Evaluating the awareness and effective usage of digital library consortium: a case study with reference to the universities of Tamilnadu state

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Abstract. INFONET Digital Library Consortium is an innovative project launched by UGC to provide access tofull-text electronic resources and bibliographic databases to the research and academic community in India. The present paper aims to Evaluate the Awareness and Effective Usage of Digital Library Consortium: A Case Study with reference to the universities of Tamilnadu State. In this regard, the researcher has selected three universities in Tamilnadu namely Madurai Kamaraj University, Madurai, Alagappa University, Karaikudi and Bharathidasan University, Tiruchirappalli. The primary data have been collected from the Faculty Members of these three Universities with the help of Questionnaire Method. The research study encompasses independent variables mainly Designation, Age, Qualification, Teaching and Research Experience and Formal Training of respondents. This research is an attempt to examine the relationship between the variables Use of Internet and Level of Satisfaction, as two major dependent variables of the research study. To evaluate multiple effects, a set of four variables i.e. age, teaching and research experience and level of satisfaction are calculated with chi-square test analysis to see the multiple effects of the variable. The coefficient of correlation is also statistically significant by showing high positive correlation, which implies that higher the level of satisfaction, higher will be the use of Digital Library Consortium. The challenges to optimize the Digital Library Consortium services and tools and provide user education and training have been felt, posing a challenge for Library to take a lead in providing Digital Library Consortium and Information resource services.

1. Introduction

India has significant advantages in the 21st Century knowledge race. It has a large higher Education sector, the third largest in the world in student numbers after China and the United States. Next to China, India is the most populated

country in the world. Naturally, there is much rush and competition in every field. Competition to technical and higher education has increased the scope for social science and science has become lesser and lesser due to lack of reforms and upgrading the course structure and materials according to the developments in the world. Qualification in higher education gives an added advantage to compete in the job marketsuccessfully. A well equipped and well-managed library is the foundation of the modern educational structure. The importance of the library in higher education can be appreciated, properly and precisely only if we try to understand the changing concepts of education in the present scenario. "Education and Library services are twin sisters and one cannot live apart from the other." It means that library is the chief instrument so far perfected for accumulating and using man's intellectual heritage. And any formal education at all levels can be conducted more effectively and efficiently only with the help of well-equipped library.

2. Ugc- infonet digital library consortium

The UGC-INFONET Digital Library Consortium was launched in December 2003 by Honorable DrA P J Abdul Kalam, the former President of India. The programme is wholly funded by the UGC and executed by the INFLIBNET (Information and Library Network) Centre, Ahmedabad. The Consortium provides current as wellas archival access to more than 7500 + core and peer-reviewed journals and 10 bibliographic databases from26 publishers and aggregators in different disciplines. These e-resources cover almost all subject disciplines, including arts, humanities, social sciences, physical sciences, chemical sciences, life sciences, computer sciences, management, mathematics and statistics. UGC-INFONET Digital Library Consortium is the largest consortium among the number of users in India. The UGC provides funds through INFLIBNET required for providing differential access to various e-resourcessubscribed by the consortium forthe selected member institutions.

3. Literature review

Kwadzo (2015) conducted a study on Awareness and Usage of Electronic Databases byGeography and Resource Development Information Studies Graduate Students in the University of Ghana in which it was revealed that 96.9% students were aware of electronic databases. Majority of the students were aware of JSTOR, EBSCOhost, Emerald and Science Direct databases and were making use of these databases for their studies and research. The study revealed that majority of the students (68.8%) mentioned that their source of knowledge was their lecturers whereas 62.5% mentioned that they came toknow aboute-databases fromLibrary website. The majority of respondents (87.5%) were satisfiedwith theavailable electronic databases. The studentsfelt that the required information can easily be accessedby using electronic databases. **Nwabueze and Urhiewhu (2015)** conducted a study on Availability and Use of Digital Information Resources by Undergraduates of University in Delta and Edo States, Nigeria. The study revealed that majority of digital information resources is available in the university libraries in Delta and Edo States. The

study further revealed that the problems like epileptic power supply, inadequate number of computers, inadequate bandwidth, network problems, lack of skills to access the digital information resources and lack of formal training on internet use made the low use ofdigital information resources in all the university libraries. **Priyadarshini, Jankiraman and Subramaniam (2015)** conducted a survey to identify the Awareness inthe usage of E-resources among the users at Agricultural College and Research Institute, Madurai: A Study. The findings revealed that majority of users were aware of available e-resources and the electronic resources subscribed by the library. The study revealed that 80.6% Postgraduate students and 93.3% Faculty members made use of freely available e-resources through the internet by using search engines whereas 70% Ph.D scholars preferred the use of e-journals. The findings of the study also revealed that digital resources are available through CeRA, ebooks, Springer link, CABI, Wiley and Black and the resources subscribed by the library were widely used by the respondents.

