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Knowledge Analytical Approach on Promoting Environmental Management

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ABSTRACT: Aim of the present research was to design a proper model for management of knowledge in environmental organizations of country. In study of the model, suitability of the proposed model was researched by asking views of directors, deputies, managers of groups and scientific board members of environmental organizations of country. For this purpose, with review of research literature, insight process, independent technology process and alteration technology process, knowledge solution process, knowledge spiral process and knowledge management conceptual process, principal elements of model and components were determined by examination of models and theories of joint process in the learner organizations. Later, the model was proposed using questionnaire. Reliability of questionnaire was calculated 94.75 % and 93.73% by means of re-testing method and Crown Bach's method, respectively. Admissibility of questionnaire was also determined by admissibility of content thereof and primary implementation (asking views of 30 of directors, deputies, managers of groups in environmental organizations of country). Determination of admissibility, durability and amendments were followed by implementation of the proposed model in random selected statistical sample consisting of 360 individuals from 4 groups of directors, deputies, managers of groups and scientific board members in environmental organizations of country. The inputs were collected by means of descriptive statistics (frequency distribution tables and diagrams), conclusive statistics methods including Pearson correlation co-efficient matrix for the relation between components. Then, Anova (analysis of variance) the four groups under study, extraction and operative analysis and principal component analysis were performed using the SPSS software and the proposed model, with scale of 6.15 out of 7, was confirmed. Principal finding of present research was introduction of a proper model for knowledge management to be used in environmental organizations of country that consists of philosophy and aims, theoretical fundaments, and model implementation steps.

Key words: Environment, knowledge Management, knowledge, Environmental Organisations, principal, Approach

INTRODUCTION

Requirements of present organizations suggest access to the models on alteration and technology basis to be used in organizing and management (webber, 1999). Prevailing alterations rate in society's lead the organizations to learning activities challenge to create a new knowledge enabling them to solve their problems and remove the challenges (Haackett ,2000). Knowledge pivoted societies have advantage of a knowledge enabling them to go on with insight, creativity and intelligence (Natarajan, 2000). Pagani believes that organizations should exchange knowledge although their role recently remains unchanged and knowledge is not considered a basic element in organizational life (Pagani, 2000). Allen (1999) states that policy making trend in organizations was emphatically effected by strategic programming, insight, responsibility, designing, environmental examination, and ever-growing quality. Technological facilities have urged the organizations to use principal processes with better technology (Abbott, 2000). In Armstrong's opinion, many of organizations support joint activities, but they have not changed improvement process of joint activities yet. Organizations have not clearly conceived familiarity with knowledge management, knowledge and kinds thereof, opportunities and threats of knowledge market, how to create and deal with these markets, how to create knowledge and its coordination, how to convey, protect and develop the knowledge, knowledge technology, scientific and applied plans for knowledge management and practical aspects of such kind of management (Armstrong, 1997). Honey Cut thinks that it is one of the basic challenges in organizations to understand that human factors resist against alteration instead of being an alteration factor (Honey, 2000).

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Organizations should put emphasis on joint activities, specially the group joint activities, and encourage cooperation toward the new strategies (O'dell Carla, 1998).

Undoubtedly, quality and knowledge creating in organizations and also knowledge conveyance procedures mainly affect capability and durability of organizations (Hansen, 1999). Successful development requires obtaining the knowledge and filling the scientific vacancies. Important problem is procedure for filling the scientific gaps and how the developing countries should make a use of their opportunities and reduce the present dangers by obtaining and using the knowledge (Gambel, 2004). It is of necessary activities in organizations to obtain and admit the world knowledge and create the same at national and international level, make investment on man power to increase their abilities in acquiring and using the technology to facilitate obtaining and learning the knowledge (Malhotra, 2001). Countries can not make investment on technology unless they make investment on knowledge as well (Garvin, 2000). Today, activities and work programs make the world successful organizations and specialists believe in existence of an opportunity for basic alterations in programs (Allee, 1997). Knowledge, in organizations, is applied not only in documents and records, but also organizational processes are enforced in the work processes and the norms are integrated (Davenport & Prusak, 1998).

Countries, day by day, get farther from one another, on basis of their Knowledge: from "the organization which does not know how to work" to "the organization which knows how to do the new work better and faster" draws a clear image of the dynamic organizations in ten coming years (Tann, 1998).

