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Users Reading Behavior in Electronic Era: A Case Study in Iran

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ABSTRACT

The present study attempts to investigate the importance of electronic journals and the users reading habits at Ferdowsi University of Mashhad (FUM), Iran. Responses from the users of electronic journals- mainly the research scholars and faculty members are covered. The findings of this survey shows that the users assign a high level of importance to electronic journal articles. Furthermore, amount of articles read and time spent on reading are discussed.

INTRODUCTION

Ferdowsi University of Mashhad (FUM), Iran encompasses currently 15 departments, 2000 staff, 650 faculty members and an official enrollment of 19,000 students. FUM is one of the most comprehensive universities in Iran and neighboring countries. FUM offers 180 majors and admits over 3,500 students each year at the Bachelor's, Master's, and doctorate levels, making it the third oldest major state university in Iran and the largest university in northeast Iran. Internet facilities are available in all departments and all students, research scholars and teachers. FUM offers access to more than 16000 full text electronic journal titles from different electronic journals and databases such as ACS, AIP, Elsevier, Emerald, Springer, Ebsco, IEEE, etc but there is lack of user studies in the field of electronic journals in FUM. Therefore, this study aims to explore the importance of electronic journals and users' reading habits in two departments of Ferdowsi University of Mashhad (FUM), Iran.

LITERATURE REVIEW

This review gives a chronological overview of some user studies carried out in over the past few years. These studies provide details on the use of electronic journals, especially users reading behaviors.

King & Montgomery (2002) carried out a study to determine reading patterns at Drexel University. Key findings were that amount of reading remained high; outcomes from reading continued to be favorable, particularly from library-provided articles; while 42 percent of faculty reading was from library-provided articles, faculty still relied heavily on readings from personal subscriptions; most of the library-provided reading was from electronic articles; and readers spent much less time locating and obtaining library-provided articles when they were available electronically.

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In an Online survey, academic staff of University of Patras were surveyed by Monopoli, Nicholas, Georgiou, & Korfitai (2002). Results showed that, 42.5% of respondents used electronic journals daily, and an additional 43.5% used them weekly. Electronic journals were used mostly for writing up publications and for teaching and accessed almost exclusively from their offices, (access from home was not an option). The preferred format for reading an article was electronic, but for the age group 55-64, the percentage decreased. The main reasons for preferring the electronic format were ease of use, access, and searchability and the capability to save and print the information. Reasons for preferring the printed format included familiarity and readability.

The study conducted by Belefant-Miller & King (2003) profiled reading behavior at a medium-sized U.S. university. Their work re-examined a 1993 study, presenting the situation from 1993 to the electronic era. They concluded that, on average, faculty read 384 documents per annum, of which 161 were journal articles; had 4.2 personal journal subscriptions; and published three articles yearly.

Smith (2003) explored the electronic journals' role in faculty's weekly scholarly reading habits at university of Georgia. The results indicated that electronic access to journals-particularly library-funded access-was integral to research activities, with the majority of respondents (74%) reporting they read at least one article from an electronic source every week.

Tenopir et al. (2003) provided a rich synthesis of earlier surveys and literature on users' behavior. The findings showed that the number of personal subscriptions per scientist had decreased, signaling a shift from a journal economy to an article economy; author web sites had not caught on; there had been a massive increase in electronic formats for reading; and average readings per scientist had increased.

In their study, Tenopir, King, & Bush (2004) determined how medical faculty members used scholarly journals, whether there was a pattern among types of users. Results showed that medical faculty read a great deal, especially compared to scientists. The most frequently reported principal purpose of reading was to support their primary research (30% of reading). The majority of reading came from recently published articles, mostly from personal subscriptions. Medical faculty continued to rely on print journals (approximately 70% of readings) versus electronic journals. Age of faculty did not appear to influence the choice of print or electronic format. Medical faculty read more articles than others on average and need information digested and verified in a way to save them time.

Use patterns of electronic journals were studied by Boyce, King, Montgomery, & Tenopir (2004). They suggested little change in reading patterns before and after the introduction of electronic access. They estimated the range of journals consulted by the typical academic researcher had grown from at least one article per year from 13 titles in the late 1970s, to 18 in the mid-1990s, to approximately 23 titles by 2001. Their analysis revealed the extent to which electronic formats had displaced print. However, using colleagues as information gatekeepers and "following up the literature" remained important despite technological advances.

A study by Liu (2005) showed that a screen-based reading behavior was emerging for reading electronic documents. That behavior was characterised by more time spent browsing, scanning, keyword spotting, one-time reading, non-linear reading, and reading more selectively, while less time was spent on in-depth reading and concentrated reading.

Surveys of the members of the American Astronomical Society by Tenopir, King, Boyce, Grayson, & Paulson (2005) identified how astronomers used journals and what features and

formats they preferred. Astronomers, like other scientists, invested a large amount of their time in reading articles and placed a high level of importance on journal articles. They used a wide variety of formats and means to get access to materials that were essential to their work in teaching, service and research. They selected access means that were convenient – whether those means be print, electronic, or both. The availability of a mature electronic journals system from their primary professional society had surely influenced their early adoption of electronic journals.

