Figure 5. Time spent on searching print and other resources

10. Approach Used for Accessing Information

The respondents were asked about the various approaches they used for obtaining information from both the print as well as the electronic resources. Most respondents preferred directly searching the

shelves rather than using the library catalogue for their print resource needs. Significant proportion of the respondents also tend to take help from the library staff. As for electronic resources, about half of the respondents reported using Web search engines while another half used Subject gateways/guides/portals for locating required information. It was also observed that the Library websites were not used much. There is probably a need for orientation and training programmes for better utilization of library resources available in both the print and electronic format. The details are depicted in Tables 4 and 5. Most students confessed they were unaware of how extensively the library resources could help them access desired information resources.

Table 4. Approach for Print resources

Approach for Print resources	Response count		Total	Chi-Square test	p-Value
	Yes	No			
Library catalog	46 (42.99)	61 (57.01)	107 (100)	3.55	0.169
Searching shelves	74 (69.16)	33 (30.84)	107 (100)		
Help from library staff	32 (29.91)	75 (70.09)	107 (100)		

Table 5. Approach for Electronic resources

Approach for Electronic resources	Response count		Total	Chi-Square test	p-Value
	Yes	No			
Directly from publishers' websites	34 (31.78)	73 (68.22)	107 (100)	5.93	0.115
Directly via Library website	32 (29.91)	75 (70.09)	107 (100)		
Web search engines	56 (52.34)	51 (47.66)	107 (100)		
Subject gateways/guides/portal	52 (48.60)	55 (51.40)	107 (100)		

11. Usage of Full Text e-resources

The respondents were queried about their preferred platform for reading full-text e-resources (Figure 6). It was found that the combined scores for 'frequently used' and 'usually used' responses revealed that most respondents (74 percent) regularly downloaded the required information while an almost equal number (72%) preferred on screen reading while 58 percent were more inclined towards taking print outs for reading.

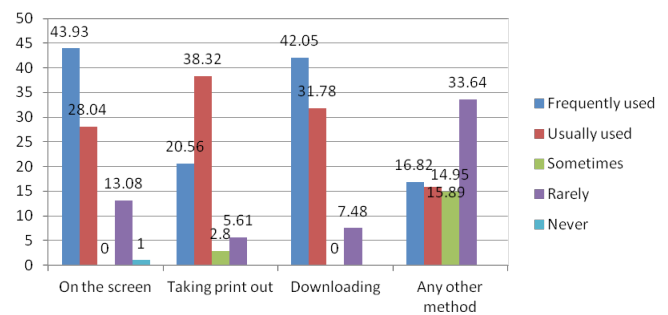
**Figure 6.** Reading of Full text e-resources.

Table 6 presents data on frequency of use of different types of resources.

Table 6. Frequency of using various resources

Resources	Frequently used	Usually used	Sometimes	Rarely	Never	Total
Books	42 (39.25)	43 (40.19)	20 (18.69)	0 (0)	2 (1.87)	107 (100)
Journals	28 (26.17)	35 (32.71)	23 (21.50)	6 (5.61)	15 (14.02)	107 (100)
Magazines	38 (35.51)	6 (5.61)	20 (18.69)	19 (17.76)	24 (22.43)	107 (100)
Newspapers	50 (46.73)	26 (24.30)	19 (17.76)	12 (11.21)	0 (0)	107 (100)
E-Books	41 (38.32)	25 (23.36)	29 (27.10)	12 (11.21)	0 (0)	107 (100)
E-Journals	16 (14.95)	23 (21.50)	32 (29.91)	14 (13.08)	22 (20.56)	107 (100)
E-Magazines	20 (18.70)	20 (18.70)	42 (39.25)	22 (20.56)	3 (2.80)	107 (100)
E-Newspapers	23 (21.50)	23 (21.50)	32 (29.91)	10 (9.35)	19 (17.76)	107 (100)
Web resources	13 (12.15)	17 (15.89)	27 (25.23)	20 (18.70)	30 (28.04)	107 (100)

12. Purpose of using Individual Resources

It is clear from the Figure 7 that a good number of students used books and e-books regularly for academic purposes. Interestingly, a small group of respondents used these resources for career development, competitive examinations and other purposes.