The countries, for success at present and future, need an integral knowledge enabling the managers to lead guidance knowledge and access to knowledge (Dattion, 2001). He also believes that life of countries in present unacceptable, unpredictable, competitive and dangerous conditions of the world is so hard that its survival requires ever- mobilization and alert warning in each detail. At present, the managers all over the world have concluded that they should use any information for better implementation and exploit useful and updated knowledge as much as possible (Ikujiro and Hirotaka, 2000). Possession of updated knowledge and data has turned into a strong position for continuation of individual and social life and even competition ability in the world market provides to individual development and updated knowledge of the organization to the extent that. Knowledge is considered basic part of capital for production and human resources (Senge, 1996). In a study done by (Debber and Doung, 2003) they believe that the challenges existing in knowledge management are as follows:

1-The cultures prevailing in organizations, do not develop the knowledge management
2-There is no correct recognition of knowledge management and benefits thereof.
3-Organizations are not able enough to measure financial benefits of knowledge management
4-Organisational processes have not been designed for knowledge management.
5-Findings and data needed for knowledge management do not exist.
6- Essential motivations and rewards have not been predicted.
7- Proper and necessary technology does not exist.
8- Managers lack information, insight and updated data on knowledge management today, it is not a problem how knowledge is created, but procedure for knowledge control and management is the question (Koulopoulos, 1999).

Important problem is knowledge production, knowledge creation, knowledge organization, knowledge classification, knowledge reservation, knowledge distribution and knowledge usage. Optimal use of knowledge of personals with mental power and new knowledge creating is the question. (Tiwana, 2003). Changes & alterations and complication and daily increasing evolution are followed by heavier liability, more specialized work for managers and their role gets more sensitive in coordination and management of organizations. Wheatley believes that in fact, there is no managerial practice at some levels of management They merely receive organizational commands from higher authorities and convey the same to the lower ones (Wheatley, 1997).

Knowledge Management Models:

Insight Models

From data to insight (Kiichi, 2001): Success of an organization may depend on the extent the organization has used Knowledge and has created new Knowledge before being able to manage the Knowledge and create new ideas. It is necessary to know how much Knowledge is at disposal of the organization. To do so, a system frame-work is needed to classify the Knowledge.

This model offers a pattern that helps recognition and implementation of Knowledge management. This model is accompanied by synergy Knowledge, wisdom Knowledge, system Knowledge and practical Knowledge. As long as it is not converted into a specific Knowledge, it can not be regulated and distributed in organization and create new Knowledge, In addition, a

set of concealed or apparent separate knowledge, even if combined, will not extend value base of the organization. Creation of organizational Knowledge requires dynamic and ever-lasting interaction of different states of the Knowledge (Mattison , 1999;Anderson,1998;Albert,1997).

Congeptual Model of Knowledge Management (Myrtle, 2003):

This model interferes production of Knowledge based on three pivots (input, data, Knowledge) through tacit and implicit Knowledge and puts emphasis on effectiveness and efficiency of data systems as a prominent entrance factor into production. Documents, sources, documented inputs and reports lead to concept, judgment and experience through tacit Knowledge.

Knowledge Solution Model (Denham, 2004):

This model defines the Knowledge as perfect use of data, inputs as well as skills, abilities, ideas and potential motivations of individuals.

Independent Technology and Alteration Technology Models

This model deals with collection and integration of data. Knowledge management processes are combination of production and Knowledge creation. This model uses the data obtained from learning management systems- based on use of network a good infrastructure and a communication network are initial and technological need for use of alternation Knowledge and conveyance thereof.

