Analysis of Effective Factors on Knowledge Transfer in Response to Organizational Crisis (Case Study: Employees of Kerman Governor)

Mehdi EbrahimiNejad

Associate Professor of Management Department, Shahid Bahonar University, Kerman, Iran

ABSTRACT

While risk and uncertainty in business environments are decreasing because of uncertain economic situation, effects of organizational crisis become stronger. Nowadays, all companies and organization are under the influence of big and small crises and the only way to predict and rescue organizations from these crises is using knowledge. If the knowledge got transferred to persons who need, risk of organizational crises can be decreased. Knowledge, as the most important source, provides an appropriate opportunity for organization to resist against crises. This matter needs some situations in order that knowledge spreads out between all staff and all who want. This research is about discovering channels of knowledge transfer. This research was done by extensive library studies and other resources and opinions of staff via interview and questionnaire and then collected data analyzed by the software SPSS, binomial tests and Friedman variance analysis. Research results show that the most important channels of knowledge transfer in order of preference are: documentation, information and communication infrastructure, advice using system, leadership, teamwork, job rotation.

CORRESPONDENCE Mehdi EbrahimiNejad   ✉ dr-ebrahiminejad@yahoo.com

Introduction

Like natural or technical crises, organizational crises include rare repetition and high impact which are described by unknown effects and reasons and threaten organization integration which can destroy the organization and eliminate it from international competition. In these critical situations, organizations face situational threats and decision making pressure which should be analyzed continuously with on time behavior to decrease vulnerability. By facing crisis, organizations spend a lot of time and cost and persons gain different experiences. Experience of crisis management and record them as knowledge, caused organizations to see the errors and begin a vast organizational education to facilitate earn knowledge, classification and formalization. So, knowledge management can play an important role in crisis management. For effective decision making during organizational crisis organizations need more necessary knowledge and transfer this knowledge to persons, for effective decision making during organizational crisis. This transfer is possible by connected and appropriate channels (Wang and Lu, 2010). Knowledge-transfer channels are a collection of factors which facilitate knowledge transfer inside and outside of organization.

Analyses have shown that the biggest obstacle in usage of knowledge transfer is the blocked channels between producer and searcher. A problem which organizations face during crisis time is disability in recognizing and choosing appropriate channels which can transfer knowledge to every engaged person in order to remove organizational crisis. Recognition of knowledge transfer channels and organizing them is an appropriate solution for better decision making in critical situations. Lack of recognition and usage of effective knowledge transfer channels in critical situation causes non-use of available capacities in organizations. This research is provided to analyze important knowledge transfer channels in the governor.

Crisis

Crisis is a disordering situation which affects all the organization (or system) and challenges all the basic defaults. Crises are divided into two groups: natural crises like earthquake, flood and etc. and expected crises like bombard, environmental pollution and accidents which are the direct result of staff's actions and need crisis management (Baba Ahari, 2013).

Organizational crisis

Organizational crisis is a situation which person, team or organization faces it and it is impossible to confront by common methods and existing mental pressure increases because of sudden changes. The deep impact of organizational crisis on health and performance of staff cause problem in efficiency, loyalty, morale and even long-term cooperation from low level to middle and senior managers, is the reason that organization crisis is important. This matter double the responsibility of organizations in confronting with internal effects if crises (Konjkav, 2013). Organizational crisis is not only a disaster like recession, airplane crash or limiting companies which cause severe environmental damage, but also it can appear in notoriety of production, distorting support services, product sanction, strike, controversial nuclear rumors, hostile conflict, natural disasters in product destruction, damage in

information system or information system of holding companies, technical separation, resistance to innovation, continual rumors, continual complain of costumers, disregarding management standards, demand of low level staff, undue pride, underestimate lack of connection between departments and etc (Alvani, 2009). Despite of various faces of organizational crisis, Pierson and Clear(1998) express the following cases as common features of all:

Severe ambiguity of situation and unrecognizable cause and effect relations

Vast power of critical situation in threatening life and survival of organization despite of low possibility of crisis

