# New Technologies of Crisis Management in Red Crescent Society of the Islamic Republic of Iran

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## Abstract

**INTRODUCTION:** The Islamic Republic of Iran Red Crescent Society, which is one of the elements of the country's crisis management organization, is always present at the scene from the earliest moments in the critical situations such as floods, earthquakes, fires, etc. and deals with the crisis and facilitates the situation. Given the increasing role of technology in all aspects of human life, the present study is carried out aiming to investigate the role of new technologies in crisis management in the Iranian Red Crescent Society (IRCS).

**METHODS:** This study was applied in terms of objective and qualitative in terms of data collection. The statistical population of the study consisted of the IRCS experts 9 of whom were selected by the purposeful snowball sampling method. The data collection tool was in-depth interviews. The content analysis method was used to analyze the findings of the interview using the categorization method.

**FINDINGS:** New technologies help prevent crises by creating motivation, enhancing interaction, and informing. In addition, using technology in the crisis prevention phase leads to the increased learning, decreased costs, reduced losses, and increased awareness. The application of new technologies in the crisis prevention stage also faces challenges, including infrastructure, human resources, education and research, culture, and access challenges.

**CONCLUSION:** New technologies have led to the creation of social networks, interaction with the international community, and providing information at any time and place, which has a vital and remarkable role in crisis prevention.

**Keywords:** New Technologies; Crisis Management; Red Crescent Society of the Islamic Republic of Iran

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## Introduction

Occupational accidents, unexpected and natural disasters, political and social incidents, and economic disasters are accompanied by extensive human casualties and financial losses in all countries worldwide. Nevertheless, in underdeveloped or developing countries, this issue is important in many respects, and the role of management in critical situations is crucial.

"Crisis means leaving the balance, which if left ignored, causes leaving justice". Crisis management is actually a set of skills or research process applied when an unconventional risk or problematic situation occurs (1). In other words, crisis management refers to a set of advanced and specific plans and methods that are used to prevent and control crises (2). In short, the crisis management goals are to: 1. anticipate crises and risks; 2. prevent crisis; 3. contain crisis; and 4. restore conditions to normal situation (3). Crisis management is a functional scientific field that systematically observes crises and analyzes them in

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search of a tool that can prevent crises or, in case of occurrence, reduce their impact, provide readiness, provide rapid relief, and improve the situation (4). One of the most important goals of crisis management is to prevent crises. In other words, the efforts must be made before the crisis to provide as much conditions as possible so that the crisis does not occur unless it is beyond human will.

IRCS, as one of the pillars of the country's crisis management organization, is always present at the scene from the earliest moments in the critical situations such as floods, earthquakes, fires, etc. and deals with the crisis and facilitates the situation using trained personnel. The society is a charitable, non-profit, and independent legal entity, and is bound to all international commitments and conventions associated with the objectives and duties of the Red Crescent and Red Cross societies as well as the provisions of the Red Crescent and Red Cross unions that do not conflict with the Constitution and other laws of the Islamic Republic of Iran, in addition to acting in the trans-boundary and domestic relief and health issues and related obligations in line with the policies of the Government of the Islamic Republic of Iran based on its statute (5).

Information and communication technology (ICT) is a diverse collection of software industries, office supplies, data processing equipment, data communication equipment, and services and hardware used to create, publish, store, and manage information that enables the flow and operation of information (6-9). ICT is achieved through the interaction of three distinct parts of computers, information, and communication, and is divided into two parts: IT and communication equipment (10).

Regarding the role of ICT in disaster management, Ajami and Sarbaz argue that the disaster management teams should enhance their capabilities (especially in providing telecommunications support) for disastrous situations. They should also consider secure mobile and wireless communication systems and equipment in their communications channel sets for uninterrupted communication so that they can use these systems, which are more flexible and dynamic than the traditional tools, and thus being able to communicate information efficiently among the crisis management team and all the individuals involved in the crisis (11). Mehrabi suggested that the use of ICT is vital, particularly in crisis management. New technologies used in crisis management such as telemedicine and geographic information system (GIS), by providing high quality health care to patients and victims especially in critical situations and providing a spatial database to show the location of the settlements, communication roads, and so on are highly useful (12).

