



Organizational Reengineering for Relief Agencies based on BPR Methodology

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ABSTRACT

Nowadays, organizations conduct change projects based on reengineering processes because business processes reengineering (BPR) methodologies implement process-oriented approach. By this view governmental organizational also utilizes such methodology. One of the main practical issues of such implementation is about using BPR methodology in relief organization. On the other hand, Iran has been faced with an increase of accidents in various forms. Thus having more efficiency in relief agencies to deal with these accidents and maintain readiness in the face of threats is essential. Relief agencies should be covered by the Unexpected Disasters Center in order to carry out their missions and duties perfectly. Therefore, familiarity with the tasks of each group is inevitable. Given the foregoing, the main objective of this study is to investigate how we can develop a reengineering project based on BPR approaches in Iran relief agencies. By this we propose a new model for reengineering which has the main capabilities of general models in BPR methodology. In addition, we show the prerequisites of implementing new model in Iran Unexpected Disasters Center.

Keywords: Organizational Reengineering, BPR Methodology, Relief agencies, Change Management.

Introduction

Each day, around 16,000 people die in the world due to a variety of injuries. Damages and injuries caused by various accidents account for 12% of the total disease burden, and it is considered as the third leading cause of death between the ages of 1 and 40 years (Peden, et al, 2004). Each year many cities and villages around the world, destroyed by flood. As well as people who get killed in unprincipled buildings, unsafe vehicles and substandard roads.

Effective crisis management system in the case of natural disasters is amongst the most important factors which reduces the amount of damages (Adini, 1993). However, the majority of crisis management organizations have hierarchical structures which provide critical inefficiencies. Organizations those are able to successfully carry out the business process reengineering (BPR) programs, beside achievement of the fundamental results in the

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short term, have such a flexibility that will enable them to implement continuous change (Harmon, 2002; Hammer, 1996). In fact, BPR take into consideration the rapid changes in technology, market and economy and also fundamental and intense changes. This knowledge use all ways to structure change management and industrial engineering tools to transform bureaucratic organizations into new process-oriented and flexible organizations.

Business process reengineering (BPR) is not only necessity for businesses, but also for the survival of any social institution is required. All institutions which are in crisis or predict that they will be caught up in crisis, even institutions that are at the pinnacle of power, can also benefit from the reengineering of processes in order to flourish and prosper (Hagel and Singer, 1999). Given the foregoing, the main objective of this research is studying about the best reengineering method for organizational change of relief agencies in order to become more efficient in dealing with crises and accidents. Chapter 2 provides a review on BPR methodology and the introduction of integrated general framework based on BPR methodologies. Chapter 3 provides the research methodology and implementing the BPR in relief organizations. Chapter 4 develops the outcomes of implementation regarding the case study of crisis management system. Finally in Chapter 5 the conclusions and future research will be introduced.



Research Background

In this section the theoretical background of the research is analyzed. Then a general framework for reengineering of relief organizations will be developed.

1.1. Business Process Reengineering

Methodology

The first attempts to analyze organizational processes were published by Hammer and Champy based BPR (Hammer and Champy, 1993). In fact, they are the first persons who invented the term "Business Reengineering". Since the early 90s, various organizations such as Xerox, Ford, IBM and Norwegian Statoil in the advanced industrial countries are on the verge of collapse or lose their share in the world markets. By using this new approach, they were able to implement a fundamental change in their organizations and gain more markets and now they are trying to achieve continuous change in order to gain more success (Zhang and Cao, 2002; Reiss, 2012). BPR be implemented as a means of re-aligning strategies, operations and policies with a sharp increase in financial results and customer satisfaction. The main objective of BPR is to find ways to help more results with fewer resources and provide better goods and services in a shorter time so that the quality, speed and cost are key drivers (Radhakrishnan and Balasubramanian, 2008). In process reengineering, the changes are classified in fundamental (basic), radical, impressive and hierarchical groups (Kennedy and Harvey, 1997). Namely, organizations should move in the direction where it must be going. In order to achieve optimal conditions, it must find the root of the problem and change through sustained efforts and continuous variation (Amis John and Aïssaoui, 2013). By the way, the goal is to achieve what the customer likes and furthermore which actions influence on organizational culture and better economic outcomes (Radhakrishnan and Balasubramanian, 2008).

