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AN INVESTIGATION OF THE IMPACT OF KNOWLEDGE MANAGEMENT SYSTEM IN CRISIS MANAGEMENT (CASE STUDY: CRISIS MANAGEMENT & HEADQUARTERS CITY DISASTER OF ALBORZ)

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Abstract

This study evaluates knowledge management system using the algorithm in crisis management expert systems have been done. This study was a descriptive study in the city Alborz in crisis management & headquarters city events has been done. The study, managers and experts in the field of crisis management is active with events and crisis management headquarters city with Alborz have to be small because it is equal statistical community. First component in effective knowledge management with specific field studies .Then combine with the three-stage model of crisis management, Index, the questionnaire in order to polls in two phases between 15 days in order to measure stability by three wide, professors, experts involved in provincial matter and crisis management experts were city; Index that score between 4 and 5 were in the range contain Likert scales as indices for the questionnaire was used. Then the questionnaire between managers and staff experts Alborz city events and crisis management system to check the current status of knowledge management and optimum status was distributed, The analysis consist of binomial test, pair mean differences, kolmogorov-smirnov Z.spo and T test. Based on collected data, the impact of knowledge management in crisis management situation was favorable significant, but the situation there is significant distance. Implementation of knowledge management systems increases the ability to control the crisis.

Keywords: Knowledge Management, Crisis Management, Alborz

Introduction:

Knowledge management can be a word; creation, interpretation, dissemination and use, protection and maintenance, and refining knowledge, he said. Important events of the world in recent decades, political, social, geographic, and that human societies undergoing continuous natural disasters or human destructive tendencies that caused the crisis are different, respectively. The day that news related to the crisis in the small corners of the world occurs, not

reflected in the media. This crisis may go so far as the interests of domestic and foreign societies or credit a large organization to a threat. (Yaghin Lu, 1383: 55). In this study, the type of incidents and accidents duty staff and management crisis, only crisis based on normal tasks to staff involvement in it has deals. Crisis management has many aspects and issues such as organizational culture, structure, education, technology, information systems and information and in the take-In this study, one of the main elements of crisis management that information and information systems are going.

The main purpose of research

Review knowledge management system using is in crisis management.

Research questions:

- Main research question is as follows:

1 - If the information is based on knowledge management, knowledge management based on expert systems in crisis management is what role?

- Sub questions:

1 - Not in the organizing of knowledge management or staff to collect data on disaster and crisis management country and in particular disaster and crisis management headquarters Alborz city is governed? 2 - Not on for knowledge management in the processing of updating information on disaster and crisis management of the Headquarters and Headquarters of particular disaster and crisis management Alborz city is governed?

3 - Not in applying knowledge management in information disaster and crisis management of the Headquarters and Headquarters of particular disaster and crisis management Alborz city is governed?

Research assumptions

- Main hypothesis:

If information is based on knowledge management, knowledge management and crisis management between significant relationships exists.

- Subsidiary hypothesis:

1 - between organizing information (before the crisis), which eventually will become a knowledge management and Staff disaster and crisis management and crisis management in disaster and crisis management headquarters Alborz city correlation exists.

2 - between processing (before the crisis) that eventually will be turned into knowledge management and crisis management and crisis management headquarters in disaster and crisis management headquarters Alborz city correlation exists.

3 - between the application of information (during and after the crisis) that eventually will be turned into knowledge management and crisis management and crisis management headquarters in accidents and disaster and crisis management headquarters Alborz city correlation exists.

Materials and Methods:

The research methodology of descriptive - is a survey.

• Methods and data collection tool :

1 - Studies of library books and journals, including domestic and foreign study and search database Information (Internet) in order to achieve Theoretical and using the experiences of other researchers

2 - Czech closed questionnaire to interview list as the main tool for gathering information to achieve the desired data.

3 - Interview with relevant experts and all, in the organization

• The statistical

Statistical Society of the study included 30 people, managers and staff expert's; unexpected disasters and crisis management are from Khorasan Razavi province and Alborz city.

