

Investigation of the Status of KM Infrastructures in Mellat Bank Branches of Ahwaz City from Employees and Managers' Point of View

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ABSTRACT

One of the necessities of KM is identification and provision of its infrastructure and the heart of KM process is conversion and sharing knowledge. Each organization needs 3 main infrastructure groups in order to implement KM systems. These infrastructures are mainly: human infrastructures (human resources), process infrastructures (regulations, rules and procedures) and technology infrastructures (network, website and ...). The main goal of the present research is to study the KM infrastructures in Mellat Bank branches of Ahwaz city in order to investigate the level of readiness of a structure related to KM establishment from employees' point of view and provision of a general appropriate structure for implementation of knowledge management. This research is a descriptive-survey research. Stratified random sampling method was used in this study. Sample size was equal to 200 people. Data was collected by means of questionnaires. Results showed that the components of human resources, IT, culture, leadership and structure are in good status (above average), but budget component is in bad conditions.

KEYWORDS: Knowledge management (KM), human resources, information technology (IT), culture, leadership, structure, Mellat Bank, Khuzestan

INTRODUCTION

If knowledge is not managed carefully and individual knowledge is not turned into collective knowledge, it cannot be a pillar for development of an organization. This is because organizations usually last more than individuals and individuals in an organization are substituted over time. Therefore, lack of knowledge arisen from retired and redundant employees can insert irreparable harms to organizational knowledge and working processes. Today, knowledge is an asset and advantage and organizations can overcome their competitors in global arena. Therefore, it can be observed that new concepts like KM, knowledge workers and knowledge economy have become common. Knowledge-based (=knowledge-oriented) organizations are opposed to capital-oriented and work-oriented organizations and knowledge workers are employees of knowledge-based organizations (Khavandkar and Mottaghi, 2008).

RESEARCH LITERATURE

Large organizations are nowadays aware of the importance and necessity of knowledge for more productivity (efficiency) and competitiveness. The main reason for the importance of KM is that knowledge and its applications are assets by which creativity is increased and innovation is facilitated (Nonaka and Nishigouchi, 2000; Nonaka and Takeh Ouchi, 1995). Therefore, "knowledge" constitutes the nature and identity of KM. we need to first deal with the concept of knowledge in order to be able to define KM. moreover, identification and definition of knowledge involves identification of difference between knowledge, information and data, and this can be done through knowledge flow. Knowledge flow is a set of processes, events and activities through which data, information and knowledge and wisdom are converted from one state into another state.

Francis Baken states: "knowledge is power" (Barkley, 2000). Drucker (1993) believes that knowledge "forms in a person's mind, is carried by one person, is taught and transferred by a person, and is used or abused by one person". Knowledge is the only capital which might either be used correctly or abused.

Knowledge is the only capital which is increased when it is applied and if it is not used, it disappears gradually (Normi, 1998). According to viewpoints towards knowledge, information is converted into knowledge when it is combined with texture and experience. From organizational point of view, knowledge is the information which can influence on action. Being feasible indicates accessibility in appropriate time and texture. In fact, knowledge is a capability of influencing on future actions. Knowledge is a capacity for using information, learning and experience which is defined as ability to change information and show the importance of information in decision-making. Some experts believe that the level of evolution of knowledge is more than

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information and data and embraces both of them and also information evolution level is more than data and embraces it.

KM concept has been evolved from one decade ago. It is a relatively new plan in libraries and information centers, which started in private sector in the early 1990 in order to help with maintenance of companies and organizations in a competitive environment. Emergence of revolution in global networks has accelerated use of KM in many organizations (Gandhi, 2004). KM is the collection and achievement of experience, knowledge and skills which create new talents (capabilities), create higher efficiency level, encourage innovation and increase customer value (Beckman, 1997). KM is a strategy which converts intellectual capitals of an organization, registered information and employees' talents to more productivity and new value, increases competition and participation among managers and employees (Mouri, 1998).

Layboytz (1999) believes that KM is a new subject and it has many ideas which must be tested. It has many issues which must be solved and many learnings which must be discovered.

Defining KM is difficult because it has many definitions (Choi, 2003). In the next sentences, several definitions are provided in time order. KM is referred to identification, preparation, development, analysis, application, storage and sharing knowledge in an effective manner, so that explicit or implicit knowledge is obtained and ability to have innovation and resistance power against crises is increased by team wisdom (Shwan Hong, 2000).

