

# Usage and Satisfaction with E-Resources in DAV College Libraries in Haryana

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## Abstract

The electronic information resources have become the essential component of digital-era Library. These resources are indispensable in the present-day environment of rapid technology change. The present paper focuses on the use of e-resources in DAV College Libraries in Haryana by the students and faculty members for their learning, research, teaching and assignment purposes. This study evaluates the use of e-resources and satisfaction level with the e-resources by the users. The data has been collected using the questionnaire-based survey method. The paper also delineates how Libraries can prop up from these resources to improve the quality of work in rendering qualitative services to their users, consecutively saving time, energy and money as it is now the necessity of the hour.

**Keywords:** Information Technology, E-Resources, DAV Colleges

## Introduction

Storehouse of books was preferably the term used for the Libraries in earlier times. Now-a-days, the notion of Libraries has altogether changed due to the upcoming Information Technology. This world of IT is changing leaps and bounds throughout. Libraries are being greatly impacted by the convergence of Information Technology. The Library activities which were carried out manually with a lot of pain and stress are now being run smoothly with a little effort with the help of IT.

Academic Libraries are a vital ingredient of higher educational institutions which generally serve two complementary purposes – first, to support the curriculum and second, to support the faculty and student’s research. Rapid advances in modern technologies have greatly improved the capability of storage, processing, retrieval and managing the explosive growth of information, particularly in libraries. In fact, the libraries are functioning under instantly varying environment, facing diverse changes like – IT revolution, information explosion and shirking library budgets, high level of user’s acceptations and information resources are available in various types of media. In the present scenario, the success of a library is measured by the extent use of IT in delivering its services. With the expansion in it, the libraries are gearing up to make use of their technologies in providing information quickly. Libraries use IT for better services and in satisfying diverse user needs. It creates a profound impact on all aspects of the present library environment. Now-a-days, library automation and internet has revolutionized information access and library operation around the world. Libraries have transformed into digital and virtual libraries where books, journals and magazines have changed into e-books, e-journals and e-zines. So, electronic resources represent an increasingly important component of the collection building activities of libraries.

According to International Federation of Library Association and Institutions (IFLA), electronic resources refer to those materials that require computer access,

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whether through a personal computer, mainframe, or handled mobile device. Some of the most frequently encountered are e-journals, e-books, full text databases, indexing and abstracting databases, reference databases (bibliographies, dictionaries, directories, encyclopedias etc.) numeric and statistical databases, e-images, e-audio/visual resources.

## Literature Review

Owolabi and Ajiboye (2012) discussed the use of Electronic Information Sources (EIS) by faculty members and reveal that majority of the academic staff always use the electronic sources for carrying out researches. It also shows that internet is the most used EIS among the academic staff and moreover, office is the major place for access these resources. It was concluded that there is a need for the University Management to provide full EIS in the University.

Hussain (2013) studied the use of electronic information resources and services among the teachers and students and observed that majority of teachers and students are aware about the services and purpose of electronic information resources. More than 60% of users are using e-journals as well as e-articles in the Library and nearly half of the respondents are satisfied with the available resources.

Ambika and Ali (2014) examined the awareness of e-resources among Library users and promote the usage of e-resources available in the Library. The findings depicted that more than half of the faculty and students are satisfied with electronic resources. It is found that users are aware of the resources and also actively use them for their project work, research work and presentation of conference/seminar. 50% of the users like the publicity of the e-resources which are available in the Library.

Raveendran and Francis (2014) explored digital information resources and services in Management Institutes libraries (Kerala) and found that out of 90, 64 Libraries are digitalized which indicates that the digitalized services are initiated in majority of the institutes. Regarding the status of Institutional repositories, only 10 out of 90 Libraries have it. The study also shows the crucial fact that out of the total 90 management institutes

only 5 have exclusive websites for their Libraries which reduce the advantages of digitalized services to the users.

Gupta (2015) conducted a study on the use of digital information sources and services in Libraries of IITs in India. The results show that 65.4% of the respondents prefer print as well as digital resources for their study. Majority of respondents are aware of e-books (91%) followed by e-Journals (85.7%) whereas only 45.3% of respondents are aware of the e-standards. Findings also reveal that 30% of students are fully satisfied followed by 53% which are partially satisfied with the availability of digital resources in the Library.

