

Strategic Preparation for Crisis Management in Relation with Organizational Learning and the Mediating Role of Social Innovation and Altruism in the Red Crescent Society, Gilan, Iran

Ehsaneh Bolouki Rad¹ , Karim Kia Kojouri² 

Date of submission: 27 Dec. 2020 Date of acceptance: 22 May. 2021

Original Article

Abstract

INTRODUCTION: Today, organizations live in changing environmental conditions and various factors affect their performance strategies. Therefore, organizations should consider critical situations or crises and identify organizational strategies for crisis prevention and effective and efficient crisis management. To deal with the crisis, organizational learning plays an effective role in strategic preparation for crisis management; moreover, altruistic behavior and social innovation can play a facilitating and effective role in critical situations. Accordingly, the present study aimed to investigate the relationship of organizational learning and strategic preparation for crisis management with the mediating role of social innovation and altruism in the Red Crescent Society, Gilan, Iran.

METHODS: This descriptive-correlation study was conducted based on an applied research method. The statistical population includes the staff of the branches of the Red Crescent Society, Gilan, Iran. The participants were selected using the stratified sampling method, and Cochran's formula was used to determine the sample size (n=208). The data were collected through standard questionnaires.

FINDINGS: According to the results, organizational learning has a significant and direct effect on altruism, social innovation, and strategic preparation for crisis management. Moreover, social innovation and altruism play a mediating and effective role in the relationship between organizational learning and strategic preparation for crisis management.

CONCLUSION: The results revealed that organizational learning has a positive effect on strategic preparation for crisis management, social innovation, and altruism. In addition, an increase in learning improves social innovation, altruism, and strategic preparation for crisis management.

Keywords: Altruism; Organizational Learning; Social Innovation; Strategic Preparation for Crisis Management

How to cite this article: Bolouki Rad E, Kia Kojouri K. Strategic Preparation for Crisis Management in Relation with Organizational Learning and the Mediating Role of Social Innovation and Altruism in the Red Crescent Society, Gilan, Iran. *Sci J Rescue Relief* 2021; 13(2): 86-94.

Introduction

Today, organizations and companies are established in highly competitive environments of the modern world, and their practices have been subjected to more challenging and complex pressures; therefore, any kind of activities will be severely weakened to the extent that it is not managed strategically (1). Strategic preparation is the organization's ability to future-mapping through

planning and making decisions in advance, identifying the effective factors, and taking the necessary steps. Strategic management is a set of decisions and actions that lead to the development and implementation of strategies to achieve an organization's objectives (2). Strategic Preparation for Crisis Management is what an organization can do to better handle crises before they occur. Crisis preparedness is regarded as a strategy since

1- MSc of Public Administration, Human Resources, Islamic Azad University, Gilan. Iran

2- Assistant Professor, Department of Management, Bandar Anzali Branch, Islamic Azad University, Anzali, Iran

Correspondence to: Karim Kia Kojouri, Email: karim_kia@ut.ac.ir

it provides a selective model for controlling or continuing subsequent organizational activities and predicts the depth of outcomes. In case of uncoordinated decisions, the concept of crisis preparation, which includes crisis management and prevention, becomes more important. In addition, crisis management is the proper planning for crisis preparation. Some researchers believe that strategic preparation in crisis affects issues, such as profitability, effectiveness, job satisfaction, and organizational innovation; moreover, the organizations that are more prepared to manage crises are more successful in dealing with crises, compared to other organizations. In another study, it was found that prepared organizations were successful in crises and had effective crisis management. According to the results of another study, risk prediction can be effective in restricting the upcoming hazards (3). Massey believes that crisis response strategies are effective in the legitimacy of organizations and their success in crisis (4). Crisis management is a technique that seeks to identify and anticipate challenges and problems during activities, take steps to end the crisis, prevent events from occurring in the next crisis, and minimize the effects of crises that are unavoidable. The actual occurrence of an organizational crisis can lead to modifications in existing strategies and strategic activities (5). Crisis interpretations are usually presented in explicit contexts that validate the interpretations of selected crises. They usually include three factors in all crises, namely: 1) serious threats to the future of organizations; 2) uncertainty in the elements; 3) short decision intervals for reactions (1). Billings et al. (1980) suggested that in the process of defining a situation as a crisis, one is involved in understanding an event in the environment that causes the crisis. This element is included in the discussions on crisis and contains the utilization of terms, such as "event provoker" or "change in the internal or external environment" (6). Weisath et al. (2002) claimed that crisis management involves the management of the staffs' levels in designated situations with a critical period, which will determine the leader's decisions for making the organization future better or worse (7). Crisis management deals with attempts that seek to identify the crisis points of the organization, predict the types of crises, and take measures to prevent the occurrence of crises

