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Neda Azizi
Torrens University, Melbourne, Australia
Peyman Akhavan
Qom University of Technology, Qom, Iran
Ali Ahsan
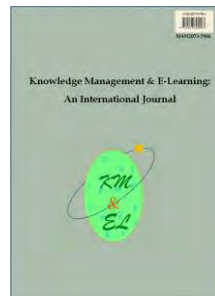Torrens University, Adelaide, Australia
Rahele Khatami
Iran University of Science and Technology, Tehran, Iran
Omid Haass
RMIT University, Melbourne, Australia
Shahrzad Saremi
Torrens University, Melbourne, Australia

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Neda Azizi* ⓘ

Faculty of Business and Information Systems
Torrens University, Melbourne, Australia
E-mail: neda.azizi@torrens.edu.au

Peyman Akhavan* ⓘ

Faculty of Industrial Engineering
Qom University of Technology, Qom, Iran
E-mail: akhavan@qut.ac.ir

Ali Ahsan ⓘ

Faculty of Business and Information Systems
Torrens University, Adelaide, Australia
E-mail: al_ahsan1@yahoo.com

Rahele Khatami ⓘ

School of Business and Information Systems
Iran University of Science and Technology, Tehran, Iran
E-mail: rahelekhatami@gmail.com

Omid Haass ⓘ

Faculty of Property, Construction and Project Management
RMIT University, Melbourne, Australia
E-mail: omid.haass@rmit.edu.au

Shahrzad Saremi ⓘ

Faculty of Business and Information Systems
Torrens University, Melbourne, Australia
E-mail: shazi.saremi@torrens.edu.au

*Corresponding author

Abstract: The present study aims to extend our understanding of motivational factors that improve the knowledge sharing intention of employees thereby can lead to creating knowledge successfully. Specifically, we aim to extend previous

knowledge management research to contribute to both knowledge sharing theory and knowledge creation process with consideration of motivational factors including socialization, externalization, combination and internalization. This study has used quantitative research methodology wherein the data have been collected from 405 students from various universities in Iran using a survey questionnaire. Structural equation modelling has been applied to test the hypotheses of the study. The findings of the study reveal that motivational factors positively influence knowledge sharing and knowledge creation. Results reveal that motivational factors tend to increase the usage of knowledge sharing methods, and consequently, they impact on the creation process of knowledge. Further, motivational factors act as a mediator between knowledge sharing and knowledge creation. This study has limitations that present opportunities for future research. First, the research context covered people from universities only, which limits the generalizability of findings. Second, we did not consider regional cultural differences, which could cause variations in people' knowledge sharing intention. Future studies can build upon the research models to understand the influence of the cultural factors on other type of organisations. This research contributes to both knowledge sharing theory and knowledge creation process with consideration of motivational factors including socialization, externalization, combination and internalization. Thus, the study provides directions to managers to focus on cognitive social aspects (i.e., motivational factors) to encourage the people to share and create knowledge. To the best of authors' knowledge, this study is an early study conducted to examine the influence of motivational factors on knowledge sharing and knowledge creation. This research provides valuable information and guidelines that will be helpful for the managers to consider the important issues during knowledge creation establishment in the universities and organizations which are directly involved with creating knowledge.

Keywords: Knowledge management; Knowledge sharing methods; Knowledge creation process; Motivational factors

Biographical notes: Dr Neda Azizi is a senior lecture at Torrens University, School of Business and Information Systems based in Melbourne, Australia. Her research interests broadly focus on the human, organizational and institutional aspects of systems development, Project, Knowledge and Risk management.

Prof. Peyman Akhavan is a full professor at department of Industrial Engineering, Qom University of Technology, Qom, Iran. His research interests focus on Project management, Information systems, Knowledge management and System development.

Dr Ali Ahsan is an associate professor lecturer at Torrens University, School of Business and Information Systems based in Adelaide, Australia. He is a consultant to many well-reputed multinational organizations and has completed major industrial projects. His research interests broadly focus on Business Analysis, Project Management, Business Administration, Information Systems, Information and Communication Technology.

Rahele Khatami is a lecturer at Iran University of Science and Technology, School of Business and Information Systems. Her research interests focus on Project management, Information systems, Knowledge management and System development.

Dr Omid Haass is a Lecturer at the RMIT University, School of Property,

Construction and Project Management based in Melbourne, Australia. His research interests entails Information system Development, Project, Knowledge and Risk management. Omid is a member of Project Management Institute (PMI) and have been certified as a Project Management Professional (PMP) by PMI since, 2015.