Chikkamanju and Chavan (2017) studied the role of Libraries to encourage students in participating in learning and reading with a variety of information resources and services. The result shows that majority of users (65.38%) visit the Library every day for reading purposes, 42.31% of users use e-mail & 79.49% of users use chatting in case of use of internet.

Mahapatra (2017) examined the information related to the types of e-resources, online databases in social sciences and the satisfaction with the e-resources. The results indicate that majority of the respondents (71.11%) prefer database on social sciences for teaching and research followed by 35.55% respondents who prefer to use case studies in e-form. It is also found that users (88.88%) give the highest priority to internet browsing to seek information related to their research followed by 54.44% of users who use online database services.

Saikia (2017) carried a study on the use and awareness about n-list e-resources and found that all of the colleges are members of n-list and provide access of e-resources to its users. Findings depict that 91.4% users are familiar with the n-list e-resources and 38% respondents daily use these resources. The study also reveals that 72.78% respondents search e-resources in the college Library followed by 28.78% who search in Computer Labs.

John (2018) carried a study on the collections of university libraries (in Nigeria) and observed that according to 26% users the mostly collection consisted of thesis, dissertations, and project reports. The results show that use of e-resources were found to be meager and only 7.3% of users utilized e-resources in their research, teaching

and learning purpose. It was also seen that 17.3% of users consult the library portal, which facilitates to access the electronic collections, e books, e-serials, etc.

Sheeja (2018) investigated the usage and attitudes of undergraduate students' towards NPTEL video lectures. The results indicate that majority of respondents (59.6%) are using NPTEL once in a week and the purpose of using NPTEL is in addition of their class room learning (74.56% users). 84.21% of users affirmed that contents are 'most relevant' to their course covered in the NPTEL courses.

## Objectives

- To explore the usage of e-resources in DAV College Libraries in Haryana.
- To find the users satisfaction about the usage of e-resources in DAV College Libraries in Haryana.

## Scope of the Study

The study covers the use and level of satisfaction of e-resources in DAV College libraries in Haryana. The present study is limited to the DAV (degree) College Libraries in the Haryana State only, except Faridabad which is under NCR. The libraries covered under the present study are: DAV College (Lahore), Ambala City, DAV College, Cheeka, Dayanand College, Hisar, KVA DAV College for Women, Karnal, DAV Girls College, Kosli (Rewari), DAV College, Naneola (Ambala), DAV College, Pehowa, DAV College, Pundri, DAV College, Sadhaura (Yamunanagar), and DAV College for Girls, Yamunanagar.

## Methodology

The universe of the study is students and staff working in DAV degree colleges Libraries in Haryana. The sample of the present study consists of the cross sections of users such as undergraduate students, post graduate students and faculty members. To collect the data a total of 675 questionnaires were distributed among the users. Out of which 628 questionnaires returned with filled in

information. After thorough analysis 38 questionnaires were rejected on account of incomplete information. Thus, the sample size for the present study is 590 including UG students, PG students and Faculty members (Table 1).

**Table 1: Sample Profile (Category-based)**

Status	Frequency	Percentage
UG	308	52.2
PG	181	30.7
Faculty	101	17.1
Total	590	100.0

## Data Analysis and Interpretation

### Usage of E-Resources

Outcome of use of e-resources in the Library response and Chi-square for the institutions (DAV College Libraries) have been summarized in the Table 2A. The result shows that item group 'e-journal' responses are daily (4.58%), weekly (11.53%), monthly (51.36%) and rarely (32.54%). Maximum response indicates that the users of Hisar and Pehowa prefer 'monthly' option more followed by Yamunanagar, Cheeka, Karnal, Ambala, Sadhaura, Pundri, Kosli and Naneola. Item group 'e-books' responses are daily (5.25%), weekly (11.69%), monthly (46.95%) and rarely (36.1%). The users of Hisar and Pehowa are giving more preference to 'monthly' option followed by Yamunanagar and Karnal. Item group 'e-reports' responses are daily (1.69%), weekly (8.81%), monthly (29.15%) and rarely (60.34%). Here the option 'rarely' is most preferred by Cheeka followed by Pehowa and Ambala whereas least preference is given by the users of Yamunanagar and Karnal. Item group 'e-thesis' responses are daily (0.85%), weekly (5.93%), monthly (22.2%) and rarely (71.02%). Here the option 'rarely' is most preferred by Cheeka and Pehowa whereas least preference is given by the users of Kosli and Karnal. The significant values of Chi-square of all the variables i.e. use of e-resources in the Library depict an agreement regarding applicability of these variables of the study.

