An Evaluation of the Use of the Digital Libraries at Ankara University, Turkey

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Abstract

New consortial buying models have dramatically increased the availability of online resources, particularly journal articles, in the universities and technical institutes of developing countries. The degree of acceptance and pattern of use of such materials is of great interest to library collection development. Ankara University surveyed faculty members regarding their awareness and use of these electronic materials.

Introduction

As a result of the information revolution, industrialized societies are gradually becoming information societies. Schram (1996) and Mchombu (1998) discuss information is an essential resource for economic and social development in the Third World. Developing countries such as Turkey are adapting technological changes in order to provide the transformation of the libraries. [1] However, there are challenges to change. It is not enough to produce a library web site. There are important parameters such as functional literacy, national bibliographic control and information policy that all need to be considered. Although more than 80 % of the population is literate, functional literacy has not been evenly achieved by the different social groups in Turkey. [2] Capar concludes that this is because library patrons are not provided enough education on the use of library publications, information centers and services.

Digital technologies require new values, attitudes and patterns of behavior to access information. A digital library is not successful unless the system is used effectively. Therefore, there is a great deal of measuring the extent to which users are utilizing such resources and services. This article focuses on the importance of application of evaluation tools especially with regard to digital resources.

Libraries are increasingly involved in collaborative endeavors of both preservation and retrieval of collections in order to minimize costs and prevent duplicative effort. There are a number of digital initiatives addressing reformatting and access issues for digital collections in USA, UK, Canada, Australia and Europe[*].

Over the past few years, there has been an increasing investment in information technology in many countries. In the USA, the expense of information technology is more than 50% of general expenses. In the last decade, the USA also has spent more than 3 trillion dollars on information technology [3]

In recent years many Turkish university libraries have joined in digital library consortiums; however, their efforts most likely are focused on providing a digitized collection rather than maintaining a user-centered system for that collection. Therefore, this study aims to provide data from the faculty perspective to identify the most often used online resources acquired in 2002 – 2003 academic year for a typical Turkish academic library. The survey summarizes conclusions from recent survey of Ankara University faculty and highlights some conclusions about how faculty members use electronic collections, including a ranking of databases by their importance to faculty users.

Evaluating Digital Libraries: Literature Review

In Turkey, the lack of user studies is surprising considering the increasing interest in, and number of digital library projects. Studies from other countries, however

[*] Please see the *D-Lib Magazine* articles http://www.dlib.org/projects.html#joint for more information.

have examined the use of online resources in the academic environment and provide a useful context for considering the Turkish situation. The key issues in digital library assessment, including consortial collection assessment are defining library users' and their needs, evaluating functionality of online resources, and identifying system requirement.

Bancroft (et al.) reported a user survey examining the library services, including electronic journals at the Washington State University. [4] This survey requested faculty members and graduate students to rank the electronic resources as essential for their work. Faculty reported that the library OPAC was the most important of their work (37.5%). However, over 70% of faculty expressed "No opinion /never used" concerning online full text journals. As proved to be the case for our study, the results of the WSU survey were also useful in the future decision-making involving journal cancellation.

The ADEPT (The Alexandria Digital Earth Prototype) project focused on the observations to develop a digital library of geo-referenced information resources at the University of California, Los Angeles, and the University of California, Santa Barbara. The research was employed to both students and instructors and the results applied in the design of Alexandria Digital Library. Initial observations of this project suggested the requirements for constructing digital libraries from both teaching and learning point of view. From the study findings, several recommendations were made to improve usability of the electronic resources, increased browsing and viewing mechanism, and more active interactive online training. [5]

A survey of the use of the electronic journals services at the library and information service of the University of Patras in Greece looked at the frequency of use according to the demographics as age, gender and academic occupation were considered.

E-journal service appears to be used by all age ranges, although the majority of use was reported by those under 35 as a result of the high proportion of students, who completed the questionnaire. Proportionally, more males used the service on daily, weekly or monthly basis than females. This survey also investigated reasons of using electronic resources [6].

CIBER (Coordinamento Interuniversitario Basi dati e Editoria in Rete) Central-Southern Italian Library Consortium survey showed both an increasing use of electronic journals and an ongoing need for promotional activities to academic communities for awareness of online resources [7]. A similar survey undertaken by the Utah State University Libraries asked respondents were asked whether they were aware of libraries' electronic databases. More than two-thirds of respondents were aware that some of the electronic resources. Respondents who were aware of and made use of each database were asked to rate the importance of that database to their own work. [8] The majority of faculty respondents (77.8%) gave a high priority rating to EV (Elsevier) electronic journals.