Shortage of time and high stress for reaction after crisis

Confrontation with crucial crossroads

Knowledge management and transfer

In knowledge management, discuss is about an ordered collection of important aspects of knowledge. Organizational knowledge refers to processed knowledge and embedded from routine flows and practicable levels and also gained knowledge by organizational systems, levels, productions, rules and culture (Mazloomi, 2013). Knowledge as an important source for competitive advantage and value creation, is considered as the necessary factor for sustainable development and generally, as a determinative factor for companies with international targets. Also, the knowledge, which is recognized by companies, is a dynamic source which needs precise management (Konjkav,2013). Knowledge can defined as a justified ability which has the ability to act effectively. Gover and Dawnport (2001) stated that knowledge of persons shows their ability to adjust and integrate information by experience, expertise and judgment(Wang and Lu, 2010). Nowadays, knowledge is distributed among persons and organizations and crossed national and cultural boundaries. Comprehension of how knowledge can be transferred from an organization or subsidiary to other organization or subsidiary is so important (Duan et al, 2010).Dawnport and Prosak (1998) defined knowledge transfer as following: transfer = send + attraction + use. This definition points to one of important aspects of knowledge transfer that knowledge transfer is needed in some situations, and probably it have been used or attracted. Dynamic knowledge transfer is an important factor which should flow with appropriate channels among all organization during the crisis. The target of every knowledge transfer project is successful transfer from knowledge to receiver. Researchers use four different approaches for definition of successful transfer as the dependent variable. In the most basic level, successful transfer defined as a knowledge transfer which is used in certain time periods. Second approach, in management literature, is successful transfer project to what is created according to time, budget and receiver's satisfaction. This approach is used in connectivity to distinguish the factors that can transfer knowledge continually. Third approach in knowledge transfer definition is from innovation and knowledge transfer literature that focus on a degree of knowledge which is created again receiver. In this literature, successful sharing of knowledge obtained in leading companies and access to production plans, processes and organizational plans which are new and knowledge transfer is done as an event which organizations have action and reaction continually with costumers and providers for innovative or creative imitation. In forth approach

the definition of successful transfer is internalization and acceptance of that from institutional theory. This success is definedas a degree that receiver gets ownership, commitment and satisfaction in transferred knowledge (Cumming and Teng, 2003). Gloetand Terzioski(2004) define knowledge management as following: Formality of access to experience, knowledge and expertise that arises new abilities, encourage innovation and increase costumer's value. Parby and Tailor(2000) believe that management of knowledge, which supports innovation, is creation of new ideas and use the power of thought (Konjkav, 2013).

Knowledge transfer and crisis management

Unlikely crises are events with high impact which can considerably threaten the most basic targets of organization or even their survival. It is possible to distinguish and describe organizational crisis by collection of features and its kind (Mazloomi, 2013). During the crisis, decision makers are forced to make decisions definite situations according to limited knowledge and information with time pressure and high level of ambiguity and uncertainty. The intention of knowledge transfer is to increase the ability of organization and finally increase its value. Knowledge transfer has increasingly become important in organizations. Modern companies areoften organized by an international viewpoint to gain different advantages in expertise, costs and access to market all over the world. Lack of academic research and expertise prevent development of better comprehension of ways that use effects of knowledge transfer in ability of organization; instead, affects their abilities during the crisis. Although, organizations can gain considerable operating profits by knowledge transfer from a section to another but, success if knowledge transfer can be difficult. Persons who do not understand why special exercises are effective may not accept the relation of knowledge with others or organization members may not share the information they have (Argot et al, 2006). In a research about knowledge transfer in critical situations by analyzing four factors (teamwork, documentation, advisory system and job rotation) in a company of Taiwan has shown that these factors play a significant role in decreasing the organizational crisis. Also, during the crisis, the ability to choose appropriate and durable channels for knowledge transfer is limited. In addition, it was stated that how managers use these channels enables organizations in better analysis of potential crises (Wang and Lu, 2010).In another research, which was done by Oliver KondalRediCandadi(2006) in five international organizations, this result was obtained that these 10 factors: leadership, organizational structure, awareness (notices), teamwork, bonus system, time allocation, business processes, employment, substructure (information and communication structure) and physical features are important in development of organizational knowledge (Oliver and Kandadi, 2006).In this research, according to the results, it is concluded that leadership and substructure can be important factors in knowledge transfer in critical situation. These two factors besides four effective factors in knowledge transfer in critical situation will be analyzed. Although students and professors in Iran, have done some researches about organizational crisis but, there is no information about effective factors on knowledge transfer in response to organizational crisis (because if novelty). This claim will be proved by searching in internet, databases and libraries. Great management professors who studied about crisis concluded that crisis brings threat and chance for organization and efficient management can transform threats into

chances and learn from it for next crises (Baba Ahari, 2013). Another conclusion is that the best strategy in crisis management is hyperactive management which distinguishes potential or emerging matters on time and prevents facing with crisis in future (Rezaian, 2010).

Research hypothesizes

Leading organization is effective in knowledge transfer in response to organizational crisis.

Substructure is effective (communication and information substructure) in knowledge transfer in response to organizational crises.

Teamwork is effective in response to organizational crises.

Documentation of information is effective in response to organizational crises.

Job rotation is effective in response to organizational crises.

Advice taking system (teacher-student) is effective in response to organizational crises.

