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Inquiry of Senior Managers' Decision-making Style in Crisis Management

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ABSTRACT

Decision-making is important in all situations. But it is particularly so important when the situation is critical. Senior managers always try to make quick and accurate decisions (that would be required for critical conditions). This study examined the style of decision-making in crisis situations while a Senior Managers make a decision in crisis management. Research questions are:

1. What is the Senior Manager's decision-making style at each steps of the crisis?
2. Are the primary decision-making style in the first step (style of decision-making in the forecast step) and decision-making style in the last steps (prevention, response and recovery) different?
3. Is there any difference between the Senior Manager's decision-making style at any step of the crisis and the prepared levels to his subordinates?

The research method is descriptive - analytic. Statistical population of the research is composed of 151 senior managers. Using Morgan table, the sample was given to 108 persons. The tool for collecting data and information is a questionnaire.

The findings indicate that senior managers in the forecast, prevention and restoration have consultative or collaborative style, but at the step of confrontation and crisis response, they follow the authoritative style.

There are no differences between the primary decision-making style (forecast style) and decision styles in the next steps (including the prevention and restoration). But for primary decision-making style and decision-making style in Confronting, there are a lot of differences. There is a significant relationship between senior managers' decision-making style with the prepared levels of his subordinates in the last steps which are forecast, prevention and restoration. But there is no significant relationship in the Confronting step.

Keywords: Crisis management, Decision-making, Senior Managers, Preparation level, Simulation, Scenario.

1. INTRODUCTION

Crisis management is a process of managing when the organizations are dealing with something unexpected and disturbing things that damage the organization, stakeholders and the public. Crisis management study began along with the appearance of mass-produced industries and environmental disasters in the 1980s (Shrivastava, Mitroff, Miller, and A. Miglani, 1988; American National Standard, 2009). The crisis has three main elements: (1) threats (2) element of surprise (3) the time limitation for decisions (Seeger, Sellnow, Ulmer, 1998). Venette (2003) believes that the crisis is the result of change process of the old system which is not persistence any more.

Iran's crisis management organization is an organization under the government and in the Interior Ministry. Crisis management organization is responsible for readiness, crisis prevention, crisis management, and providing first aids to the injured and rehabilitation and reconstruction of damaged areas using the all ministries facilities, agencies, public and private banks, insurances, police and armed forces .

Crisis management requires special abilities to achieve the goals by lowest cost. In order to be effective, at the time of crisis it is necessary to implement the following basic steps:

The first step: understanding crises and their effects and ways to reduce and prevent the effects of the crisis. Step Two: receive the kind of crisis by competent authorities. The third step: the timely arrival on the scene with pre-established crisis preparedness. Step four: to evaluate performance and identify strengths and weaknesses in order to improve and strengthen them.

It must be understood that doing this effectively requires effective decision-making process. The decision-making process seeks the best way to solve the problem. This definition encompasses the concept of problem solving and selection. Style of decision making represents a habitual pattern to be used when deciding. In other words, each person's decision-making style is his approach to understanding and responding to the task of deciding. Hersey and Blanchard (1988) introduced the level of followers' preparedness as the base for decision-making style of managers. "Saadat" said: in planning to confront the crisis, we need people who are ready to make decisions. and should pay particular attention to them in critical situations and under heavy pressure. (saadat, 1993).

2. DECISION MAKING IN CRISIS SITUATION

Crisis are part of the distinctive features of modern societies, especially the twentieth century and the twenty-first century. And can not be taken into account as threats and external factors in the distant place. But they have become a part of our world and of the lifestyle of human beings (Rosental, 2006, p. 16). One of the factors influencing decisions' situation are critical incidents features. (Panos, 2012, p. 13). The consequences of crisis can be classified in three dimensions: Objective dimensions (systematic changes) and mental dimensions (impact on the minds of decision-makers) and the combination of them. Incident is called a crisis when most stakeholders and relevant actors, recognize the disorder and believe the deteriorating situation. In other words, the crisis is equal to the underlying physical disorder in addition to the belief of the stakeholders. In other words the crisis has physical, mental and psychological dimensions. Two key concepts in understanding the crisis are balance and stability. Definitions based on the concept of balance, while linking this concept with concepts such as change and stability, recognize leaving the balance as The most important criterion for entering system into crisis. The crisis is a situation in which the process of

change happens in the system, so that stability and balance of system become severely compromised by uncertain future. And the need to act quickly is felt to restore order or establish new order". (Rapoport, 1968, p. 450).