**Table 2A: Usage of E-Resources in DAV College Libraries in Haryana.**

Variables	Rating										Total	Chi-Square (df; C)	
	Ambala	Cheeka	Hisar	Karnal	Kosli	Naneola	Pehowa	Pundri	Sadhaura	YMN			
E-Journal	Rarely	44 (7.46)	14 (2.37)	0 (0)	6 (1.02)	31 (5.25)	43 (7.29)	4 (0.68)	41 (6.95)	9 (1.53)	0 (0)	192 (32.54)	686.757 (27; .000)
	Monthly	19 (3.22)	47 (7.97)	74 (12.54)	29 (4.92)	3 (0.51)	3 (0.51)	60 (10.17)	4 (0.68)	5 (0.85)	59 (10)	303 (51.36)	
	Weekly	0 (0)	4 (0.68)	1 (0.17)	32 (5.42)	0 (0)	2 (0.34)	0 (0)	0 (0)	1 (0.17)	28 (4.75)	68 (11.53)	
	Daily	0 (0)	0 (0)	0 (0)	8 (1.36)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	19 (3.22)	27 (4.58)	
	<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>	
E-Books	Rarely	46 (7.8)	36 (6.1)	4 (0.68)	3 (0.51)	28 (4.75)	42 (7.12)	6 (1.02)	41 (6.95)	4 (0.68)	3 (0.51)	213 (36.1)	694.257 (27; .000)
	Monthly	16 (2.71)	26 (4.41)	71 (12.03)	34 (5.76)	6 (1.02)	4 (0.68)	58 (9.83)	4 (0.68)	2 (0.34)	56 (9.49)	277 (46.95)	
	Weekly	1 (0.17)	3 (0.51)	0 (0)	30 (5.08)	0 (0)	2 (0.34)	0 (0)	0 (0)	1 (0.17)	32 (5.42)	69 (11.69)	
	Daily	0 (0)	0 (0)	0 (0)	8 (1.36)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	23 (3.9)	31 (5.25)	
	<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>	
E-Report	Rarely	49 (8.31)	64 (10.85)	29 (4.92)	11 (1.86)	29 (4.92)	43 (7.29)	54 (9.15)	41 (6.95)	22 (3.73)	14 (2.37)	356 (60.34)	405.600 (27; .000)
	Monthly	14 (2.37)	1 (0.17)	46 (7.8)	32 (5.42)	5 (0.85)	3 (0.51)	10 (1.69)	4 (0.68)	12 (2.03)	45 (7.63)	172 (29.15)	
	Weekly	0 (0)	0 (0)	0 (0)	29 (4.92)	0 (0)	2 (0.34)	0 (0)	1 (0.17)	20 (3.39)	0 (0)	52 (8.81)	
	Daily	0 (0)	0 (0)	0 (0)	3 (0.51)	0 (0)	0 (0)	0 (0)	0 (0)	7 (1.19)	0 (0)	10 (1.69)	
	<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>	
E-Thesis	Rarely	47 (7.97)	65 (11.02)	47 (7.97)	17 (2.88)	31 (5.25)	44 (7.46)	64 (10.85)	40 (6.78)	32 (5.42)	32 (5.42)	419 (71.02)	254.084 (27; .000)
	Monthly	16 (2.71)	0 (0)	28 (4.75%)	36 (6.1)	3 (0.51)	2 (0.34)	0 (0)	5 (0.85)	14 (2.37)	27 (4.58)	131 (22.2)	
	Weekly	0 (0)	0 (0)	0 (0%)	20 (3.39)	0 (0)	2 (0.34)	0 (0)	1 (0.17)	12 (2.03)	0 (0)	35 (5.93)	
	Daily	0 (0)	0 (0)	0 (0%)	2 (0.34)	0 (0)	0 (0)	0 (0)	0 (0)	3 (0.51)	0 (0)	5 (0.85)	
	<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71%)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>	

Source: Table compiled from the data collected from the questionnaire

Table 2B Usage of E-Resources in DAV College Libraries in Haryana.

