Model presentation to feasibility measurement of knowledge management implementation with ANP approach (case study of Post bank)

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ABSTRACT

The key factors to success of knowledge management are strategy, culture, technology, organization and people. knowledge and strategy both are dynamic and multilateral concepts. Nowadays knowledge is equal to power and knowledge management is created as a strategy to enhance the organizational competitive advantage and to describe the relationship between the knowledge and strategy of organizations, at first it is necessary to design a strategic plan. choosing this strategy is a multi-criteria decision making which needs to consider some complicated factors.in this research after paired comparisons analysis and weight analysis of each index and alternatives rather than key indexes, and choosing each subsidiary indexes according to each index, and finally by using the ANP technique and super decision software the last combination of the model is created and the proper option according to all indexes and sub-indexes existing in the organization is created and at last regarding to research assumptions human resources, information technology, organizational learning and organizational culture have been prioritized as key factors in establishment of knowledge management in Post bank of Zanjan province.

Introduction

Knowledge is essential to organizational survival, the key factor of organizational success is to achieve a deep understanding at any levels, however there are many organizations with lack of proper consideration of KM. as Peter Dracker says : " the mystery of organizational success in 21 century is KM ". nowadays organizational capitals are not only the financial and physical capitals but also knowledge capital is more important rather than both of them. Knowledge management in each organization, is consisted of processes and approaches that are able to respond the whole needs of knowledge among the personnel and customers.in the recent past, power and competitive advantage of an organization or human society was considered as a bigger portion of financial resources but nowadays everything has totally changed and at the present the main competitive advantage of organizations is their power of managing the knowledge.

There are certain and definite types of procedures about applicable processes of Zanjan Post bank and especially in the process of service presentation to the customers. also in some situations we need to have access to the individuals with banking experiences to help the others with their previous experiences in confronting problems. these kinds of procedures have failed become of not having enough and exact documents and information management system.so

when the clerks of an organizations leave the organization, they will fail and impose different types of financial costs to the banks and on the other hand because of the inference of human factors in the processes they can make different types of social and legal problems. this problem can be solved with using machine and knowledge management system in different types of banks that will lend to time decrease and costs of services to the customers and this factor will be one of the most important factors in the establishment of knowledge management in Zanjan post bank.

2. LITERATURE REVIEW

Nowadays smart and knowledgeable clerks are the most import assets of an organization and based on their creativity power and initiatives, creation of new organizational process, new technologies and development of new services will lead the organization into a type of competitive situation and their creative efforts in the organization is the result of objective investments in the process of learning and improvement of knowledge management. Some features such as complexity, variety and fast environmental changes have created such situations that ignorance to them will lend to the failure in the organizations. Knowledge management is referred to the ability of one organization in using spiritual assets (personal knowledge and experiences) and collective knowledge to achieve personal goals through some procedures such as knowledge production, knowledge share and its application by

the help of technology. Certainly making use of knowledge management and designing their software without consideration of infrastructure issues and important organizational factors that have different effects on them can be related just to the collection of information. when the personnel of an organization are familiar with the advantages and solutions of knowledge management in their working situations they can have some opportunities to up-to-date their knowledge and this will lend to the improvement of an organization.as a result, conducting a investigation about the mentioned situations and organizations is necessary and having a model to know the effective factors on organization preparation, individuals and determinations of preparation rate for the acceptance of knowledge management seems necessary.in fact with conducting this research we can determine basic factors of successful knowledge management in the organizations and then the related information to the indices will be collected from the organizations and knowledge management establishment model will be determined in addition to the theoretical principles. Nowadays, knowledge is one of the most important assets of each organization. So knowledge management is used to discover individual information and to change it to a kind of informational issue.it should be in a way that we can save it in the database.so in the investigation of this process, the investigation and recording applicants preferred facilities and offering services to them in Zanjan post bank will be one of the most important tasks that can be investigated by bank experts and in this regard we should get all the information about different types of documents of each applicants and the emergence of any type of intended or unintended error in the process of making documents for the applicants will lead to the different types of financial and time damages to the banks and as a result bank will have to offer new services.

In addition, the damages of the mentioned issues to the bank will lead to some problems in the documents of some applicants for the services and also they will have some legal and official problems too. This type of damage at any condition cannot convince in change people in solving these problems. this problem can be solved with the replacement of software system with human being decision and it is based on the application of organizational experience and making use of expert ideas will lend to more exact process and the decrease of human being efforts will lend to time saving, creating and entrepreneurship with the help of organizational factors and individual skills. The advantage of this research is related to the establishment of management system that can lead the organizations to the production of knowledge and fulfilling the expectations of the customers and the users in the organizations and different types of bank units will help to the increase of ways and as a result investigation time and completion of the records will decrease and the speed of performing tasks and service offer will be increased and this will lend to the efficiency in different branches of banks.so knowledge management in post bank is an important issue since it is related to one of the most valuable capitals of the organization which is called intellectual capital and can make value for the organization with knowledge management and changing human capitals to intellectual capitals that is essential in the development of knowledge management which will lend to interaction or the strength of knowledge. the organizations should gain experience in five types of activities to the development of the knowledge.