In a similar study, reading patterns of pediatrician members of the American Academy of Pediatrics (AAP) were studied by Tenopir, King, Clarke, Na, & Zhou (2007). Results showed that pediatricians read journal articles primarily for current awareness and most often rely on quick reading from print journals for current awareness. Reading for research, writing, and presentations were more likely from library-provided electronic journals. Convenience and purpose of reading were key factors that explain reading patterns of pediatricians. Print personal subscriptions were convenient for current awareness reading, while electronic journals systems were convenient for reading for research because they provided access to a broader range of journals.

In a questionnaire survey, Tenopir, King, Edwards & Wu (2009) examined how faculty members locate, obtain, read, and use scholarly articles. They found that the average number of readings per year per science faculty member continued to increase, while the average time spent per reading was decreasing. Electronic articles accounted for the majority of readings, though most readings were still printed on paper for final reading. Scientists reported reading a higher proportion of older articles from a wider range of journal titles and more articles from library e-collections. Articles were read for many purposes and readings were valuable to those purposes.

OBJECTIVES OF THE STUDY

This study was designed with the following objectives:

- The importance of electronic journals from the users' perspective;
- The preferred format for reading
- Amount of reading
- Time spent on reading electronic journal articles

METHODOLOGY

In this questionnaire survey, data collection was made by directly administering questionnaires to research scholars and faculty at two faculties (Faculty of Education & Psychology and Faculty of Economics) at Ferdowsi University of Mashhad, Iran in August 2009. Questionnaires were filled out by the participants and were collected by the researcher. Out of the 118 questionnaires distributed randomly, 64 were received, giving an overall response rate of 54 percent. The collected data were coded and analyzed by using SPSS version 16 for Windows. The data were also tabulated using tables and percentages.

FINDINGS

1. Characteristics of sample population

Among the 64 users who responded to the survey, 73.4 percent were male and 26.6 percent were female. The largest age group was between forty one to fifty years of age (37.5 percent). This group was followed respectively by the following age groups: twenty one to thirty (32.8 percent), thirty one to forty (26.6 percent), and fifty one and above (3.1 percent). Regarding respondents' academic rank, 54.7 percent were PhD research scholars, 45.3 percent were teachers including 29.7 percent assistant professors, 10.9 percent full professors, and 4.7 percent lecturers. With regard to Discipline, 23.4 percent were from Education,

and 23.4 percent Psychology. These groups were followed by Library and information Science with 21.9 percent, Economics with 17.2 percent and Management with 14.1 percent.

2. Importance of electronic journals

The respondents were asked about the importance of electronic journals for their research on a four point scale, "Highly important", "Important", "Slightly Important" and "Not Important". The results are given in Table 1.

Table 1: Importance of Electronic Journals

Importance of e-journals	Frequency	Percentage
Highly Important	54	88.5
Important	7	11.5
Total	61	100

Table 1 shows that out of 61 respondents, a vast majority of them (88.5 percent) perceived electronic journals as highly important for their research. Moreover, a low percentage (11.5 percent) of them perceived electronic journals as important for their research and nobody rated "Slightly Important" and "Not Important". The chi-square value was used to show signicant relationships. Signicance values that fell below the 0.05 level were accepted. Further, significant differences were obtained in the frequencies of responses regarding importance of electronic journals (÷2=36.21, p=0.000).

Also, in response to the question, "To what extent the information contents of electronic journals are useful?", the respondents could choose one of these four options, "Excellent", "Good", "Fair" and "Poor". Table 2 shows the results.

Table 2: Importance of E-journal Contents

Level of Importance	Frequency	Percentage	Cumulative percentage
Excellent	27	44.3	44.3
Good	30	49.2	93.5
Fair	4	6.5	100.0
Total	61	100	

From Table 2, it is observed that 44.3 percent of respondents evaluated electronic journals' information contents excellent, 49.2 percent good and 6.5 percent fair in this regard. Nobody evaluated electronic journals' information contents poor. In other words, overall, the vast majority of respondents (93.5 percent) evaluated electronic journals' information contents from good to excellent. Furthermore, significant differences were observed in the frequencies of responses with regard to importance of contents of e-journals (÷2=19.90, p=0.000). These results confirm the importance of electronic journals from the respondents' perspective.

3. The preferred format for reading

Users were also requested about reading on a monitor compared to reading print-outs. As Table 3 shows 62.1 percent of respondents most frequently read on a monitor and 41.5 percent most frequently read print-outs. In addition, 29.3 percent frequently read on a monitor, while 41.5 percent frequently read print-outs. Furthermore, 8.6 percent occasionally read on a monitor, while 17 percent read print-outs.

Table 3: Preferred Format for Reading

Type of reading	Most frequently	Frequently	Occasionally	Never
Read on a moritor	36 (62.1%)	17 (29.3%)	5 (8.6%)	0%
Read print-out	22 (41.5%)	22 (41.5%)	9 (17%)	0%

These results are also shown in figure 1.