MATERIAL & METHODS

Present research is descriptive and measuring kind since it describes ideas of directors, deputies, managers of groups and scientific board members of organizations concerning the components and indices of model in the questionnaire, it is descriptive kind. The measuring research procedure is also used to study distribution of statistical specifications. Statistical population in the present research consists of directors, deputies, directors of groups, and scientific board members of environmental organization of country. For more accurate selection of a sample group, first 4 of organizations of country were determined in a cluster way. Then, the sample members were selected, by class random way, out of them. To estimate the volume of the sample, the high criterion deviation for one of components and mean were estimated 373.362993 and 845 respectively, with a pilot study (Nonaka, 2003;Banham,2001) .and according to relevant formula; number of samples in the descriptive studies was calculated average 300 people, with 95 percent reliance and with0.05 % distance. With regard to 20% probable fall in number of sample, it was considered 360 persons. First, the questionnaires were distributed among the selected sample. When durability and validity were determined, they were distributed among 360 persons of sample of directors, deputies, managers of group and scientific board members of environmental organizations. Measuring tool was questionnaire including knowledge management components. The related indices and components were prepared with help of the studies at national and international level and with regard to cultural and social conditions of country. Its enclosure is based on Lickert 7 degree (Amido, 1997;Chemielecka, 2004) spectrum in a way that the upper number shows more importance and agreement than the lower one. The sample was asked to set a number for each of components and indices giving the number (1) to the least important one and (7) to the most important Validity of components and indices as well as reliability were calculated by current validity method and Crown Bach's" re-test method respectively. The questionnaires were distributed among 16 persons of the sample and collected. Two weeks later, the questionnaires were distributed among the persons of the same sample and collected. The differences in answer of each sample were calculated and Alpha value calculated by Crown Bach Alpha method and SPSS software for 30 persons of the sample was 95.73 reliability of questionnaire was confirmed by the said two methods. Since the specialists affirmed suitability of principal elements of the model and components with use of Knowledge management in development of environmental organizations of country and submission of a suitable model, validity of questionnaire was confirmed as well.

As obtained from correlation matrix, (Table 1) the relation between components was calculated by means of Pearson correlation coefficient. All the components (with p=0.000) have significant sever relation with one another. Initial and extraction values of each component as well as variance and cumulative frequency percent were calculated by means of operative analysis and extraction method of principal component analysis (Table 2).

Based on the data obtained from Table 3 (Knowledge management training through the training facilities, seminars,) to update data of professors and scientific board members (0.777) on creation of component 1, (preparation and approval of Knowledge management programs in organizations (0.726) and creation of component 2 had the most role.

Table1.Analysis Of Inputs Of The Research (Pearson Correlation Matrix)

	Philosophy And Objectives of Model	Theoretical Principles	Knowledge	Insight	Skill	Steps Of Model Performance	Revaluation And Engineering System
Philosophy And Objectives of Model	1	0.286	0.352	0.369	0.245	0.212	0.560
	0.000	0.000	0.000	0.000	0.001	0.002	0.000
Theoretical Principles	0.560	1	0.247	0.283	0.195	0.237	0.212
	0.000	0.000	0.001	0.000	0.009	0.001	0.004
Knowledge(Conceptual Frame)	0.317	0.195	1	0.255	0.200	0.221	0.243
	0.000	0.001	0.000	0.001	0.007	0.002	0.001
Insight (Conceptual Frame)	0.414	0.419	0.334	1	0.223	0.452	0.462
	0.000	0.000	0.000	0.000	0.002	0.000	0.000
Skill (Conceptual Frame)	0.247	0.302	0.315	0.236	1	0.183	0.266
	0.000	0.000	0.000	0.001	0.000	0.009	0.000
Steps Of Model Performance	0.281	0.340	0.286	0.499	0.533	1	0.469
	0.000	0.001	0.003	0.000	0.000	0.000	0.000
Revaluation And Engineering System	0.586	0.464	0.464	0.654	0.359	0.281	1
	0.000	0.000	0.000	0.000	0.000	0.000	0.000

As obtained from correlation matrix, the relation between components was calculated by means of Pearson correlation coefficient. All the components (with p=0.000) have significant sever relation with one another. Initial and extraction values of each component as well as variance and cumulative frequency percent were calculated by means of operative analysis and extraction method of principal component analysis.

Table 2. Primary Score, Variance Percent and Density Percent

Component	Primary score		
	Total	Variance percent	Density percent
Philosophy and objectives of model of question #1	3.510	58.496	58.496
Philosophy and objectives of model of question #2	..932	15.538	74.034
Philosophy and objectives of model of question #3	0.579	9.647	83.682
Philosophy and objectives of model of question #4	0.472	7.862	91.543
Philosophy and objectives of model of question #5	0.303	5.051	96.594
Philosophy and objectives of model of question #6	0.204	3.406	100
Theoretical principles (knowledge process model)	4.393	54.910	54.910
Theoretical principles (communal model)	1.001	12.513	67.423
Theoretical principles (insight model)	0.702	8.779	76.206
Theoretical principles (implicit knowledge model)	0.490	6.122	82.323
Theoretical principles (spiral model)	0.462	5.779	88.122
Theoretical principles (conceptual model)	0.375	4.693	92.616
Theoretical principles (knowledge solution model)	0.296	3.695	95.510
Theoretical principles (technology model)	0.279	3.490	100
Conceptual framework	8.920	37.166	37.166