Ahadpour Somerin et al. concluded that, from the perspective of managers of the organization, the application of new technologies in natural disasters reduces human casualties and relief time (13). Moreover, Ali Ahmadi declared that the IT-related projects plays a significant role in an effective crisis management, but its use in Tehran is either under development or has not been a priority (14). Furthermore, Javanmard and Partabi pointed out that information systems and accurate and timely information are one of the most important factors in managing crisis and since there is not yet a perfect information system and database in Iran despite the presence of the unexpected incident headquarters, they suggested that the first step necessary for a proper crisis management is the establishment of a database (15). Khoshnoodifar showed that information and communication technologies have specific applications at every stage of crisis management. In the crisis mitigation phase, remote sensing technology, mapping based on satellite data, telemetry, and GIS allow for more accurate observation of the Earth, oceans, and the atmosphere, allowing for early anticipations and announcements. In the preparation phase, the establishment of preparation networks associated with the operational centers in emergencies, media systems in crises, and community training, including awareness raising among the authorities and notification to the people at risk are conducted based on this technology. In this phase, the effectiveness depends largely on proper training and volunteers at different levels. In the response and recovery phase, technology is used for assessing the vulnerabilities and needs, gathering information on resources and what is being offered, coordinating activities, counting the missing, and creating motivation for public, political, and institutional responsiveness. Effectiveness at this stage is also based on the flexibility of the communications infrastructures in a crisis-prone area (16). In a study, Mahmoudi found that information systems, which are in fact



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the most critical source of providing information and strategic analysis and solutions when coping with crises, play a crucial role in the prediction, prevention, and containment of risks and crises (1).

In order to achieve its main objective of examining new technologies in crisis management in IRCS, the present study seeks to answer three main questions as follows.

1. How can new technologies help prevent crises (from an educational point of view)?

2. What are the outcomes of applying new technologies (from an educational point of view) in the crisis prevention phase?

What are the challenges of deploying new technologies in the crisis prevention phase?

## Methods

This study was applied in terms of objective and qualitative in terms of data collection. The statistical population of the study consisted of the IRCS experts selected by the purposeful snowball sampling method.

Then, in-depth interviews were conducted with 9 members of the study population (selected based on the executive, educational, and research background criteria) and their opinion was asked about each question of the interview. In the purposeful sampling, the researcher continues to work until theoretical saturation is reached, in other words, nothing new is added to the findings. In the current study, the researcher achieved theoretical saturation after interviewing the ninth subject.

The categorization content analysis method was employed to analyze the interview findings. Besides, the peer review method was utilized to check the reliability of the data obtained from the interviews.

## Findings

The results obtained from the analysis of interviews by the study questions are presented in tables 1, 2, and 3.

**Table 1.** Coding findings obtained from examining the role of new technologies (in educational terms) in crisis prevention

| Selected code | Pivotal code | Open code | Interviewee | Examples of interviewee's verbal statements |
|---|---|---|---|---|
| Technology and crisis prevention | Increasing interaction | Starting up social networks | 2 | "Well, social networks like Telegram and Instagram have made it much easier and faster for people to communicate and train each other how to prevent the crisis and its problems". |
| | | Interacting with the international community | 6 | "In fact, new technologies make communications unrestricted, and this makes us use other countries' experiences in using technology to prevent crisis." |
| | | Providing information anytime and anywhere | 3 | "Technology has made it possible for individuals and organizations to exchange information anywhere and anytime with anyone". |
| | Information | Continuing education | 5 | "Modern educational technology can lead to the prevention of some crises with modern continuing education and has a huge impact on people's awareness". |
| | | Updating information | 9 | "Through technology, we can update our information and prevent some of the problems and crises that come from our lack of knowledge". |
| | | Launching crisis information websites | 2 | "Thank God we are making progress in this area and we are launching websites that can be used to spread information as much as possible". |
| | | Public education through TV and IRBC | 7 | "IRBC is very effective in education. IRBC is more common and most people have a TV at home. The most important of all is IRBC, everyone has have a TV set at home, even if there is no internet or people cannot afford buying a smartphone. IRBC is important, especially producing animations, particularly in the children's language as children also train their parents". |
| | Creating motivation | Increasing learning motivation | 3 | "Technology is inherently appealing, and this feature has made people use it more, and when we design software entertainment, the motivation for learning increases". |