or events resulting in crises. Moreover, it tends to mitigate the impact of inevitable crises as far as possible. On the other hand, strategic management deals with the formulation, implementation, and evaluation of strategies that help the organization achieve its goals (8). The leaders of the organization need to understand why critical situations occur. Moreover, it is of critical significance to understand when a crisis will occur, how it will occur, what can be done to manage it, and the extent to which it can be prevented. Furthermore, to better understand crises, organizational leaders need to move toward strategic crisis management. In addition, they must be constantly prepared to change their managerial philosophies, decisions, and actions, since they are prepared to take on social responsibility in the management of critical situations (9). In dealing with severe environmental changes, the organizations have realized that they have to commence to learn in order to deal with these adversities. However, the difference is that they have to speed up their learning pace, compared to that of environmental change (10). Organizations strive for survival, and they are constantly getting out of non-dynamic structures and moving towards the development of learning and the creation of a learning organization in order to maintain themselves in the turbulent environment surrounding them (11). The concept of organizational learning was first developed in 1900 when Frederick Taylor addressed the issue of transferring learning to other staff to increase efficiency and improve the organization. Organizational learning is a relatively new concept in management that was developed in the United States in the early 1990s by Dr. Peter Singh. However, this innovation was not the kind of innovation that are sometimes observed and got popular in the realm of management; rather they lose their popularity and got forgotten. On the other hand, this theory is attracting more and more attention at the beginning of the new millennium since environmental changes have become more severe, and there is an increasing need to create and implement new knowledge in organizations (12). Organizational learning addresses how organizations learn about and adapt to their environment in order to enhance performance and achieve effective results (11). According to Kim, organizational learning is the

development of an organizational capacity to take effective measures. Similarly, it is not merely individual learning; however, organizations learn only through the experience and actions of individuals (13). Organizations that can attract, nurture, and retain the best, compared to others, will gain a strategic advantage in the future. Accordingly, if a company, group, or organization does not take steps to increase its level of innovation, it will not be able to meet the existed strategic challenges.

The majority of these innovations are no longer limited to technology and include broader concepts, such as dynamic management, new marketing methods, foreign cooperation, smart activity, human resource management, the formation of new patterns of interactions among organization members, organizational and institutional changes, and skill development. These innovations are called social innovations (14). Considering the most widely used definition of social innovation, it can be stated that social innovation is a new solution to a social problem that is more effective, efficient, and sustainable, or the allocation of the only existing solutions and values to the society as a whole instead of individuals. Therefore, the proposed and useful definition of social innovation includes the invention, development, and implementation of new ideas to solve the social problems faced by individuals, groups, or communities (15). The understanding of the coordination among civic behaviors in organizational performance in order to manage and reinforce such behaviors is considered a warning sign in a business, which also has the highest sustainable competitive advantage in organizations. As a social behavior, altruistic behaviors can encourage trust among organization members. Therefore, altruism encourages risk-taking, interaction with the outdoor environment, dialogue, and participation in decision-making (16). According to Simon (1991), altruism plays a significant role in guiding and directing others. He added that altruistic people: 1) care more for the well-being of others than for their own comfort; 2) act selectively; 3) help others consciously; 4) do not expect external rewards from others.