Table 3. Matrix of Model Performance Steps

component	1	2
Step#1	0.440	0.726
Step#2	0.593	0.461
Step#3	0.295	-0.209
Step#4	0.750	$-5.841*10$
Step#5	0.777	-0.384
Total steps	0.747	-0.390

Based on the data obtained from Table 3 (Knowledge management training through the training facilities, seminars,) to update data of professors and scientific board members (0.777) on creation of component 1, (preparation and approval of Knowledge management programs in organizations (0.726) and creation of component 2 had the most role.

to philosophy and aims of model. , theoretical fundaments of model, conceptual frame-work of model. Implementation of model, and evaluating and re-engineering system of the model being P= 0.438, P= 0.509,, P= 0.323, P= 0.634, P=0.560, P= 0.532, P= 0.330 respectively in the four groups under study (Table 4).

Findings of Reasearch:

Scheme of the proposed Knowledge management in the organizations with interaction of 5 study fields
Theoretical fundaments 0.828
Conceptual frame- work of the model 0.598-
Insight0.707-
Skill 0.768
Implementation steps 0.777
Evaluating and re- engineering system 0.895.

The above- mentioned values have the most portions in creation of each of the said components.

Results of calculation of mean and criterion deviation at all the components in the four groups under study show that the most mean number given to the proposed model concerns directors of the organizations.

After asking view- of the specialists about the proposed model, necessary amendments were made on the model and again it was distributed among 30 specialists and received mean 6.15 of max number 7.

Therefore, it is possible to use statistical quantitative results on separation and synergy components in Knowledge management of environment system of country .Synergy points can be turned into prominent and separation points can be converted into synergy points by means of managerial techniques and tactics. In addition, the above- said quantitative results reflect back ground of satisfaction and confirmation of implementation of the proposed model in environment system of country.