IRBC: Islamic Republic of Iran Broadcasting



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**Table 2.** Coding findings obtained from examining the results of new technologies (in educational terms) in crisis prevention

| Selected code | Pivotal code | Open code | Interviewee | Examples of interviewee's verbal statements |
|---|---|---|---|---|
| Results of application of technology in crisis prevention | Learning | Increased transfer and learning speed | 3 | "Learning through technology is more effective than classroom and face-to-face learning and it is much easier to transfer information". |
| | | Rapid computing and processing of information | 9 | "Technology enables fast computing and processing of information and its immediate transfer, in addition to reducing the implementation time and thus increasing productivity". |
| | | Increasing learning accuracy | 1 | "IT provides and guarantees high and constant accuracy for learners". |
| | | Preventing imposing preferences by the trainers | 4 | "Using IT enhances transparency in doing things and eliminates many personal views". |
| | Cost reduction | Cost reduction | 7 | "Given the above, especially increasing speed, which increases the number of full-time tasks performed, the system's productivity increases and results in a significant reduction in costs". |
| | Damage reduction | Damage reduction | 6 | "The real and main outcome that we desire of the technology use is actually the reduction of life and financial losses". |
| | Raising awareness | Possibility of remote collaboration | 8 | "One of the features of using technology is the remote collaboration among individuals and organizations". |
| | | Raising individuals' awareness of crises | 5 | "Through mass media and new technologies we can raise individuals' awareness before a crisis takes place". |

IT: Information technology

As illustrated in Table 1, after analyzing the data obtained from the interviews, it was found that new technologies can help prevent crises by enhancing interaction, information, and motivation. In fact, the use of technology makes it possible to identify crises at the earliest time and provide the necessary information in this regard, in addition to informing different individuals in the community.

Table 2 represents the results of application of technology in crisis prevention, i.e. in case of deploying technology in crisis management, what can the results be? The study findings revealed that using technology in crisis management can enhance learning, reduce costs, reduce losses, and promote public awareness.

As shown in Table 3, the application of new technologies in crisis prevention faces various challenges, including infrastructure, education and research, culture, human resources, and access.

As shown in Figure 1, the role of modern information and communication technologies in crisis management in IRCS was examined from three aspects. In terms of crisis prevention, from the education point of view, new technologies can help prevent crisis by enhancing interaction, information, and motivation. Moreover, the use of new technologies can lead to consequences such as the increased awareness, reduced losses, reduced costs, and learning in individuals, which can prevent potential crises or, in the event of a crisis, can lead to proper management. However, given the above findings and figure, the use of new technologies in the crisis prevention phase in IRCS faces challenges such as infrastructure, human resources, access, culture, and education and research challenges. In this regard, efforts must always be made to provide the appropriate infrastructure for deployment and use of new technologies, train specialized human resources for this issue, build culture to use technology to prevent crises to make best use of technology in this area, make it possible for everyone to access technology through infrastructure preparation and public awareness, and provide necessary education and research in this regard.



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**Table 3.** Coding findings on the challenges of using new technologies in crisis prevention phase

| Selected code | Pivotal code | Open code | Interviewee | Examples of interviewee's verbal statements |
|---|---|---|---|---|
| Challenges of using new technologies in crisis prevention | Infrastructure | Inadequate infrastructure and equipment | 8 | "Insufficient network and telecommunication equipment in the country to provide easy, cheap, and reliable communication technology for use in crisis management training". |
| | Education and research | Shortage of scientific and research studies | 2 | "There is not a significant educational activity in the scientific and research centers regarding the specialties associated with the application of ICT in education, particularly the provision of appropriate educational content and necessary software". |
| | | Face-to-face training problems | 5 | "Face-to-face training is difficult and we can say that many provinces have failed in this field". |
| | | Increasing short-term training costs | 6 | "A big challenge that may arise in any field is the short-term training costs, which delays the application of technology". |
| | Culture | Lack of adherence to the copyright law | 9 | "Some organizations that I don't want to name them (Crisis management sub branch organizations) publish our animations without authorization and observing the copyright law under their own name on the Aparat website which I call it an electronic plagiarism, and they cover our logo and publish it under their own name". |
| | | Applying personal tastes in technology application | 7 | "Maybe a challenge is the lack of strategic plans and imposing personal tastes in applying educational technologies (hardware view at the technology development)". |
| | | Resistance to change | 1 | "Lack of accompaniment of the employees with educational technologies (because crisis management staff seems to be insufficiently prepared to benefit from modern educational technology due to the context of work in these areas). This unpreparedness becomes a kind of resistance to change and innovation". |
| | Human resources | Shortage of specialized human resources | 5 | "The shortage of human resources specialized in implementing software and hardware training technologies in organizations related to crisis management is one of the challenges we face". |
| | Access | Lack of access of everyone to new technologies and the Internet | 8 | "Applications are useful, but not for everyone in the society. There's a shoemaker in our alley that has a simple cellphone which probably doesn't have the internet connection capability. This example can be extended to a community. Even in the rural areas of Tehran, there may be little or no access". |
| | | Information literacy inequality | 7 | "Not everyone in the community enjoys the same level of information literacy". |

