

A Model for Knowledge Sharing Among the Faculty Members of Islamic Azad University

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Abstract

Purpose: the aim of this study was to provide a model for sharing knowledge among the faculty members of Islamic Azad University, due to the increasing need for organizations to share the knowledge at all organizational levels. **Methodology:** In terms of purpose and data type, this is a mixed study. The statistical population in the qualitative section consisted of 23 specialists and experts, and in a small section, 1803 faculty members were selected in the cluster sampling method using Kerjenci-Morgan table. A questionnaire was developed to determine the knowledge sharing indices using the previous studies and interviewing with the experts. **Findings:** Validity of the questionnaire was confirmed through face validity, content and construct, and its reliability was obtained greater than 0.70 for all components, using Cronbach's alpha and the mixed reliability coefficient. Based on the obtained structural equation, the organizational factors (0.89) and individual factors (0.38) explain the variance of knowledge sharing among the faculty members. The value of fitting goodness index is greater than 0.9 and the value of the mean square error estimate was obtained 0.051. **Discussion:** For the successful implementation and deployment of knowledge sharing at all levels among the faculty members, the organizational factors must be strongly considered and the probable barriers eliminated; as well as the individual and personality factors to be taken into account.

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1. Introduction

Today, in the third millennium, the higher education administrators are responsible for creating the relationships and healthy organizational environment for education and learning. On the other hand, sharing knowledge among the organizations is a strategic factor for gaining competitive advantage in rapidly changing business environments (Cao & Zhang, 2011).

One of the key factors in knowledge management is the ability of organizations to share the knowledge. Knowledge sharing among the individuals and organization's departments can provide the significant educational and learning benefits and a powerful mechanism to improve the productivity and survival of the organization (Mahmoodzadeh et al., 2017). Sharing knowledge for companies in order to empower themselves in developing skills, capabilities, enhancing the values and maintaining competitive advantage is significant due to the innovations that occur following the sharing of knowledge among the individuals. Of course, it should be acknowledged that employees must not only retain their knowledge after sharing, but also must receive a related input with the shared knowledge from the group or other parties (Swift et al., 2010).

In fact, one of the major challenges of Iran educational institutions, including Islamic Azad University, is the lack of sharing knowledge among its faculty members due to the lack of a comprehensive model which can lead to a lower productivity and low efficiency of the university. Therefore, this topic has been dealt with in this study.

2. literature Review

Knowledge sharing is composed of two terms, "knowledge" and "sharing." The researchers have defined knowledge in the various ways. For example, Vanak and Van Krakh (2009), defined it as "the reality of a skillful act" and "the potential of determining a position in a way that allows it to be dealt with skillfully". Davopourt et al. (1998), defined the knowledge as a valuable information ready to be used for decision making (Pahlevani et al., 2010).

Many believe that sharing effective knowledge is one of the most prestigious ways to apply key competencies and gain the competitive advantage. Knowledge sharing is broader than the simple transfer of knowledge and represents the process of knowledge. Hence, increasing the management ability to share knowledge in an organization is one of the major challenges faced by the organizations. Knowledge sharing is being aware of the knowledge needs, the creation and deployment of a technical and systematic infrastructure for it, and the availability of knowledge for those who need it. A combination of human networks is an important factor in sharing knowledge. Therefore, one important step in knowledge sharing is to support the networks that exist and share knowledge on the specific topics. In the initial experimental efforts, management support, trust, rewarding structures, organizational hierarchy status, leadership of social networks and organizational culture are among the factors influencing the knowledge sharing. In the new discussion about barriers to knowledge sharing, the section of organizational culture has been considered. Meanwhile, some factors of sharing knowledge are concentrated about the concept of trust among the employees, the level of cooperation within the organization, attitudes within the organization, age and education level, experiences and team and supervisory support (Ridge, 2005).

Sharing knowledge enhances the amount of information, so that the universities, through communication with their business partners and focusing on supply chain activities, can identify the educational opportunities and increase opportunities for students to value them and increase their profitability to the competitors (Shih, Hsu, et al., 2012). Knowledge sharing effectively enables the trading partners in the supply chain to streamline the flow of information, money, product, and so on across the organizational boundaries, and thereby improve the agility, compatibility and predictability of the supply chain (Rahman Seresht &

Farzaneh, 2017). Meanwhile, according to Belladdy et al. (2017), trust among the business partners is a dynamic phenomenon, and its transition from reliable terms to the unreliable terms and it sustain requires the development and maturity of social relationships among the business partners.