Dr Shahrzad Saremi is a lecture at Torrens University, School of Business and Information Systems based in Brisbane, Australia. She has taught at Undergraduate and Postgraduate levels in Business Information systems, Logistics and the Master of Commerce. Her research interests broadly focus on Augmented Reality, Gesture recognition, Human-Computer Interaction, Optimization Information Technology.

1. Introduction

In the modern business environment, organizations are faced with the need for continuous improvement and innovation because of high complexity, dynamism and uncertainty. Knowledge is a unique and valuable asset (Akhavan et al., 2012; Chang & Uen, 2022; Nonaka et al., 2000; Wang et al., 2022; Yu et al., 2022; Zeiringer & Thalmann, 2021; Zhao & Detlor, 2021) of an organization that provides sustainable improvement and competitive advantage (Kim, 2019; Özkan et al., 2021). The importance of knowledge within organizations has been affirmed by the dynamic capability perspective and resource advantage theory (Goswami & Agrawal, 2019). Knowledge management allows organizations to compete by getting the right knowledge to the right people at the right time and place (Dove, 1999). In this light, management researchers believed that the best four components of knowledge management are people, process, information technology, and strategy. Regardless of the organisation, size, or knowledge requirements of your organization, you always need people to create, lead and share knowledge (i.e., knowledge sharing and knowledge creation components).

Stojanović-Aleksić et al. (2019) pointed out that knowledge sharing and knowledge creation are crucial and significant aspects of knowledge management (Akhavan et al., 2012; Gupta, 2008) and have been researched by scholars as a vital driving force for ensuring economic growth of business organizations (Coradi et al., 2015; Hasnat Bhatti et al., 2021; Iqbal et al., 2018; Nonaka & Takeuchi, 1995). Knowledge sharing is critical and indispensable for an organization that wishes to achieve a competitive advantage, since it facilitates idea development, problem-solving, decision-making, building learning organizations and innovation (Perumal & Sreekumaran, 2021; Rao et al., 2022). While Rezaei et al. (2021) noticed that knowledge sharing is the central focus in knowledge management for the growth of the organization, Wang et al. (2022) defined knowledge sharing as a key process for the success of an organization. Knowledge sharing is vital, indispensable, considerable and central to the growth of the organization. The research indicates that although organizations seek to achieve competitive advantage through knowledge sharing, for long time success it is also essential for an organization to create new knowledge in a continuous process. Knowledge creation brings sustainable competitive advantage (Alavi & Leidner, 2001), reduces the loss of know-how and success outcome (Wu et al., 2010); value to organisations (Mitchell & Boyle, 2010); build learning organizations through a learning routine (Muhammed & Zaim, 2020); and help in cultural change and innovation (Ives et al., 2003; Lei et al., 2021).

According to Akhavan and Hosseini (2015), social capital acts as a critical enabler for knowledge sharing and knowledge creation within an organization and includes three dimensions, namely: structural, relational and cognitive dimensions (Hoegl & Schulze, 2005; Nahapiet & Ghosal, 1998; Nonaka et al., 2000; Stojanović-Aleksić et al., 2019). Therefore, structural, relational and cognitive dimensions taken altogether constitute the ideal knowledge management discipline (Azizi et al., 2021a; Stojanović-Aleksić et al., 2019); hence, all these dimensions need to be investigated separately. Hence, the cognitive dimension is a less studied aspect of social capital (Stojanović-Aleksić et al., 2019) that relates to resources providing shared representations, interpretations, and acquiring and sharing of new knowledge (Toner & Martins, 2021). Motivation is a cognitive social capital that refers to the degree to which people share their valuable information thereby the people common understanding of new concepts is considered a continual learning process that makes an inter-subjective sense of shared meaning through interactions in which individuals decide to negotiate, and maintain a shared sense of meaning (Derin et al., 2021; Sharratt & Usoro, 2003; Yu et al., 2022).

The present study aims to extend our understanding of motivational factors (MF) that improve the knowledge sharing intention of employees thereby can lead to creating knowledge successfully. Specifically, we aim to extend previous knowledge management research to contribute to both knowledge sharing theory and knowledge creation process (KCP) with consideration of motivational factors including socialization, externalization, combination and internalization (Lei et al., 2021; Mehdikhani & Valmohammadi, 2019; Yu et al., 2022). It also proposes to investigate the mediating role of motivation in the relationship between knowledge sharing methods (KSM) and knowledge creation. This research makes significant theoretical and practical contributions. On the theoretical side, three important concepts namely motivation, knowledge sharing and knowledge creation are investigated in an emerging context of Iran. On the practical side, the research provides directions to managers to focus on cognitive social aspects (i.e., motivational factors) to encourage people to share and create knowledge.