1.2. Requirements of BPR

Process reengineering, as well as other projects include stage of analysis, design and implementation stage. Complete BPR presented in Figure 1. The main benefits of BPR from the perspective of Hammer and Champy are (Hammer, 1996):

1) Business units convert from specialized administration to process-oriented teams,

- 2) Jobs convert from a simple task to multilateral jobs,
- 3) The role of individuals converted from a controlled role to a authorized role,
- 4) Work requires knowledge rather than training,
- 5) Standard is performance and rewards would belong to the result rather than activities,
- 6) Potential be considered as a measure of progress rather than manner,
- 7) The main value is efficiency rather than the company's interests,
- 8) Concerning the general roots of BPR which first time stated by Hammer and Champy different approaches developed by researchers based on organizational requirements. Another approach for BPR was presented by Davenport (Davenport, 1993; 1996). Regarding his works BPR model can be implemented as showed in Figure 2.
- 9) The organizational structure converts from pyramidal structure to horizontal and broad, and Managers lead their organization rather than scoring.

Similarly the other models such **Manganelli & Klein Model** and **Kodak Model** can be investigated for proving a general methodology (Radhakrishnan and Balasubramanian, 2008; Majchrzak and Wang, 1996). However the relevance of such general methodology should be examined in any practical context herein we study in domain of relief organizations. Table 1. shows the integrated methodology of BPR which is developed based on comprehensive aspects of the main BPR models.

1.3 The background of rescue teams in

The oldest duty of firefighters is to extinguish the huge and possible fires. However, over time and with different disasters, rescue the injured people were also assigned to them and rescue group founded in Iran in 1957, for one of the most common accidents at the time was fall out to sewerage wells. The Iranian Red Crescent Society (IRCS), formerly known as the red lion and sun, was established in 1923 and was recognized in the same year by the International Committee of the Red Cross. In 1927, the Red Cross Society merged with each other as the International Federation of Red Cross and Red Crescent Societies. In 1980, the Islamic Republic of Iran decided to drop the red lion and sun and replace the Red Crescent (Asadpour, 2006).