4. Research methodology
4.1. Objective of the study
- To find the frequency and purpose of using UGC-INFONET Digital Library Consortium

- To know the preferable searching methods of using e-resources in UGC-INFONET Digital Library Consortium

- To identify the benefit of UGC-INFONET Digital Library Consortium

- To find out the overallsatisfaction of DigitalLibrary Consortium

4.2. Sampling technique
For this study, random sampling method was adopted for collecting Primary data. The sample includes the selected three state universities in Tamilnadu namely Madurai Kamaraj University, Madurai, Alagappa University, Karaikudi and Bharathidasan University, Tiruchirappalli. The primary data were collected only from the Faculty Members of these three Universities with the help of Questionnaire Method. Overall 300 Questionnaires were distributed and all were received and 290 Questionnaires were used for data analysis and the remaining 10 Questionnaires were rejected for incomplete answers.

5. Data analysis and interpretation
5.1. Demographical wise distribution of respondents
The collected datahave been further analyzed. The Demographic characteristics of respondents describe the gender-wise distribution of respondents. In this study, 165(56.90%) respondents belong to the category of male. 125 (43.10%) respondents belong to the category of female. The Age-wise distribution of respondents, in this study, 133 (45.86%) respondents belong to the category of

30- 40 years. This is followed by 106 (36.55%) respondents belonging to the category of 41 -50 years and 51 (17.59) respondents belonging to the category of above 50 years. The Professional wise distribution of respondents, in this study, 42 (14.48%) respondents belong to the category of Professors, 86 (29.66%) respondents belong to the category of Associate Professors and 162 (55.86%) respondents belong to the category of Assistant Professors.

5.2. The frequency of using digital library consortium by the gender-wise distribution of respondents

The frequency of using digital library consortium by the gender-wise distribution of respondents. Among the 165 male respondents, 43.64 % respondents use daily, 18.18% respondents use once a week, 12.73% respondents use fortnightly, 6.67 % respondents use once a month, 5.45% respondents use rarely and 13.33% respondents use others. Among the 125 female respondents, 39.20 % respondents use daily, 25.60% respondents use once a week, 9.60 % respondents use fortnightly, 8 % respondents use once a month, 5.60 % respondents use rarely and 12% respondents use others.

Table 1 Purpose of using Digital Library Consortium

S. No	Purpose	Yes (N=290)	No (N=290)
1.	Research Work	222	68
		76.55%	23.45%
2.	To keep – up –to – date on the subject	242	48
		83.45%	16.55%
3.	Preparing research articles / research papers	236	54
		81.38%	18.62%
4.	Enhancing knowledge in their fields	238	52
		84.83%	15.17%
5.	Promoting subjects skills	240	50
		82.76%	17.24%
6.	For career development and growth	244	46
		84.14%	15.86%
7.	Teaching purpose	234	56
		80.69%	19.31%

Source: Primary data

The above table describes the purpose of using Digital Library consortium. In this study, 75.55 % respondents use digital Library consortium for Research work, 83.45% respondents use digital library consortium in order to keep up with data on subject, 81.38% respondents use digital library consortium for preparing research articles/ research paper, 84.38% respondents use digital library consortium for Enhancing knowledge in their fields, 82.76% respondents use digital library consortium for Promoting subject skills, 90.34% respondents use digital library consortium for career development and growth and 80.69% respondents use digital library consortium for Teaching purpose.

The table no. 2 describes the purpose of using digital library consortium by the gender-wise distribution of respondents. Among the total respondents, 222 respondents are using the digital library consortium for research work. The co-efficient correlation is positive and their relationship is perfect for gender and research work. 242 respondents are using to keep up to date about the subject. The co-efficient correlation is positive and their relationship is perfect to gender and up to date keep the subject database. 244 respondents are using for career development and growth. The co-efficient correlation is positive and their relationship is perfect to gender for career development and growth.

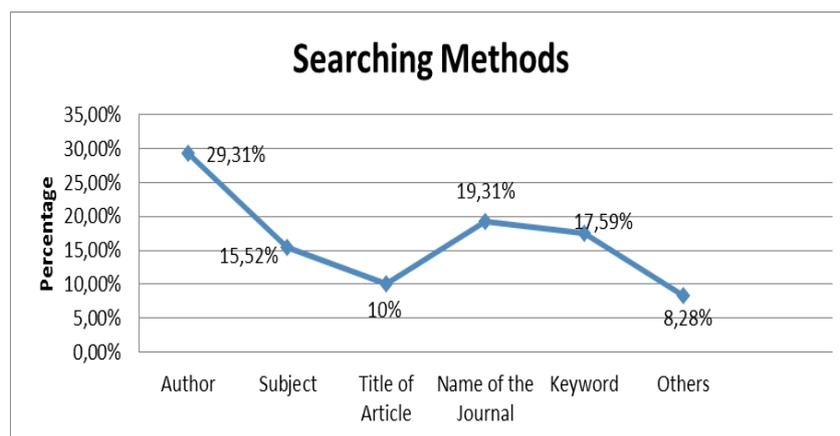**Table 2 purpose of using Digital Library Consortium by Gender wise distribution of respondents.**