Variables	Rating	Chi-Square (df; C)										
		Ambala	Cheeka	Hisar	Karnal	Kosli	Naneola	Pehowa	Pundri	Sadhaura	YMN	Total
E-Databases	Rarely	44 (7.46)	64 (10.85)	62 (10.51)	12 (2.03)	32 (5.42)	43 (7.29)	60 (10.17)	41 (6.95)	32 (5.42)	25 (4.24)	415 (70.34)
	Monthly	18 (3.05)	1 (0.17)	13 (2.2)	37 (6.27)	2 (0.34)	3 (0.51)	4 (0.68)	5 (0.85)	11 (1.86)	34 (5.76)	128 (21.69)
	Weekly	1 (0.17)	0 (0)	0 (0)	25 (4.24)	0 (0)	2 (0.34)	0 (0)	0 (0)	11 (1.86)	0 (0)	39 (6.61)
	Daily	0 (0)	0 (0)	0 (0)	1 (0.17)	0 (0)	0 (0)	0 (0)	0 (0)	7 (1.19)	0 (0)	8 (1.36)
	<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>
CD-ROMs Databases	Rarely	38 (6.44)	33 (5.59)	18 (3.05)	9 (1.53)	33 (5.59)	43 (7.29)	24 (4.07)	39 (6.61)	21 (3.56)	29 (4.92)	287 (48.64)
	Monthly	25 (4.24)	31 (5.25)	57 (9.66)	37 (6.27)	1 (0.17)	3 (0.51)	40 (6.78)	5 (0.85)	13 (2.2)	29 (4.92)	241 (40.85)
	Weekly	0 (0)	1 (0.17)	0 (0)	25 (4.24)	0 (0)	2 (0.34)	0 (0)	2 (0.34)	22 (3.73)	1 (0.17)	53 (8.98)
	Daily	0 (0)	0 (0)	0 (0)	4 (0.68)	0 (0)	0 (0)	0 (0)	0 (0)	5 (0.85)	0 (0)	9 (1.53)
	<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>

Source: Table compiled from the data collected from the questionnaire

Outcome of use of e-databases in the Library response and Chi-square for the institutions (DAV College Libraries) have been summarized in the Table 2B. The result shows that item group 'e-databases' responses are daily (1.36%), weekly (6.61%), monthly (21.69%) and rarely (70.34%). The users of Cheeka and Hisar are giving more preference to 'rarely' option followed by Pehowa and Ambala. Item group 'CD-ROMs Databases' responses are daily (1.53%), weekly (8.98%), monthly (40.85%) and rarely (48.64%). Here the option 'rarely' is most preferred by Pundri followed by Ambala and Cheeka whereas least preference is given by the users of Hisar and Karnal. The significant values of Chi-square of all the variables i.e. use of e-databases in the Library depict an agreement regarding applicability of these variables of the study.

### Comparison of E-Resources on the Basis of Categories of Users

**Table 3: Summary of ANOVA for the Usage of E-Resources in the Library across the Users' Category**

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i> ( $\pm$ )	<i>F</i>	<i>Sig.</i>
UG	308	9.08	3.34	8.67	.000
PG	181	10.18	3.84		
Faculty	101	10.45	3.51		
<b>Total</b>	<b>590</b>	<b>9.65</b>	<b>3.57</b>		

Source: Table compiled from the data collected from the questionnaire

Table 3 reveals the Summary of ANOVA (one-way) on the use of e-resources in the Library. Here F value (8.67) on this variable is significant at 1% level. It indicates that there is a significant difference among the respondents on the use of e-resources in the Library. High Mean Score (10.45) shows that the faculty members use e-resources in the Library more as compared to UG and PG students.