• Statistical analysis method:

Data for statistical analysis techniques present descriptive statistics (tables and graphs are descriptive) and analytical (T test, binomial test) in both the present status and desired status for the study of knowledge management systems used in crisis management.

The test to Reevaluate; kolmogorov-smirnov Z.spo be normal were used.

• **Overview of the research literature:**

A - Knowledge Management

System of collection, storage and dissemination of knowledge in one organizational knowledge management environment where they say tacit knowledge to explicit knowledge conversion is done.

Organizational knowledge by carrying knowledge (documentation, staff and sometimes "computer system) will be carrying. In this respect, expert systems as one important tool of knowledge management are considered and attention is placed.

• Concepts and hierarchies of knowledge

1 - Turbulence:

Elements or symbols that are not itself a harmful concept.

2 - Data:

Data, field and single objective reality, some are about the events. (North, 51:1999)

3 - Information:

Information in fact, a closed message is that this message can be written, audio or is meeting. Information, like all the messages of a sender and a receiver. (Von Keogh, George and others, 61:2000)

4 – Knowledge:

Knowledge, unlike information, the public understanding of its place in the field is the nature of mental and Site and within the individual or group of people who have created it is related. (The same: 68)

Knowledge is understood and individual knowledge through experience, reasoning, insight, learning, reading and listening obtains. When the individual knowledge and spread knowledge to other compounds, new knowledge is produced and finally there is knowledge of people and part of the complexity of human unknowingly. (Danport & Prosack, 1998, translated Rahman Seresht: 11)

5 - Stub or Wisdom

Comprehensive understanding of the public through the mental sense, insight and inspiration can be obtained. Between data, information and knowledge Mode conversion symptoms data, data information and knowledge information at the end of the following:

• Signs with words, making rules, the "data" are converted into.

• Data change concept "information" are converted into.

• The order, composition, and to network information, "knowledge is created

So of course the data into information and information to knowledge, over time the result will be. (Afrazeh, 27:1384)

• Using knowledge of the final goals of the information or is using. (Although the knowledge may be produced, but not be use.)

Knowledge management can be defined as to:

Knowledge management; knowledge correct, suitable for people in the correct time and place is appropriate, so that people can achieve the goals, take the best use of knowledge. (Pat Rash, 14:2002)

B - Concepts and models of crisis and crisis management

Research studies conducted shows crisis not determine the damage, but the response to the crisis that officials of the damage will determine the damage.

Lack of planning and correctly crisis management; wide range of damage and the damage increases.

This is why the planning and crisis management has been important to this size. Now while Knowledge Management & expert systems allow the organization to use their experience and to better capture the crisis turns, suggested the use of this model can be part of the problem to decide the conditions to be better.

Management perspective, the correct decision, to data, information, processing and analysis you need, unfortunately, all these sources, just before the crisis we are providing and if the previous step, the predicted/prevention and planning/training done, we witnessed a new crisis in the heart of the crisis occurred; we'll regularly with hasty and unconsidered decisions.

But by using bad designs we create new crisis that are not even identified them only complications regularly to control the main crisis causing damage. (Yaghin Lu, 1383: 64)

In disaster processing fast and accurate information is required. Purpose of the important factors for establishing a comprehensive information system is. An efficient and effective information system. (Nitezky, 2002: 86)

- Three-stage model of crisis management

This model belongs to the terms of any of the authors alone, is not unique.