Based on the results of the classical studies by Hamilton (1964) and Smith (1964), altruism is a successful strategy if its adaptive factors are minimized (17). Thomas (2003) argues that

altruism, as an act outside of selfishness, is framed in cultural, social, and moral terms. Moreover, altruism is innate learning and every human being has the potential to reach perfection, and perfectionism encompasses a level of human values (18). In behavioral terms, altruism is a practice that benefits others, and there is no expectation of reward. Therefore, altruism as behavior is close to social behavior, in which when events happen, one acts in a way that benefits other people or groups in society. Altruistic behavior is costly for the one who performs, since it takes time, effort, and often material resources to engage in activities beneficial for other individuals. In a motivational sense, altruism is a motivational state with the ultimate goal of improving the well-being of others. The so-called "Altruism Hypothesis" (Sober and Wilson, 1998) argues that people are sometimes motivated to behave altruistically so that the person allocates one's material and immaterial resources to the benefit of others because s/he really cares about them. Even sometimes, they put themselves at risk of significant damage to their health. When the ultimate goal of our behavior is the well-being of others (individuals or groups), then it is considered altruistic motivation (19).

There are several reasons why people may have an enjoyable emotional experience through altruistic activities. These activities may make the individual feel less guilt (avoid punishment), or feel good about acting in accordance with social norms, or a particular action (fair, altruistic). Forgiveness is not only an image of altruistic action but also reinforces such an image (20). The staff training helps them learn to be beneficial in critical situations, which leads to an increase in presenting altruistic behaviors. Accordingly, altruistic behavior makes them help faster in crisis. Moreover, the staff can minimize the organizational crises when organizational learning is promoted. The staff training also makes them more innovative in providing services; additionally, they can provide the organization with useful solutions to the critical situation using the social innovation activities.

Keshtkar (2018) conducted a study to investigate the effect of organizational learning on social innovation. The statistical population included a number of managers, officials, and senior decision-makers in national and military

organizations. This descriptive-correlation study was performed based on the structural equation modeling, and the findings showed that "organizational learning" and its dimensions had a positive, direct, and significant effect on "social innovation" (21).

Similarly, a study was carried out by Salimi and Shafiei (2016) entitled "The Effect of the Staff Altruism on Organizational Innovation in Academic Settings and Identification of the Mediating Role of Work Engagement". The aforementioned quantitative study aimed to investigate the effect of altruism on organizational innovation by explaining the mediating role of work engagement among the staff in Shiraz University of Medical Sciences, Shiraz, Iran. The results revealed that the mean altruistic behavior and work engagement level of the staff was higher than the desired adequacy. However, organizational innovation was lower than the acceptable level. Furthermore, according to the findings, there was a correlation among the three main variables of the study. The altruistic behavior had no direct effect on the innovation; however, it predicted organizational innovation via work engagement (16).

Chitsaz et al. (2015) conducted a study entitled "Analysis of the Impact of Knowledge Sharing Infrastructures on Improving the Quality of Crisis Management Operations through Organizational Learning (Case Study: Red Crescent Society of Isfahan Province)". The results showed a significant relationship between knowledge sharing and organizational learning, knowledge sharing and crisis management, as well as organizational learning and crisis management (22).

In the same line, Danai Fard and Nasiri (2011) conducted a study entitled "Improving Strategic Preparation for Crisis Management in Public and Private Hospitals". This study aimed to investigate whether an increase in organizational agility and mental health of the staff increased the strategic preparation in crises. The results of this study confirmed the aforementioned hypothesis. The statistical population included the staff and experts at Tehran hospitals that were divided into private and public sectors. The findings of evaluating variables, indicators, and the relationship between independent and dependent variables, revealed a relationship between organizational agility and mental health of the staff with strategic preparation to deal with the

crisis (3).

In 2019, Kim and Park performed a study entitled "Transformational Leadership in Citizenship Behavior: Organizational Learning and Interpersonal Trust as Mediators". The results showed the direct effect of transformational leadership on organizational learning, interpersonal trust, and organizational citizenship behavior. Moreover, interpersonal trust positively and significantly affected organizational learning and organizational citizenship behavior. In addition, organizational learning had a direct and significant effect on organizational citizenship behavior, and it mediated the relationship between transformational leadership and organizational citizenship behavior (23).

Another study entitled "Linking Altruism and Organizational Learning Capability: A Study from Excellent Human Resources Management Organizations in Spain" was carried out by Guinot et al. (2015). The results revealed a direct relationship of altruism with the dimensions of facilitating organizational learning that resulting in innovation and creativity. Moreover, altruism encouraged the staff to try new processes or activities that led to interpersonal interactions, increases in people's contact for communication and exchange of information, as well as conversation and interaction with the outside environment. All of this can bring innovation to the organization. Additionally, altruism in the organization promotes risk-taking, dialogue, external interaction, participation, and decision-making, and consequently, promotes organizational learning. The findings of the studies show that organizations with altruistic staff help others more easily and selectively when facing problems (24).