Tenner and Yang analyzed the relationship between the electronic journal use and age, and status of faculty members and found that assistant professors were most likely to have used electronic journals (44.7%), followed by full professors (34.5), and associate professors (34.2%) [9].

The research question addressed in our study is to what extent do Turkish faculty reveal similar attitudes and report similar use patterns to other faculty world-wide and what do the implications mean for publicizing library digital resources.

Case Study

Method of the study

Ankara University Libraries have been concerned about the use of e-databases and the degree to which such subscriptions can be useful. Usefulness is one of the crucial measures of how appropriate the information resources or services are for a defined user group. Therefore, the key objectives of the study were two: to examine the level of awareness by academic staff of digital library resources along with their use rate and to evaluate the preferences of faculty for specific electronic databases. A number of factors and their interrelationships were considered in the survey issues such as academic rank and discipline in connection with use frequency and preferences in order to determine how these factors affect one another.

The level of subscription use and/or sample issues as a case study was undertaken by means of a questionnaire in 2002. The questionnaire was then distributed to 3800 academicians which is the total number of the faculty positions at Ankara University. Some 2100 (55%) of the forms were returned. Excluded from the evaluation were 104 of these returned forms made invalid because of mistakes filling out the questionnaire, leaving a total of 1996 (53%) useable responses.

Results and analysis

The 1996 forms were analyzed with the number and percentage of each pattern being recorded and tabulated. Faculty members are distributed in 15 Faculties, 9 colleges and two Research Centers within Ankara University. Some of those who, although working in Research Centers, Institutes and Colleges, were evaluated under their

Faculty/Unit. The results are presented (table1: Demographical data of responses **)** in Appendix A. A review of demographical data for our respondents shows that the respondents constitute a representative sample of representative sample of academics in Ankara University.

A large majority 86.5 % of respondents indicated that they knew the digital library resources existed in Ankara Universities. When looking at the distribution of the level of awareness by faculty members according to the faculty rank, associate professors placed first at ranking with 93.3%. Assistant professors placed second (90.8%), professors placed third (%89.0) and research assistants placed fourth (88.6%) in ranking. Lecturers (84.7%), specialists (83.5%) and especially instructors (31.7.7%) are not aware of the digital library (Table 2: Level of awareness of digital library).

A quarter 24.8% of the respondents who reported knowing that digital library resources existed indicated that they have "no information at all" about the contents of the electronic databases. Almost half (45.9 %) know something of these databases, and 29.4% replied that they know many of the electronic databases (Table 3 Level of awareness of databases).

Of the 1727 respondents indicating that they have knowledge about the contents of electronic databases, 20.5% report that they do not use these resources, and while, 52.0 % of respondents report occasionally use, and 27.5% report often using these databases (Table 4 Use of databases).

When analyzed the usage of the electronic databases, in respect of the faculty positions the distribution reflected different intentions: assistant professors that were in the second level of awareness and usage of digital library (DL), placed in the first row in ranking (74.6%). Associate professors that were the in the first level of awareness went

down to second place in usage distribution (67.9%). While specialists were in the sixth in the level of awareness, they placed in the third row in usage distributions (63.6%). Research assistants who were in the forth row in the level of awareness took place at the fourth row in the use of databases (55.1%). Professors that placed in the third level of awareness went down to fifth level in usage-ranking (52.1%). Instructors placed in the sixth row in the usage ranking with 21%. The least use of the digital library is by the lecturers (10.7%) (Table 5 : Use of digital Library).

Another evaluation was undertaken to determine the priority level of usage that indicates the importance of databases for users. As the result of this analysis, *ISI-Web of Science* got the first usage priority with 37.7%, second priority was *EBSCO Host* with 21% and third priority was *ScienceDirect* with 18.7% by faculty members. This rate decreases in regard to the other databases with 6.3% in distribution. As for the second priority, *ISI-Web of Science (15.5%), EBSCO Host(12.4%) , ScienceDirect(12.3%),* and *OCLC (8.8%)*got a higher value by faculty members. Since usage level at the second priority, for the rest of the databases, was too low (7.4%) and also third priority and forth priority was too low (8.5 %) and less (Table 6: Usage of databases:) in comparison to previous ones.