Reviewing the studies and researches related to the subject from a variety of resources, such as universities and supply and procurement centers for scientific and research resources, confirms that in Iran and abroad, research on this subject is done rarely but relatively similar. Hawel and Anansing (2012), showed that the organizational culture and emotional dependence play a fundamental role in the willingness of institutions to produce knowledge and share knowledge. Internal and external factors, due to the production and sharing of knowledge, have effects that affect the individual perspectives and organizational structures. Chen and Chuang (2012), found that the individual motivations make the participants provide quality knowledge to their organization's community. From an organizational point of view, structural dimensions (social interaction), relationships (trust, identity, and mutual bargaining) and cognition (common language) help participants share knowledge with the quantity and quality. Iqbal et al. (2011), found that the reputation was not effective factors in shaping a positive attitude toward the knowledge sharing.

According to Ismail and Yusuf (2010), individual factors such as awareness, trust and personality have a strong relationship with the quality of knowledge sharing. Character, is known as the strongest factor affecting the quality of knowledge sharing in this research. Knowledge sharing is affected by the individual, organizational and social factors. Many studies in this regard have indicated that sharing knowledge has a positive impact on the organizational performance in all institutions. In Kim research (2008), it was found that only two "perception" and "reward system" had a positive effect on knowledge sharing at the university. In Iran, according to Jafari et al. (2016), the effect of internal motivations on the behavior of knowledge sharing was confirmed. On the other hand, users' values do not have a moderating role in the relationship between friendship and reputation with the behavior of knowledge sharing. According to the researches done by Nemati and Mahmoudi (2013), intellectual capital has a positive and significant effect on the sharing knowledge and the organizational learning. Pahlavani et al. (2010), have confirmed the impact of cultural factors on knowledge sharing in petrochemical research centers.

According to the above mentioned, this research attempts to answer this basic question: what model can be used to share knowledge among the faculty members of Islamic Azad University. Therefore, in order to achieve this model, the following questions are raised: What are the dimensions and components of knowledge sharing among the faculty members of Islamic Azad University? What are the factors affecting knowledge sharing among faculty members of Islamic Azad University? What model can be provided for sharing knowledge among the faculty members of Islamic Azad universities? Does the knowledge sharing model among the faculty members of Islamic Azad University have the adequate fitting?

3. Methodology

2. Family functioning: In this study, Family Assessment Device (FAD) developed by Epstein, Baldwin and Bishop (1983) was used to measure family functioning. This device has 53 items. Items were measured based on the 4-point Likert spectrum form "completely disagree" (1) to "completely agree" (4). Najjarian (1996) obtained 0.93 for the internal consistency of the whole test. In Amini's research (2000), the alpha coefficients of the whole scale and the subscales of problem solving, communication, roles, emotional attachment, emotional association, behavioral control, and total functioning were 0.61, 0.38, 0.72, 0.64, 0.65 and 0.81 respectively. In a study by Salari and Shamlou (2001), the internal consistency of this questionnaire was 0.58-0.85 with Cronbach's alpha and its re-test validity was 0.42-0.78. The reliability of this questionnaire in the present study was calculated 0.92 using Cronbach's alpha method.

This research is an applied one in terms of goal and a descriptive-correlational one in terms of data collection method, and is a cross-sectional one in terms of data collection time. The statistical population of this study consists of two qualitative and quantitative sections. In the qualitative section of the community, there were academic experts who had the specialized background and so-called knowledgeable experts who participated in the process of interviewing and sharing knowledge indices. 23 participants were selected as the statistical sample using purposeful non-random sampling and saturation principle.