Mostafa et al. (2004) conducted a study entitled "Strategic Preparation for Crisis Management in Hospitals: Empirical Evidence from Egypt". This study investigated the Egyptian managers' perceptions of hospitals' preparation for crisis management. According to the results, there was a positive relationship between long-term strategy and crisis preparation. Moreover, a statistically significant relationship was observed between external strategic orientation and crisis preparation. It was also found that organizational complexity is significantly and negatively correlated with perceived crisis preparation (25).

Today, organizations are involved in various critical tasks that can cause problems in the organization. If organizational leaders ignore problems, they put their organizations at serious risk. Accordingly, they have to take this responsibility and regard issues as a potential crisis. In addition, they have to develop strategic and tactical plans in advance to resolve the crisis quickly and prevent its recurrence. If the staff of the organization do not help the organization in critical situations, that organization will be exposed to destruction. To prepare the staff for solving organizational crises, the organizations should enhance organizational learning, and the organizational policymakers prepare themselves for future changes by creating a learning organization.

Therefore, the constant presence of organizations in today's global market requires the development and application of new ideas and the creation of a platform for the production of knowledge and its practical application. In fact, innovation is a response that organizations provide when facing transformations in order to compete with other organizations to ensure survival. Furthermore, altruistic behavior in these organizations helps individuals to put themselves in needy peoples' place in critical situations. Therefore, considering the importance of the organizational crisis phenomenon in order to survive in the current world of competition, this study aimed to investigate the effect of organizational learning on the strategic preparation for crisis management by explaining the mediating role of altruism and social innovation. The question under study is whether there is a relationship between organizational learning and strategic preparation for crisis management with the mediating role of social innovation and altruism in the Red Crescent Society in Gilan, Iran.

Methods

This descriptive-correlational study was conducted based on an applied research method.

Table 1. Cronbach's alpha, composite reliability and average variance extracted values of the latent variables

	R2	Cronbach's alpha	Composite reliability	Average Variance Extracted
Organizational Learning		0.913	0.927	0.518
Social Innovation	0.356	0.917	0.934	0.670
Altruism	0.238	0.801	0.860	0.555
Strategic Preparation for Crisis Management	0.868	0.969	0.972	0.670

The statistical population included the staff in the branches of the Red Crescent Society in Gilan, Iran (n=370). The sample was selected using the clustering sampling method, and Cochran's formula was employed to determine the sample size (n=189). Considering a more accurate calculation, 208 cases were included in this study. The data were collected using Standard Altruistic Questionnaires by Podsakoff, Mackenzie, Moorman, and Fetter (1990), Reilly's Strategic Preparation for Crisis Management, which was applied in 1987 to assess strategic preparation to manage the US banking crisis. Moreover, organizational learning by Pham and Swierczek (2006), as well as social innovation by Keshtkar Haranki (2018) were used as the main tools for data collection. The structural equation modeling was employed to analyze the obtained data based on the Partial Least Squares in Smart PLS software.

Findings

According to the findings, organizational learning has a positive and significant effect on social innovation and altruism. This means that an increase in organizational learning leads to the improvement of social innovation and altruism among the staff. Moreover, organizational learning through the two mediating variables of altruism and social innovation has a positive and significant effect on strategic preparation for crisis management. Accordingly, the staff is more prepared to deal with crises in organizations. As can be observed in Table 2, all values of t-statistic are above 1.96; therefore, all hypotheses are confirmed in this study.

Goodness of fit of the research model

Structural equation modeling was used to test the research hypotheses. Tables 1 and 2 show the structural relationships of the research model in the case of factor load coefficient and significant coefficients, respectively..