2.   Literature review

2.1. Knowledge creation process

Transmission of knowledge facilitates knowledge sharing in organizations, and the sharing of results leads to the creation of another set of knowledge. Sharing of knowledge is possible only through the interaction between individuals at different levels, according to Nonaka and Takuchi (1995). Nonaka described knowledge creation in two categories: shape (form) and level. In other words, two categories are the interaction between implicit and explicit knowledge (interaction between the two knowledge), and the interaction between individual and organizational knowledge (both interactions). These interactions are the four knowledge-creation processes. Sharing knowledge and engagement in continuous learning lead to the creation of new knowledge. Nonaka and Takeuchi (1995) introduced SECI (Socialization, Externalization, Combination and Internalization) as a knowledge creation model based on the action and interaction between implicit and explicit knowledge. They have been the only sustainable advantage for an organization as a whole to create new knowledge, disseminate it and to do the organizational ingredients and use in the products, services, processes and systems. In this paper, we follow the work of Nonaka et al. (2000), which summarized "knowledge creation is a continuous, self-

transcending process through which one transcends the boundary of the old self into a new self by acquiring a new context, a new view of the world, and new knowledge".

From 2000 to 2022, Nonaka et al.'s model (2000) has been cited nearly 7300 times in the social sciences and has been validated in more than 1000 empirical studies making it the most frequently cited model with regard to analysis in the sciences. One of the reasons for the frequent utilization of this knowledge creation model is because it offers an empirically measurable and well-validated means for operationalising knowledge through both quantitative and qualitative research approaches. Nonaka et al. (2000) pointed out that the knowledge creation process is a dynamic and complex process. Knowledge creation is the sharing of mental, emotional and active knowledge in such a way that the results lead to aggregated value, as defined by Popaduik and Choo (2006). Nurturing the process of knowledge creation is the first step to facilitating innovations in the company (Iqbal et al., 2018; Perumal & Sreekumaran, 2021; Tseng & Lee, 2014; Zhang & Liu, 2021). Knowledge creation is the process that produces new knowledge and innovations. On the other hand, elective knowledge creation requires that people have a particular relationship with each other in the company (Akhavan et al., 2012; Derin et al., 2021; Zhang & Liu, 2021). Models of knowledge creation processes make visual thought about visual metaphor, According to this, in this research, Nonaka and Takeuchi's model (1995) is used for knowledge creation processes.

Lee et al. (2005) described the components of knowledge management processes as knowledge creation, accumulation, knowledge sharing and knowledge internalization. In this way, organizations need to support the combination of various components of the knowledge management system, such as developing its infrastructure, securing new and existing knowledge, distributing, and combining it. Knowledge creation is a critical competitive weapon in today's global marketplace. Moreover, setting up a considerable business, without continuous knowledge creation is doomed to failure (Baghdadi et al., 2020; Chatterjee et al., 2020; Choi & Lee, 2002).

Notwithstanding the widely recognised significance of knowledge as a critical resource of competitive advantage, there is little understanding of how organisations share and create knowledge significantly. Nonaka et al. (2000) start from the perspective of an organisation as an entity that creates knowledge continuously, so they proposed the SECI model using existing knowledge assets (knowledge sharing) to create new knowledge through the SECI process. The SECI model (Nonaka et al., 2000) is adopted in this paper for the following reasons: the SECI model was widely accepted (Wang et al., 2022) and it has been used in many research areas such as organizational learning, new product development, and IT (Kim, 2019; Tseng & Lee, 2014; Wang et al., 2022). Secondly, the SECI model contained not only knowledge creation but also knowledge transfer. The transfer of existing knowledge and the creation of new knowledge is important, and both of them should be considered in knowledge management (Azizi et al., 2021b). The demand is that universities must collaborate with other sectors, such as the industry in knowledge creation processes (Chatterjee et al., 2020; Gibbons et al., 1994; Nowotny et al., 2013). Further, organizational knowledge is created as a result of the combination and exchange of existing knowledge among its employees (Hasnat Bhatti et al., 2021; Nahapiet & Goshal, 1998; Tseng & Lee, 2014).

