

Harmonizing information users' readiness with the digital information environment

Naeema Jabur and Abdelmajid Bouazza

Department of Information Studies, Sultan Qaboos University, Sultanate of Oman

Abstract: The study investigated the extent to which information users were managing to harmonize with the digital information environment. A questionnaire was distributed to 237 students from high schools in Muscat District, Oman. SPSS was used to analyze the questionnaire responses. The study showed that Students have favorable attitudes towards the use of ICT for general purposes and social communication. However, they need to be directed towards better investment of their IT skills. Thus, they would not be addicted to the use of the Internet for only social purposes, but would also correlate their readiness with the continuously changeable digital information environment. Needless to say more behavioral and systematic orientation is required.

Keywords: Students, users, harmonization, readiness, characteristics, digital information environment, Oman

1. Introduction

When discussing the digital revolution, we should think of Gertrude Himmelfarb's 1999 statement: "for something to be a revolution it needs to affect all aspects of people's lives all over the world and this is not just a phrase." (Cited in: Gorniak-Kocikowska 2001). Today, digitization has affected all aspects of life: communication, learning, economic activities, work performance, and service supply and delivery. Traditionally, libraries represented the arteries that carried the cells of information, books, periodicals, and audiovisuals. Currently, they are different: They have started to carry digital information. And the information environment in general has become different, with the following results:

- Users of information are different
- Users' expectations from information are different
- Flow channels and arteries that hold information and knowledge are different
- Accessing information is different

Received: 24.2.2013 / Accepted: 14.12.2013
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ISSN 2241-1925



- Modes of research are different
- Scholarly and social communication are different.

However, the main and only remaining component-which has become even more critical-is the need for information. For survival, information users must be prepared for the environment before even considering the issues around the digitization itself. Needless to say, the new demands of the digital shift are affecting all information users and even decision makers.

A question that still needs a practical answers is this:

1. Do users, as information customers, show mutual homogeneity between their digital readiness (as related to their learning competency, social, and psychological codes) and the digital information environment attributes?

2. Problem Statement

Information users have always exploited resources to support their needs and expectations. As their life and work are strongly linked to the information environment, and heavily restricted by changes surrounding that environment as a result of digitization and information technologies, traditional methods of searching and retrieving information sources have become less effective. Thus, they must keep reforming and altering their thinking and practice for better involvement and survival. The entire information environment should rebuild what Eliard (2005) has called their Readiness DNA so that information will flow from one artery to another leading to a better investment of time and effort.

3. Purposes of the study

Competing to engage in the digital age has become the endeavor of many groups, especially the young. Among the most useful advantages of digitization are direct bridging between knowledge sources and users everywhere and at any time, facilitating finger-to-finger speed access as an alternative to slow face-to-face communication, and providing organized and easy access to knowledge. Merging with and absorption in the digital information environment some complex procedures are involved of which information customers are not properly prepared. This study sought to determine young users' readiness to become digital information customers so that they might achieve a better investment of information and improve their social and learning performance.

4. Methodological procedures

To explore young information users' readiness, a questionnaire was distributed to 237 students from high schools in Oman's Muscat District. A quantitative analysis was used to define their readiness by measuring the extent of the impact of the digital environment (as reflected by the use of the Internet) on their digital readiness attributes-basically on their learning competence, social, and psychological codes.

5. Related Studies

Eliard's definition of leadership as the "ability to inspire individuals and teams to go where no one else has gone", has become today's most elusive resource." For him, the DNA of Leadership focuses on a certain number of principles and practices that arise from the assumption that leadership is the result of learning from our environment and transforming this information into action (Eliard, 2005). Eliard used the concept "DNA" to reflect the most intrinsic attributes of the individual.

When it comes to digital customers for information products, Web 2.0 and social networking offer them the opportunity to manage their identity through developing and maintaining their profile. They always seek new friends, connect with each other, ask questions, raise discussions, and get answers. Consequently, they constitute a powerful element in the digital environment. 93% of the digital citizens in Lenhart's study (2009) were young users (12–17). In addition to the dramatically increased use of the Internet by youth for information retrieval purposes, learning, and entertainment are found to be principal drivers for adolescent usage aimed at engaging in interpersonal communication (Maczewski 2002). Gasser and Simun (2010) state that "the integration of digital technologies into daily life is transforming human behavior and social practices." Accordingly, new forms of skills, mindsets, and behaviors are developing because of this "daily immersing in the use of digital technologies" (Gasser and Simun, 2010).

Cooper (2005) emphasizes that modern era children are exposed to digital technology and engaged in digital environment even before they are exposed to books and libraries. Consequently, he recommends that users' practices and behavior "must be considered when designing digital environments." With regard to the relationship between users and information professionals, Walter and Mediavilla (2005) examined 100 online transactions between users and reference information professionals in California. These professionals were supposed to serve as bridges between students and homework help tutors. Using a content analysis approach, they found that there was a "difference in online communication styles between teens and adults." Their study also revealed that the reference and user services guidelines were "severely lacking in the qualities required for effective reference services." These findings reflect a lack of congruence between the information professionals' preparedness and the users'. Thus, they selected the statement "Teens are from Neptune, information professionals are from Pluto" as a title for their paper!