Table 1. Profile of Interviewees

| variable | Class | frequency | variable | Class | frequency | variable | Class | frequency |
|------------------|--|-----------|-----------|--------|---------------|----------|---------------------------|-----------|
| Service location | University Heads | 6 | education | master | 2 | age | younger than 39 years old | 4 |
| | Educational and Research Deputy | 4 | | | | | 40-45 years old | 9 |
| | Educational and research authorities in the central organization | 4 | | PhD | 21 | | 45-50 years old | 6 |
| | Informed professors | 3 | gender | female | 7 | career | Older than 50 years old | 4 |
| | department managers | 6 | | male | 16 | | Younger than 10 years old | 9 |
| | | | | | | | 11-20 years old | 8 |
| | | | | | Older than 20 | 6 | | |

In the quantitative section of the study, the population of the study consisted of all faculty members of the Islamic Azad University of Tehran (1803 ones) who were selected according to the different nature of the universities using Kerjenci-Morgan tables and cluster sampling in 5 selected departments. In the present study, firstly, the departments were divided into five general classes, which consisted of 35 faculties in Islamic Azad University of branches of north Tehran (9 faculties), south Tehran (9 faculties), east Tehran (3 faculties), west Tehran (3 faculties) and center Tehran (11 faculties). In the next stage, due to the geographical dispersion of the faculties of each university unit and the dissimilarity of the intergroup, one-stage random cluster sampling was used. Twelve colleges among 35 faculties of the community were selected, so according to the 1803 community, 317 people were selected as the statistical sample.

Table 2. Information about the research sample

| row | class | Number of faculties | Percentage of each class relative to the total number | Total number of faculty members | Selected sample collection | Number of samples per faculty |
|-----|---------------|---------------------|---|---------------------------------|----------------------------|-------------------------------|
| 1 | Tehran North | 9 | % 25.71 | 932 | 164 | 78 |
| | | | | | | 50 |
| | | | | | | 36 |
| 2 | Tehran South | 9 | % 25.71 | 152 | 27 | 5 |
| | | | | | | 8 |
| | | | | | | 14 |
| 3 | Tehran Center | 11 | %31.42 | 492 | 86 | 27 |
| | | | | | | 21 |
| | | | | | | 25 |

| | | | | | | |
|-----|-------------|---|--------|-----|----|----|
| | | | | | | 13 |
| 4 | Tehran East | 3 | % 8.57 | 183 | 32 | 32 |
| 5 | Tehran West | 3 | %8.5 | 44 | 8 | 8 |
| Sum | | | | 317 | | |

According to population (1803), in each cluster, the number of full-time faculty members, respectively, 164 ones were selected for Tehran North, 27 ones for Tehran South, 86 ones for Tehran Center, 32 ones for Tehran East, and 8 ones for Tehran West.

The first phase of this research was conducted in a library method. At this stage, the scientific documents in the field of research were used as an instrument for collecting data. In the second phase of the research, after studying the theoretical and historical foundations, scientific documents and the existing patterns, a model was designed for sharing knowledge among the faculty members. It has been attempted to use semi-structured interviews in the qualitative section, due to the relative weakness of the theoretical foundations and the achievement of additional indices in the model. After measuring the indices, a questionnaire with 76 items was designed to examine the appropriateness. Knowledge sharing section was divided into 36 items with three dimensions: knowledge-oriented (13 items), individual-oriented (12 items), and university-oriented (11 items); and factors affecting knowledge including 40 items with two organizational (26 items) and individual (14 items) dimensions. The scale of the measuring the question of questionnaire was based on a five-point Likert scale (totally agree, agree, disagree, disagree, and totally disagree). In table 1, dimensions, components and number of items or instrument indices, are presented.

Table 3. The functions, components and items of the research instruments

| structure | dimensions | components | Numbers of items | Number of item |
|-------------------------------------|------------------------|-------------------------------------|------------------|----------------|
| Knowledge sharing | knowledge-oriented | Knowledge coding | ۵ | ۵-۱ |
| | | Knowledge customization | ۴ | ۹-۶ |
| | | Paying attention to tacit knowledge | ۴ | ۱۳-۱۰ |
| | individual-oriented | Attitude | ۴ | ۱۷-۱۴ |
| | | tendency | ۴ | ۲۱-۱۸ |
| | | behavior | ۴ | ۲۵-۲۲ |
| | University-oriented | flexibility | ۴ | ۲۹-۲۶ |
| law-orientation | | ۴ | ۳۳-۳۰ | |
| communications | | ۳ | ۳۶-۳۴ | |
| Organizational Culture | | ۱۲ | ۴۸-۳۷ | |
| Factors Affecting Knowledge Sharing | Organizational factors | Organizational Leadership | ۵ | ۵۳-۴۹ |
| | | Organizational Structure | ۳ | ۵۶-۵۴ |
| | | Organizational strategies | ۶ | ۶۲-۵۷ |
| | | Wisdom | ۴ | ۶۶-۶۳ |
| | Individual factors | Innovation | ۴ | ۷۰-۶۷ |
| | | Professional qualifications | ۶ | ۷۶-۷۱ |

In order to ensure the validity of instrument in the qualitative section of the research, it was used the valuable insights of the university professors and specialists who were expert in this field. In this study, the coefficient of reliability among the coding was 0.80, which indicates its acceptability.