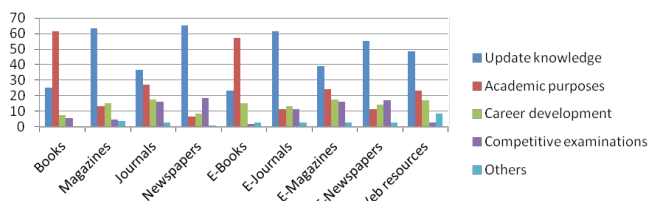


Figure 7. Purpose of using specific resource.

13. Factors Influencing use of Print and Electronic Resources

Among the factors that influenced the respondents' preference of print resources were:

- i. Easy to read
- ii. Reliability
- iii. Easy availability
- iv. Less distracting
- v. More informative

Table 7 shows that the students had varying degrees of acceptance of different media - print or electronic. Further query revealed that students relying on the print media spent long hours in the library.

Table 7. Factors impacting on use of print and electronic resources

Factors	Strongly agree		Agree		Neutral		Disagree		Strongly Disagree		Total
	Print resource	Elect. resource	Print resource	Elect. resource	Print resource	Elect. resource	Print resource	Elect. resource	Print resource	Elect. resource	
Reliable	55 (51.40)	54 (50.47)	39 (36.45)	22 (20.56)	10 (9.35)	10 (9.35)	1 (0.93)	18 (16.82)	2 (1.87)	3 (2.80)	107 (100)
Easy to read	52 (48.60)	34 (31.78)	47 (43.93)	44 (41.12)	3 (2.80)	13 (12.15)	5 (4.67)	13 (12.15)	0 (0)	3 (2.80)	107 (100)
Portability	33 (30.84)	50 (46.72)	37 (34.58)	39 (36.45)	22 (20.56)	12 (11.22)	15 (14.02)	1 (0.93)	0 (0)	5 (4.67)	107 (100)
Easy to browse	32 (29.91)	33 (30.84)	37 (34.58)	37 (34.58)	24 (22.43)	14 (13.08)	14 (13.08)	20 (18.69)	0 (0)	3 (2.80)	107 (100)
More accessibility	23 (21.50)	45 (42.06)	38 (35.51)	32 (29.91)	26 (24.29)	8 (7.48)	6 (5.61)	6 (5.61)	14 (13.08)	6 (5.61)	107 (100)
High cost	23 (21.50)	8 (7.48)	36 (33.65)	38 (35.51)	28 (26.17)	22 (20.56)	10 (9.35)	19 (17.76)	10 (9.35)	20 (18.70)	107 (100)
More informative	32 (29.91)	23 (21.50)	55 (51.40)	37 (34.58)	13 (12.15)	34 (31.77)	7 (6.54)	4 (3.74)	0 (0)	9 (8.41)	107 (100)
Time consuming	33 (30.84)	21 (19.63)	37 (34.58)	38 (35.51)	18 (16.82)	40 (37.38)	11 (10.28)	4 (3.74)	8 (8.82)	4 (3.74)	107 (100)
Multi access	31 (28.97)	23 (21.50)	29 (27.10)	51 (47.66)	19 (17.75)	27 (25.23)	19 (17.76)	1 (0.93)	9 (8.41)	5 (4.67)	107 (100)
Convenient	27 (25.23)	24 (22.43)	54 (50.47)	36 (33.65)	23 (21.50)	36 (33.65)	1 (0.93)	7 (6.54)	2 (1.87)	4 (3.74)	107 (100)
Quality graphics, photos & tables	35 (32.71)	26 (24.30)	43 (40.19)	46 (42.99)	21 (19.6)	19 (17.76)	8 (7.47)	16 (14.95)	0 (0)	0 (0)	107 (100)
Easy availability	41 (38.32)	23 (21.50)	50 (46.73)	35 (32.71)	8 (7.48)	27 (25.23)	7 (6.54)	22 (20.56)	1 (0.93)	0 (0)	107 (100)
Less distracting	54 (50.47)	27 (25.23)	26 (24.30)	44 (41.12)	17 (15.89)	17 (15.89)	8 (7.47)	9 (8.41)	2 (1.87)	10 (9.35)	107 (100)

14. Findings and Conclusion

The study suggests that there are significant changes in the way students access and find relevant information since the advent of e-resources. The findings of the study support the fact that gathering information through both formats i.e. prints and electronic did not present any

serious problem to a majority of the respondents. There is scope for further research to understand how students read and refer to the electronic texts. The present study is only a preliminary study and limited to undergraduate students. There is scope for comprehensive studies that includes different categories of users; hence both were being concurrently used for academic achievement.

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