In conclusion, previous studies emphasized that in order to survive within the digital environment, there should be a correlation (and association) between the key players within the environment. In this regard, the data analysis part of the current research intends to identify the type of congruence found between the information professionals' characteristics and their users' in the Sultanate of Oman.

6. Data Analysis and Discussion

A questionnaire was distributed to 237 high school students in Oman's Muscat District. It aimed to explore the readiness that qualified them to be digital information customers. Variables, including learning, social and psychological readiness codes, were considered

and measured against their characteristics (gender, study achievement, and level of IT skill). The results of the study were summarized as follows:

- 1- Among the 237 students, 119 were females and 116 were males. 95% of them possessed average to high levels of Information Technology (IT) skills to help them in using the Internet.
- 2- Only (5.08%) of respondents attained a high level of academic achievement (very good-excellent), while other groups, with good and low-accepted levels achieved equal percentages (47.45%).

Internet Study		study achievement level			Total
		V.Good-excellent	Good	low-accepted	
Internet skills	low	1	6	5	12
	Middle	8	55	33	96
	High	3	51	74	128
Total		12	112	112	236

- 3- A Chi-square analysis (Table 1) was applied to examine if there was a relationship between the students' levels of IT skills and their academic achievements. The results showed a significance value of 0.007, which is smaller 0.05 to reflect a strong relationship between IT skills and academic achievement.
- 4- A T-Test was applied to discover if there was a significant gender impact on students' readiness for the digital environment. The significance values showed that the use of the Internet reflected different effects on the high school students' social code. The situation was different when it came to learning and psychological codes. Regardless of the social differences, the results revealed that both male and female students considered the Internet environment a suitable place for navigating, sharing, and exchanging information and knowledge with others anywhere and anytime without limitations.

		Mean Square	F	Sig.
Learning impact	Between Groups	.589	1.233	.293
	Within Groups	.478		
	Total			
Psychological impact	Between Groups	.383	.759	.469
	Within Groups	.505		
	Total			

Social impact	Between Groups	.635	.953	.387
	Within Groups	.667		
	Total			

- 5- An ANOVA test was applied to determine if the students' levels of academic achievement affected their learning, psychological, and social codes as related to their readiness attributes in the area of Internet use. The results in Table 4 showed no significant differences in the level of all three codes. Therefore, one could conclude that the digital environment was suitable for all students, regardless of their academic achievement levels, as shown in Table 2.

Table -3- Internet use effects on learning, psychological, and social codes by IT skills				
		Sum of Squares	F	Sig.
Learning	Between Groups	3.678	3.952	.021
	Within Groups	108.883		
	Total	112.561		
Psychological impact	Between Groups	1.631	1.630	.198
	Within Groups	117.125		
	Total	118.757		
Psychological impact	Between Groups	1.811	1.368	.257
	Within Groups	154.893		
	Total	156.704		

- 6- Another ANOVA test was conducted to determine if the students' levels of IT skills affected their learning, psychological, and social codes of their readiness attributes in the area of Internet use. The results showed no relationship between their psychological and social readiness and their IT skills. The 95% of students who achieved average to high levels of IT skills frequently used the Internet and Web 2.0 applications based on mobile technology. The result was different in terms of learning readiness. Unsystematically gained IT skills could help them only when using the Internet for simple and limited information needs suitable to their educational level (Table 3).

7. Conclusion and Recommendations

Information specialists possess a willingness to be information professionals and play an active role in the digital information environment. They need only to be offered more training and rehabilitation opportunities by their organizations to improve their readiness. They realize also that users (male and female) are positively directed towards the use of different technologies, but that their

utilization is mainly for general purposes and social communication. Thus, they need more guidance and orientation programs to broaden their readiness and become equipped to express their needs and access information made available digitally through their libraries.

Based on the above results, the researchers recommend the following:

- As Hamilton (2012) affirms “Poor information is the organizational equivalent of junk food” that blocks organizational communication arteries. The effects of poor information and a lack of accurate and influential information will prevent user performance sophistication and learning achievement. Therefore, information users need to acquire regular updated skills and competencies. This can be achieved by offering them training opportunities and the rights to rethink, react, and reassess their readiness attributes.
- Because libraries and information centers intend to shift from paper shelves to digital repositories, they must first think of changing their structures. This is not a matter of changing lines and boxes, but should reflect the logical flow of information to users. This, incidentally, requires a rethinking of both information professionals and users' readiness attributes.
- On the other hand, users need to be directed towards a better investment of their IT skills. In this way, they will not be addicted to using the Internet only for social purposes, but instead will get their readiness characteristics correlated with those of the digital environment. Needless to say, more behavioral and systematic orientation is required.

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