In the quantitative section, the formal, content and construct validity were used to determine the validity of the questionnaire. In the formal validity, the questionnaires were examined in terms of the proportion of the components and their number, as well as the form and the writing of the instrument by several sample members and some academic experts. Regarding the content validity, given that the CVR value for all items exceeded 0.62, no questions need to be deleted. In the case of construct validity, two types of convergent and divergent validity were also used with the help of Smart-Pls 2 software. In studying the convergent

validity, it can be said that the convergent validity of the model constructs is confirmed. In this research, reliability was calculated through Cronbach's alpha coefficient and composite reliability (CR). The values of these two coefficients for all research variables were higher than 0.7, which indicated the reliability of the measuring instrument. The reliability and validity coefficients mentioned for the knowledge sharing questionnaire and the factors affecting it, are presented in table 2.

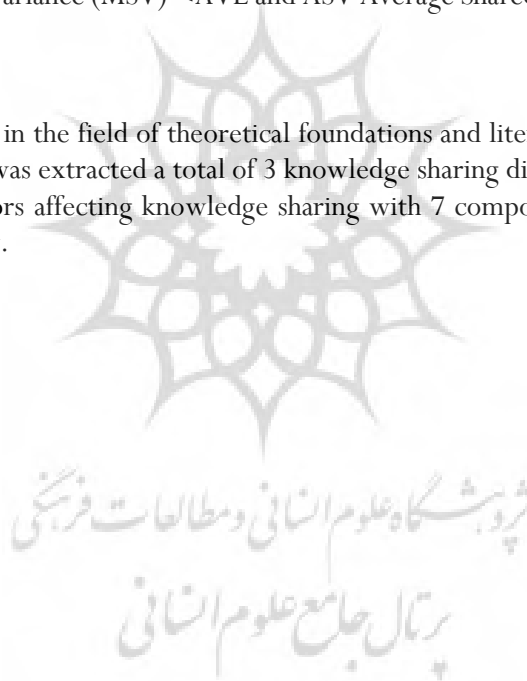
Table 4. Validity and Instrument Reliability Values