Table 2. Path coefficients and significance values among the variables

Hypothesis	Standard coefficient	t-statistics
Organizational Learning→ Strategic Preparation for Crisis Management	0.294	2.213
Organizational Learning→ Altruism	0.488	4.294
Organizational Learning→ Social Innovation	0.597	4.974
Altruism→ Strategic Preparation for Crisis Management	0.525	6.195
Social Innovation→ Strategic Preparation for Crisis Management	0.470	3.553

Moreover, various indicators have been used to estimate the goodness of fit of the model. To ensure the best fit of the model, the internal consistency (reliability) and validity of the data collection tool should be evaluated. For this purpose, Cronbach's alpha and composite reliability coefficients were used to evaluate the internal consistency of the data collection tools. In addition, to check the convergent validity, the extracted mean variance was used, which was acceptable at 0.5 for the Average Variance Extracted (AVE).

As can be observed in Table 1, the values of the combined reliability coefficient and Cronbach's alpha are more than 0.7 for all variables, which indicates the appropriate reliability. Moreover, AVE was used to check the convergent validity, and all values of the variables were more than 0.5 indicating the desired validity. R² is the internal structure of the model that indicates the effect of the exogenous variable on the endogenous variable. The criteria for the weak, moderate, and strong values of the R² include 0.19, 0.33, and 0.67, respectively. The results of fitting this model show that organizational learning, social innovation, and altruism predict 35%, 23%, and 86% of the variance of strategic preparation for crisis management. According to the coefficient of determination, it can be said that the structural model showed a relative goodness of fit.

Goodness of fit of the structural model

To assess the goodness of fit of the structural model, the first criterion is the significant coefficients (t-values) Z, the results of which are summarized in Table 2. As can be observed in the above table, all paths of the structural model of the study have significant values of t greater than 1.96; therefore, all the relationships among the structures in the structural model are significant at 95% confidence level, and the structural model of this study was confirmed.

According to the results of t-statistic, the significant coefficient between organizational learning and strategic preparation for crisis

management is estimated at 2.213, which is more

Table 3. Predictive quality of the variables

Variable	Q ²
Strategic Preparation for Crisis management	0.732
Social Innovation	0.617
Altruism	0.452
Organizational Learning	0.571

than 1.96 indicating the direct impact of organizational learning on strategic preparation for crisis management at a 95% confidence level. Moreover, the statistical significance between organizational learning and altruism is determined at 4.294, which is more than 1.96 revealing the direct effect of organizational learning on altruism at a 95% confidence level. In addition, the coefficient of significance between organizational learning and social innovation is 4.974, which is more than 1.96, which signifies the direct impact of organizational learning on social innovation at a 95% confidence level. The coefficient of significance between altruism and strategic preparation for crisis management is 6.195, which is higher than 1.96, which denotes the effect of altruism and strategic readiness for crisis management at a 95% confidence level. The coefficient of significance between social innovation and strategic preparation for crisis management is 3.553, which is more than 1.96 and demonstrates the impact of social innovation and strategic preparation for crisis management at a 95% confidence level.

The results of standardized coefficients of variables show that organizational learning affects strategic preparation for crisis management (30%), altruism (49%), and social innovation (60%). Moreover, strategic preparation for crisis management is influenced by altruism (52%) and social innovation (47%).

Regarding the significant relationship of organizational learning with altruism and social innovation, as well as the association of altruism and social innovation with strategic preparation for crisis management, it can be concluded that organizational learning with the mediating role of

altruism and social innovation has a positive and significant relationship with strategic preparation for crisis management.

Predictive quality of Q2

This criterion determines the predictive power of the model. Models that have a good structural fit should be able to predict the characteristics of the endogenous structures of the model. Accordingly, 0.02, 0.15, and 0.35 of Q2 indicate weak, moderate, and strong predictive power of the structure or related exogenous structures. According to the results of the following table, the Q2 value of the latent variables of the research model has a strong predictive quality.

Goodness of Fit Index

The overall goodness of fit of a statistical model can be measured using Q2, R2, GOF indices. R2 is the internal structure of the model which indicates the effect of the exogenous variable on the endogenous variable. In addition, Q2 determines the predictive power of the model in dependent variables. The goodness of fit is calculated using the following formula:

$$GOF = \sqrt{\text{Communality} \times R^2} = 0.4435 \times 0.593 = 0.2629955$$

The obtained goodness of fit indicates the moderate fit of the research model.