Coombs believes three-stage model of crisis management in many models of compliance. This stage three before the crisis, during crisis after crisis is composed of Stage before the crisis, including all measures to prevent and contain the crisis planning, organizing, creating crisis teams, crisis programs and all measures required to prevent the crisis.
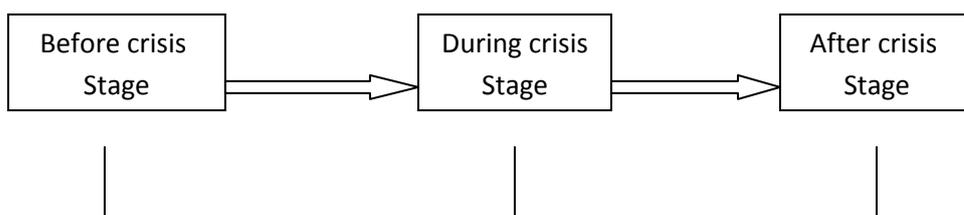
Feedback

Figure (1) three-stage model of crisis management (Boudreaux, 2006.P14)

Stage during the steps for crisis response and crisis is; this process includes identifying And recognize the crisis, gathering information and ... Is, stage after the time of the crisis and resolve the crisis problem solving begins and

includes ensuring resolve the crisis, ensure the security of the organization and learning event in order to prevent this happening it is. (Boudreaux, 2006.P10).

C - Role of knowledge management in crisis management:

When natural disasters, rescue operations for several people had similar accident about shelter, medical provision, reconstruction and determination of primary temporary housing, and ... that should be in order to minimize the damage done Game. Provide a comprehensive service is not possible, unless the information systems geographic information systems, crisis management centers have backup. With the first and most important crisis that threatened destruction system is placed, the crisis has given information system area.

Without this system, any and Outreach and Relief, not only will not yield fruit; may even lead to the next crisis. Information system of traditional risk, and flexibility necessary to adapt and work conditions is critical. Information technology can create a modern information system, integrated, dynamic and flexible; the basic principles of production and knowledge sharing in knowledge management is a good variable and changing conditions of the crisis itself has digested, and help for a very big decision be administrators.

Effective use of new information technology tools, such as satellite data transmission systems, identification systems, injured and dead people, information processing systems, such as integrated instrument systems or information, such as the Internet can be very reduced scope of the crisis damage Next to the crisis and also prevents secondary.

Information needs of crisis management depend on a communication infrastructure that is resistant against failure, especially when the crisis in the making and the consequences of these systems is required.

Role of information systems in crisis Information systems are a series of hardware, software and technology refers to various related resources; that together composed, organized and integrated field collection, storage, processing, production and exchange information to automatically provide Take. Information by an information system are provided, can directly realization and implementation of goals and expectations of managers is used. In fact, the information system is called a system, it is information that the final product.

Crisis management system based on knowledge natural crisis management system knowledge based information system which is in accordance with the studies in this area will be designed and implemented. The system consists of three stages of information subsystem, visitor's decision support information system, geographic information system will be. Natural crisis management system sub-project is the e-government can be used in high-risk areas. Each year the crisis in our country, such as flood, fire, earthquake and other natural disasters injure and financial losses can take

on a high. Therefore, the importance of such a system cannot be ignored. The system of modern technology, standardization and data management and information for crisis management will benefit. To create such a system communication structure should be a way that the information system before and during and after the crisis team should be immediately available and the plan and to provide statistical data and information in various forms of Internet users and non-Internet View be.

Analysis of data (A profile of answer research questions)

• Description of each Subsidiary hypothesis:

Comparison of mean paired-related situation and the situation favorable figures together shows Hypothesis that the indices of each sub-optimal situation clear difference between the higher and the present status and desired status shows, can be different on the analysis of statistical samples and analyzed the results to.

For example, the table shows mentioned; Implementation of the present status of knowledge management in crisis management in crisis management headquarters city Alborz,

The mean sum of importance weights in three sub-hypotheses in the mean comments are the result of each hypothesis,

Knowledge Management in the existing events and crisis management headquarters are Alborz 120/001, Optimum condition, while knowledge management is equal to 199/279, this means that the present status of knowledge management in the desired status of respondents in this study is significant distance.