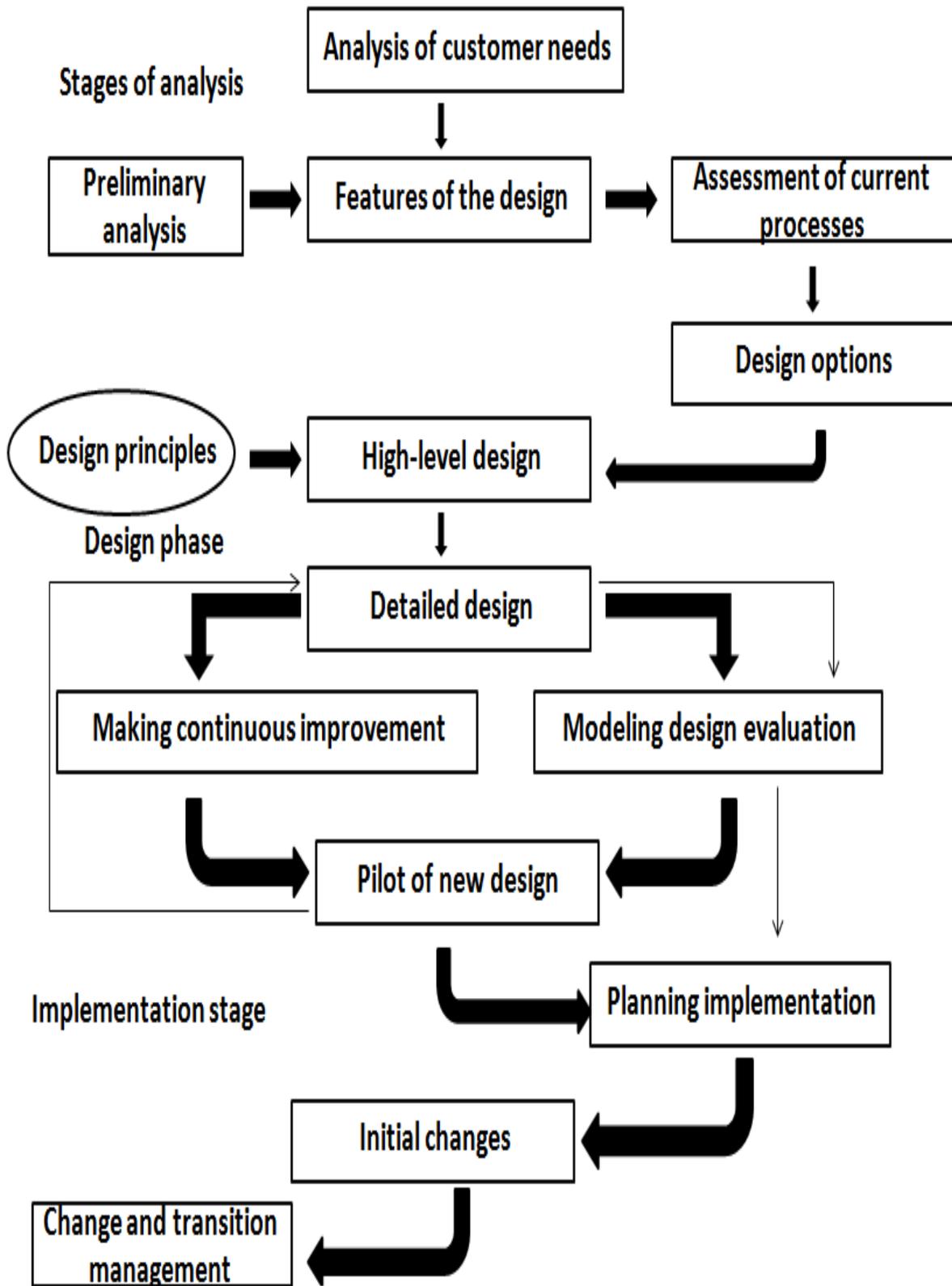


Figure 1. Stages of BPR by Hammer and Champy

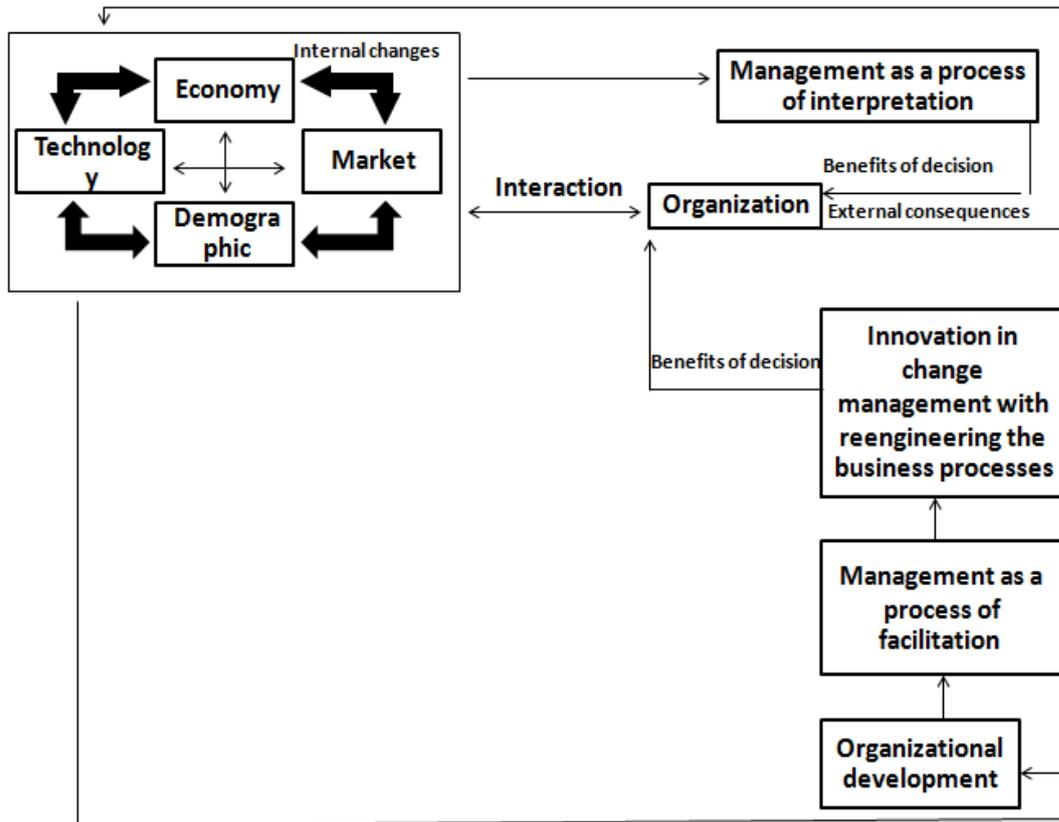


Figure 2. The model of BPR by Davenport

Table 1. The integrated BPR methodology for reengineering relief organizations

Integrated Framework	Hammer & Champy	Davenport	Manganelli & Klein	Kodak
Vision and Strategic framework	✓ Entering the BPR	✓ Vision and objectives	✓ Preparation	✓ Beginning of the project
Identification process	✓ Identification of business processes	✓ Identification of business processes	✓ Identification	✓ Understanding the process
Documentation	✓ Selection processes	✗	✗	✗
Processes Analysis	✓ Identify/understand and the selected processes	✓ Understanding/measurement the selected processes	✓ View	
Redesign/Reengineering	✓ The selected processes	✓ Process modeling	✓ Redesign by Technical/Social design	✓ New process design
Implementation	✓ Implementation of designed processes	✓ Implementation	✓ Transformation	✓ Transfer of business processes
Change Management	✗	✗	✗	✓ Change management



From the beginning, in many public activities, they participate in the construction of hospitals, set up free clinics, water supply, construction of gravel roads, open centers for children and youth, nursery schools, providing relief services to beneficiaries and provide social welfare, production and distribution of medicines and health products and orthopedic services across the country. Rescue groups took part in various events, such as people trapped in an elevator, extreme driving accident which would leave people stranded in the car. The most common events include hands stuck in a meat grinder, lifeguards and people who have been injured in mountaineering and rescue the injured people under the rubble. In 1974, 4 ambulances were ordered by Tehran's fire department and since then, these machines used to dispatch to the scene. There are ambulances and fire at the site of major accidents to help injured people in time of need and carry them quickly to treatment centers.