2.2. Knowledge sharing methods

Knowledge sharing is the process where individuals mutually exchange their implicit and explicit knowledge and jointly create new knowledge (Toner & Martins, 2021; Van den Hooff & Van Weenen, 2004). Students play the main role in knowledge creation as important knowledge transporters. Some findings about interaction and communication among students are cited in Reagans and Zuckerman (2001) and Siddique et al. (2022). They considered 3 categories in exchanging knowledge between employees: Conferences, Meetings, and Storytelling. According to Van den Hooff and Van Weenen (2004), every knowledge sharing process consists of both bringing and donating knowledge (communicating to the personal intellectual capital of the counterparts) and getting or collecting knowledge (consulting colleagues to share their intellectual capital). Knowledge sharing is a very sophisticated human activity, which changes according to situational needs (Azizi et al., 2022).

Although technical factors pose a great threat to the knowledge management process, human resource issues in knowledge management development projects, outsourcing relationships, and organisational strategies are often viewed as being significant management (Sha et al., 2020). Empirical evidence and psychological theories indicate that human actions, interpretations, motivations and their interaction to better understand knowledge sharing and creation are often overlooked (Azizi et al., 2019; Doolin & McLeod, 2012; Leonardi, 2011; Papadopoulos et al., 2013). Thus, they connect people, share knowledge, and help to break silos. To achieve these benefits, however, communities of practices (CoPs) must be tackled in a structured and well-resourced way. The characteristic of CoPs that appeals to knowledge managers is their ability to traverse organizational, geographical and cultural barriers (Azizi & Haass, 2019; Nazam et al., 2020; Lei et al., 2021; Popadiuk & Choo, 2006; Rao et al., 2022). They are also known to be informal and therefore easier to share both explicit and implicit knowledge after locating the right subject expert (Hass & Azizi, 2020; Muhammed & Zaim, 2020; Nguyen & Prentice, 2020).

Lave and Wenger (1991) described it as an activity system that brings together individuals with common values, interests, and varied experiences to share them among themselves. The community-based approach has been considered to be one of the most effective tools for knowledge creation and transfer. The approach emphasizes dialogue through social networks (person-to-person contact) and helps to informally share knowledge (Hasss & Azizi, 2019; Koh & Kim, 2004; Liao, 2021; Nazam et al., 2020; Muhammed & Zaim, 2020; Yu et al., 2022). The long-term aim is to develop, test and provide the best methods for transforming experience into a proven experience. The article introduces 12 approaches on how knowledge sharing methods can be used between students to accept and to share knowledge. Some of the methods discussed include: peer assist, training and mentoring, meeting and forum, after-action review, storytelling, and coaching (Menkhoff et al., 2022; Muhammed & Zaim, 2020; Nazam et al., 2020; Yu et al., 2022).

Nazam et al. (2020) pointed out that peer assist is a method of cooperation, based on dialogue and mutual respect among peers. Peer assist involves a meeting organized by a work team who are starting up a new project (the hosts). After Action Review's (AAR) main purpose is learning by talking and thinking about a completed activity or project. Its goal is simply to state lessons learned, rather than to solve problems or criticize (Shih et al., 2010). Stories allow us to describe employee relations or activities in a formal or

informal way. The aim is to transmit tacit knowledge that an organization can use. Stories are a simple and accessible way to communicate complex ideas, key messages and lessons learned. Mentoring is a learning relationship between two employees. Mentors are experienced employees who share their knowledge, experience and ideas with less experienced employees, or associates. Associates are people who have shown what they can do. Associates really want to acquire new knowledge and skills. Coaching specifically aims to develop new qualifications and skills in an employee. It aims to improve that person's learning and job performance, so that he/she can then reach organizational goals.

2.3. Motivational factors

Everyone needs to be motivated by something in order to succeed and there are different motivational factors that can inspire each student to take action. Hence, one way to know the trigger is by enlisting the proper motivational techniques to get help through them to completion. These factors are the reasons to reach a goal whether it is professional or personal. So, the best part about hitting a target is that it can provide a reason to be motivated again to reach for the next one.

However, the academic environment usually consists of reasons for ups and downs, and some problems can leave students unmotivated. Hence, these are the more important motivational factors that can inspire students to move back once again into a position of achieving success via considerable knowledge sharing. Moreover, the loss of money can get a reaction from anyone else to take an action, and the other hand may be the most influential among the motivational factors. Desires are another factor that influences motivation these desires are based often on wants and not on necessities. If something is important, being motivated by the inner drive is beneficial to reach the goal(s). Need is the next most influential factor. While desire is fuelled with wants, need is based on greater urgency and eagerness such as the basic necessities in life. These needs can help to overcome the lack of motivation and allows you to get what you are aiming for, rather quickly.