Discussion and Conclusion

The results showed that organizational learning has a positive effect on Strategic Preparation for Crisis Management, social innovation, and altruism. Moreover, learning through the mediating role of altruism and social innovation affects the Strategic Preparation for Crisis Management. Learning is one of the factors influencing the Strategic Preparation for Crisis Management, social innovation, and altruism; additionally, it is the core of change, transformation, and improvement in the organization.

The crisis is an unexpected and surprising situation that all organizations face to some extent. Therefore, efforts should be made to recognize the reality and effects of the crisis, and plans should be developed to minimize the negative effects and damages. In order to always be able to react appropriately in crises, necessary

predictions must be made while providing the staff with the required training. Moreover, it is of significant importance to encourage the staff to become familiar with the principles of strategic preparation for crisis management so that they do not become confused during the crisis.

Crisis management intends to prevent and deal with future crises in the organization. Furthermore, social innovation argues that people are always trying to find new solutions to social needs. Accordingly, social innovation seems appealing since it can be utilized in a creative and positive way to solve social challenges. Some believe that social innovation is an instrument to achieve goals, such as sustainable, inclusive, and smart welfare.

The results also showed a significant relationship of organizational learning with social innovation, altruism, and strategic preparation for crisis management. Moreover, social innovation and altruism mediate the relationship between learning and strategic preparation for crisis management. Organizational learning allows the staff to learn methods to overcome negative emotions during the crisis. In addition, they learn how to overcome their emotions in stressful situations, assess the level of threat and danger during the operation, as well as find appropriate solutions to control the circumstances. This result is consistent with the findings of the studies conducted by Chitsaz et al. (2015) and Mustafa et al. (2004). They found a significant relationship between organizational learning and crisis management as well as a long-term strategy and crisis preparation.

The organizations require learning to solve the problems followed by crisis and prepare the staff before the crisis to apply what was learned in their operations. Moreover, organizations need to develop training for staff learning. If learning develops in the organization, altruism will arise among the staff, and they will be more inclined to present altruistic behaviors in critical situations. If these behaviors are reinforced in employees, they will be more beneficial and loyal to the organization, thereby improving the strategic preparation for crisis management. Therefore, learning is of high quality, and the altruistic person is more inclined to take risks. In addition, altruism encourages the staff to experience new learning and processes.

Several studies have been conducted on these

variables, and they were compared with each other. This result is also consistent with the findings of the studies conducted by Danaeifard and Nasiri (2011), Kim and Park (2019), and Gino et al. (2015). According to the results of the above-mentioned studies, there is a relationship between organizational agility and the mental health of the staff with strategic readiness to deal with the crisis. Organizational learning had also a direct and significant effect on organizational citizenship behavior .

In addition, social innovation plays an important role in the strategic preparation for crisis management since social innovation seeks a novel solution to solve the problems of the organization or society. Innovation is a unique learning process to be helpful in critical situations. Organizational learning can play an effective role in people's innovation because it allows people to express their creativity and pave the way for more innovation. Social innovation leads to a better, as well as more efficient and effective reaction to the crisis, which is in line with the findings of a study conducted by Keshtkar (2018).

Given the importance of strategic preparedness to deal with the crisis in the present study, it is necessary to develop appropriate plans to prepare the staff in the organizations. Accordingly, when the staff has sufficient potential to deal with crisis, they have improved performance during these events. As a result, the organization must provide the staffs with learning opportunities in order to make them react appropriately during crisis. Additionally, they should be encouraged to have altruistic behavior and cooperation in dealing with crises. Improvements in the learning opportunities make the staffs identify problems quickly and come up with innovative solutions to meet the organization's social needs.

Acknowledgments

The authors would like to express their gratitude to all those who contributed to the conduction of this research project.

Conflict of Interests

Authors declared no conflict of interests regarding the publication of the present study.