With the creation of major accidents and disasters, the importance of relief in the firefighting became increasingly clear. In fact, today there are more firefighters in most urban disasters and from the various aspects involved in disaster relief. For example, during an earthquake, firefighters specially can participate in:

- A) Operation to find survivors, debris removal, rescue victims, emergency care for the wounded,
- B) Firefighting and visiting buildings, and
- C) After disinfection, in emergency situations after rapid help, tankers of firefighting can be used as a source for drinking water supply.

2. Research methodology

The main attitudes of this research focused on BPR and Action research. Action Research is rooted in the problem-solving in order to empowerment. In this way, researcher is an active factor in the direction of changes that focuses on a particular problem. The researcher is trying to make some changes, solve the problem, strengthen a systematic approach, and develop the spirit of teamwork and commitment in applying the results to the researchers (Cooper, 2003). This is done through permanent observation practices and collect data regularly and re-evaluation. A workable solution is used in special situations to verify the professional, problem or area that needs to be changed. Possible solutions are offered and implemented

in the areas. By this view and based on the integrated BPR methodology were developed previously, the main steps of research is discussed below.

2.1. Identify the processes

Relief agencies divide their activities into three areas: (1) before the incident (2) during the incident (3) after the incident.

2.2. Preliminary operations or actions before the occurrence

The main part of a comprehensive plan is prevention plan. At this stage, in addition to studying the current situation, risks are identified and then, the available resources are organized to deal with possible emergencies. This is the stage before the accident and is intended to minimize damage in the accident that includes the following.