Other motivational factors in knowledge sharing that are evaluated in this paper based on the above motivations are interest and help to others, accolades and honours, respect, expect others to reciprocate, employment promotions, power, reputation, money and financial incentives, hope and sense of usefulness, creating new knowledge and achieving higher goals, retain ownership, research goals, interpersonal trust and other capabilities alerts and then intellectual property. Some motivational factors need more attention such as trust between students. Trust is an important facilitator in communication that creates a good relationship and people are more willing to engage in knowledge sharing (Derin et al., 2021; Lei et al., 2021; Mehdikhani & Valmohammadi, 2019; Sharratt & Usoro, 2003; Yu et al., 2022). Trust is developed in a reliable person, someone who is honest and can be counted on after a long-term relationship that gives way to better knowledge sharing. Ives et al. (2003) believe that knowledge sharing is human behaviour and cannot be fostered without genuine trust and care.

2.4. Knowledge sharing and knowledge creation

Knowledge sharing and knowledge creation are the two vital aspects of knowledge management that play an important role in creating organizational value (Akhavan et al., 2012; Liao, 2021). The value-creation of knowledge depends on the level of sharing

knowledge and skills among people across the organization. Therefore, the optimal usage of these assets is one of the major concerns of organizations to get more competitive advantages in their market. Knowledge creation is the most important resource for prospering companies, because it results in the most innovations (Akhavan et al., 2012; Mehdikhani & Valmohammadi, 2019; Yu et al., 2022). In order to achieve a proper level of knowledge creation and innovation, the organizations have to promote their employee's knowledge and skills electively. This process seeks more attention to the critical role of knowledge sharing in an organization. If students are motivated, they can become more efficient and produce better results in knowledge creation in reduced time.

Hence, being motivated is beneficial for increasing productivity, and with more time to share knowledge, the experience can be gained in a less stressful manner and build stronger work relationships. Increased productivity and a better sharing environment have been shown to result in success. These motivational factors must be present within us in order to have successful knowledge creation. Hence, utilizing motivational techniques can be a good way to achieve similar goals. Knowledge creation is culturally influenced by patterns that are linked to language and communication (Liao, 2021; Rao et al., 2022; Sherif & Xing, 2006; Valmohammadi & Ahmadi, 2015). Motivation factors are important in developing attitudes and intentions towards knowledge sharing. Students are normally reluctant to share their implicit and explicit knowledge due to various reasons. Knowledge transfer in the community among different factors, contextual factors such as trust, motivation, management support and learning orientation are crucial for fostering innovation.

3.   Conceptual framework and research methodology
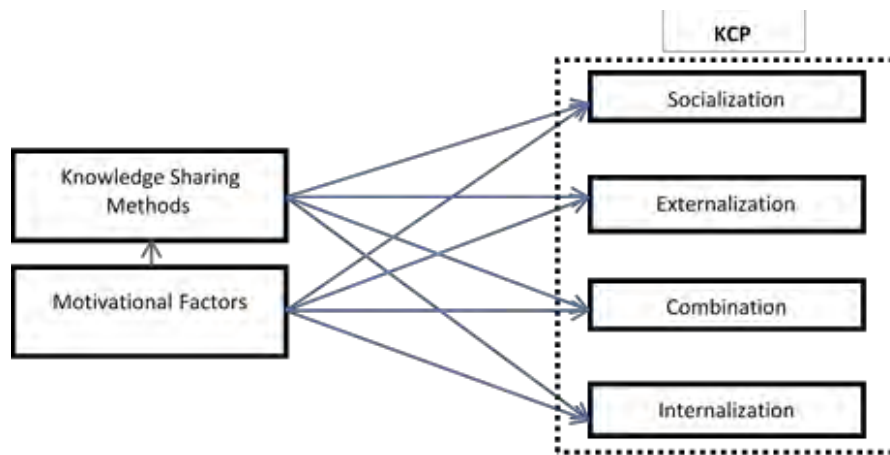
3.1. Conceptual framework

Fig. 1. Conceptual knowledge sharing and creation model

As a result of these relationships (see Fig. 1), the hypotheses of the research are defined below:

   H1a: Knowledge sharing methods positively influence on socialization process among students.