I.e., they present conditions of knowledge management in the headquarters city of Alborz disaster and crisis management will not walk. Referring to the graphs compares the current status and desired status of each hypothesis, this difference can be seen. Mean that the final situation equivalent to 2 /635was equivalent to that desired status 4/376 is, also that the situation is less than the average.

Inferential data analysis

• Default data review to be normal

This section reviews the data for decisions or nonparametric test parameters were used.

For this purpose to review the data are going to be normal.

Hypotheses related to this section include:

H_0 : The data will have the normal distribution.

H_1 : Data are not normal distribution.

The above hypothesis for the research variables through the test run kolmogorov-smirnov Z.spo review; Was the amount significant level on all variable value ($\alpha/2$=0/025) is the amount the other hand, Pearson also value Z 1/96 is less.

So in the 95% levels of significance in the theory of strong evidence there assume a zero is accepted.

Therefore all of the table variable data have normal distribution.

- Test hypothesis

First subsidiary research hypothesis: Between organizing information (before the crisis) that ultimately will become a knowledge management and crisis management and crisis management headquarters in crisis management & headquarters city disaster of Alborz are significantly.

This hypothesis next hypothesis in the form of a statistical hypothesis is defined:

$$\begin{cases} H_\circ : \mu \le 3 \\ H_1 : \mu \rangle 3 \end{cases}$$

H_0: Between organizing information and crisis management before the crisis there is not a significant relationship.

H_1: Between organizing information and crisis management before the crisis there is a significant relationship.

Confidence level (α-1) 95% and 29 degrees of freedom, the value of test error level 0/05 is equal to: $t_{\frac{\alpha}{2}} = 1/96$ the value of t test count formula is obtained:

$\overline{X}$ Average sample

$$T = \frac{\left(\overline{X} - 3\right)}{\frac{S}{\sqrt{N}}} = 10/560$$

S   Sample standard deviation

N   number of individuals samples (subjects)

The results obtained, the first sub-Pearson hypothesis test (10/560) larger than the Pearson table (1/96) is. So we calculated Pearson error level 0/05 and 29 degrees of freedom, is greater than the amount of tables (10/560 >1/96), After that value can be obtained in the area assume H1 is zero can be rejected to assume a confirmation, Between organizing information before the crisis and crisis management relationship is positive and significant. This hypothesis minor in the second and third and also the main hypotheses based on the data in Table 4 are true. Thus we can say that knowledge management and crisis management between positive and significant relationship exists.

	Test value = 3					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The first sub-hypothesis: organizing information before the crisis	10.560	29	0.107	1.062	0.699	1.424
The second sub-hypothesis: processing information before the crisis	8.267	29	0.007	1.217	0.0855	1.576
The third sub-hypothesis: application of information during and after the crisis	6.043	29	0.019	1.085	0.625	1.545
Main hypothesis: knowledge management in crisis management	7.942	29	0.057	1.120	0.717	1.522

Table No (4) Results of the test a hypothesis based on the T sample (ideal situation).

But the Current situation results in Table 5 T a hypothesis based on the sample, While Test value = 2.5 is considered,

Pearson hypothesis test, the first side (0/028) smaller than the table Pearson (1/96) is. (0/028 < 1/96).

This hypothesis minor in the second and third and also the main hypotheses based on the data in Table 5 are true.

Said the current situation there isn't relation between knowledge management in crisis management in the

headquarters city events of Alborz.

	Test value = 2.5					
	t	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The first sub-hypothesis: organizing information before the crisis	0.028	29	0.614	0.001	-0.433	0.452
The second sub-hypothesis:	0.593	29	0.498	0.126	-0.317	0.570

processing information before the crisis						
The third sub-hypothesis: application of information during and after the crisis	0.667	29	0.203	0.121	-0.323	0.565
Main hypothesis: knowledge management in crisis management	0.495	29	0.422	0.099	0.345-	0.542

Table No (5) Results of the test a hypothesis based on the T sample (Current situation)

Using the binomial test, error level, α =0/05 hypothesis has also been confirmed.

