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# The Role Of Social Networks In The Scientific Exchange Of Librarians: A Case Study

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# The Role Of Social Networks In The Scientific Exchange Of Librarians:

## A Case Study

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***Objective:*** *Investigating the role of social networks in the scientific exchanges of librarians of the public libraries of Kerman province in 2017.*

***Design and setting:*** *The tool was the standard questionnaire"The Role of Social Networking in the Academic Exchange of Librarians".The statistical population was librarians working in the public libraries of Kerman province,whom were designated as 125 participants by a census method. Questionnaires were distributed between librarians in spring 2017 and analyzed by SPSS21, independent t-test and one-way ANOVA.*

***Findings:*** *The highest membership record in social networks was 1 to 2 years (28%),the highest usage rate was 1 to 2 hours per day (55.20%),the most popular social network was Telegram(49.60%) and computer skills of most participants (67.02%) was moderate.Education had significant relationship with components of "knowledge enhancement"(p = 0.15),"the advantages of using social networking"(p = 0.48),"the impact of social networks on organizations"(p = 0.25) and "the role of social networking in scientific exchanges"(p = 0.25), and the membership record and rate of use during the day had a significant relationship with all components (p = 0.00).The component of"social networking applicability" had the highest average (3.2),"the impact of social networks in the academic life of individuals"had the lowest mean(2.49) and an effect on the academic exchanges of librarians.The role of social networks in the academic exchanges of librarians in public libraries in Kerman province was 13.19 out of 25 and it was estimated at an average level.*

***Conclusion:*** *Few librarians are aware of the benefits of using social networks in the library and information centers and the role of social networks in their scientific development and the relevant organization. Perhaps this is due to their lack of information literacy about social networks or the lack of being updated and validity of information available on social networks. Given the benefits of social networking in the field of creating interactions, service and information in libraries and information centers, and the prevalence of using this tool among people, it is desirable that by using social networks in a controlled and targeted way by librarians, in order to facilitate and expedite the provision of services in this area to*

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*group of users in the public libraries of city in particular the libraries covered by the public libraries of Kerman, steady and forward-looking steps have to be taken.*

*    **Keywords:** Social Support, Social Networks, Public libraries institution, Scientific Exchange, Librarian, Kerman.*

*Introduction*

By increasing the availability of computers and Internet technology, computer-based learning environments have been expanding significantly both in higher education and in organizational and industrial sectors. Meanwhile, educational specialists' and researchers' attention in the teaching and learning sector has been increased with regard to the importance of human interaction in the learning process (Salehi and Safavi 2010). In some ways, it can be mentioned that the advent of modern communication technologies has created a fundamental transformation in human interaction and communication (Sabouri-Khosroshahi and Azargoun 2013). From the onset of the Internet, it has had a tremendous impact on human life in advanced societies and developing countries. The interactivity of this medium, after the advent of the Web, is an important factor in the increasing the tendency of users toward the Internet. Users in the new era are not passive consumers and spontaneously generate text and manage content (Amiri and Abadi 2012, Xanidis and Brignell 2016). Today, using the Internet is essential for exchanging scientific, economic, cultural, and political, sports, and news information in different parts of the world (Moradi et al. 2013). One of the keys to the success of online learning environments is providing facilities for enhancing teamwork, participation and sociability of learners (Salehi and Safavi 2010). The desire of man to being socialized and leaving socially led him to turn the Internet into a virtual society. This important issue has now emerged in the structure of virtual social networks by developing a virtual environment in the form of Web.2 and creating an interactive relationship (Aghili and Pouri 2011).

*Problem Statement*

One of the new consequences of creating communication networks is virtual social networking (Eslami 2014, Serrat 2017). Virtual social networks are a new generation of social relationships that have grown significantly in recent years compared with other media, and have been able to attract massive and heterogeneous audiences around the world (Amiri and Abadi 2012). Although these networks are new, they have been able to open their own place in people lives. Many people, from different ages and from different social groups, have come together in virtual social networks, and they are communicating from real-world far away distances through social networks. The tendency towards social networking sites around the world is still growing (Serrat 2017, Eslami 2014).