3. CYCLE OF CRISIS MANAGEMENT

During the crisis, managers are trying to reduce the consequences and effects of the crisis. (Norman, 2011, p. 7). Crisis management is the process of planning and is an applied activity. They use the systematic observation and analysis of the crisis as a means to reduce the effects of the crisis. (Stoner, Freeman, 1996, p. 10). Mitroff said that effective management of organizational crises, regardless of the type of crisis, include four steps of development. (1) identifying or tracking marks (forecast) (2) prevention (3) confrontation and control (inhibition of destruction) (4) Restoration and reconstruction (Mitroff and Angenas, 2002, p. 140).

4. THE CONCEPTUAL MODEL

This model of crisis management examines styles of senior manager's decision making of the Iran's country in four dimensions: authority, consultation, participation and delegation. At the same time, the six crisis circumstances (threat of targets, time pressure, limiting the decision options, reducing control over the situation, instability and imbalances) and the level of readiness of senior managers and subordinates, are checked.

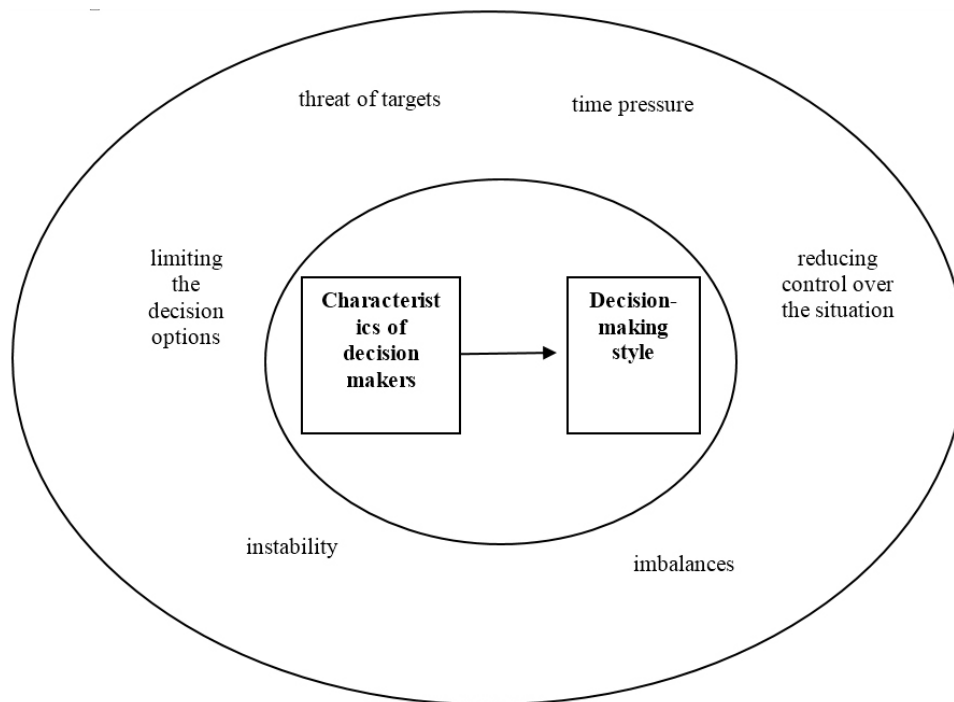


Figure 1: Conceptual Model of Research

4.1. Dimensions, Components and Indicators of Critical Conditions

Critical condition due to a combination approach (mental and visible), can have six dimensions. Table 1 states overall dimensions and indicators of crisis with respect to each of these dimensions.

Table 1
Overall dimensions and indicators related to critical condition based on a combination matrix
(author, 2014)

<i>Conditions</i>	<i>Dimension</i>	<i>Components</i>	<i>The overall index for evaluation</i>
Independent variable: the real crisis conditions	Mentality (subjective effects) (Burnett, 1998)	Threat	The sense of danger and damage to critical and high-priority goals and values
		Time pressure	Sense of time limit (looks shorter time available for decision-making)
		Reducing the amount of control	Feelings of helplessness and loss of control over the situation
		Limit of response options	Feeling of the restricted range of decision options before him (limited decision making options)
	Object (system changes) (Brecher, 1985)	Instability	Disruptive changes to the vital activity of system to high levels
		The lack of balance	Irreversible qualitative changes disrupt the vital activities of systems

5. RESEARCH METHODOLOGY

According to the classification of the purpose of scientific researches, the research method is applied. And according to the type of data collected, survey method was used in this study.

Research Questions

First question: What is the senior management decision-making style in each of the steps of crisis?