## Discussion and Conclusion

Given the increasing trend of natural, social, political, and economic crises resulting from climate and environmental or political issues of governments and global financial crises, on the other hand, the development of new information and communication technologies, new technologies for crisis management in IRCS were investigated in the present study. As stated previously, this study sought to answer three questions using in-depth interviews to collect data and analyzed the data through content analysis using the categorization method.

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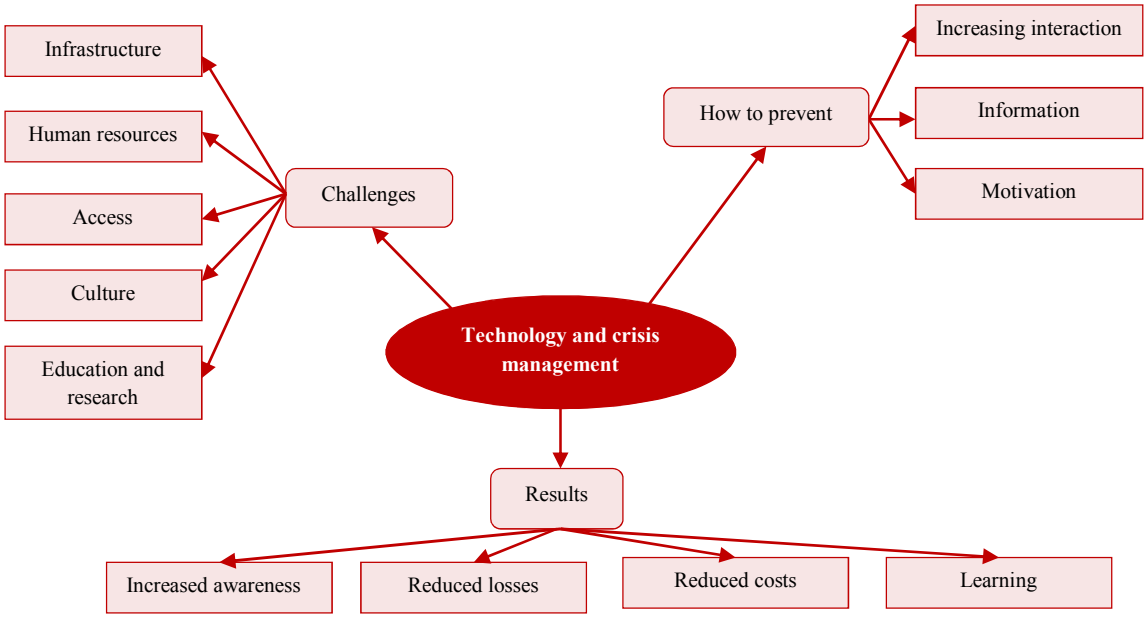



**Figure 1.** Technology and crisis management model

The interview analysis results suggested that educational technologies can help prevent crises by enhancing interaction, information, and motivation. The interviewees believed that the new technologies led to the creation of social networks, interaction with the global community, and provision of information at any time and place. In fact, social networks have enabled individuals to communicate anywhere and anytime with anyone in the world, and thus they gain a great deal of information about the crisis and ways to prevent it, in addition to the required information provided to the community. Furthermore, because technology has its own attractions, it increases motivation of individuals to use technology, especially through new applications and games, thereby enhancing learning. In fact, it can be claimed that the attractiveness of new technologies has made users more inclined towards it, which in addition to motivating them, leads to getting new information through more interaction with people, groups, and etc. everywhere so they can use it in any situation, in particular in critical situations and even in crisis prevention measures.

Based on the study findings, the increased learning, cost reduction, reduction of losses, and increased awareness were among the outcomes of the technology use in crisis prevention. Technology has made individuals to have more access to different sources of information, and as a result, increasing their awareness. In other words, learning will increase rapidly in this case. Additionally, when the individuals' knowledge and awareness increases, the amount of losses will undoubtedly reduce. Because they gain a lot of learning experiences in different fields and this can prevent losses to some extent. Increasing awareness and reducing losses also in turn reduce costs due to the application of new ICTs. On the other hand, there is no need for face-to-face education for all people, as new technologies have enabled people to learn via remote learning and e-learning facilities.