- 1) Training the public: the most important issue before accidents to reduce damages is awareness of the society of accidents and how to deal with them.
- 2) Professional manpower: the required manpower should be taught before the incidents and be always ready to provide emergency relief to the injured area.
- 3) Completion and maintenance the rescue equipment: to complete relief devices should always communicate with manufacturers of such equipment and to be prepared items that you need. Some of the equipment need special maintenance and must be kept in appropriate places and over time, they should be re-tested.

2.3. During the event

Includes all actions to provide the safety for people, equipment and the environment at the time of an accident and to achieve this goal, this stage lasts from the time of the accident until the threat no longer exists. In previous step, planning is the most important part planning and running at this point

2.4. After the incident

Upon reaching a safe condition, this operation is executed and the following actions are performed:

- Initial investigation
- Cleaning up the accident site
- Assessment the incident and dispel defects
- Replacement manpower and equipment

In fact, in this section, preparing reports of an emergency situation, before many of the facts be forgotten, is very important.



2.5. Documenting the processes

In this stage, this documenting helps identify and avoid repeating the old mistakes and create a basis for future improvements and this stage will help to fully understand the processes to identify and emphasize them. A full analysis of the successful experience that has already been done by the agency would be used and the patterns to be measured.

2.6. Organizational process analysis

In the phase of process analysis we encounter the sub-phases as follows (Andrews and Stalick, 1994).

2.6.1. Leadership in relief agencies

According to analysis in relief agencies, we reached the conclusion that relief agencies are not separate from other governmental organizations and in any event, a crisis manager is responsible for the task of organizing and directing other groups. The chief of operations should have the features such as composure, technical information, transmission speed and decision-making and be able to make the best decision in every situation (Hall, 1993).

2.6.2. Decision-making in relief agencies

The decision-making, in fact, is the main means for implementation of the programs and setting goals; because every manager needs to make a decision to carry out each of his duties such as planning, organizing, directing and controlling.

One of the main tasks of managers is to make decisions about issues such as planning, selecting targets and program design, acceptance the entire plan and announce it for implementation, drawing the appropriate organizational pattern, organized the collection and above all leadership. Since different sectors operate in relief agencies, the manager and his deputy are responsible for decision-making in every sector and they would monitor all these sectors and eventually, final decision be made by the manager.

2.6.3. Communication in relief agencies

Effective communication in an organization increases the level of productivity, employee satisfaction, and motivation and would help to reduce the conflicts caused by lack of communication. Relief agencies such as firefighting, emergency, Red Cross, police and the like are dependent on each other in incidents and they are linked together to form a chain and there is a close relationship between all relief agencies. In recent years, the center of EOC has

been established at the Red Crescent reports road incidents and ordered to recall the troops and there are the coordination units in each province. However, there is no good communication between organizations in Iran, and this problem can be seen well in the big incidents and we behold lack of coordination between organizations.

2.6.4. Coordination of relief agencies

Coordination is a process in which all the constituent parts be combined in order to achieve a common goal. Coordination is achieved through a series of structural and behavioral mechanisms that are used to link the organizational components together and facilitate the attainment of organizational goals (Radhakrishnan and Balasubramanian, 2008). Relief agencies are composed of different groups. Each group has a commander and manager. And in the whole incident, the commander is responsible for personnel and persons involved and he must adopt important decisions. In terms of coordination in relief agencies, it should be noted that when a normal and small incident occurs, the group that have arrived to the incident site sooner than others, is responsible for coordination and management of the incident site; But in major accidents and critical, high-ranking officials must be present at the scene and he is responsible for coordinating and managing the scene forces. For example, a crisis manager is responsible for everything in the earthquake and similar incidents.

It should be noted that these are all considered in the form of written law. Given that crisis management is not in good condition in Iran; unfortunately, a proper coordination does not creates between relief agencies in times of crisis and each one works independently and without coordination, which leads to chaos and confusion at the scene.