Second question: Is there any difference between the decision-making style of senior executives (in the forecast) and later steps (prevention, response and recovery)?

Third question: Is there any difference between the decision-making style of senior managers at any step of the crisis and the level of preparedness of the subordinates?

To collect research data, by using simulations and scenario technique Building, critical situation simulated for senior executives. Then the senior managers have completed the designed questionnaire.

5.1. Simulation Critical Condition by Scenario

The most important tool for simulation is scenario. scenario has three characteristics: First, it focuses on aspects of the crisis. Second, to find a design to fit with the scenario, the main variables (intervening factors and actors) are impossible to ignore. Third, analysis must have the predictive and prescriptive qualities (Rosental, U & Pijenburg, 1991, p. 30). Threat, time pressure, reduced control over the situation, the restriction of options, instability and imbalance, have been simulated for senior executives of crisis management. Interaction and emotional stress are Two important characteristics of simulation (Bows; Simon, 2004, p. 123). In this study, these two factors are important in terms of research.

5.2. The Data Collected through Questionnaires

In this study, two different questionnaires were used for data collection. (1) Decision making style questionnaire from senior managers view in crisis situations, (2) the questionnaire of the level of senior executive and subordinates preparedness.

Table 2
Dimensions of the simulated crisis, using simulation
(Bows, Simon, 2004)

<i>Type of condition</i>	<i>Characteristics of each steps</i>	<i>The overall index evaluation</i>
Simulated condition - predict step	Interactivity	Putting senior administrators in tangible interaction with the real conditions of current and future conditions of city and its area of shielding
Simulated condition - prevention step	Interactivity	Senior administrators interact with the real conditions facing the objectives to prevent crisis
Simulated condition - confronting step	Interactivity	Senior administrators interact objectively with the actual conditions of practice (Threat, time pressure, reduce the amount of control, limited response options, instability and lack of control)
	Having psychological stress	Entering stress to senior manager
Simulated condition - Restoration step	Interactivity	The senior manager objectively interact with the real conditions of practice (crisis) in order to recovery and reconstruction

5.3. Population and Statistical Sample

The Research population are senior executives of Disaster Management Organizations of Iran.

5.4. Standardization

Comments of experts on the measurement tools were taken. Nine people accepted the validity of the questionnaire and one was in favor of amending some questions. Cronbach's alpha was used to measure the reliability of the questionnaire.

Table 3
Testing the reliability of senior manager' decision-making style questionnaire
for predicted crisis step

<i>Dimensions</i>	<i>Index</i>	<i>Statements</i>	<i>Cronbach's alpha of indexes</i>	<i>Cronbach's alpha of Dimensions</i>
Senior manager decision-making style at predicted step of the crisis	The participation in the identification process	3 items	0/793	0/789
	Participation in problem-solving process	4 items	0/765	
Senior manager decision-making style at prevention step of the crisis	The participation in the identification process	3 items	0/789	0/783
	Participation in problem-solving process	4 items	0/762	
Senior manager decision-making style in confronting step of the crisis	The participation in the identification process	3 items	0/790	0/782
	Participation in problem-solving process	4 items	0/761	
Senior manager decision-making style at recovery and reconstruction after the crisis	The participation in the identification process	3 items	0/788	0/782
	Participation in problem-solving process	4 items	0/763	

Table 4
Testing the reliability level of senior manager' readiness questionnaire

<i>Variable</i>	<i>Dimension</i>	<i>Components</i>	<i>Indices</i>	<i>Statements</i>	<i>Cronbach's alpha of index</i>	<i>Cronbach's alpha of component</i>
Readiness Level (Hersey and Blanchard, 1992)	Individual dimension	Ability	Knowledge	3 items	0/873	0/886
			Experience	3 items	0/712	
			Skill	3 items	0/815	
	Inclination		Self Confidence	3 items	0/753	0/863
			Seriousness and perseverance	3 items	0/785	
			Attitude	3 items	0/850	
			Obligation	4 items	0/881	

Table 5
Testing the reliability of the readiness level, s questionnaire of led subordinates

<i>Variable</i>	<i>Dimension</i>	<i>Components</i>	<i>Indices</i>	<i>Statements</i>	<i>Cronbach's alpha of index</i>	<i>Cronbach's alpha of component</i>
Readiness Level (Hersey and Blanchard, 1992)	Group dimension	Ability	Knowledge	3 items	0/869	0/873
			Experience	3 items	0/700	
			Skill	3 items	0/835	
	Inclination		Self Confidence	3 items	0/749	0/851
			Seriousness and perseverance	3 items	0/771	
			Attitude	3 items	0/833	
			Obligation	4 items	0/876	

6. RESULTS

After performing crisis simulation in four steps of crisis management, decision-making style questionnaire was completed at each of the steps of crisis management. The data analyzed in spss software was descriptive and inferential. The results are:

Question 1: What is senior managers decision-making style in each of the steps of crisis?