H1b: Knowledge sharing methods positively influence on externalization process within students.

H1c: Knowledge sharing methods positively influence on combination process within students.

H1d: Knowledge sharing methods positively influence on internalization process within students.

H2a: Motivational factors positively influence on socialization process among students.

H2b: Motivational factors positively influence on externalization process within students.

H2c: Motivational factors positively influence on combination process within students.

H2d: Motivational factors positively influence on internalization process within students.

H3: Motivational factors positively influence knowledge sharing methods among students.

3.2. Methodology

The empirical study was conducted among 405 students from various universities in Iran who were selected randomly in consultation with professional managers. This is implemented with a questionnaire-based survey to present the structural equation model of the knowledge creation process in an empirical examination. To assess the 12 dimensions of knowledge sharing and 14 dimensions of motivation factors and four phases of knowledge creation, survey respondents were asked to indicate their views of various practices. Each item was based on a five-point scale, from "1 = strongly agree" to "5 = strongly disagree". This research aimed to measure the level of 3 main variables, namely knowledge sharing methods, motivation factors and knowledge creation, and their relationship with the academic environment. The questionnaire was validated by 10 experts in the university to evaluate their clarity, bias, unambiguity of questions, and also relevance to academic environments. After pre-testing and revising, the survey instrument was distributed through email and website to more than 1000 respondents in universities and 405 completed questionnaires were returned. The Cronbach's alpha calculated from the three main latent variables of this research such as knowledge sharing methods, knowledge creation and motivational factors were .861, .714 and .795, which showed high reliability.

Knowledge sharing methods are adapted from different resources such as knowledge sharing tools in Canadian International Development Agency, and some management research. Knowledge sharing methods are measured to know how willing students are to transfer or disseminate knowledge to others and lead to the creation of new knowledge.

Knowledge creation questions are adopted from Tseng's questionnaire (2010), and the validity of this instrument has been substantiated. The scenario was organized based on four dimensions in the knowledge creation process of Nonaka and Takeuchi (1995). Including socialization, externalization, combination and internalization which considered 2 questions for each of them.
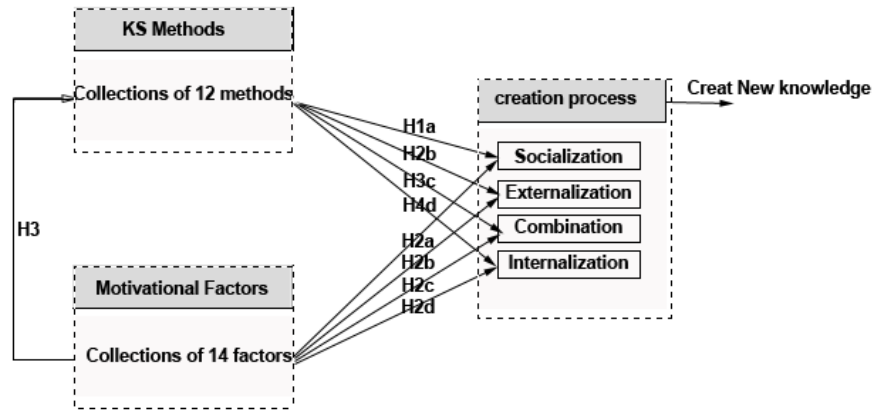
Fig. 2. Hypothesized framework

The survey questionnaire was designed by considering the literature review and the research framework (see Fig. 2), mostly based on papers that evaluate motivational factors from different aspects and categories. Finally, 14 items have been selected among them.

As documented, 56.65% of students agreed to evaluate and upgrade their knowledge and 22.17% of them strongly agreed. Demographics of research respondents show that nearly 48.77% of the sample had a bachelor's degree in education and most of them were not working. Also, 53% of them were in the range of 18-23 years old. Many of them were single (64.78%) and the majority of them were male (66.50%). Most of them were educated in private schools (82.41%), documented their knowledge via paper in order not to forget it (5.39%), and about 56.65% of these students agreed that the documentation will greatly assist them to evaluate their knowledge and upgrade it (see Table 1).