Table 4A summarized the outcome of satisfaction with the e-resources in the Library responses and Chi-square for the DAV Institutions. The results shows that item group

'e-journal' responses are very satisfied (11.53%), satisfied (52.88%), neutral (13.73%), dissatisfied (6.44%) and very dissatisfied (15.42%). Maximum response indicates that the users of Hisar and Pehowa prefer 'satisfied' option more followed by Yamunanagar, Cheeka, Ambala, Sadhaura, Karnal, Kosli, Pundri and Naneola. Item group 'e-books' responses are very satisfied (7.8%), satisfied (53.05%), neutral (18.81%), dissatisfied (7.63%) and very dissatisfied (12.71%). The users of Hisar and Yamunanagar are giving more preference to 'satisfied' option followed by Pehowa and Karnal. Item group 'e-reports' responses are very satisfied (6.61%), satisfied (38.98%), neutral (28.98%), dissatisfied (12.88%) and very dissatisfied (12.54%). Here the option 'satisfied' is most preferred by Hisar followed by Yamunanagar and Karnal whereas least preference is given by the users of Pundri and Naneola. Item group 'e-thesis' responses are very satisfied (2.2%), satisfied (27.12%), neutral (32.2%), dissatisfied (22.2%) and very dissatisfied (16.27%). The users of Pehowa and Cheeka are giving more preference to 'neutral' option followed by Hisar and Sadhaura. The significant Chi-square values of all the variables ( $p < .000$ ) reveals that there is an agreement regarding applicability of satisfaction with e-resources in the Library.

Table 4B summarized the outcome of satisfaction with the e-databases in the Library responses and Chi-square for the DAV Institutions. The results show that item group 'e-databases' responses are very satisfied (4.75%), satisfied (31.02%), neutral (35.42%), dissatisfied (15.08%) and very dissatisfied (13.73%). Here the option 'neutral' is most preferred by Pehowa followed by Cheeka and Sadhaura whereas least preference is given by the users of Pundri and Naneola. Item group 'CD-ROMs Databases' responses are very satisfied (6.44%), satisfied (43.73%), neutral (25.42%), dissatisfied (11.02%) and very dissatisfied (13.39%). The users of Hisar and Yamunanagar are giving more preference to 'satisfied' option followed by Cheeka and Ambala. The significant Chi-square values of all the variables ( $p < .000$ ) reveals that there is an agreement regarding applicability of satisfaction with the e-databases in the Library

## Satisfaction with E-Resources

Table 4A: Satisfaction with E-Resources in DAV College Libraries in Haryana.