Furthermore, the interviewees believed that the use of technology in crisis prevention faces numerous challenges such as infrastructure, human resources, education and research, culture, and access. They declared that there is no infrastructure needed to deploy technology in the crisis prevention field and that everyone could not easily use it. The use of ICTs in crisis management is of great importance for organizations involved in operations. Collecting data from disaster-stricken areas using the state-of-the-art technologies is faster and more reliable. Every day, newer generations of technologies are created and come to market with various capabilities. Therefore, in order to introduce and familiarize relief workers with these new technologies, especially their use in times of crisis, holding training courses and promoting the culture of ICT use should be supported by the authorities. Technology needs to be used by the



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professionals and there is currently a lack of such individuals in the field. Therefore, the necessary training should be provided in this field, and even research should be performed in the scientific community. Another challenge that needs to be strongly addressed is the issue of access to technology, as everyone does not have access to technology and the Internet, and this has made it impossible for all members of society to use technology. Therefore, efforts must always be made to provide everyone with access to technology so that they can perform best in the fastest possible time in critical conditions.

Taking into account the results of the present study, it is suggested to conduct studies on the role of technology in other stages of crisis management and to perform investigations on the damages of ICTs in crisis management.

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## Conflict of Interests

Authors have no conflict of interests.

## References


1. Mahmoudi SM. The role of information systems in crisis management. Organization Culture Management 2003; 1(2): 59-92. [In Persian].
2. Razavi SM, Javanmard M. Crisis management with the help of information technology. Proceedings of the 6th Conference on Information and Knowledge Technology; 2014 May 27; Shahroud, Iran. [In Persian].
3. Poor Rostami H. Crisis management strategy in Hazrat Zeinab (A.S) Method. Organizational Culture Management, 2013; 11(2): 55-85. [In Persian].
4. Mazloumi MR, Shakeri G. The experience of managing the crisis of gas and ice blast in the north of the country in the winter of 2007. Proceedings of the 7th International Management Conference, Ariana Research Group; 2009 Dec. 19-20; Tehran, Iran. [In Persian].
5. Iranian Red Crescent. Statute of the Islamic Republic of Iran Red Crescent Society [Online]. [Cited 1983]; Available from: http://en.rcs.ir [In Persian].
6. Ciroma ZI. ICT and Education: Issues and challenges. Mediterr J Soc Sci 2014; 5(26): 98-100.
7. Pohjola M. The new economy in growth and development. Oxford Review of Economic Policy 2002; 18(3): 380-96.
8. Goyal D, Goyal N. Role of Information and Communication Technologies in Transforming Teaching and Learning Environments. In Utilizing Educational Data Mining Techniques for Improved Learning: Emerging Research and Opportunities 2020 (pp. 1-12). IGI Global
9. Arbabian S, Yazdani M, Khalili Ardeli S. The effect of information and communications technology (ICT) on trade development of industry. Iranian Journal of Trade Studies 2016; (79): 35-66.
10. Emadzadeh M, Shahnazi RA, Babaki RA, Mohammadzadeh A. The effect of ICT on employment. Journal of Economic Research 2006; (75): 197-221. [In Persian].
11. Ajami S, Sarbaz M. Necessity of usage mobile and wireless communication systems in hospital disasters. Health Inf Manage 2015; 11(6): 665-6. [In Persian].
12. Mehrabi N. Functional role of communication and information technology tools in crisis management. Paramedical Sciences and Military Health 2014; 9(1): 48-53. [In Persian].
13. Ahadpour Somerin A, Shahrakipour H, Mohammad Beigi A, Ahadpour Somerin Y, Mortazavi SM. Studying the effect of relief workers training of rescue & relief organization through new technology in response to natural disasters in Tehran in view of managers. Sci J Rescue Relief 2013; 5(2): 70-8. [In Persian].
14. Ali Ahmadi A. The role of information technology in crisis management in Tehran [MSc Thesis]. Tehran, Iran: Payame Noor University; 2010. [In Persian].
15. Javanmard H, Partabi T. The role of information technology in crisis management. Information and Notification 2008; 8(2): 53-6. [In Persian].
16. Khoshnoodifar M. Role of information and communication technology in crisis management. Proceedings of the 3rd International Congress on Health, Medication and Crisis Management in Disaster; 2006 Dec.12; Tehran, Iran. [In Persian].


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