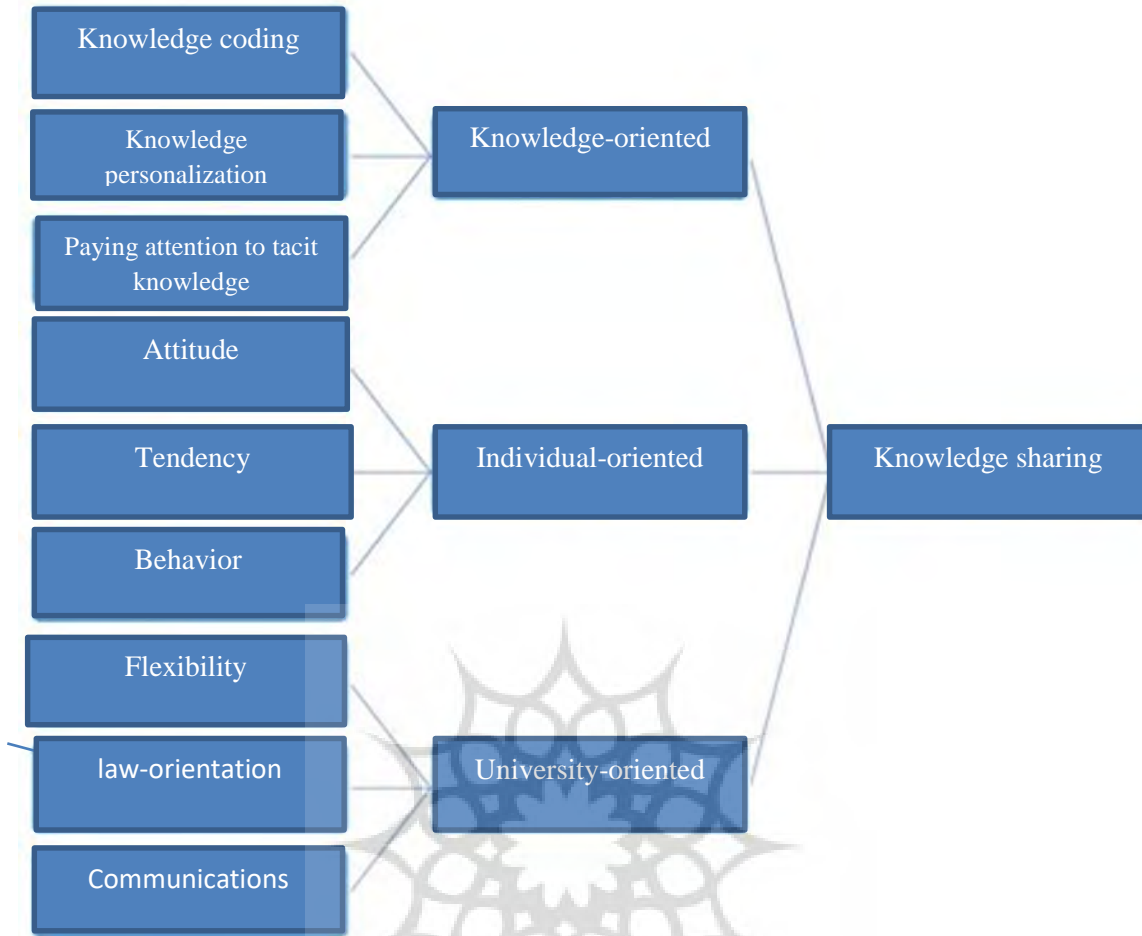
| dimension | Cronbach's alpha | CR | AVE | MSV | ASV | 1 | 2 | 3 | 4 | 5 |
|------------------------|------------------|-------|------|------|------|------|------|------|------|------|
| Knowledge-oriented | 0.736 | 0/801 | 0/61 | 0.41 | 0.30 | 0/78 | — | — | — | — |
| Individual-oriented | 0.838 | 0/889 | 0/57 | 0.14 | 0.08 | 0/53 | 0/76 | — | — | — |
| University-oriented | 0.779 | 0/816 | 0/66 | 0.42 | 0.22 | 0/47 | 0/52 | 0/82 | — | — |
| Organizational factors | 0.794 | 0/836 | 0/56 | 0.41 | 0.24 | 0/39 | 0/44 | 0/36 | 75/0 | — |
| Individual factors | 0.836 | 0/847 | 0/59 | 0.28 | 0.26 | 0/48 | 0/53 | 0/45 | 0/51 | 0/77 |

According to the above table, the reliability of the dimensions is confirmed, because the Cronbach's alpha and the composite reliability coefficient are greater than 0.7 and $AVE > 0.5$. Convergent validity is confirmed because $CR > 0.7$, $CR > AVE$, $AVE > 0.5$, and also divergent validity is also confirmed because Maximum Shared Squared Variance (MSV) $< AVE$ and ASV Average Shared Squared Variance (ASV) $< AVE$.

4. Findings

According to the studies in the field of theoretical foundations and literature review of the research and interviews with experts, it was extracted a total of 3 knowledge sharing dimensions with 9 components and two dimensions of the factors affecting knowledge sharing with 7 components, which can be observed in figures 1 and 2, respectively.