To answer the question, descriptive information of senior managers in four steps of crisis-management decision-making is used.

Table 6
Descriptive information of senior manager in four different steps of crisis management decision-making

<i>Senior manager decision-making style at:</i>	<i>Number</i>	<i>Average score of style</i>	<i>The frequency of decision-making style</i>			
			<i>Authoritative</i>	<i>Consultative</i>	<i>Participatory</i>	<i>Delegated</i>
Predicted step of the crisis	108	2/56	28	20	*32	28
Prevention step of the crisis	108	2/41	29	*34	17	28
Confronting step of the crisis	108	1/94	*60	16	11	21
Recovery and reconstruction after the crisis	108	2/37	29	*32	22	25

The data in Table 6 shows the lowest average score of style, is related to the confronting step. In the confront step, the participation of subordinates in the decision-making process is low. And decisions have been focused on the level of senior manager. The chief style is authoritative completely in the confrontation step. And senior manager decides on his own. Score of the styles at recovery and reconstruction, prevention and forecast steps are relatively equal. Their tendency towards participatory style on predict step and in the prevention and restoration step is consultative.

Question 2: Are there any difference between the primary decision-making style (style of decision-making in the forecast) and decision-making style in the next steps (prevention, response and recovery)?

If a change is detected, indicates that the situation impact in decision-making style. Wilcoxon Signed Rank test was used for this purpose. This non-parametric test mode, is equal with paired T-test in parametric mode.

Table 7
Compare the style of senior management decisions at different steps
Test Statistics^b

The prevention decision-making style - style of decision-making in the forecast step	Z	^a 30/040-0/082
	The level of significance	
Decision-making style in the confrontation step - decision-making style in the forecast step	Z	^a 30/040-0/004
	The level of significance	
The restoration decision-making style - style of decision-making in the forecast	Z	^a 30/040-0/099
	The level of significance	
Decision-making style in the confrontation - decision-making style in the prevention	Z	^a 30/040-0/031
	The level of significance	
The restoration decision-making style - a style of decision-making in the prevention	Z	^a 30/040-0/087
	The level of significance	
The restoration decision-making style - a style of decision-making on confronting step	Z	^a 30/040-0/024
	The level of significance	

^aBased on positive medians.

^bWilcoxon Signed ranks Test

In cases where the level of significance is more than 0.05 assumption statistically is significant and (H0) is not rejected and is acceptable. Test results indicate that senior management decision making style in the deal with the forecast, prevention and the restoration are different. But top executives at other steps of decision-making style are not significantly different from each other.

Question 3: Is there any difference between senior managers decision making style at any step of the crisis and the level of chief preparedness to his subordinates?

For the third study comparing the averages of the samples described in the following groups and test of independence (chi-square) was used.

- (A) **Descriptive comparison of the average of the samples in the following groups:** Table 8: mean, median and standard deviation level of preparedness in the two group chief executive subordinates.

Sample	Number	Average	Standard deviation	Median
Senior Manager	108	20/61	0/22	20/63
Subordinates	108	20/53	0/20	20/52
Total	216	20/57	0/22	20/59

Table 8 shows that based on descriptive data, the top managers have higher level of readiness than their subordinates.

(B) Study of the independence or dependence of senior managers decision making style at any steps, considering the different levels of Senior Manager readiness in relation to his subordinates.

Will the difference in level of readiness of the Senior Manager in relation to his subordinates, affect on the Senior Manager decision making style at every step of the crisis or not? Chi-square test was used for this purpose. The independence test score shows that assumption (H0) always represents the independence of two variables and assumption (H1) is contradictory. The result of this test is two tables. The first table, a table is an agreement between two variables and their frequency content. And the second table in the chi-square test can provide the results.