1. they should find organized ways to solve the problem.2.they should make use of other successful people experiences and also make use of new solutions.3. they should make use of present and previous experiences.4.they should compare each other with the patterns of successful organizations.5.they should have effective ability and potential to transfer knowledge in all the levels. All of the skills are essential items for especial type of thinking and they need especial type of thinking and they need especial types of reactions and constructs to make use of them. The phenomenon of knowledge management is dependent on knowledge features and the sources, identification and activities design of knowledge and the sources, and the determinant of the factors in the management of knowledge.

3. CONCEPTUAL MODEL OF RESEARCH
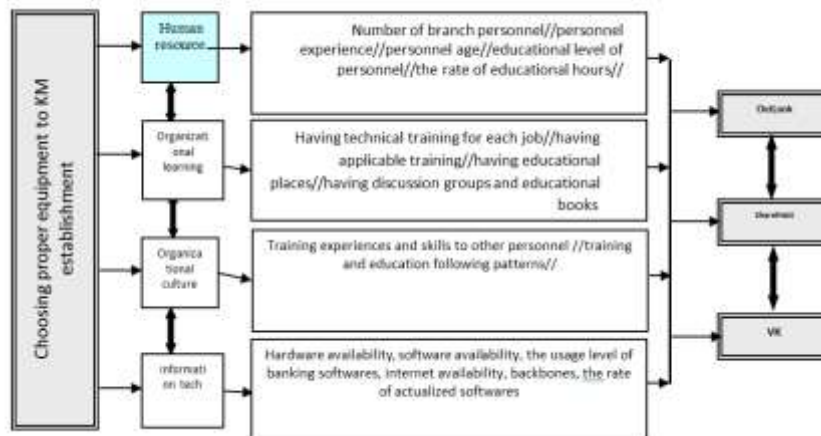
4. ANP model type in this research

The process of network analysis regarding to empirical information and personal judgments of each decider will provide a comprehensive and powerful method for a précised decision making. It will facilitate the process of decision making by providing a structure to organizing the different indexes and evaluating the importance and priority of each rather than the others. this decision making model uses the pair comparative matrix to achieve relative scales and uses the quantitative, qualitative and comparative methods

simultaneously in order to gather the proper information and result analysis.

5. ANP network analysis findings

In this research, there are four main indexes and for each main index there are some subsidiary indexes for choosing the most proper approach to implement knowledge management based on the combination of recognized decision making methods. That paired comparative matrix will be shown in table 1.

Table 1- paired comparative matrix for main indexes

Index choosing	Human resource	Information tech	Organizational learning	Organizational culture
Human resource	1	4.5	2.8	4.2
Information tech		1	0.5	1.8
Organizational learning			1	3.5
Organizational culture				1

After making model in Super Decision software and the entrance of paired comparative matrix, weights of criteria and sub-criteria are calculated as shown below.in table 2 , index prioritizing with choosing the best equipment to KM establishment based on the combination of decision making methods with the use of ANP network analysis and with the help of Super decision software is shown. Also, human resources criteria with the relative weight of 0.53 have the most importance and organizational culture with the relative weight of 0.087 has the less importance. The rate of incompatibility of paired comparisons are 0.028 which is less than 0.10, therefore this comparisons are acceptable.

1	0/53	Human resource	1
3	0/13	Organizational learning	2
2	0/24	Information technology	3
4	0/087	Organizational culture	4

6. Calculating the relative weight of each strategy rather than each main index

In this research, 4 main indexes and some subsidiary indexes have been recognized in order to choose the best equipment to KM establishment based on the combination of decision making methods by using ANP network analysis. Paired comparative matrix based on the combination of determinants is shown below.

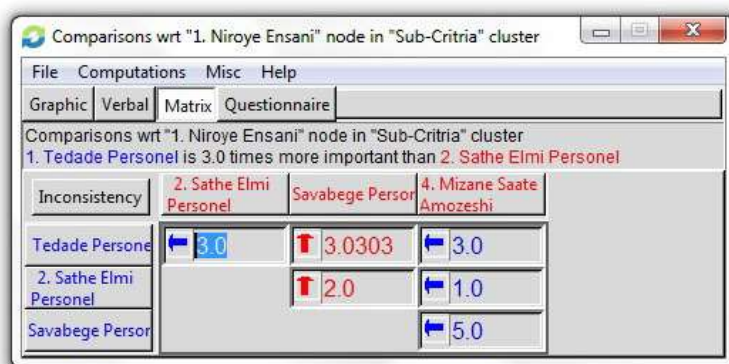a- relative weight of each approaches and main indexes regarding to human resource index