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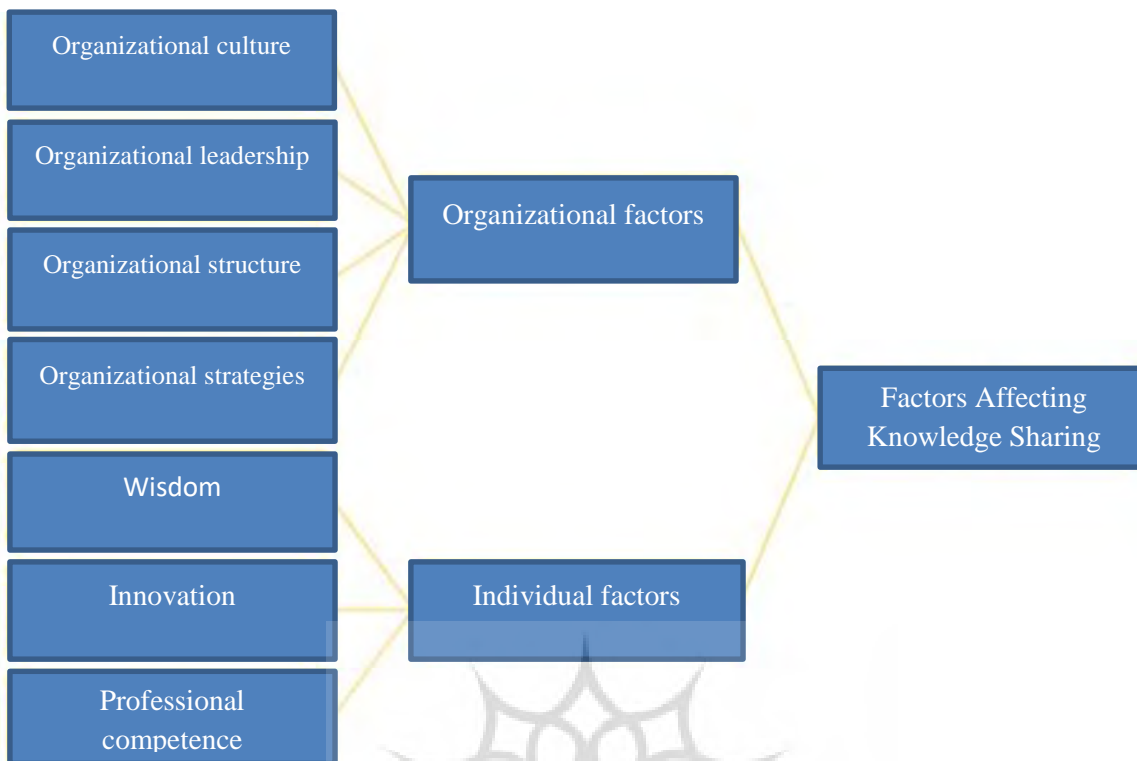
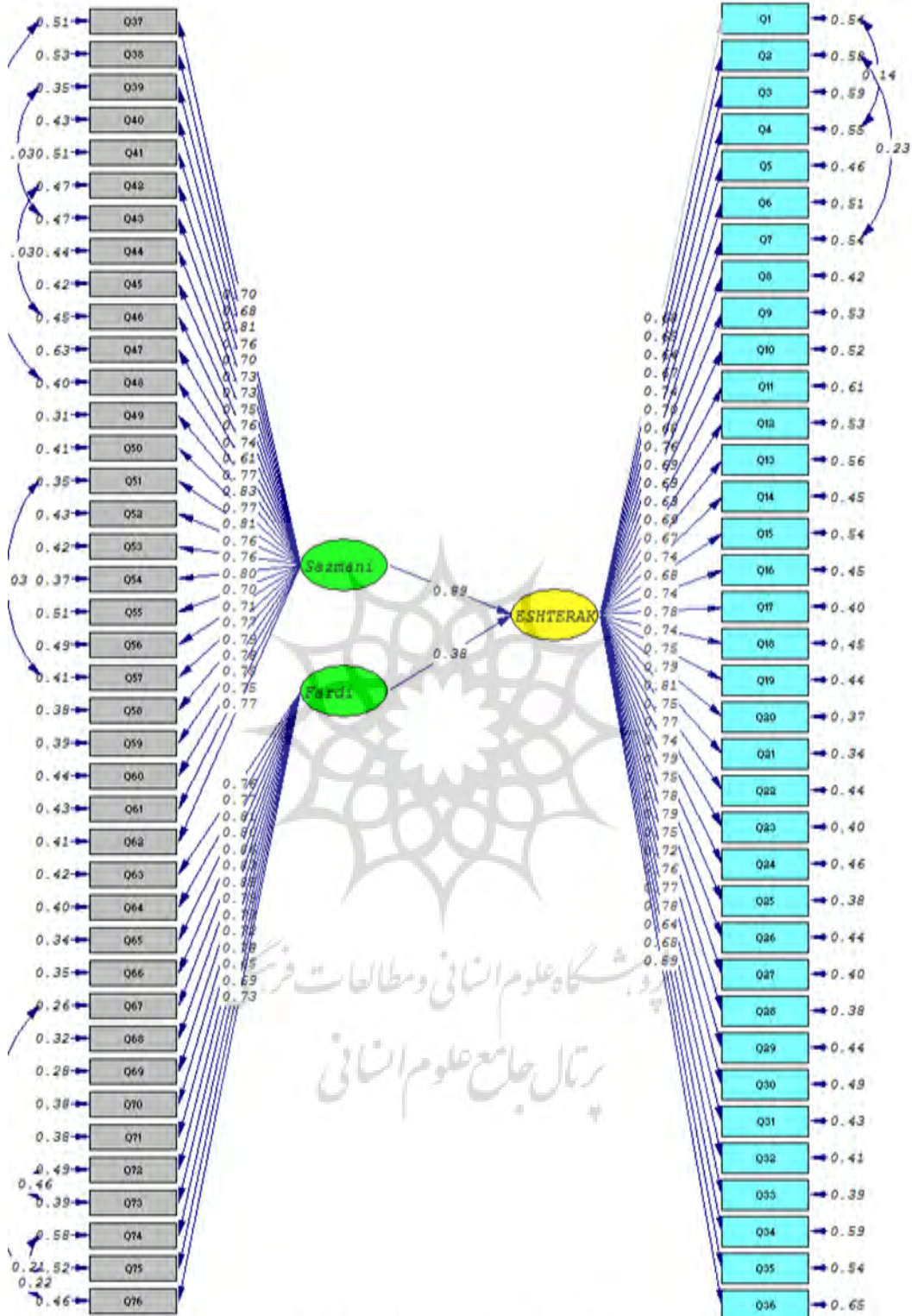