2.6.5. Organizing operational groups

In general, operational groups are divided into two groups of MCT and FCT. MCT groups are often away from the scene and works in crisis management room. Central crisis management room is connected to all means of communication and safety and MCT groups lead the crisis through this room. On the other hand, the operational group related to FCT depending on the type of crisis consists of rescue workers, firefighters, security and the like. Their tasks

include rescue victims and find bodies, firefighting and evacuation operations and the establishment of order and security at the scene.

2.6.6. The process status

Three organizations in Iran are mainly responsible for relief and rescue people at the time of accidents and incidents (Asadpour, 2006):

1. Rescue organizations (Red Cross)
2. Fire Department (municipality)
3. EMS Agency (Ministry of Health)

Red Cross rescue organizations more generally responsible for assistance and rescue in road accidents and incidents such as floods and earthquakes and the fire department often focuses on fire suppression inside the cities and emergency department is active in medical emergencies. It seems that these three organizations have shortcomings and interference in the duties of the commander, division of labor and vocational training and this caused a problem at the time of the accident. Besides the above-mentioned organizations and institutions, other organizations such as police, Ministry of Roads, military and mobilization are obliged to help people with their manpower, equipment and facilities.

3. Outcomes of explorative case study:

Decision-making in crisis

Understanding social situation and psychological atmosphere of the command environment can facilitate decision-making at the time. The four relevant features include:

1. High pressure to perform necessary activities
2. The lack of information and uncertainty from the information
3. Change goals and priorities
4. Chaos and disturbing the powers and duties

To prevent further damage and save lives, decision-makers endure a lot of pressure to take appropriate actions in the time of disasters. Of course, aggravating factors, such as journalists and the authorities increases the pressure and lack of time also leads to increase pressures on managers. During the executive operations, there is not enough time to gather appropriate information and data are scattered and inadequate; and as mentioned earlier, the centralized statistics would be a great help to this

problem. On the other hand, the change in the executive priorities complicates the decision-making situations. In broad terms, the managerial priority is to minimize the damage to lives and properties. Sometimes, there may be interference between different organizations and inappropriate and uncoordinated actions can affect other organizations and neutralize their actions. This often happens when the liability is not recognized completely and received by authorities at the wrong time.

3.1. Design of crisis command system

A command management system is essential to deal with natural disasters or crisis to coordinate all organizations and individuals to deal with the crisis. Integrated command structure means that many governmental agencies, at a public incident (in terms of responsibilities), should participate in issues such as comprehensive assessment incident, the choice of policy and administrative measures, the consensus in the selection of appropriate implementation mechanisms and make maximum use of all resources required. In fact, organization, command and coordination between the forces is very important to deal with the crisis.

3.2. Crisis command system characteristics

The main characteristics based on change process are as follows:

- The organization must be flexible in terms of organizing to rectify any needs which are related to the crisis management.
- The organization should be standardized so that employees of other agencies can work nationally, internationally and in different situations in a coordinated management structure.
- The system needs to respond to the critical conditions at any time of day.
- In terms of cost, it should be economical. The system is based on the principle which is as follows:
 - Organizing based on a certain pattern in order to achieve development capabilities
 - Enable them through priorities and needs of employees.
 - A common language between all the reinforcements.
 - Inter-organizational communication system



- Update the information and equipment on the basis of management
- Particular attention to the training and retraining

The proper functioning of the system to deal with the crisis, especially in the first few hours, is required to fully determine the following:

- Identify the location of headquarters
- Determine responsible and leading forces
- Determine facilities and equipment
- Measure the ability of auxiliary troops
- Rapid communication between the groups in charge
- Determine and record the relief capacity and facilities of each group
- Determine specific and regulated instructions for each operating group
- Assess the strengths and weaknesses of rescue workers during the maneuver.

3.3. Problems and bottlenecks in relief agencies

All administrative and operational organizations, in turn, have large and small problems that lead to slowdown organization. In the relief agencies, the problem should be raised with particular importance and they need to be resolved, because they are related to the lives and properties of people; unfortunately, relief agencies such as the Red Cross, fire department and the like don't have a growing trend, and each of which has its own problems.