In other words, KM is the process of collection, creation and use of individuals' competencies and the process of creation, presentation, distribution and promotion of knowledge in order to reach organizational goals (Khavandkar and Mottaghi, 2008). Bhatt (2001) defined knowledge management as the process of creation, presentation, distribution and application of knowledge. These five factors provide an organization with education platform, feedback, repetitive education or education removal which is usually necessary for creation, maintenance and revival of organizational capabilities. According to these definitions, it can be concluded that no single definition exists for KM. Hasan Zadeh (2007) seems to have presented a comprehensive definition of knowledge management. He defines KM as: KM is the management of knowledge conversion (latent to explicit and vice versa) in an organization through collection, sharing and using knowledge as an organizational capital in order to achieve organizational goals. Bergeroun (2007) believes that in organizations, "KM" is an important and vital issue and KM can bring competitive advantage.

KM is an important concept which contributes to explanation of personal and group skills and knowledge (Seif and Karami, 2004).

Therefore, the present study tries to investigate KM infrastructures and the process of knowledge conversion in Mellat Bank branches in Ahwaz City and provides solutions for improvement of organizational performance. Results of this research can lead to better planning and having a knowledge-based organization. Considering the lack of studies conducted to study KM in information centers, conduction of this research can be used in future planning in KM field and implementation of KM in Mellat Bank branches in Ahwaz City.

A review of the studies and preparation of research theoretical framework

Abdolgader (2004) investigated the influence of human factors on KM. two types of questionnaires were distributed among high-rank and middle-rank managers and low-rank employees of Egyptian Government. Results showed the direct influence of human factors and their characteristics and skills in KM success. Some solutions were provided for KM success, including fresh employees training, all employees continuous training, exchanging skills and capabilities among employees and employees' empowerment.

Washit, Kumar and Chandra (2010) investigated Indian research centers researchers understanding of obstacles and challenges ahead of KM. knowledge collection, creation and distribution were analyzed from individual, socio-organizational and technical aspects. Findings indicated that researchers are more involved in individual and socio-organizational aspects of KM than technical aspect. Individuals and their interactions result in knowledge creation and contribute to its flow.

Zawawi et al (2011) conducted a research and investigated the obstacles ahead of knowledge sharing. These factors included self-efficiency which shows individual factor in knowledge sharing; shortage in IT facilities which shows technical factor; and shortage in organizational encouragement in order to show organizational factor which prevents from knowledge sharing. Relationship between these factors is measured by means of correlation test. Furthermore, regression analysis was used to determine the most effective factor. Results showed that there is negative relationship between these three factors and knowledge sharing behavior and organizational encouragement which is the most effective factor.

Parham (2010) investigated 7 factors: structure, internal processes, technology, culture, measurement, human resources and leadership in terms of measuring the level of Ahwaz Shahid Chamran University preparedness for implementation of KM model based on Abouzeid comprehensive 3-layer model. Results obtained from 77 sample members out of 465 faculty members (=population size) showed that in the mentioned organization, none of the KM key factors are in favorable level for implementation of KM.

Ghahramani, Hashempour and Atapour (2011) investigated the status of KM infrastructures in Tabriz University from faculty members' point of view. Results showed that the level of population familiarity with KM concept is very low. Four factors (organizational culture, organizational structure, processes and financial resources) were in inappropriate status and two factors (human resource and technology) were in appropriate status.

After investigation of research literature and background, the main goal of this research is to identify factors influencing on implementation of KM in Mellat Bank branches of Ahwaz city.

RESEARCH METHODOLOGY

The present research is an applied research. Its nature is descriptive. In terms of supervision and control level, it is a field research and it is a correlation research in terms of relationship among variables. Population of this research included all employees and managers of Mellat Bank branches in Ahwaz city (=500 people). In this research, stratified random sampling was used as sampling method. Sample size was equal to 217. After distribution of questionnaires, 200 questionnaires were collected and other questionnaires were eliminated from sample due to incomplete answers. Data was collected by means of field method and questionnaire was used as data collection means. Content validity was used to study the validity of the questionnaire. Commentators, professors and experts of librarianship, information and KM opinions on the questionnaire were collected. After primary distribution of the questionnaires, respondents were asked to answer the questions as well as opining on the clarity of the questions. After investigation of their comments, ambiguous questions were eliminated and some variables were also added. Chronbach's alpha was used to investigate the reliability of the questionnaire and 92% was the number obtained for questionnaire reliability.