Figure 1. Dimensions and components extracted in relation to knowledge sharing and factors affecting it

Structural equation model with LISREL software was used to design the model. The lateral sections of the **Figure 2**, show the proportion of each index with sharing knowledge and its related factors with standard factor loading, indicating the acceptable values (greater than 0.30) for each of them. The central section of the model illustrates the impact of both organizational and individual factors on knowledge sharing. Organizational factors explain 0.89 sharing and 0.38 individual factors.

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Chi-Square=5640.60, df=2761, P-value=0.05814, RMSEA=0.051

Figure 2. Structural model of research in the mode of estimating the standard coefficients

Table 3 shows the fitting values of structural model indices. According to the acceptable level of chi-square on the degree of freedom and the RMSEA value, the model is considered acceptable. The partial indices also show good fitting of the data compared to the model. As presented in table 3, the fitting partial indices indicate that fitting the model components is also appropriate.

Table 5. Values of model fitting indices

| Index name | Fitting indices | |
|---------------|-----------------|------------------|
| | value | Allowed limit |
| Chi-square/df | 2.04 | Less than 3 |
| RMSEA | 0.051 | Less than 0.1 |
| CFI | 0.98 | Greater than 0.9 |
| NFI | 0.97 | Greater than 0.9 |
| GFI | 0.84 | Greater than 0.8 |
| AGFI | 0.82 | Greater than 0.8 |

5. Discussion

After doing the factor analysis, nine components of knowledge sharing, including coding knowledge, customization of knowledge, attention to tacit knowledge, attitude, tendency, behavior, flexibility, law-orientation, and communication were extracted and classified into three dimensions: knowledge-oriented, individual-oriented and university-oriented. Coding knowledge refers to all technical knowledge, skills, and problem solving techniques used by faculty members at the university. In the case of knowledge encoding, it should also be noted that the university provides the faculty with basic knowledge through the existing documents and books. In this way, a foundation for knowledge generation and sharing is created. Another component that has been identified for sharing knowledge is the knowledge customization component. This component pays attention to the fact that the professors can easily communicate with the experts and authorities of the university and ask them about knowledge and management. Also, the creation of several meetings held at the university in an informal way and talking about knowledge sharing, is used to define the customization of knowledge. In the Islamic Azad University, if university administrators have the relationship with the professors and learn how to generate and share knowledge, they have taken a major step in sharing knowledge. Another important component in sharing knowledge is the attention to the professors' tacit knowledge. It is clear that all people entering the university under the name of human resources, have intellectual and tacit knowledge. This issue should have been considered at universities, since the faculty members are trained and skilled people who can make decisions as the specialists in their fields.