The method of research

In this research, because the target is to analyze effective channels in knowledge transfer in response to organizational crisis, survey method was used. Base of survey researches is survey of engaged experts. Measuring tool (collecting information method) is different in each specific research because the target is different. So, researcher uses different tools for collecting information. In this research, vast library studies, search in internet, questionnaire and interview were used for collecting information. The concept of reliability or validity answers this question that to what extent measuring tool measures considered features. Without knowledge of validity of tools it is not possible to make sure about data accuracy. There are different ways to choose validate measuring tools. One procedure is content validity. Content validity makes sure that considered tool contains enough questions for measuring the concept which is being measured. In other words, content validity shows that to what extent dimensions and elements of a concept have been measured accurately. Appearance validity is considered as an elementary and minim index for content validity. This type of validity shows that measuring elements can be measured apparently. Questionnaire was used for validity measurement of indicators. In order to make sure about accuracy of questionnaire according to pre-test and post-test validity method and its stability were measured. So, opinion of experts about validity of questionnaire was received and measured. For measuring stability, according to completion of questionnaire by 40 persons in 2 levels within two weeks was done. Based on statistical calculation the Alfa (α) was calculated which the content proves stability of questionnaire. $\alpha = 85\%$

Statistical society

Considered society is governor's staff and governorates of Kerman which according to researches, all of the statistical society was estimated 1003 persons. For determining the sample size, first with common sampling, 5 cities have been

chosen and then accidentally 280 persons were chosen among staff of these cities as statistical sample.

Sample size determination

In this research, table of size determination of Kerjesi and Morgan(1970) was used for determining the sample size which according to statistical society which is 1003 persons, size sample is 278 persons. In this research, questionnaire was distributed among 300 persons which 280 questionnaires were collected.

Data analysis

A) Descriptive statistics of channels of knowledge transfer

Table (1): Dimensions of knowledge transfer channels

Standard deviation	Variance	Average	Dimensions of knowledge transfer channels
0/42521	0/181	2/3114	Teamwork
0/87721	0/769	2/68	Documentation
0/35559	0/126	2/39	Advice-taking system
0/53031	0/281	2/21	Job rotation
0/46918	0/220	2/3307	Leadership
0/57017	0/325	2/5721	Substructure of communication and information

Table (1) shows the results about descriptive statistics of knowledge transfer channels among responders. Among knowledge transfer channels, documentation has highest average (2/68) and teamwork has the lowest average (2/31).

B) Demographic variables (descriptive statistics)

Usually to recognize the statistical sample (contributors), demographic variables are analyzed. So, in this part some of important demographic variables like age, academic degree, work-experience of statistical sample are analyzed by using descriptive statistics (frequency distribution charts). Table (2) shows frequency distribution of contributors' education.

Table (2): Frequency distribution of population sample

Frequency	Valid percent	cumulative percentage	Education
5	1.8	1.8	Diploma
15	5.4	7.1	Associate Degree
160	57.1	64.3	BS
100	35.7	100.0	MA and higher
280	100.0		Total

The results of descriptive statistics among responders shows that among education groups of case study in this research BS has the most average with 57/1% and diploma has the lowest average with 1/8%.

Table (3): Frequency distribution of population sample

Quantity	Lower limit	upper limit	Average	standard deviation	Variable
280	22.00	64.00	37/2000	9/18757	Age

Table (3) shows the results of descriptive statistics of responders' age. As it is observed in the table, upper limit is 64 years old and lower limit is 22 years old among responders of this research. Also, age average is 37/20 in this research.

Table (4): Frequency distribution of population sample

Quantity	Lower limit	Upper limit	Average	Standard derivation	Variable
280	1/00	35.00	12/3036	9/64146	work-experience

Table (4) shows the results of descriptive statistics of responders' work-experience. As it was observed in the related table, upper limit is 35 years and lowest limit is 1 year among responders. Also, the average is 12/30 years.

Inferential statistics

According to the results of statistical tests that is used such asT-test, Binomial test and Variance analysis test of the Friedman are analyzed. At first according to the results of The T-test and Binomial Test, the theories of the research get approved or Refuse, and then according to the Variance analysis test of the Friedman, the ranking of obstacles will be discussed.

The analysis of the theories of research by using The T-test

Table (5): Results of data analysis

Number theory	Average sample	Degrees of freedom	Calculated T	T-Table	significance level
Leadership	2/3307	279	16/083	1/96	0/000
Substructure	2/5721	279	14/670	1/96	0/000
Teamwork	2/3114	279	17/765	1/96	0/000
Documentation	2/6800	279	10/902	1/96	0/000
Job rotation	2/2138	279	17/195	1/96	0/000
Advice-taking system	2/3969	279	18/532	1/96	0/000

According to table (5) because the calculated T for all theories is more than T which is in the table, In an overview we can say that all the theories will be approved. On the other hand, because significant level is smaller than 0.05 approves the validity of this claim.