References

1. Al-Khrabsheh AA. Impact of strategic planning on crisis management in the profit and non-profit sector in Jordan. *Acad Strategic Manag J* 2018; 17(5): 1-12.
2. Beaufre A. Action strategy. Trans: Mohammadi M. Tehran: Office of Political and International Studies; 1990.
3. Danai Fard H, Nasiri M. Improving strategic preparation for crisis management in public and private hospitals. *J Strategic Manag Stud* 2012; 2(8): 123-40.
4. Massey JE. Managing organizational legitimacy: communication strategies for organizations in crisis. *J Busin Communic* 2001; 38(2): 153-82.
5. Preble JF. Integrating the crisis management perspective into the strategic management process. *J Manag Stud* 1997; 34(5): 769-91.
6. Billings RS, Milburn TW, Schaalman ML. A model of crisis perception: a theoretical and empirical analysis. *Admin Sci Quart* 1980; 25(2): 300-16.
7. Weisæth L, Knudsen Ø Jr, Tønnessen A. Technological disasters, crisis management and leadership stress. *J Hazard Mater* 2002; 93(1): 33-45.
8. Shokrizadeh AR, Khodadadi N, Kiamarz S, Moradi A. Crisis management strategies in crises within the organization. Conference on Civil Engineering, Urban Planning and Sustainable Development, Tehran, Iran; 2015.
9. Taneja S, Pryor MG, Sewell S, Recuero AM. Strategic crisis management: a basis for renewal and crisis prevention. *J Manag Policy Pract* 2014; 15(1): 78.
10. Sobhani N, Shahabi M, Youzbashi B. Learned organization, theoretical foundations of research and evaluation model. Tehran: Yastron Publication; 2006.
11. Mokhtari AH, Akbari Mahallekolae M, Bagheri R. Change readiness and organizational learning (case of study: Tehran Municipality). *Sci J Strategic Manag Organ Knowl* 2018; 1(1): 169-87.
12. Afjei SA, Rezaei AN. The relationship between organizational learning and personnel readiness for change in insurance companies. *J Manag Stud Dev Eval* 2013; 23(70): 231-47.
13. Kim DH. The link between individual and organizational learning. *Strategic Manag Intellectual Capital* 1998; 41: 62.
14. Mobini Dehkordi A, Keshtkar Haranaki M. Analyzing the effects of three-dimensional model on social innovation: a case study of a company in Iran's automotive industry. *Innovat Manag J* 2015; 3(4): 57-75.
15. Oeij PR, Van Der Torre W, Vaas F, Dhondt S. Understanding social innovation as an innovation process: Applying the innovation journey model. *J Busin Res* 2019; 101: 243-54.
16. Salimi G, Shafiei L. The evaluation of the effect of employees' altruism on organizational innovation in academic settings: the mediating role of work engagement. *Educ Measur Eval Stud* 2016; 6(15): 143-66.

17. Healy K. Altruism as an organizational problem: the case of organ procurement. *Am Sociol Rev* 2004; 69(3): 387-404.
18. Delavar AL, Shabani Z, Karimi Y, Dortaj F. Explaining the effect of psycho-social factors on the altruism of charity school-builders. *Quart Educ Psychol* 2016; 12(39): 45-79.
19. Radovanović B. Altruism in behavioral, motivational and evolutionary sense. *Filozofija Društvo* 2019; 30(1): 122-34.
20. Bekkers R, Wiepking P. A literature review of empirical studies of philanthropy: Eight mechanisms that drive charitable giving. *Nonprofit Voluntary Sector Quart* 2011; 40(5): 924-73.
21. Keshtkar M. The survey on the effect of organizational learning on social innovation. *Naja Huan Res* 2018; 9(51): 93-114.
22. Chitsaz A, Shaemi BA, Shafiei BS. The analysis of the effects of knowledge sharing infrastructures on improving the quality of crisis management operation via organizational learning (case study: Isfahan Red Crescent society). *Sci J Rescue Relief* 2015; 7(1): 70-87.
23. Kim EJ, Park S. The role of transformational leadership in citizenship behavior: Organizational learning and interpersonal trust as mediators. *Int J Manpower* 2019; 40(7): 1347-60.
24. Guinot J, Chiva R, Mallén F. Linking altruism and organizational learning capability: a study from excellent human resources management organizations in Spain. *J Busin Ethics* 2016; 138(2): 349-64.
25. Mostafa MM, Sheaff R, Morris M, Ingham V. Strategic preparation for crisis management in hospitals: empirical evidence from Egypt. *Disaster Prev Manag* 2004; 13(5): 399-408.