In the Fire Department, in the past decade, those who were elected as director in various stations, failed to do their duty properly. Science power decrease in the personnel and operations still be done traditionally and there were changes.

The Red Crescent has a big problem that involves all its problems and the problem is that all the forces are volunteers. For this reason, having a unified and identical manpower is a huge issue. The main problems of the organization include: volunteers do not have any privilege, the dignity not be preserved, lack of coordination with men and disregard for volunteers, lack of recruitment of specialist forces, lack of welfare services for volunteers, lack of administrative support and so on. Some problems are common in relief agencies; and in case of focusing on them, we can achieve a desired result in the entire organization. The

main problem is the placement of forces and how to properly use them. When an inexperienced person be placed in power, this leads to expand the problem in whole organization. Lack of plans to update continuously the information of forces in the organization, lack of integrated education and falling behind the international level is a problem that is causing a lot of damage and loss. If everyone be in proper position, we are going to see a lot of changes in the organization.

Problems such as relocation specialists from one place to another, reconstruction of buildings, changing phone systems, developing enterprises, disappearance of traditional threats and emergence of new types makes the organization to review and try to resolve their problems. It is important that we find solutions to these problems so that we can have integrated and coordinated agencies across the country; in this case, there will be no worry and fear in Iran at the time of incidents and disasters. In addition to analysis of findings, some recommendations are offered to improve this approach that could be useful for Iran and developing countries.

Conclusion and future research

According to the results of research work and the existing problems of the country, we can give some suggestions to managers and relief agencies involved in implementation of business process reengineering.

1. The process of selection and appointment of people in different parts of organizations should be done step by step and we should not just focus on qualification.
2. Ratings should be carried out based on service experience and operations, rather than college degrees.
3. Remove the wall between people and departments and remove the parallel activities.
4. Planning based on the interests and needs without creating a dilemma.
5. Pay special attention to veterans and keep them (they should be selected as a coach).
6. Provide facilities to compensate the efforts of people.
7. The removal of gender segregation in the forces and operations.
8. Establish a unified and integrated law in relief agencies.
9. A written and binding law must be designed for volunteers in the voluntary



organizations and it should be acceptable to all organs.

10. Update training and use advanced methods for rescuers and officers.

11. Other measures on the promotion of disaster preparedness are to develop self-relief and buddy-relief mentioned topics as well as maneuver and contributions of people. Also, people-oriented institutions at the local level provide basic facilities used for rescue in public places, especially in the neighborhoods and learning how to use the facilities and equipment in case of an incident is important.

12. Other factors that relief agencies should pay attention to them to increase the level of public awareness, and they can take to assist prevent the progression of incidents, is self-relief. To carry out self-relief, it should begin through awareness and preparedness of the government, although there are obstacles to this. For example, the existence of misconceptions among the public and even some officials allow them to say that an incident is God's will and nothing can be done against that.

13. The best and least expensive way to this problem is the integration of relief agencies and governmental relief agency makes a distinct organization from the private sector. Organizations, as well as relief agencies, resist intensely against changes and social and political changes are the most important lever for business process reengineering. In this regard, it is recommended that organizations, first of all, use the neutral senior staff to create a reengineering team, so that they could overcome the resistance of persons who influenced by the reengineering. The senior neutral staff could have an impartial and unbiased judgment and perspective about reengineering the processes.

14. Adoption of open processes designed for all organizations is vital. In the bureaucratic organization, existence of a supporting chairman or CEO is the most important thing to facilitate the adoption of new processes. Time is the most important thing and relief agencies should give a special attention to it. In many cases, the manager's support is main factor to success in any project, because it facilitates the most important changes in the structure, human resources and incentive structures.

The approaches are taken to solve the problems of relief agencies been proposed using BPR. It is

hoped that this plan will be implemented and suggested that the status quo be addressed in future research. It is suggested that it is better to compare the past situation with the current situation. In this way, we can fix the problems and achieve the desired status and the real place of relief agencies in the country. Future research can focus on change process and utilizing information technology in terms of using BPR approaches in relief organizations.

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