For the comparison of faculty/unit and usage of electronic databases, without any consideration of priority ranking for place of work (faculty/unit) it has seen that the first row remained same. From this perspective, the most preferred databases were, in order of preference: ISI – Web of Science (24.5%) EBSCO Host (16.1%) Science Direct(15.3%) SPRINGER LINK(8.8%) OCLC (7.9%) Kluwer (5.3%) (Table 6). Use of databases by faculty /units is placed in (Table 7 : use of the databases by faculty/unit name)

After determination of usage of electronic databases, the second intention was to find out for what purposes these databases are used. As for the first priority, 11.9% of respondents use databases for education-teaching purposes, 86.7% prefers these resources for research (bibliographic search & information retrieval) purposes, and 1.4 % of them use electronic databases to have some knowledge about these resources (Table 8 : Use purposes of databases).

When examined, the reasons for not using the digital library 38% of the faculty members indicated that they had no knowledge about how to use the digital library. 36.1% stated that they meet the information need by other sources. The rest of them either have "no knowledge" about digital information technology (8.6%) or "no interest" in these databases (8.6%). 1.1% of the faculty members called these databases as "not very useful"(Table 9 : Reasons of not using digital library).

The total number of answers to the question about what should be the best way to teach patrons about the electronic databases was 1867. 24.0 % of this range thinks that the best way would be provide instruction material including database information and 5.6 % think training classes should be organized on a regular basis and 19.4 % think both instruction material and classes should be provided. 10.1 % of respondents suggested consulting information services, and 40.8 % suggested help links under the library homepage on the Internet (Table 10 User preferences for training)

Conclusion

It has long been realized that information technology efforts on the Internet will keep being an extremely important development tool in developing countries. Therefore,

certain problems in the field can begin to be resolved. Present requirements are provided by the governments, universities and other institutions of these countries as well.

The consciousness of the importance of information technology in scientific research and development in Ankara University has placed a great emphasis on how it encourages the use of digital resources by researchers.

Library use questionnaires from several other academic institutions were reviewed. The surveys included data related to the characteristics of end-users such as age, status and gender, as well as their range of use of electronic databases and/ or journals. We used the similar indicators in order to compare Turkish faculty attitudes and use patterns to this larger, world-wide population with a particular concern that Turkish academic libraries may need to improve our services to academic communities for awareness and training.

The evaluation results of this study inform the ongoing development of the Digital Library system in Ankara Universities. As a research tool, this survey was expected to provide information that would help in two directions: First, it helped to make a decision on how many of these e-databases the library should subscribe to. Second, it was useful in analyzing the level of awareness among the faculty members along with the use frequency of use of the digital library as well as resources.

According to the results, the majority of the faculty members of 26 Faculty/units under Ankara University know about existence of the digital library. Many of the faculty members, although not all of them, use electronic databases. The study also shows that more effort is needed to encourage the use of databases throughout the faculty. There might, however, be a question as to why professors and research assistants place right

after the associate and assistant professors in ranking the use of electronic databases, although they place first in the level of awareness of the digital library.

Ankara University, which started providing electronic database services in 1999 with *Web of Science* subscription, participated in Anatolian University Libraries Consortium (ANKOS) in 2000. At the present, 35 databases, including test copies have been used by 25 servers. Although most preferred databases have been *Web of Science, Science Direct* and *Ebsco* the benefits of these databases can be fully utilized only if they are widespread and heavily used.

To examine whether there might be a relationship between the use of databases in Ankara University Libraries and information production by faculty members a search has been made through the citation indexes in *Web of Science*. It has been concluded that there has been a notable increase in published works by Ankara University Faculty since 2000. 430 articles were published in 2000 and this number rises to 583 in 2001. If considering that nearly 400 faculty members left for retirement and other reasons this result makes significant difference. It seems possible that there is a positive impact of new subscribed databases on such an increase of information production. However, the extent to which the use of databases can influence the productivity throughout faculty member's scientific activity in Ankara University might be the further study topic.