Social networks consist of generally individual or organizational groups that are interconnect with one or more types of affiliations and, in the context of a complex information society, depict the effective functioning of the convergent network, and their growing success and popularity is due to their social nature (Rahmanzadeh 2012). The origin of social media is the Web. 2 phenomenon, which provides the necessary mechanisms through social networking sites to create a new space called "cyber space" (Khaniki and Babaei 2011). In other words, social networks are a group of people or organizations with common interests or interests that come together to achieve specific goals. Every member is called an actor. The characteristics of social networks are the existence of complex relationships and interactions between actors (Asadi 2014, Kratzer et al. 2016).

These networks are created with goals such as the organizing various types of social groups (relying on common interests and achieving common goals, often political, social and cultural in the real world), developing social partnerships, sharing interests, creating content by members (unlike other media, the interaction and influence of the audience in the production and selection of arbitrary content is high and they have the power to choose more) and targeted online advertising (Eslami 2014). The benefits that social networks have and have made them popular are as follows: the rapid and free dissemination of news and information, increased analytical strength and strengthening the critical spirit (although the possibility of false information dissemination is high, but the audience can compare information at various databases and even increase the power of critique and analysis by the means of this process), the possibility of crossing the geographical boundaries and familiarity with individuals and other societies and cultures, the formation and consolidation of collective wisdom (the collective wisdom is dynamic flow of the thinking of users in these environments that as a large processor of information, processes the information, in other words, the power of social networking users' mind is combined with each other and creates a great power with high processing power), the possibility of expressing ideas freely and familiarity with the ideas, thoughts and tastes of others, the ability to send feedback and collaboration and synchronization of users and participation in discussions (unlike the traditional media that produce and send content, is social networks, discussion is possible and the flow of communication is two-way, the propaganda and content usability, continuous virtual communication (social networks make the scope of communications wider) (Lee, Song, and Yang 2016), advertising and expanding

human and moral values in the world, integration of many Internet and Web resources (social networks by providing facilities such as creating personal pages, making blogs, searching the Internet, getting information about events and news, engaging in conversation spaces like chat, and loading files has integrated the facilities of various databases), developing community-based social partnerships, speeding up the education process, and establishing round-the-clock communication between teacher and student, increasing trust, civility and integrity in cyberspace (Soleimani-Pour 2000).

### *Necessity And Research Background*

Researchers consider social network as a key factor in understanding the process of creating knowledge, and they believe that due to the nature of sharing and creating knowledge in social networks, the focus of organizations has been attracted to them (Rezaei-Nour et al. 2014). In general, the characteristics of social networks have made it possible that using their facilities among organizations and groups; become a competitive advantage and a tool for advancement. One of the organizations that due to its organizational nature and function, needs to improve the scientific-information interaction, is library. Libraries, like other organizations and as a learning organization, can use the features of this tool to create a scientific network between librarians in order to benefit from their facilities and benefits to improve the providing services and information. Therefore, in this research, the role of social networks in the scientific exchange of librarians has been used and in order to carry out a relatively comprehensive study, librarians working in public libraries of Kerman province have been considered and investigated.

Considering the importance and position of social networks in the creation and consolidation of scientific communication, in different researches in Iran and abroad (Sultana and Momen 2017, Karno and Bilodeau 2016, Grant and Grant 2016, Varotto et al. 2016, Hollander et al. 2016, Forbush and Foucault-Welles 2016, Kaya and Bicen 2016, Grace 2016, Newell et al. 2016, Brady, Holcomb, and Smith 2010, Ellison, Steinfield, and Lampe 2007, Yates and Paquette 2011, Young and Quan-Haase 2009, Knobel and Lankshear 2008, Ghaffari et al. 2017, Pourabbasi et al. 2017, Newman 2001, 2004), the importance of social networks and their broad functions in the field of scientific communication has been addressed.

*Method*

This descriptive survey research is an applied one and it was conducted in the spring of 2017 on librarians working in public libraries of Kerman province. The criteria for entering the study were employment at the public libraries of Kerman province. The tool used was the standard questionnaire "The role of social networks in the scientific exchange of librarians", that its reliability was measured as 0.82 by using Cronbach's alpha coefficient. The research community was librarians working in the public libraries of Kerman province, whose number was determined by 125 people and were surveyed by census method. The questionnaires were distributed, completed and received by librarians in the spring of 2017 by the information expert. The data were analyzed by SPSS software version 21, independent t-test and one way ANOVA.