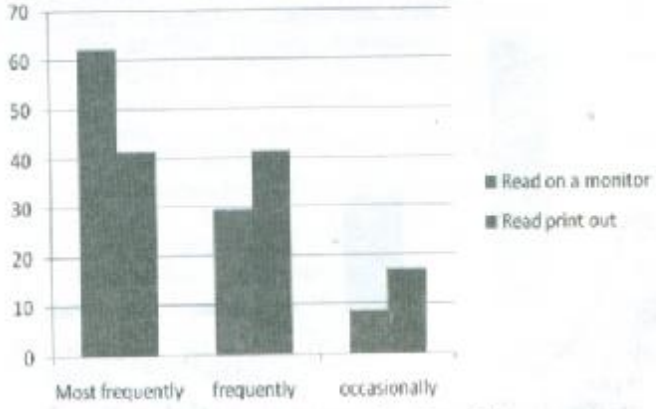

Figure 1: Preferred Format for Reading

From these results, it can be concluded that overall 91.4 percent of respondents read on a monitor in a range of "Frequently" to "Most Frequently", while 83 percent of respondents read print-outs in this regard. Furthermore, the percentage of respondents who occasionally read print-out is more than respondents who occasionally read on a monitor (17 percent versus 8.6 percent).

4. Amount of reading

The respondents were asked to estimate the number of electronic journal articles they read each week in a range of "Less than 5", "5-10", "10-15" and "More than 15" articles.

Table 4: Number of E-journal Articles Read

Number of Articles	Frequency	Percentage	Cumulative Percentage
Less than 5	39	65	65
5-10	17	28.3	93.3
10-15	2	3.3	96.7
More than 15	2	3.3	100.0
Total	60	100	

As shown in Table 4, out of 60 respondents to this question, 65 percent read less than five articles, 28.3 percent read between five to ten articles, 3.3 percent read between ten to fifteen articles and 3.3 percent read more than fifteen every week. Figure 2 also describes these results.

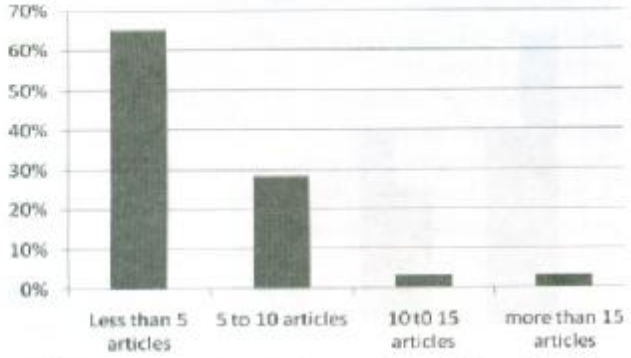

Figure 2: Weekly E-journal Articles Read

In other words, the vast majority of respondents (93.3 percent) read between one to ten articles every week.

5. Time spent on reading electronic journals articles

Users were also asked about time spent on reading electronic journal articles in a range of "Less than 1 hour", "1-2 hours", "2-4 hours" and "More than 4 hours". The results are given in Table5.

Table 5: Time Spent on Reading E-journals Articles

Time spent	Frequency	Percentage	Cumulative Percentage
Less than 1 hour	4	6.7	6.7
1-2 hours	16	26.7	33.3
2-4 hours	19	31.7	65
More than 4 hours	21	35	100.0
Total	60	100	

Looking at the Table 5, it reveals that as time increases, the percent of time spent on reading increases in which 6.7 percent spent less than 1 hour, 26.7 percent spent 1-2 hours, 31.7 percent spent 2-4 hours, and 35 percent spent more than 4 hours on reading electronic journal articles.

CONCLUSION

This paper reported the responses of the faculty and research scholars at two departments of Ferdowsi University of Mashhad, Iran to investigate the importance of electronic journals and the reading patterns of electronic journals.

The findings showed that electronic journals have been well accepted among research scholars and faculty as they significantly placed high level of importance for electronic journals.

Some studies on reading behavior (e.g., Brown, 1999; Pazur, 2002) showed that the users preferred print media for reading over electronic media, while some studies express an acceptance of reading on monitors (e.g. Monopoli et al., 2002; Tenopir et al.,2003; Liu, 2005; Galyani & Talawar,

2008). This reading trend is also confirmed in the present study.

Another finding is that the vast majority of respondents (93.3 percent) read between one to ten articles every week. It seems that there is a considerable increase of reading of electronic journal article as in Roger's study (2000) which indicated that 53.9% of faculty reported reading at least one electronic journal article every week. Smith's study (2003) depicted 74 percent of usage in this regard. It can be concluded that the number of articles read is increasing. In addition, faculty and research scholars at FUM continue to read electronic journal articles extensively.

Concerning the time spent on reading, results were satisfactory, as over one-second of the respondents (58.4 percent) spent 1-4 hours on reading and more than one-third of the respondents (35 percent) spent more than 4 hours on reading electronic journal articles.

Although this survey is quite limited, the reading patterns of faculty and research scholars in FUM may provide a brief look of patterns of journals reading by other users and will help both librarians to deliver effective services to meet their users' needs and publishers to design proper electronic journals.

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