Descriptive and inferential statistics were used to analyze data. In particular, one-sample t-test was used for hypotheses analysis (due to data normality). Research hypotheses were developed as follows, considering the research literature and variables:

1. Preparedness of the present structure of human resources for implementation of KM is in favorable status in Mellat Bank branches of Ahwaz city.
2. IT is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.
3. Organizational culture is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.
4. Leadership is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.
5. Internal processes are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.
6. Necessary infrastructures are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.
7. Necessary financial resources are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

Data analysis

Results of descriptive test

According to the results of the research, 82.5% of the respondents were male and 17.5% were female. 6% of the respondents had an experience below 5 years, 24% had 6 to 10 years of experience, 20.5% had 11 to 15 years of experience and 49.5% had more than 16 years of experience. 21% of the respondents had associate's degree, 65% had bachelor degree and 14 percent had master degree. 74% of employees were ordinary staff and 26% of them had managerial positions.

Results of inferential test

Data normality test

Kolmogrov-Smearnov test was used to investigate the normality of data distribution. H_0 is normality of data. Kolmogrov-Smearnov test was used in 95% certainty level. Results of this analysis have been presented in table 4-19. As it can be observed, significance level of the test is above 5% and normality of data hypothesis is verified. Another way is to pay attention to Kolmogrov-Smearnov Z value in the table. If its value is smaller than +1.96 or greater than -1.96, we can conclude with 95% of certainty that there is no difference between the observed frequencies and expected frequencies. In other words, population distribution is normal. Therefore, we used parametric t-test and variance analysis in order to investigate relationships between variables. Parametric tests were used for means tests.

H_0 =each of the variables has normal distribution.

H_1 =the variables do not have normal distribution.

Table 1: results of Kolmogrov-Smearnov test for research variables

Statistical indices	Variable	Kolmogrov-Smearnov Z statistic	Significance level	Test result
	Human resources	0.887	0.412	Test is not significant
	IT	0.775	0.585	Test is not significant
	culture	0.676	0.751	Test is not significant
	leadership	0.79	0.56	Test is not significant
	Knowledge process	0.63	0.59	Test is not significant
	structure	1.02	0.102	Test is not significant

Table 1 show that normality of all variables is verified. In order to investigate the status of each of the components of the research, one-sample t test was utilized.

Hypotheses test

One-sample t test: this test is used to determine the significance of difference between the mean of a variable and a constant value which is called test value. The most important point in using one-sample t test is selection of test value which must indicate a middle point.

In the present research test value was assumed as 3. If the mean of answers is more than 3 in each of the variables components, its status will be favorable. Otherwise, the investigated variable will not be in good status from the population point of view. H_0 and H_1 hypotheses are defined as in relationship (1), in order to investigate the status of population opinions mean using the sample:

$$\left\{ \begin{array}{l} H_0 = \mu_x, \mu_0 \leq 3 \\ H_1 = \mu_x, \mu_0 > 3 \end{array} \right. \quad \text{relationship (1)}$$

And $\mu_0=3$, according to what we said.

Decision-making will be based upon (P-Value) index. If its value is smaller than test level (alpha) and certainty distance limits (difference between mean and test value) are positives, H_0 is rejected. Otherwise, H_0 is verified. Test certainty level was assumed equal to 0.05 in this test.

First hypothesis: Preparedness of the present structure of human resources for implementation of KM is in favorable status in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "human resources" component has a higher-than-average status and significantly different from mean.

Second hypothesis: IT is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "IT" component has a higher-than-average status and significantly different from mean.

Third hypothesis: Organizational culture is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "IT" component has a higher-than-average status and significantly different from mean.

Fourth hypothesis: Leadership is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "leadership" component has a higher-than-average status and significantly different from mean.

Fifth hypothesis: Internal processes are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is verified in 5% error level. It can be said that: "knowledge process" component does not have a higher-than-average status and is not significantly different from mean. Therefore, it can be concluded that internal process does not affect implementation of KM in Mellat bank.