Variables	Rating	Ambala	Cheeka	Hisar	Karnal	Kosli	Naneola	Pehowa	Pundri	Sadhaura	YMN	Total	Chi-Square (df, C)
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	
E-Journal	Very Dissatisfied	8 (1.36)	0 (0)	0 (0)	6 (1.02)	3 (0.51)	41 (6.95)	0 (0)	30 (5.08)	3 (0.51)	0 (0)	91 (15.42)	483.906 (36; .000)
	Dissatisfied	10 (1.69)	0 (0)	0 (0)	12 (2.03)	6 (1.02)	1 (0.17)	0 (0)	8 (1.36)	0 (0)	1 (0.17)	38 (6.44)	
	Neutral	7 (1.19)	8 (1.36)	1 (0.17)	25 (4.24)	10 (1.69)	3 (0.51)	8 (1.36)	6 (1.02)	13 (2.2)	0 (0)	81 (13.73)	
	Satisfied	35 (5.93)	46 (7.8)	57 (9.66)	27 (4.58)	15 (2.54)	2 (0.34)	48 (8.14)	2 (0.34)	33 (5.59)	47 (7.97)	312 (52.88)	
	Very Satisfied	3 (0.51)	11 (1.86)	17 (2.88)	5 (0.85)	0 (0)	1 (0.17)	8 (1.36)	0 (0)	12 (2.03)	11 (1.86)	68 (11.53)	
	<b>Total</b>		<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	
E-Books	Very Dissatisfied	2 (0.34)	0 (0)	0 (0)	3 (0.51)	3 (0.51)	38 (6.44)	0 (0)	27 (4.58)	2 (0.34)	0 (0)	75 (12.71)	487.193 (36; .000)
	Dissatisfied	6 (1.02)	3 (0.51)	0 (0)	8 (1.36)	9 (1.53)	5 (0.85)	2 (0.34)	9 (1.53)	3 (0.51)	0 (0)	45 (7.63)	
	Neutral	16 (2.71)	24 (4.07)	3 (0.51)	12 (2.03)	12 (2.03)	4 (0.68)	20 (3.39)	8 (1.36)	10 (1.69)	2 (0.34)	111 (18.81)	
	Satisfied	34 (5.76)	38 (6.44)	63 (10.68)	39 (6.61)	10 (1.69)	1 (0.17)	42 (7.12)	2 (0.34)	35 (5.93)	49 (8.31)	313 (53.05)	
	Very Satisfied	5 (0.85)	0 (0)	9 (1.53)	13 (2.2)	0 (0)	0 (0)	0 (0)	0 (0)	11 (1.86)	8 (1.36)	46 (7.8)	
	<b>Total</b>		<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	
E-Report	Very Dissatisfied	1 (0.17)	0 (0)	0 (0)	3 (0.51)	3 (0.51)	38 (6.44)	0 (0)	25 (4.24)	4 (0.68)	0 (0)	74 (12.54)	488.412 (36; .000)
	Dissatisfied	9 (1.53)	15 (2.54)	13 (2.2)	6 (1.02)	6 (1.02)	5 (0.85)	6 (1.02)	11 (1.86)	5 (0.85)	0 (0)	76 (12.88)	
	Neutral	20 (3.39)	34 (5.76)	8 (1.36)	14 (2.37)	16 (2.71)	4 (0.68)	36 (6.1)	8 (1.36)	25 (4.24)	6 (1.02)	171 (28.98)	
	Satisfied	29 (4.92)	16 (2.71)	51 (8.64)	37 (6.27)	9 (1.53)	1 (0.17)	22 (3.73)	2 (0.34)	21 (3.56)	42 (7.12)	230 (38.98)	
	Very Satisfied	4 (0.68)	0 (0)	3 (0.51)	15 (2.54)	0 (0)	0 (0)	0 (0)	0 (0)	6 (1.02)	11 (1.86)	39 (6.61)	
	<b>Total</b>		<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	
E-Thesis	Very Dissatisfied	4 (0.68)	2 (0.34)	0 (0)	6 (1.02)	3 (0.51)	41 (6.95)	10 (1.69)	21 (3.56)	9 (1.53)	0 (0)	96 (16.27)	501.194 (36; .000)
	Dissatisfied	7 (1.19)	36 (6.1)	31 (5.25)	6 (1.02)	13 (2.2)	2 (0.34)	16 (2.71)	14 (2.37)	6 (1.02)	0 (0)	131 (22.2)	
	Neutral	17 (2.88)	27 (4.58)	25 (4.24)	23 (3.9)	12 (2.03)	4 (0.68)	38 (6.44)	9 (1.53)	27 (4.58)	8 (1.36)	190 (32.2)	
	Satisfied	29 (4.92)	0 (0)	19 (3.22)	35 (5.93)	6 (1.02)	1 (0.17)	0 (0)	2 (0.34)	18 (3.05)	50 (8.47)	160 (27.12)	
	Very Satisfied	6 (1.02)	0 (0)	0 (0)	5 (0.85)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.17)	1 (0.17)	13 (2.2)	
	<b>Total</b>		<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	