Descriptive statistics (frequency (absolute, relative), central indices (mean) and dispersion indices (range of variation and standard deviation) and inferential statistics (independent and one way ANOVA) were used to analyze the data. One-way variance analysis was used to investigate the relationship between the role of social networks in the academic exchanges of librarians in public libraries of Kerman province with gender and academic discipline, independent t-test, with education, age, membership history in different social networks, the rate of use of social networks per day, and the level of computer skills,. The score of the role of social networks in the scientific exchanges of librarians in public libraries of Kerman province, based on scale 0 to 25, was classified into three weak (0-8.33), moderate (8.33-16.67) and good (16.67-25) levels.

*Table 1:* Comparing Mean and determining the Relationship between "Dimensions of the Role of Social Networking in the scientific

Exchange of Librarians" with Demographic Characteristics of the Students

| Variable Name | | Number (percent) | Dimensions of the role of social networks in the scientific exchanges of librarians | | | | | The Role of Social Networks in Academic Exchanges | P value |
|---|---|---|---|---|---|---|---|---|---|
| | | | Applicability | Knowledge enhancement | Advantages of using | Impact on individual scientific life | Influence on main organization | | |
| | | | The mean (SD) | | | | | | |
| Gender | *female* | 92(73.6%) | 2.98(0.7) | 2.65(0.63) | 2.68(0.72) | 2.43(0.64) | 2.86(0.87) | 13.6(3.12) | 0.080 |
| | male | 33(26.4%) | 3.13(0.74) | 2.89(0.75) | 2.99(0.79) | 2.66(0.89) | 3.11(0.93) | 14.78(3.8) | |
| Education (degree) | High school diploma | 5(4%) | 2.50(0.87) | 1.87(0.43) | 2.19(0.61) | 1.84(0.52) | 2.4(1.22) | 10.79(3.47) | 0.025 |
| | Associate Degree | 14(11.2%) | 3.28(0.6) | 2.96(0.50) | 3.06(0.71) | 2.7(0.71) | 3.43(0.62) | 15.44(2.8) | |
| | BA | 75(60%) | 2.97(0.72) | 2.69(0.72) | 2.68(0.75) | 2.43(0.75) | 2.79(0.93) | 13.57(3.47) | |
| | MA | 31(24.8%) | 3.09(0.7) | 2.78(0.56) | 2.94(0.72) | 2.63(0.61) | 3.1(0.74) | 14.54(2.82) | |
| Age | 25-30 | 29(23.2%) | 3.23(0.75) | 3.00(0.82) | 3.06(0.76) | 2.78(0.85) | 3.27(0.91) | 15.34(3.78) | 0.006 |
| | 30-35 | 49(39.2%) | 3.05(0.69) | 2.70(0.65) | 2.83(0.68) | 2.54(0.68) | 2.9(0.85) | 14.02(3.13) | |
| | 35-40 | 40(32 %) | 2.77(0.67) | 2.51(0.51) | 2.43(0.72) | 2.22(0.58) | 2.66(0.87) | 12.59(2.94) | |
| | 40-45 | 7(5.6%) | 3.29(0.7) | 2.76(0.59) | 3.01(0.76) | 2.49(0.77) | 3.17(0.83) | 14.72(2.67) | |
| | Librarianship | 69(55.2%) | 3.08(0.66) | 2.75(0.65) | 2.78(0.75) | 2.51(0.72) | 2.93(0.89) | 14.05(3.27) | 0.613 |