Option	Gender						The coefficient of Correlation Result	
	Male		Female		Total		=ϒ	Result
	No.	%	No.	%	No.	%		
Research Work								
Yes	119	41.03	103	35.52	222	76.55%	1	Significant
No	42	14.48	26	8.97	68	23.45		
To keep – up –to – date on the subject								
Yes	156	53.79	86	29.66	242	83.45	1	Significant
No	31	10.69	17	5.86	48	16.55		
Preparing research articles/research papers								
Yes	165	56.90	71	24.48	236	81.38	1	Significant
No	36	12.41	18	6.21	54	18.62		
Enhancing knowledge in their fields								

Yes	172	59.31	66	22.76	238	84.83	1	Significant
No	39	13.45	13	4.48	52	15.17		
Promoting subjects skills								
Yes	170	58.62	70	24.14	240	82.76	1	Significant
No	28	9.66	22	7.59	50	17.24		
For career development and growth								
Yes	186	64.14	58	20	244	84.14	1	Significant
No	31	10.69	15	5.17	46	15.86		
Teaching purpose								
Yes	164	56.55	70	24.14	234	80.69	1	Significant
No	38	13.10	18	6.21	56	19.31		

Source: Primary data

This figure 1shows the methods of searching to accessinformation from Digital Library Consortium. Among the 290 respondents, 29.31% respondents are using the author search method, 15.52% respondents are using the subject search method, 10% respondents are using the title of article search method, 19.31% respondents are using the name of the journal, 17.59% respondents are using the Keyword search method and 8.28% respondents are using the other search method.

Figure 1: Methods of searching to access information from Digital Library Consortium.

Source: Primary data

Table 3 Benefits of using Digital library consortium by Gender wise distribution of respondents

S.No	Options	Gender				Total	
		Male		Female			
1.	Author link	49	29.70 %	36	28.80 %	85	29.31 %
2.	Paper publication	26	15.76 %	19	15.20 %	45	15.52 %
3.	Easy portability of E-resources	18	10.91 %	11	08.80 %	29	10.00 %
4.	Access to wide range of information	31	18.79 %	25	20.00 %	56	19.31 %
5.	Expedited the research/ project process	28	16.97 %	23	18.40 %	51	17.59 %
6.	others	13	07.88 %	11	08.80 %	24	08.28 %
	Total	**165**	**100.00%**	**125**	**100.00%**	**290**	**100.00%**

Source: Primary data

This table shows the Benefits of using Digital library consortium by Gender wise distribution of respondents. Among the 165 male respondents, 29.70% respondents receive author's link, 15.76% respondents are getting paper publication, 10.91 respondents are getting easy portability of E-resources, 18.79% respondents are getting access to wide range of information, 16.97% respondents are getting expedited research/ project process and 7.88% respondents are getting others. Among the 165 male respondents, 28.80% respondents receive author's link, 15.20% respondents are getting paper publication, 8.80% respondents are getting easy portability of E-resources, 20% respondents are getting access to wide range of information, 18.40% respondents are getting expedited research/ project process and 8.80% respondents are getting others.

Table 4 Problem faced by the respondents while using Digital Library Consortium

S.No	Problem	Yes (N=290)	No (N=290)
1.	Difficulty access on particular	170	120
		58.62%	41.38%
2.	Tile preservation	212	78
		73.10%	26.90%
3.	The slow accessing speed of internet	232	58
		80.00%	20.00%
4.	Frequent hanging systems	228	62
		78.62%	21.38%
5.	Download restriction	230	60
		79.31%	20.69%
6.	Storage facilities	242	48
		83.45%	16.55%
7.	Virus attack	232	58
		80.00%	20.00%
8.	Time Consuming	244	46
		84.14%	15.86%

Source: Primary data

The above table mentions the problem faced by the users while using the digital library consortium. In this study, 58.62% respondents are facing the difficulty to access on particular, 73.10% respondents are facing the tile preservation of information, 80% respondents are facing the problem of slow accessing speed of internet, 78.62% respondents are facing the problem of frequent hanging system, 79.31% respondents are facing the problem of downloading restriction, 83.45% respondents are facing the problem of storage facilities, 80 respondents are facing the problem of virus attack and 84.14 respondents are facing the problem of time consuming.