Sixth hypothesis: Necessary infrastructures are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "structure" component has a higher-than-average status and significantly different from mean.

Seventh hypothesis: Necessary financial resources are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

H_0 and H_1 hypotheses were defined like relationship (1) in order to investigate the status of population responses means using the sample.

According to table (2), (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is verified in 5% error level and population mean is significantly smaller than 3. It can be said that: "budget" component is in unfavorable conditions and is significantly different from mean.

Table 2: results of t test for determination of mean influence status of the 7 components of research on KM

	number	mean	Standard deviation	Statistic "t"	Degree of freedom	P-value	conclusion
Hypothesis 1	200	3.45	0.68	9.315	199	0.000	Favorable and effective
Hypothesis 2	200	3.33	0.68	6.86	199	0.000	Favorable and effective
Hypothesis 3	200	3.687	0.74	13.016	199	0.000	Favorable and effective
Hypothesis 4	200	3.38	0.93	5.8	199	0.000	Favorable and effective
Hypothesis 5	200	3.108	0.83	1.83	199	0.068	Favorable and ineffective
Hypothesis 6	200	3.15	0.838	2.6	199	0.01	Favorable and effective
Hypothesis 7	200	2.47	1.01	-7.39	199	0.9	Unfavorable and ineffective

CONCLUSION AND DISCUSSION

Benefits of investigation of KM infrastructures, especially in economic organizations and banks are undeniable. Some of these benefits include: knowledge sharing, reduction of costs, personnel collective teaching and investigation of KM obstacles and solving such barriers. It can be claimed that the most effective factor in promotion of activities in an organization is promotion of management and KM infrastructures in an organization. With this, appropriate conditions for participation of employees in KM activities are provided. The present research tried to investigate and analyze KM infrastructures. The main goal of this research was investigation of the present status of Mellat Bank in terms of having a knowledge-based organization.

First hypothesis: Preparedness of the present structure of human resources for implementation of KM is in favorable status in Mellat Bank branches of Ahwaz city.

Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "human resources" component has a higher-than-average status and significantly different from mean.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

Second hypothesis: IT is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city. Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "IT" component has a higher-than-average status and significantly different from mean.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

Third hypothesis: Organizational culture is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "IT" component has a higher-than-average status and significantly different from mean.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

Fourth hypothesis: Leadership is in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "leadership" component has a higher-than-average status and significantly different from mean.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

Fifth hypothesis: Internal processes are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is verified in 5% error level. It can be said that: "knowledge process" component does not have a higher-than-average status and is not significantly different from mean. Therefore, it can be concluded that internal process does not affect implementation of KM in Mellat bank.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

Sixth hypothesis: Necessary infrastructures are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is rejected in 5% error level and population mean is significantly greater than 3. It can be said that: "structure" component has a higher-than-average status and significantly different from mean.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

Seventh hypothesis: Necessary financial resources are in favorable status for implementation of KM in Mellat Bank branches of Ahwaz city.

Results of one-sample t-test showed that (P-Value) is very smaller than error level $\alpha=0.05$; therefore, H_0 (population mean equals 3) is verified in 5% error level and population mean is significantly smaller than 3. It can be said that: "budget" component is in unfavorable conditions and is significantly different from mean.

Results of this research match the results of Karilo et al (2004) who investigated KM in organizations which were active in construction industry in England. Furthermore, the result match the results of Halavi (2005) who

investigated the success of KM systems in knowledge-based organizations. Moreover, results of Khavandkar research (2008) match the results of our research. He studied the level of knowledge sharing influence on outsourcing IT services success in local organizations and incubators of Zanjan Province.

As the results showed, dimensions like human resources, IT, management and so on had good status for KM infrastructure in Mellat Bank but budget was not in good conditions. Therefore, it is advised to this bank to assign a budget to KM infrastructure. It is also recommended this research be conducted in other banks of the province and the results be compared with Mellat bank. Furthermore, this research can be conducted in other provinces with different cultures and organizational atmospheres. The most important limitations ahead of this research were: 1) lack of attention to research importance and poor participation in the survey; 2) receiving questionnaires and not returning it; 3) lack of cooperation among Mellat Bank branches of Ahwaz city employees; 4) lack of possibility of favorable access to information and resources in knowledge sharing fields;

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