Appendix A :

Faculty/Unit	Prof.	Assoc. Prof.	Ass. Prof	Lecturer	Research Assistant	Specialist	Instructor	Total
Çankırı Forestry Faculty	3			7	2			12
Faculty of Letters	36	33	29	74	22	2	1	197
Faculty of Dentistry	46	20	3	28	6	1		104
Faculty of Pharmacy	5	7	13	23	3	1		52
Faculty of Education	22	14	12	26	2	9		85
Faculty of Science	24	17	17	53	11	3		125
Law Faculty	5	6	4	10	1			26
Faculty of Divinity	16	12	6	16	9			59
Faculty of Communication	8	4	5	14	6	4		41
Faculty of Engineering	22	10	13	29		1		75
Faculty of Health Education	1	6	6	2	4	1	1	21
Faculty of Political Sciences	19	6	12	39	3			79
Faculty of Medicine	188	97	22	135	19	43		504
Faculty of Veterinary Med.	61	36	5	53		1		156
Faculty of Agriculture	87	51	16	102		2		258
Başkent Institute		1		1	2	3		7
School of Phys. Educ. & Sport	1	2	3	2	6			14
Beypazarı College of Tech.					6		3	9
Çankırı College of Tech.			2		34	3	6	45
Çankırı College of Health Tech.			2		3			5
Cebeci College of Health Tech		1	1	1	10	3		16
School of Home Economics	7	5	3	11				26
Kalecik College of Technology	1				6		2	9
Kastamonu College of Tech.	1				19		1	21
Research Center on European Community (ATAUM)						2		2
TÖMER Language Teaching Center					2		46	48
Total	553	328	174	626	176	79	60	1996

Table 1 Demographical data of responses

	Level of awareness				
	Aware		Not aware		
Academic Positions	Frequency	%	Frequency	%	Total
Associate Professor	306	93	22	7	328
Assistant Professor	158	91	16	9	174
Professor	492	89	61	11	553
Research Assistant	156	89	20	11	176
Lecturer	530	85	96	15	626
Specialist	66	84	13	16	79
Instructor	19	32	41	68	60
Total	**1727**	**87**	**269**	**13**	**1996**

Table 2. Level of awareness of digital library

	Frequency	**%**
No information at all	429	25
Information about some	791	46
Information about many	507	29
Total	1727	100

Table 3. Level of awareness of databases

	Frequency	**%**
Occasionally	675	52.0
Often	357	27.5
Not at all	266	20.5
Total	1298	100

Table 4. Use of databases

	Use of DL		Nonuse of DL		
Title	**Frequency**	**%**	**Frequency**	**%**	**Total**
Associate professor	118	74.6	40	25.4	158
Assistant professor	208	67.9	98	30.1	306
Specialist	42	63.6	24	36.4	66
Research assistant	86	55.1	70	44.9	156
Professor	256	52.1	236	47.9	492
Instructor	4	21	15	79	19
Lecturer	57	10.7	473	89.3	530
Total	771	44.6	956	55.4	1727

Table 5. Use of digital Library

Databases	**#1 Priority**		**#2 Priority**		**#3 Priority**	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
ISI-Web of Science	389	37.7	160	15.5	88	8.5
EBSCO Host	217	21.0	128	12.4	69	6.7
Science Direct	193	18.7	127	12.3	88	8.5
SPRINGER LINK	65	6.3	76	7.4	67	6.5
OCLC	43	4.2	91	8.8	36	3.5
Kluwer	30	2.9	42	4.1	34	3.3
MathSciNet	23	2.2	15	1.5	10	1.0
Engineering Village	12	1.2	15	1.5	11	1.1
OVID	12	1.2	11	1.1	10	1.0
Micromedex	6	0.6	18	1.7	11	1.1
IOP	4	0.4	14	1.4	10	1.0
Compendex	1	0.1	1	0.1	1	0.1