| Category | Subcategory | N(%) | | | | | | | p-value |
|---|---|---|---|---|---|---|---|---|---|
| Field of Study | Other | 56(44.8%) | 2.95(0.77) | 2.67(0.70) | 2.75(0.75) | 2.46(0.72) | 2.92(0.89) | 13.74(3.45) | |
| Membership history in different social networks | Less than 6 months | 34(27.2%) | 3.44(0.63) | 3.01(0.69) | 3.16(0.73) | 2.84(0.74) | 3.41(0.77) | 15.87(3.13) | 0.000 |
| | 6-12 months | 23(18.4%) | 2.84(0.71) | 2.64(0.59) | 2.58(0.65) | 2.28(0.56) | 2.59(0.78) | 12.94(2.81) | |
| | 1-2 year (s) | 35(28%) | 3.00(0.71) | 2.74(0.7) | 2.83(0.63) | 2.55(0.72) | 2.92(1) | 14.04(3.33) | |
| | 2-3 years | 18(14.4%) | 2.85(0.66) | 2.39(0.67) | 2.35(0.99) | 2.26(0.81) | 2.7(0.91) | 12.55(3.83) | |
| | Less than 3 years | 15(12%) | 2.58(0.52) | 2.46(0.36) | 2.48(0.4) | 2.14(0.4) | 2.62(0.54) | 12.28(1.57) | |
| Using social networks in a day (hours) | 1-2 | 69(55.2%) | 3.32(0.6) | 2.87(0.67) | 2.93(0.83) | 2.68(0.77) | 3.28(0.83) | 15.08(3.27) | 0.000 |
| | 2-3 | 38(30.4%) | 2.74(0.59) | 2.65(0.57) | 2.68(0.48) | 2.44(0.51) | 2.59(0.7) | 13.09(2.47) | |
| | 3-4 | 15(12%) | 2.32(0.75) | 2.03(0.48) | 2.13(0.55) | 1.74(0.35) | 2.09(0.81) | 10.32(2.71) | |
| | Less than 4 | 3(2.4%) | 3.20(0.78) | 3.22(0.38) | 3.13(0.64) | 2.4(0.62) | 3.28(0.25) | 15.24(2.31) | |
| Computer skills level | Low | 11(8.8%) | 3.27(0.72) | 2.7(0.75) | 2.87(0.63) | 2.46(0.62) | 2.8(0.84) | 14.11(3.07) | 0.977 |
| | Moderate | 84(67.2%) | 3.04(0.68) | 2.67(0.65) | 2.73(0.77) | 2.45(0.73) | 2.99(0.89) | 13.88(3.33) | |
| | High | 30(24%) | 2.88(0.78) | 2.84(0.7) | 2.81(0.75) | 2.6(0.73) | 2.79(0.92) | 13.92(3.57) | |

*Findings*

The information listed in Table 1 shows that most of the participants in the study were female with 73/60 percent, and the minority of the study was men with 26/40 percent. The mean age of the participants in the study was 34/31 years; the highest age was 43 and the lowest was 25, and the age group of 30-35 years old had the most participant in the study. The education level of majority of students was B.A. with 60%, and high school diploma with 4.4 percent was the lowest. The highest membership history in social networks are 1 to 2 years old (28%), the highest usage rate was 1 to 2 hours per day (55.20%), the most popular social network was Telegram (49.60%) and computer skills of most participants (67.02%) was moderate.

According to Table 1, the mean score of the role of social networks in the scientific exchanges of male librarians (14.78%) was higher than that of women (13.66%). In the variable of education, the highest was associate degree (15.44%) and the lowest was high school diploma with (10.79%); in the age variable, the 25-30 (15.34%) was highest and 40-35 (12.59%) was the lowest, in the field of study variable, Librarianship and information science (14.05%) obtained the highest average score of the role of social networks in the scientific exchanges of librarians. After doing one-way ANOVA, there was a meaningful relationship among the role of social networks in scientific exchanges and education level (p= 0.025), age (p =0.006), membership in different social networks (p= 0.000) and the use of networks (based on hour(s)) (p= 0/000) but there was no significant relationship between the role of social networks in scientific exchanges, field of study and computer skills level

9

there was no significant relationship. The results of using independent t-test showed that the role of social networks in the academic exchanges of librarians with their gender is not meaningful.

*Table 2: Descriptive statistics related to the "dimensions of the role of social networks in the scientific exchange of librarians"*

| No. | Dimensions of the role of social networks | Mumber | Minimum scores | Maximum scores | Mean | SD |
|-----|------------------------------------------|--------|----------------|----------------|------|-----|
| 1 | Applicability | 125 | 1.11 | 4.22 | 3.02 | 0.71 |
| 2 | Knowledge enhancement | 125 | 1.22 | 4.22 | 2.71 | 0.67 |
| 3 | Advantages of using | 125 | 1.27 | 4.27 | 2.76 | 0.75 |
| 4 | Impact on individual scientific life | 125 | 1.10 | 4.20 | 2.49 | 0.72 |
| 5 | Influence on main organization | 125 | 1.17 | 4.67 | 2.93 | 0.89 |
| | Total | 125 | 6.13 | 20.66 | 13.91 | 3.34 |

According to Table 2, the component "Applicability" with 3.2, the component "effect on main organization" with 2.93, the component "benefits of use" with 2.76, the component "knowledge upgrade" with 2.71 and the component "effects on individual life" with 2.49 got the highest and lowest range of mean scores, respectively. The highest score was related to the "applicability" component with a score of 3.2 and the lowest score was related to the component of "impact on individual scientific life" with a score of 2.49. The average score for the role of social networks in the scientific exchanges of librarians was measured as 13.11; therefore, the role of social networks in the academic exchanges of librarians in public libraries of Kerman province with a score of 13.91 out of 25 were estimated at the "average" level.