These professors have tacit knowledge that transforms it through the process of sharing knowledge, but to do this, they need the support of senior university administrators. Senior administrators and educators need to focus on the tacit knowledge of the professors with creating the necessary mechanisms and persuading them to provide their knowledge, but only the support and creation of a supportive mechanism by the university executives does not seem to be sufficient and should be referred to the other factors, such as the attitudinal components that the professors return to themselves. The faculty members' attitude toward sharing knowledge and their ability to disseminate the tacit knowledge, requires social skills that everyone cannot afford. Sometimes faculty members know that sharing knowledge is necessary, but they are reluctant to do so; this is when the supportive and facilitating mechanisms come with the help of the university to encourage the professors to do so. The professors who tend to share knowledge, spend considerable time teaching and discussing knowledge. Also, when the educational group faces a problem, these faculties are required to solve the problem. Findings by the researchers such as Howell and Anansing (2012), Jafari et al. (2016), Pahlavani et al. (2010), confirm the results of this research. The University's flexibility in the

generating and dissemination of knowledge and circulars that may prevent the sharing of useful organizational knowledge in the university, is one of the components that relates to the university.

According to the findings of the present study, law-orientation is also known as a component of knowledge sharing among faculty members. Accordingly, it seems that the university's rules and regulations that relate to the generating, sharing and application of knowledge, can have a significant effect on the sharing of knowledge. The fact that these laws have been drafted on the basis of the country's law and applied by all people at the university, indicates the importance of sharing knowledge. On the other hand, in spite of the law-orientation at the university about the sharing of knowledge, the level of organizational communication among faculty members is very influential. Among the components of the university-oriented components of knowledge sharing, communication seems to be more important. The professors who are interconnected with each other, can more easily use the abilities and share their knowledge. Researchers such as Ismail and Youssef (2010), Kim (2008), Jafari et al. (2016); have confirmed this finding in them researches.

The research stated that some factors affect the sharing of knowledge. These factors were divided into two general dimensions of individual and organizational. Accordingly, knowledge sharing is affected by the various factors, such as individual and organizational factors. One of the most important factors affecting knowledge sharing is organizational factors. Undoubtedly, among the organizational components, the organizational culture has particular importance, because it is a symbol of Islamic Azad University and is based on the values, beliefs, norms and traditions of this university. Organizational culture includes important categories such as the faculty members' adaption to the university academic goals, the degree of faculty participation with each other, as well as the faculty's flexibility in the use of modern knowledge resources. Knowledge-oriented leadership is another factor affecting the sharing of knowledge. Leadership at the university, as well as the other organizations, is an influential factor that conducts all management tasks, such as planning, organizing, directing and supervising, and informing faculty members to the university's desires, i.e. sharing knowledge. The university leader has a tremendous task and can take action through the proper structure. The organizational structure of the Azad University should be based on knowledge and sharing, and this should be observed in all academic units that faculty members and others are dealing with. The degree of complexity and the high degree of participation in the structure of Azad University, can improve the situation in the field of knowledge sharing as it extends the level of organizational communication and increases the face-to-face interaction among the members. Organizational structure at Azad University should be knowledge-oriented, and several strategies for this work are suggested among the faculty members, so that the teachers can better use their tacit knowledge share with the others. However, among the factors influencing the sharing of knowledge among faculty members of Islamic Azad University, only attention to the organizational factors is not enough, but, the individual factors that return to the professors themselves, should also be taken into account. Among the individual factors, the faculty members' wisdom is very effective in sharing knowledge, because wise people are clever and experienced and believe that if the organization and other colleagues develop, they get to excellence and develop. On the other hand, the level of creativity and innovation of professors is effective in sharing knowledge. Innovative professors are constantly thinking about the entrepreneurship and updating their knowledge. Ultimately, innovative professors must also have professional qualifications. Having professional competence is one of the most influential components of knowledge sharing. The profession of teaching is both social and psychological, at the same time. A professional instructor is a scholarship that has several competencies. Findings of researchers such as Chen and Chuang (2012), Iqbal et al. (2011), Kim & Kim (2008), Jafari et al. (2016), Nemati and Mahmoodi (2013), confirm the results of this research.

Finally, according to the findings, it is suggested: 1) Knowledge generated by the professors at the university, should be kept in written form and documented in the university's archive. 2) The experts from the other universities are invited to present their achievements to faculty members, during weekly meetings. 3) Pay special attention to professors who share their knowledge with the others and to be

encouraged. 4) The value of sharing knowledge in the university should be considered with organizing various seminars and conferences in the university and communicating with other universities. 5) Take the necessary steps in publishing books about the academic courses with the help of professors from each field.

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