Table 6. Usage of databases

Faculty/Unit	ISI-WOS	EBSCO	Science Direct	SprLink	OCLC	Kluwer
Çankırı Forestry Faculty	6	6	4	2	7	1
Faculty of Letters	47	44	23	3	17	11
Faculty of Dentistry	42	7	12	5	16	2
Faculty of Pharmacy	51	29	56	29	27	5
Faculty of Education	11	39	6	1	15	6
Faculty of Science	72	9	50	24	12	18
Law Faculty	5	8	2	-	3	7
Faculty of Divinity	10	14	7	2	5	5
Faculty of Communication	5	19	2	-	13	2
Faculty of Engineering	48	8	43	18	12	10
Faculty of Health Education	4	5	3	1	1	2
Faculty of Political Sciences	19	41	11	6	22	19
Faculty of Medicine	146	94	85	81	20	23
Faculty of Veterinary Med.	74	39	52	19	14	2
Faculty of Agriculture	116	69	53	51	24	33
Başkent Institute	1	-	1	-	-	-
School of Physical Education and Sport	6	6	2	1	3	1
Beypazarı College of Tech.	1	-	1	-	-	-
Çankırı College of Tech.	11	3	8	-	-	-
Çankırı College of Health Technology	4	3	4	2	7	-
Cebeci College of Health Technology	-	3	-	-	1	1
School of Home Economics	1	-	1	-	-	-
Kalecik College of Tech.	1	-	1	-	-	-
Kastamonu College of Technology	-	-	-	-	-	-
Research Center on European Community (ATAUM)	-	-	-	-	-	-
TÖMER Language Teaching Center	-	-	-	-	-	-
Total **%**	680 24.5	446 16.1	426 15.3	245 8.8	219 7.9	148 5.3

Table 7 Use of databases by Faculty/unit name

	#1 Priority		#2 Priority		#3 Priority	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Education-Teaching	123	11.9	720	69.8	35	3.4
Information Retrieval	895	86.7	120	11.6	3	0.3
Info about Databases	14	1.4	38	3.7	474	45.9

Table 8. Use purposes of databases

	#1 Priority		#2 Priority		#3 Priority	
	Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Don't know how to use	101	38	29	10.9	6	2.3
Met info- need by other resources	96	36.1	31	11.7	8	3.0
Have no knowledge on digital technology	43	16.2	20	7.5	8	3.0
Not interested	23	8.6	9	3.4	10	3.8
Found not useful	3	1.1	1	0.4	3	1.1

Table 9. Reasons of not using digital library

	Frequency	%
Providing instruction material including databases information	449	24.0
Organizing training classes	104	5.6
Providing both instruction material and training classes	363	19.4
Consulting information services	189	10.1
Help links under the Library homepage on the Internet	762	40.8

Tablo 10. User preferences for training

Appendix B: Questionnaire on the Use of Electronic Databases and Electronic Journals through the Web

Ankara University E-Library Survey was designed to provide information regarding faculty members' use of electronic databases. It is very important for us to have your feedback to help us improve our services for the future. Please fill out this survey, and return it to the Library and Documentation Management in three days.

1. Please provide the following data:
a) Academic rank
b) Institution
c)Department /academic unit

2. Are you aware that Ankara University has a digital library ?

☐ Yes

☐ No

(If "No" pls go Q. 8)

3. Are you aware of the subject content of electronic journals that the University Library subscribes to?

☐ I am not aware

☐ I'm aware of some of them

☐ I'm aware of many of them

(If "No" pls go Q. 8)

4. Do you use electronic databases that the University Library provides in the Library Web pages?

☐ Yes, often

☐ Yes, occasionaly

☐ No

(If "No" pls go Q. 8)

5. Please put "1", "2", "3" etc. in the box according to your frequency of use of the following databases ? (For example, if you use three databases, indicate by using #1 for the highest frequency, down to 3 for lowest.)

☐ ISI – Web of Science	☐ ScienceDirect
☐ EBSCO Host	☐ Silver Platter
☐ MathSciNet	☐ Proquest
☐ IOPP	☐ Proquest Digital Dissertations
☐ OCLC	
	☐ History and Life From ABC
☐ SPRINGER LINK	☐ Ovid
☐ Association of Computing Machines	☐ Micromedex Healthcare Series
☐ Compendex	☐ Kluwer
☐ Engineering Village	☐ Up To Date

6. Please rank in order of importance according to your reasons of use of databases (Indicate by using #1 for the first choice, #2 for the second choice and #3 for the third choice)

☐ Education teaching activities (Lecture appropriation,)

☐ Information retrieval (Research and access to full text)

☐ To be informed about electronic databases

7. Please rank your choices according to your reasons of nonuse of databases (Indicate by using #1 from highest down to #5 to the lowest)

☐ I don't know how to use electronic databases

☐ I have no knowledge on digital technology

☐ I don't have any interest

☐ I don't found useful

☐ I meet my information need from other sources

8. What should be the best way to teach patrons about the electronic databases and their usage?

- ☐ Providing instruction material including databases information
- ☐ Organizing training classes
- ☐ Providing both instruction material and training classes
- ☐ Consulting information services
- ☐ Help links under the Library homepage on the Internet

Thank you for your cooperation

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