The table no. 5 describes the problem faced by the users while using the Digital Library Consortium by Gender wise distribution of respondents. Among the 240 respondents are facing the time consuming problem while using the digital library consortium. The co-efficient correlation is positive and their relationship is perfect for gender and time consuming. 242 respondents are facing the problem of storage facilities while using the digital library consortium. The co-efficient correlation is positive and their relationship is perfect to gender and

Storage facilities. 232 respondents are facing the problem of virus attack while using the digital library consortium. The all co-efficient correlation is positive and their relationship is perfect to gender and problem while using the digital library consortium.

Table 5 Problem facing while using the Digital Library
Consortium by Gender wise distribution of respondents

Lecturer Based Courses	Gender						The coefficient of Correlation Result	
	Male		Female		Total		=ϒ	Result
	No.	%	No.	%	No.	%		
Difficulty access on particular								
Yes	98	33.76	72	24.83	170	58.62%	1	Significant
No	84	28.97	36	12.41	120	41.38		
Tile preservation								
Yes	136	46.90	76	26.21	212	73.10	1	Significant
No	42	14.48	36	12.41	78	26.90		
The slow accessing speed of internet								
Yes	161	55.52	71	24.48	232	80	1	Significant
No	41	14.14	17	5.86	58	20		
Frequent hanging systems								
Yes	176	60.69	52	17.93	228	78/.62	1	Significant
No	46	15.86	16	5.52	62	21.38		
Download restriction								
Yes	146	50.34	84	28.97	230	79.31	1	Significant
No	32	11.03	28	9.66	60	20.69		
Storage facilities								
Yes	168	57.93	74	25.52	242	83.45	1	Significant

No	31	10.69	17	5.86	48	16.55		
Virus attack							
Yes	155	53.45	77	26.55	232	80	1	Significant
No	31	10.69	27	9.31	58	20		
Time Consuming							
Yes	171	58.97	73	24.17	244	84.14	1	Significant
No	29	10	17	5.86	46	15.86		

Source: Primary data

The table shows the satisfaction level of Digital Library consortium by gender wise respondents. Among the 165 male respondents, 33.33% respondents are fully satisfied with Digital Library consortium, 29.09% respondents are satisfied, 20% respondents are dissatisfied and 17.58% respondents express no comments. Among the 125 female respondents, 33.60% respondents are fully satisfied with digital library consortium, 28.80% respondents are satisfied, 22.40% respondents are dissatisfied and 15.20% respondents express no comments.

Table 6 Satisfaction level of Digital Library consortium by Gender wise respondents

Gender	Satisfaction level				Total
	Fully Satisfied	**Satisfied**	**Dissatisfied**	**No comments**	
Male	55	48	33	29	**165**
	33.33%	29.09%	20%	17.58%	**100%**
Female	42	36	28	19	**125**
	33.60%	28.80%	22.40%	15.20%	**100%**
Total	**97**	**84**	**61**	**48**	**290**

Source: Primary data

5.3. **Testing of hypothesis**
Ho: Null Hypothesis

There is no association between the satisfaction levels of Digital Library Consortium by gender wise respondents

H1: Alternative Hypothesis

There is an association between the satisfaction levels of Digital Library Consortium by gender wise respondents

Chi-Square Summary Result

Chi-Square Calculated Value	Degrees of Freedom	Chi-Square Table Value5%
0.441	3	7.81

The table value of/for 3 degrees of freedom at 5% level of significance is 7.81. The calculated value of x^2 is less than this table value and hence the Null hypothesis is accepted and hence Alternative hypothesis is rejected. It is concluded that there is no association between satisfaction levels of Digital Library Consortium by gender wise respondents.

6. Findings of the study

- 90.34% respondents use digital library consortium for career development and 83.45% respondents use the digital library consortium in orderto keep up with data about the subject.

- 29.31% respondents are using the author search method.

- 29.70% male respondents are getting author link for using the digital library consortium.

- 28.80% female respondents receive author's link for using the digital library consortium.

- 84.14% respondents are facing the problem of time consuming and 83.45% respondents are facing the storage facilities problems while using the digital library consortium

- 33.45 % respondents are fully satisfied with Digital Library consortium.

7. Conclusion

The UGC INFONET Digital Library Consortium is to provide access to qualitative electronic resources including full-text and bibliographic databases to academic institutions at the lower rate of subscription. Library Consortium is the best way to a common infrastructure and it has become very important in the last two decades with the emergence of e-publishing. The present study shows that most of the faculty respondents use consortium for career development and growth (90.34%) followed byfor Enhancing knowledge in their field's

85(29.31%) respondents receive author link for using the digital library consortium. The study also shows that 97 respondentsare fully satisfied with digital library consortium. The most common problem faced by the respondents is the Time Consuming (84.14%)followed by storage facilities (83.45%).The survey, usage statistics, and feedback always remain effective tools to measure the usage to enhance the use of e-resources and it should be conducted at regular time of interval. More awareness and training programs shall be organized for creating more awareness and it will increase the use of UGC-Infonet consortium.

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