## Discussion And Conclusion

As already mentioned, virtual social networks are one of the consequences of creating communication networks (Eslami 2014, Serrat 2017), that with their dramatic growth, have been able to attract countless audiences around the world (Amiri and Abadi 2012). The presence of these networks has led to multiple and diverse opportunities and challenges that one of the most important events that is jointly categorized among the opportunities and challenges is creating interactions and exchanges of information, concepts and knowledge among individuals, groups and organizations. Sometimes these scientific exchanges are called "scientific network".

According to the findings of this study, 22.4% (28 people) of librarians considered the role of social networks high in scientific exchanges. Seventy four point four percent (93) of librarians mentioned the role of social networks in the "average" level, and 3.2% (4 people) indicated the lack of this role. Therefore, it can be said that social networks play a "moderate" role in the scientific exchanges of librarians in public libraries of Kerman province, that according to the previous studies, the spread of social networks usage in the world and the developments in this field and, on the other hand, the importance of existence informational cooperation networks, as well as librarians and informants as experts in this field (Ovadia 2014), seems to be unacceptable.

Contrary to the present study, which confirms the moderate role of social networks in the academic exchanges of librarians, studies that have been conducted have reported similar or conflicting results. The findings of Bozorgy and Amini (2015), as in this study, pointed to the moderate role of social networks in the academic exchanges of librarians at

Tehran's public universities (Bozorgi and Amini 2015). Mirzai's et al. (2016) research showed that the role of social networks is weak in scientific exchanges between graduate students of Razi University (Mirzaei, Rahimi, and Moradi 2016) and In Zarei and Bayat researche, despite the importance of networks in achieving academic goals, the low efficiency of social networks in public universities was reported (Zareie and Bayat 2015).

Some studies in this area indicate the high role of social networks in academic exchanges. In 2001, Newman acknowledged the existence of strong scientific exchanges among computer science and biology, physics and mathematics researchers (Newman 2004). In his 2016 study, Ansari also explored the role of scientific exchanges derived from social networks in library and information services and highlighted this role (Ansari and Nazim 2016).

The findings of the studying the research population showed that the highest rate of social networks sing  is 1 to 2 hours per day (55.20%). Mirzai et al. (2016) also explored the role of social networks in academic exchanges between graduate students at Razi University and concluded that the highest use of social networks is more than an hour per day (Mirzaei, Rahimi, and Moradi 2016). In the case of the most popular social network in Mirzai's et al. (2016) research as current research, the most popular social network was telegram (Mirzaei, Rahimi, and Moradi 2016).

In this research, the mean score of the role of social networks in the scientific exchanges of male librarians (14.78) was higher than that of female (13.66) that in Ansari's (2016) research, the similar result of the role of social networks was reported in academic

exchanges in the field of library and information science (Ansari and Nazim 2016). According to the results of this study, the 25-30 year olds (15.34) scored the highest average score of social networks' role in the academic exchanges of librarians and in Ansari's (2016) study, the participant in of 26-35 age group had the highest mean score. In the present research, like the Bozorgy and Amini's (2015) study, the components of the role of social networks in scientific exchanges, " applicability", "the impact on the main organization," "the benefits of using networks, "knowledge enhancement " and "impact on individual's scientific life, were estimated at an average level(Bozorgi and Amini 2015).

According to the scores obtained from the components studied ("applicability", "impact on main organization", "advantages of using networks", "knowledge enhancement" and "impact on individual scientific life") among librarians under study, it seems that a limited number of librarians are aware of the benefits of using social networks in the library and information centers and the role of social networks in their scientific development and the relevant organization. Perhaps this is due to their lack of information literacy about social networks or the lack of being updated and validity of information available on social networks. Given the benefits of social networking in the field of creating interactions, service and information in libraries and information centers, and the prevalence of using this tool among people, it is desirable that by using social networks in a controlled and targeted way by librarians, in order to facilitate and expedite the provision of services in this area to group of users in the public libraries of city in particular the libraries covered by the public libraries of Kerman, steady and forward-looking steps have to be taken.

13

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