$$\begin{cases} H_\circ : p \le 0/6 \\ H_1 : p \rangle 0/6 \end{cases}$$

The statistical assumptions and tables, Since the Pearson test (0/6), and results of the analysis through SPSS Statistic shows that count (0/95.2) of the Pearson test is larger (0/ 95.2 > 0/6)

Default is the first confirmation, that is, 95.2% of respondents believe that information between the organization before the crisis and crisis management is a significant relationship.

	classified	number	Percent	Test Prop.
Group1	≤ 3	2	8.4%	6/0
	$\rangle 3$	28	2.95%	
Group2		30	100%	
Total				

Table (6) Test results from the first sub-hypothesis test based on binomial

Results of the analysis through the SPSS Statistic shows that count (0/957) of the Pearson test (0/6) is larger (0/957> 0/6)

Default is the second confirmation,

That 95.7% of respondents believe that between the processing before the crisis and crisis management is a significant relationship.

And the Results of the analysis shows that count (0/93.63) of the Pearson test (0/6) is larger (0/9363> 0/6)

Re the third is also confirmed,

I.e. 93.63% of respondents believe that information between the organization before the crisis and crisis management is a significant relationship.

So that results can be obtained from the test T, is approved.

Table and the results of the analysis through SPSS Pearson test shows that for all the main Default 0/94.9 are; Because Pearson had larger (0/94.9 > 0/6), assume H1 is approved,

94.9% of respondents believe that knowledge management is effective in crisis management.

Said the result can be obtained from T-test is confirmed.

Conclusion of the hypothesis

Conclusion of the main hypothesis

Studies were the main hypothesis that if the information is based on knowledge management, knowledge management and crisis management between significant relationships exists.

To measure T test this hypothesis a sample binomial test was used and the results obtained from both methods suggest this hypothesis is confirmed. 95% chance that the original hypothesis that it

Significant relationship with knowledge management is crisis management, will be approved.

So that individuals can agree that knowledge management is effective crisis management, Staff accidents but incidents and crisis management and long distances between city Alborz situation and the situation is favorable.

Therefore, implementation of knowledge management in crisis management situation must double efforts to occur.

Conclusion of the subsidiary hypothesis

To measure T test this hypothesis and test on two is used and the results of the test, suggests this hypothesis is confirmed.

95% chance that the first sub-hypothesis based organization that significant information related to crisis management, will be approved.

Also, 95% chance of the second subsidiary hypothesis that it related to information processing has significant crisis management will be approved. The results with probability 95% based on the assumption that the third side using information during and after the crisis related to crisis management is significant, is confirmed.

Therefore be concluded that collecting and organizing information before the crisis, processing information before a crisis, and use information during and after the crisis is effective crisis management.

Results of this study indicate the importance of special collection and organization, process and use information before, during and after the crisis is

Those managers in the destructive impact of control help quickly when the crisis occurred.

Run the model of such factors and that these parameters require the same factors in knowledge management systems that are directly or indirectly on the system might work.

• Director of Information Technology to create and maintain system operation is directly effective.

• Organization of cultural cooperation and coordination for people to provide information and knowledge system is indicative.

 Effect of this factor is indirectly.

• Commitment to sustainable management processes, and expectations of people will help.

Effect of this factor is indirectly.

• Human resources, directly with the system are affected.

Instability approach and use of human resources with the system loss in quality system results are presented.

• Terms and Conditions of Use importance of these systems and how the human resource in this system is.

 Therefore, this factor also indirectly on the system is effective.

• working processes can be defined in the organization of using and improving the system goes, and thus indirectly it is effective.

• Director Education applying the way of exploitation of the system is useful.

 Therefore indirectly improve the system moves content.

• Quality control system directly affects the progress and improvement model.

 The working process of quality control, indirectly it has an impact.

• Work environment with stability or instability in the implementation of this system are indirect effects.

• Since the work of sharing knowledge is a team work, a team thought to indirectly affect the system.

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