Table 1
Demographic profile of respondents

Demographic variables	Category	Frequency %
Age	18-23	36.88
	23-28	32.00
	28-33	17.08
	33-40	1.40
	40-50	3.96
Education	As	13.55
	Bs	48.77
	MSc	36.45
	PhD	1.23
Gender	Male	66.50
	Female	33.50
Marriage	Single	64.78
	Not single	35.22
University	Private	82.41
	Public	17.50
Job	Yes	44.09

	No	55.91
Academic course	Engineering	31.17
	Science	16.96
	Liberal art	31.17
	Other	2.70
Documentary	Paper	5.39
	Computer	37.99
	Other information repositories	11.61

4. Findings

The findings from the structural equation model showed that there is a positive and significant path coefficient between factors (see Table 2). Research hypotheses were examined by the statistical software EQS 6.1. The model was examined with the following model fit indices and error term magnitude estimates: General χ^2 estimates, Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Normal Fit Index (NFI), Root Mean Square Residual (RMSR), and Root Mean Square Error of Approximation (RMSEA). Fit statistics greater than or equal to .90 for GFI, NFI, and CFI indicate a good model fit and RMSEA values ranging from .06 to .10 reflect acceptable to mediocre fit (Bagozzi & Yi, 1988).

Table 2
Effects of research variables on each other

Kind of effect	Total	Indirect	Direct
KCP on KSM	.40	0	.40
MF on KCP	.36	0	.36
MF on KSM	.37	.14	.23

Among the model-fit indices, χ^2 results were considered as significant ($p < .05$, $df = 1194$). The model-fit indices for some findings were somewhat closer to the desired number and show moderate model in ranges (GFI = .94, CFI = .85, AGFI = .92). In addition, RMR and RMSEA indicated an appropriate model-data fit (RMR = .081) and (RMSEA = .06). Cronbach's alpha was equal to .94 and the tools were reliable. Then, validity of the conceptual model and the relationship between knowledge sharing methods, motivation factors and knowledge creation was examined through structural equation modelling. Fig. 3 depicts the output of the research model that accepted the relationship between variables. All model-fit indices were in an acceptable range except NFI (.74) which was reflected only in a marginally well-fitting model. Normed Fit Index, proportion in the improvement of the overall fit of the hypothesized model (h) compared to the independence model (i), theoretically ranged from 0 (poor fit) to 1 (perfect fit), considered satisfactory when greater than .90 According to the credibility of model indices, the conceptual model was adopted thus the relation between variables in the conceptual model was approved. This shows that the most fitted model parameters are appropriately fitted.

According to the SEM model in Fig. 3, the highest correlation among knowledge sharing methods is in mentoring and the lowest correlation related with AAR. Among the motivational factors variables, the highest correlation in accolades and honours and the lowest correlation in personal knowledge kept are reported.
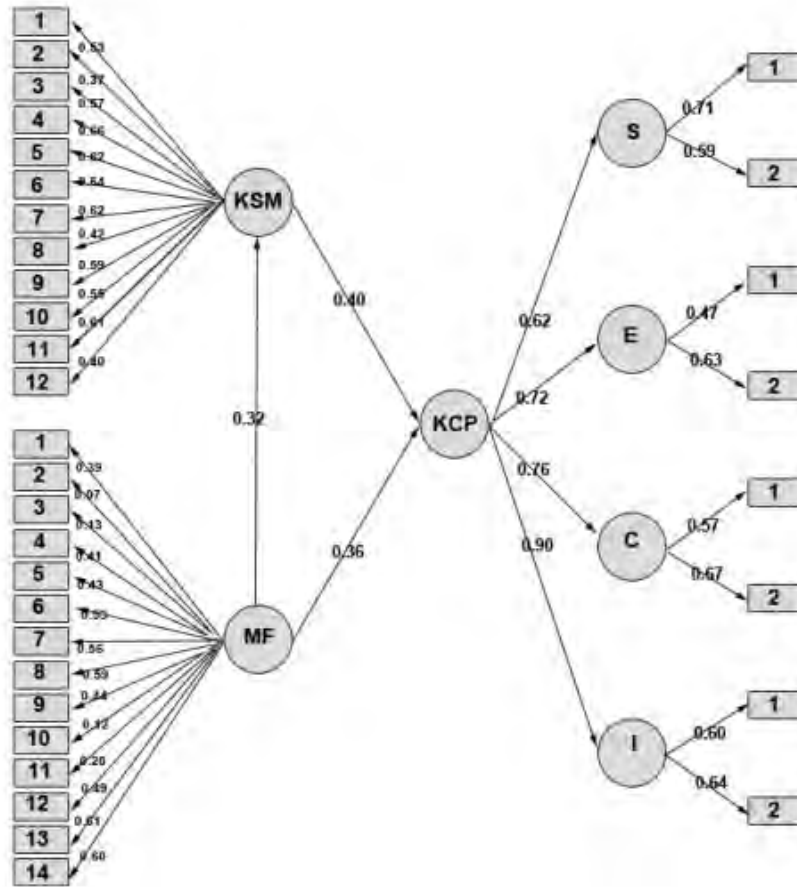
Fig. 3. Evaluate SEM's factors of Iranian students