Ho: Rating average of the knowledge transfer channels is equal.

H1: At least one pair of rating average of the knowledge transfer channels has a significant difference with each other.

Ranking of the Knowledge Transmission channels

Table (6): Results of Friedman variance analysis of knowledge transfer channels

Calculated k2	Degrees of freedom	Significance level	Error rate	test results
115/377	5	0/000	0/05	Rejection0 H

Decision making

In the confidence level 95% (by accepting the error of 5%) because significance level is smaller than error rate, so H0 hypothesis is refused. In other words, in confidence level 95%, it can be claimed that at least one pair of rating average of knowledge transfer channels has significant difference with each other. Table (4-20) shows ranking of knowledge transfer channels.

Table (7): Ranking knowledge transfer channels

Knowledge transfer channels	Average	Standard deviation	Average Rate	Rating	Row
Teamwork	2/31	0/42521	3/05	fifth	1
Documentation	2/68	0/57721	4/58	First	2
Advice-taking system	2/39	0/35559	3/13	third	3
Job Rotation	2/21	0/53031	2/83	Sixth	4
Leadership	2/37	0/46918	3/08	Fourth	5
Communicative informative substructure	and2/5721	0/57017	4/32	Second	6

As it is observed in the table "documentation" has the most importance and job rotation by ranking of 6 has the least importance.

Conclusion

As it was mentioned, organizations are exposed to numerous crises which are inevitable but by using existing knowledge in organizations it is possible to eliminate or minimize it. The most important set up in knowledge transfer channels for minimize negative consequences of crises is the existence of appropriate knowledge transfer channels in organization. Leaders of organization are seeking for recognition and finding the most important

channels and use them for enabling all staff and transfer experience of experts to others, then by using these channels and spread of knowledge prevent crises or decrease their negative impacts.

Now, for each knowledge transfer channel, following suggestions are presented.

Leadership

Transfer the authority to formidable and expert persons during the crisis, persons who are ready (ability and tendency) in these situations, there is an inconsiderable need to leadership and support and it is possible to transfer authority to them.

Use imperative leadership for unskillful persons, who are unable and unwilling to work they should be said to do what and how.

Building trust among staff in order that persons by confidence to their abilities gain self-confidence and motivation.

Encourage staff to contribute in different fields in order to transfer their knowledge to others and receive others knowledge.

Substructure

Basically, knowledge transfer needs appropriate communication and information substructure. As it was concluded from research, one of the most important knowledge transfer channel by confrontation with crisis information and communication substructure is appropriate that allocate second rate. So, for improving information and communication substructure following actions should be done:

Expand the quality and quantity of services to staff

Increase abilities of organization sites (portal)

Make appropriate information available for all staff in the right time

Develop coordination and cooperation among different sections

Teamwork

Another channel which was accepted is teamwork that should always be considered by managers and experts.

Use teamwork among staff

Cooperation with other organizations in order to obtain their knowledge and enabling staff

Use teamwork in order that staff recognize each other more

Increase attention to teamwork in order to gain experience and expertise and increase morale of staff in teamwork

Make free discussion among persons

Documentation

Another factor for knowledge transfer development among persons and also in response to organizational crisis is documentation of information. In this regard, documentation should be able to following actions:

Enable organization to distinguish crisis warning signals

Make staff aware of affairs during the crisis

Help organization in response of crises

Record all affairs in order to enable staff for next crisis

Job rotation

According to results, job rotation is another knowledge transfer channel. Job rotation is an effective factor in empowerment of staff in different fields. If job rotation does not happen consistently and relevant to occupational safety it can be an obstacle to knowledge transfer. In this regard, following suggestions are presented:

Increase job rotation to expand view and experience of persons

Use job rotation to prevent boredom in job

Increase motivation by placing job rotation in organizational structure

Increase organizational commitment by using job rotation. Because the person works with interest, gap between personal and organizational target will decrease and commitment to organization will increase

Job rotation to increase efficiency and profitability of staff

Advice taking system

According to research, advice taking system is an effective factor in knowledge transfer channel in organizations. So, managers should pay attention to this part. In this regard, following suggestions are presented:

Use experienced persons for educating persons with low power and skill

Institutionalize teacher-student method among persons

Encourage persons to learn from experienced and skillful persons

Encourage persons to transfer their skill and experience to unskillful persons

Notes on contributors

Mehdi EbrahimiNejad

Associate Professor of Management Department, Shahid Bahonar University, Kerman, Iran

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