Source: Table compiled from the data collected from the questionnaire

**Table 4B: Satisfaction with E-Resources in DAV College Libraries in Haryana.**

Variables	Rating										Total	Chi-Square (df; C)	
	Ambala	Cheeka	Hisar	Karnal	Kosli	Naneola	Pehowa	Pundri	Sadhaura	YMN			
<b>E-Databases</b>	Very Dissatisfied	1 (0.17)	0 (0)	0 (0)	3 (0.51)	5 (0.85)	38 (6.44)	0 (0)	27 (4.58)	7 (1.19)	0 (0)	<b>81 (13.73)</b>	546.871 (36; .000)
	Dissatisfied	9 (1.53)	25 (4.24)	19 (3.22)	5 (0.85)	6 (1.02)	5 (0.85)	6 (1.02)	11 (1.86)	3 (0.51)	0 (0)	<b>89 (15.08)</b>	
	Neutral	19 (3.22)	33 (5.59)	19 (3.22)	19 (3.22)	16 (2.71)	4 (0.68)	54 (9.15)	6 (1.02)	31 (5.25)	8 (1.36)	<b>209 (35.42)</b>	
	Satisfied	29 (4.92)	7 (1.19)	37 (6.27)	35 (5.93)	6 (1.02)	1 (0.17)	4 (0.68)	2 (0.34)	17 (2.88)	45 (7.63)	<b>183 (31.02)</b>	
	Very Satisfied	5 (0.85)	0 (0)	0 (0)	13 (2.2)	1 (0.17)	0 (0)	0 (0)	0 (0)	3 (0.51)	6 (1.02)	<b>28 (4.75)</b>	
<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>	
<b>CD-ROMs Databases</b>	Very Dissatisfied	4 (0.68)	0 (0)	0 (0)	3 (0.51)	3 (0.51)	38 (6.44)	0 (0)	23 (3.9)	8 (1.36)	0 (0)	<b>79 (13.39)</b>	455.818 (36; .000)
	Dissatisfied	7 (1.19)	5 (0.85)	20 (3.39)	5 (0.85)	8 (1.36)	5 (0.85)	0 (0)	14 (2.37)	1 (0.17)	0 (0)	<b>65 (11.02)</b>	
	Neutral	15 (2.54)	13 (2.2)	7 (1.19)	21 (3.56)	17 (2.88)	4 (0.68)	34 (5.76)	6 (1.02)	25 (4.24)	8 (1.36)	<b>150 (25.42)</b>	
	Satisfied	33 (5.59)	42 (7.12)	44 (7.46)	31 (5.25)	6 (1.02)	1 (0.17)	30 (5.08)	3 (0.51)	24 (4.07)	44 (7.46)	<b>258 (43.73)</b>	
	Very Satisfied	4 (0.68)	5 (0.85)	4 (0.68)	15 (2.54)	0 (0)	0 (0)	0 (0)	0 (0)	3 (0.51)	7 (1.19)	<b>38 (6.44)</b>	
<b>Total</b>	<b>63 (10.68)</b>	<b>65 (11.02)</b>	<b>75 (12.71)</b>	<b>75 (12.71)</b>	<b>34 (5.76)</b>	<b>48 (8.14)</b>	<b>64 (10.85)</b>	<b>64 (10.85)</b>	<b>46 (7.8)</b>	<b>61 (10.34)</b>	<b>59 (10)</b>	<b>590 (100)</b>	

Source: Table compiled from the data collected from the questionnaire

## Comparison of Satisfaction of E-Resources on the Basis of Users' Categories

**Table 5: Summary of ANOVA for the Satisfaction with E-Resources in the Library across the Users' Category**

	N	Mean	Std. Deviation ( $\pm$ )	F	Sig.
UG	308	17.17	6.51	28.10	.000
PG	181	20.61	3.79		
Faculty	101	20.62	5.12		
Total	590	18.82	5.82		

Source: Table compiled from the data collected from the questionnaire

Summary of ANOVA (Table 5) reveals that for the variable satisfaction with e-resources offered by the library, F value i.e. 28.10 ( $p < .000$ ) is significant. It indicates that UG students, PG students and faculty members differ on satisfaction with e-resources offered by the Library. Faculty members have more perception scores followed by PG and UG students.

### Findings

- The frequency of item group 'e-journal' responses indicates that the users of Hisar and Pehowa prefer 'monthly' option more followed by Yamunanagar, Cheeka, Karnal, Ambala, Sadhaura, Pundri, Kosli and Naneola.
- The findings on 'e-books' revealed that the users of Hisar and Pehowa are giving more preference to 'monthly' option followed by Yamunanagar and Karnal.
- With the result of variable 'e-reports' responses, it is found that the option 'rarely' is most preferred by Cheeka followed by Pehowa and Ambala whereas least preference is given by the users of Yamunanagar and Karnal.
- With regard to frequency of variable 'e-thesis' responses, it is found that option 'rarely' is most preferred by Cheeka and Pehowa whereas least preference is given by the users of Kosli and Karnal.
- Cheeka and Hisar are giving more preference to 'rarely' option followed by Pehowa and Ambala

with regard to 'e-databases'.