5. Discussion and conclusion

This research showed how knowledge creation can be affected by methods and impression factors among different constructs and the user of knowledge. Drucker (1993) related knowledge to economic purposes and indicated that knowledge must be useful in a practical sense. Today's challenge is to decide what to do and how to do so (Gibbons et al., 1994; Nowotny et al., 2013; Valmohammadi & Ahmadi, 2015) argue that a new mode of knowledge creation is challenging the old mode of knowledge creation, and the old Humboldt Ian legitimacy of the university.

This paper indicates that enthusiasm for helping others and the joy of sharing knowledge has a strong relationship with socialization, externalization, combination and internalization, which result in knowledge sharing impact on knowledge creation. Maintaining personal knowledge and a sense of ownership has a relationship with socialization. This might be the reason why more knowledgeable people can communicate with other people who have the highest degrees.

Achieving academic goals is related to the combination of a strong relationship. It seems that students connect with each other and pass over socialization and externalization, should obtain new information and knowledge by combining older knowledge, if the use of various knowledge increases combination will more accrue. This is due to the knowledge gap which generates new knowledge.

Knowledge along with a useful sense of hope for the future is related with socialization and externalization and has a strong relationship with combination and internalization. Useful knowledge for a future career has a strong relationship with socialization and combination and is related to internalization.

Because of these reasons, people in form of repetition, practice, interaction and relationship with each other can better help to promote career and academic goals, and respect in relation to socialization, externalization, combination and internalization. Expect others to reciprocate in relation to internalization. Interpersonal trust and knowledge of each other's abilities are related to combination and internalization.

Creating new knowledge and taking steps toward goals in relation to socialization has a strong relationship with combination and internalization. Accolades and honours have a strong relationship with socialization, externalization, combination and internalization. Reputation has a strong relationship with socialization and was related to internalization. Ranking of motivational factors consecutively from 1 to 14 for the Iranian students were as follows: interest and help others, accolades and honours, respect, expect others to reciprocate, upgrade job, powerful, reputation, money and financial incentives, hope and sense of usefulness, creates new knowledge and achieve higher goals, retain ownership, research goals, interpersonal trust and other capabilities alerts and at last intellectual property.

This study aims to extend our understanding of motivational factors that improve the knowledge sharing intention of employees thereby could lead to creating knowledge successfully. Particularly, this research contributes to both knowledge sharing theory and knowledge creation process with consideration of motivational factors including socialization, externalization, combination and internalization. As shown in Fig. 1, the hypothesized framework is well supported by the empirical findings. The analysis reveals that the importance in the path led to new knowledge creation and there needs to be a lot of time and commitment to make it more successful. The research indicates that although researching motivational factors or sharing methods on the short term reach organizational or industrial's goals and objectives, organisations still need to improve methods of knowledge sharing and understand motivational factor in the process. On the other hand, fostering organizational or industrial training should not be ignored. Future research may find out the relationship between knowledge sharing and knowledge creation in other academic environments and compare the results with the current research results. Also, this research can be studying other countries to explore the status of knowledge creation through different ideas about knowledge sharing and other various motivational factors in those countries.

Despite its contributions to theory and practice, this study has limitations that present opportunities for future research. First, the research context covered people from universities only, which limits the generalizability of findings. Second, we did not consider regional cultural differences, which could cause variations in people's knowledge sharing intention. Future studies can build upon the research models to understand the influence of cultural factors on other type of organisations.

Author Statement

The authors declare that there is no conflict of interest.

ORCID

Neda Azizi ⬤ https://orcid.org/0000-0001-5651-4869

Peyman Akhavan ⬤ https://orcid.org/0000-0001-6256-3288

Ali Ahsan ⬤ https://orcid.org/0000-0002-2023-0511

Rahele Khatami ⬤ https://orcid.org/0000-0001-6462-0856

Omid Haass ⬤ https://orcid.org/0000-0002-1561-4561

Shahrzad Saremi ⬤ https://orcid.org/0000-0001-5607-1084

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