(C) Evaluation of independence or dependence of senior management decision making styles with Senior Manager’s different level of readiness in relation to his subordinates in the forecasting step:

Table 9
Cross tabulation (level of readiness of senior manager to his subordinates - the decision-making style in the forecast)

<i>The decision-making style in forecast step</i>	<i>Senior Manager readiness to his subordinates</i>	<i>Authoritative style</i>	<i>Advisory or participatory style</i>	<i>Delegative style</i>	<i>Total</i>
Senior Manager readiness is less than his subordinates		5 20%	6 24%	14 56%	25 100%
Senior Manager and his subjects are equal or different readiness level is low		7 13%	39 720/2%	8 140/8%	54 100%
Senior Manager readiness level is higher than his subordinates		16 550/2%	7 240/1%	6 20/7%	29 100%
Total		28	52	28	108

Table 10
Chi-square test results

	<i>The correlation coefficient</i>	<i>Degrees of freedom</i>	<i>The significance level</i>
Based on Pearson’s chi-square statistic	^a 0/327	4	0/001
Spearman statistics	-0/326	4	0/001
Number	108		

^a0 cells (0%) have expected count less than 5. The minimum expected count is 60/48.

As Table 10 (Chi-square test results) indicates, the significant approximate chi-square test based on Pearson {Asymp.Sig (2-Sided)} is less than 0/05. So it can be said there is dependency between the two variables (senior management decision making style and level of Senior Manager's readiness in relation to his subordinates) in the forecast step. And They are relevant to each other. So (H0) hypothesis is rejected. We conclude that the independent variable (level of readiness of Senior Manager in relation to his subordinates) affects on the dependent variable (senior management decision making style in the forecast step). That cause different style of decision-making in each of the following three groups.

In the forecast of crisis, if the Senior Manager level of readiness is fewer than his subordinates, he follows the delegated style. In the forecast of crisis, if the level of readiness of Senior Manager with his subordinates is equal or with a little difference, the style is consultative or participative. In the forecast of crisis, if the Senior Manager level of readiness is more than his subordinates, he follows the Authoritative style.

With 99% confidence, senior management decision making style in the prevention and recovery and reconstruction step is similar to the forecast step.

Evaluation of independence or dependence of senior management decision making styles with Senior Manager's different level of readiness in relation to his subordinates in the Confronting step:

Table 11
Cross tabulation (Senior Manager' level of readiness to his subordinates in the Confronting step)

<i>The decision-making style in confronting stge</i>	<i>Senior Manager readiness to his subordinates</i>	<i>Authoritative style</i>	<i>Advisory or participatory style</i>	<i>Delegative style</i>	<i>Total</i>
Senior Manager readiness is less than his subordinates		14 %56	6 %24	5 %20	25 %100
Senior Manager and his subjects are equal or different readiness level is low		31 %57	13 %24	10 %18	54 %100
Senior Manager readiness level is higher than his subordinates		15 %51	8 %27	6 %20	29 %100
Total		32	51	25	108

Table 12
The correlation between readiness level of senior managers to his subordinates with decision-making style (in the confronting step)

	<i>The correlation coefficient</i>	<i>Degrees of freedom</i>	<i>The significance level</i>
Based on Pearson's chi-square statistic	^a 0/036	4	0/714
Spearman statistics	0/035	4	0/719
Number	108		

^a1 cells (110.1%) have expected count less than 5. The minimum expected count is 40.86.

As shown in Table 12 (Chi-square Tests) the independent variable (level of Senior Manager's readiness to his subordinates) does not affect on the dependent variable (senior management decision making style In the confronting step) And at all levels of readiness, Senior Manager has the same decision making style.

7. CONCLUSIONS

Answering the first question: What is the senior manager's decision-making style in each of the crisis steps?

Senior managers use participatory decision-making style in the forecast step, and in the prevention and restoration, follow the consultative style. But in the confronting and responding to crisis, their style of decision-making is authoritative.

Answering the second question: whether the initial decision-making style (style of decision-making In the forecast) and decision-making style in the later steps (prevention, response and recovery) are different or not?

Are no difference among decision making style in the forecast, prevention and restoration there. But the style of senior managers decisions In the Confronting, with his decision-making style is different from other steps. Senior managers use the authoritative style in the confronting step.

Third question: Is there any difference between the style of senior managers decisions at any steps of the crisis and in level of readiness of Senior Manager to his subordinates?

There is a significant relationship between senior managers decision making style in the forecast, prevention and restoration, with different level of Senior Manager readiness to his subordinates, that is:

- If the level of Senior Manager's readiness is less than his forces he follows the delegated style.
- If the level of Senior Manager's readiness is equal or less than his forces, he follows the consultation or participation style of decision making.
- If the level of Senior Manager's readiness is more than his forces, he follows authoritative style of decision making.
- The above relationship is not established in the confronting step and senior managers mostly use authoritative style of decision making.

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