- With regard to 'CD-ROMs Databases' responses, it is found that option 'rarely' is most preferred by Pundri followed by Ambala and Cheeka whereas least preference is given by the users of Hisar and Karnal.
- The significant value of Chi-square of all the variables of usage of e-resources depict an agreement regarding applicability of these variables i.e. e-journal, e-books, e-reports, e-thesis, e-databases and CD-ROMs Databases.
- Results of ANOVA indicate that there is a significant difference among the respondents on the usage of e-resources in the Library. Further high mean score depicts that the faculty members use e-resources in the Library more as compared to UG and PG students.

These findings are contradicting with the study of Singh (2016) who found that 52.38% of college students used e-resources daily followed by 29.53% of users using two times in a week in Doaba College library, Jalandhar.

These findings are supported by Aderibigbe and Emmanuel (2012) who studied that majority of the respondents use the resources regularly, on the other hand, some respondents rarely use IT resources in University of Agriculture, Abeokuta.

These findings are contradictory with the study of Chalawadi and Mallaiah (2017) which show that both faculty and students used electronic resources frequently in the Library of T. John Group of Institutions, Bangalore.

- The results on the satisfaction with the variable 'e-journal' indicate that the users of Hisar and Pehowa prefer 'satisfied' option more followed by Yamunanagar, Cheeka, Ambala, Sadhaura, Karnal, Kosli, Pundri and Naneola.
- With regard to satisfaction with item group 'e-books', it is found that users of Hisar and Yamunanagar are giving more preference to 'satisfied' option as compared to users of other colleges.
- The findings related to satisfaction with item group 'e-reports' reveals that the option 'satisfied' is most preferred by Hisar followed by Yamunanagar and Karnal whereas least preference is given by the users of Pundri and Naneola.

- The users of Pehowa and Cheeka are giving more preference to 'neutral' option followed by Hisar and Sadhaura with regard to 'e-thesis'.
- The obtained results highlight that on the satisfaction with item group 'e-databases' the option 'neutral' is most preferred by Pehowa followed by Cheeka and Sadhaura whereas least preference is given by the users of Pundri and Naneola.
- With regard to variable 'CD-ROMs Databases' responses, it is found that the users of Hisar and Yamunanagar are giving more preference to 'satisfied' option followed by Cheeka and Ambala.
- The significant Chi-square values of all the variables ( $p < .000$ ) reveals that there is an agreement regarding applicability of satisfaction with the e-resources in DAV Colleges' Library.
- The users i.e. UG students, PG students and faculty members, differ on satisfaction with e-resources offered by the Library as depicted by ANOVA results. Faculty members are more satisfied with the use of e-resources followed by PG students and UG students.

These findings are supported by Hussain (2013) who studied that more than 60% of users are using e-journals and nearly half of the respondents are satisfied with the available resources in the library of Sir Chhotu Ram Institute of Engineering & Technology, CCSU, Meerut.

Walton and Leahy (2012) also supported the findings of present study by observing that e-books has the highest satisfaction level for post graduate groups followed by e-journals provision which is very important for researchers and academic staff in Loughborough University Library.

The present findings are getting support from Gupta (2015) who found that 30% of students are fully satisfied followed by 53% which are partially satisfied with the availability of digital resources in Libraries of IITs in India.

## Conclusion

The rapid technological developments that portray the present information age have left a great impact on higher education libraries in India. In Haryana, academic

libraries are getting equipped with latest technology. It is observed that most of the DAV College libraries are fully/partially computerized and IT infrastructure is available in almost all of them. Libraries are the member of National Digital Library (NDL) and have also subscribed N-LIST programme under UGC-INFONET. They have sufficient collection of books, non-book materials, periodicals and printed journals according to their users' needs. The electronic books and electronic journals are the most accessed electronic resources and the users are satisfied with these e-resources. Therefore, keeping in mind the changes happening all around, there is a need to add more e-resources and strengthen the existing ones so that more and more users can take the advantages of these. Moreover, Orientation Programmes should be organized to make the users aware of how to use e-resources and get benefits out of them.

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