Table 2- prioritizing the indexes of choosing the best approach

priority	weight	criteria	row

Figure 2-paired comparative matrix of approaches regarding to human resource index in super decision software

Table 3- prioritizing the KM establishment regarding to human resource index

priority	weight	approach	row
4	0/12	Number of personnel	1
1	0/56	Scientific level of personnel	2
2	0/49	Personnel experiences	3
3	0/21	Level of training	4

The scientific level of personnel approach regarding to human resource index with the relative weight of 0.56 has the most importance and the number of personnel approach with the relative weight of 0.12 has the less importance. the rate of incompatibility of paired comparisons is 0.08 that is less than 0.10 which shows the results are acceptable.

b- Relative weight of each approaches and main indexes regarding to organizational learning index
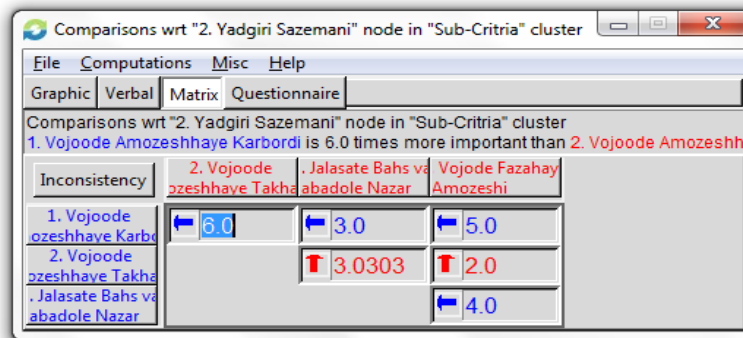

Figure 3- paired comparative matrix of approaches due to organizational learning index with help of super decision

Table 1-4 prioritizing the KM establishment regarding to organizational learning index

priority	weight	approach	row
1	0/658	Practical trainings	1
3	0/145	Expert trainings	2
2	0/363	Discussion sessions	3
4	0/084	Available educational spaces	4

Practical training approach due to the organizational learning index with the relative weight of 0.658 has the most importance and available educational spaces with the relative weight of 0.084 have the less importance. The incompatibility rate of paired comparisons is 0.05 that is less than 0.10 so these comparisons are acceptable.

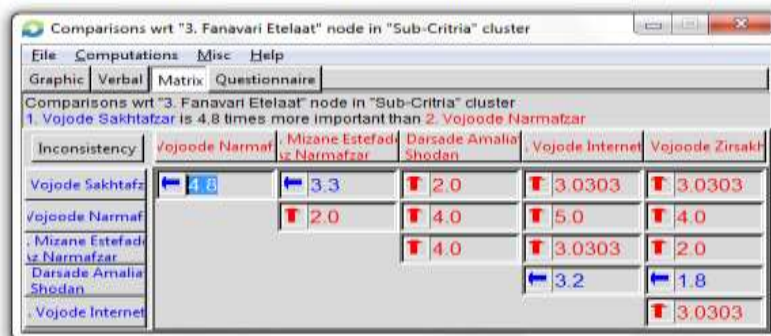c- Relative weighs of each approaches and main indexes regarding to information technology index

Figure 4 – paired comparisons matrix of approaches regarding to information technology with the help of super decision

Table 1-5 prioritizing the KM establishment approaches regarding to information technology

priority	weight	approach	row
5	0/132	Hardware availability	1
4	0/143	Software availability	2
3	0/255	Actualized percentage	3
2	0/281	Internet availability	4
1	0/357	backbones	5

Backbone availability regarding to information technology index with the relative index of 0.357 has the most importance and software availability approach with the relative weight of 0.133 has the less importance. the incompatibility rate of paired comparisons is 0.095 that is less than 0.01 which means this results are acceptable.

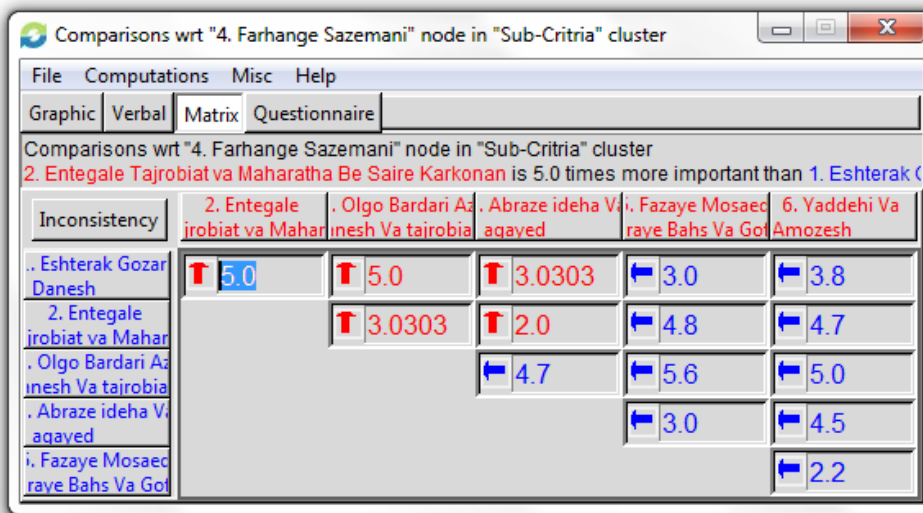d- Relative weights of each approaches and main indexes regarding to organizational culture

Figure 5-paired comparisons matrix of approaches regarding to organizational index with super decision

Table 6- prioritizing the approaches to KM establishment regarding to organizational culture

priority	weight	approach	row
4	0/145	Knowledge sharing	1
3	0/168	Transferring the experiences and skills to other personnel	2
1	0/4	Benchmarking of the others knowledge and experiences	3
2	0/41	Expression of ideas and beliefs	4
5	0/059	Training and teaching	5

Benchmarking of the other's knowledge and experiences with the relative weight of 0.4 has the most importance and the training and teaching approach with the relative weight of 0.059 has the less importance. The incompatibility rate of paired comparison is 0.092 that is less than 0.10 so the results are acceptable.

Table 7- Un-weighted super matrix of research indexes

Organizational culture	Information technology	Organizational learning	Human resources	indexes
0.51063	0.28963	0.50098	0	Human resources
0.40351	0.0829	0	0.28863	Organizational learning
0.09586	0	0.29746	0.73846	Information technology
0	0.61447	0.16956	0.08191	Organizational culture

Table 8- weighted super matrix of research indexes

Organizational culture	Information technology	Organizational learning	Human resources	indexes
0.41032	0.14631	0.40049	0	Human resources
0.16176	0.04845	0	0.15481	Organizational learning
0.04983	0	0.14173	0.32823	Information technology
0	0.30824	0.06178	0.03546	Organizational culture

7. Total model combination and choosing optimal strategy for organization

After paired comparisons and measuring weights of each index and parameter rather than main indexes and choosing each sub-index due to each index, finally by using ANP technique and super decision software the final combination of the model and the proper option regarding to all the existing indexes and sub-indexes in the organization was resulted.
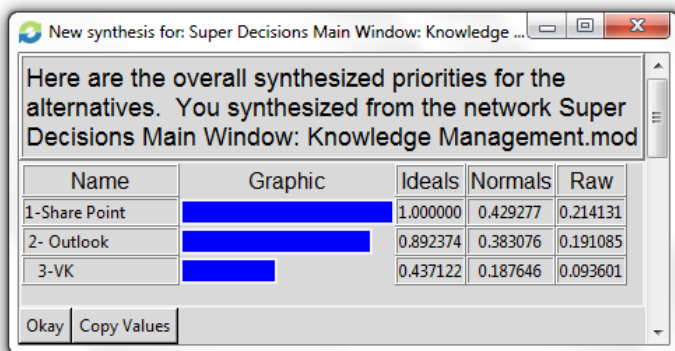

Figure 6-the final combination of model with super decision software

Regarding to all existing indexes which are available in the organization and related calculations, share point option with the weight of 0.42927 is the best choice for organization.

8- Research summary

The purpose of this research is to recognize the effective factors on KM implementation by using ANP decision making method in Post bank. based on the findings and according to methodology, ANP network analysis process was calculated to measure the importance of criteria, analysis and choosing the methods with Excel and Super decision software, importance of criteria and final weights of existing indexes and the value of existing alternatives in Post bank was calculated.

9- Research findings

After paired comparisons and weight calculations of each indexes and alternatives rather than main indexes and choosing each sub-index regarding to each index, finally with ANP technique and Super decision software the final combination of the model and proper option regarding to all indexes and sub-indexes in the organization were resulted. due to all existing indexes in the organization and calculations, share point option with the weight of 0.42927 is the best choice for an organization.

10- Approaches based on research findings

Regarding to findings of research analysis, it is recommended for Post bank to use the resulted priorities to handle the barriers and using share point equipment in the organization is to deploy the capacities of knowledge management.

To consistency of KM models and choosing the best strategy it is recommended that the presented model with fuzzy data, uses the FAHP, FANP and FTOPSIS. since human resource capital criteria in ANP approach has the most priority among the others, it is recommended that Post bank managers pay more attention to this criteria and effective factors on it and consider this criteria as one of the essential approaches and effective factor to overtake the other competitors.

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