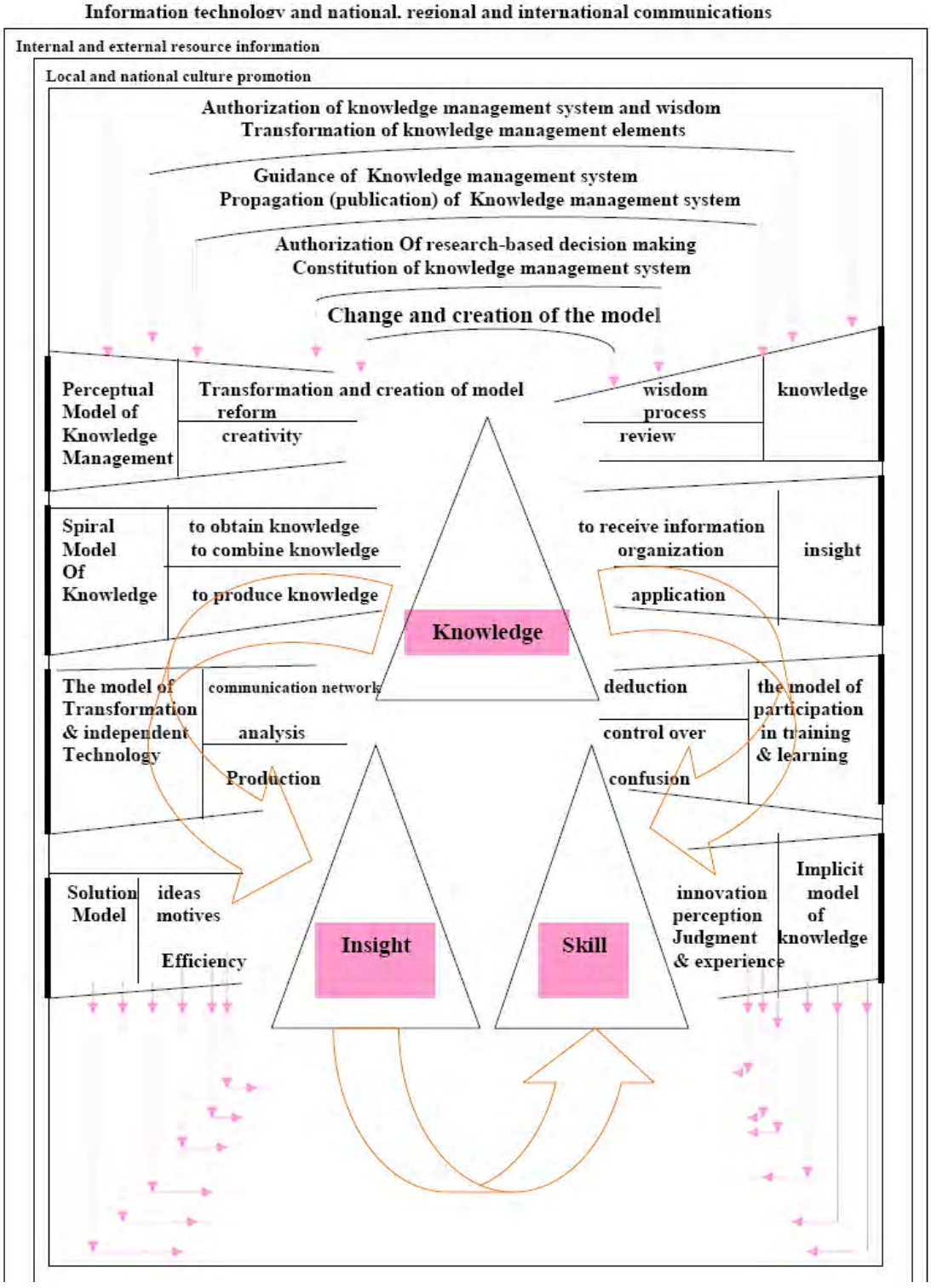

Fig. 1.The Model of knowledge Management

Table 4. Analysis Variance of Components For Four Groups

Components	Sum of squares	Liberty level	Square average	F	Significance level
Intergroup philosophy	124.492	89	1.398	0.731	0.438
and objectives of in-	157.569	119	1.328		
groups total	282.062	213			
Inter-groups Theoretical	125.037	89	1.404	0.995	0.509
principle(knowledge) In-	162.510	121	1.409		
groups Total	287.532	211			
Inter-groups Conceptual	172.486	89	1.854	1.11	0.323
framework in-groups	185.479	109	1.686		
(insight) total	350.465	198			
Inter-groups Conceptual	187.043	89	1.567	0.860	0.634
framework in-groups	191.758	106	1.437		
(insight) total	308.970	196			
Inter-groups Conceptual	137.071	89	1.538	0.968	0.560
framework in-groups	169.937	107	1.618		
(skill) total	307.009	194			
Inter-groups Steps of	85.859	89	0.965	0.982	0.532
model performance inter-	118.833	121	0.982		
groups Total	204.692	210			
Inter-groups	84.420	89	0.948	0.061	0.330
Reevaluation system for	100.055	115	0.868		
inter-groups Total	184.475	204			

Based on the data obtained from Anova test, there is no significant difference among mean numbers given to philosophy and aims of model. ,theoretical fundaments of model, conceptual frame-work of model. Implementation of model, and evaluating and re-engineering system of the model being P= 0.438, P= 0.509,, P= 0.323, P= 0.634, P=0.560, P= 0.532, P= 0.330 respectively in the four groups under study

Based on the data obtained from Anova test, there is no significant difference among mean numbers given.

RESULTS & DISCUSSION

Quantitative findings of this research show that totally the proposed model received final confirmation with scale of 5.73 out of 7. The statistical inputs show that 57.047% of the groups under study (360 persons) 64.804% is element of insight from conceptual from conceptual work of the model and 62.437% is element of skill from conceptual frame work of the model and their use .in knowledge management was confirmed.
Pearson correlation matrix table, with regard to p=0.000 considers the relation between the components, calculated by means of Pearson correlation co-efficient, a strong significant relation that reflects perfect integration of different sections of the model With help of operative analysis and extraction method and principal component analysis on various sections, the components with extensive different portions were formed
Philosophy and aims of the model 0.86
Theoretical fundaments 0.828
Conceptual frame- work of the model 0.598-
Insight0.707-
Skill 0.768
Implementation steps 0.777
Evaluating and re- engineering system 0.895.

The above- mentioned values have the most portions in creation of each of the said components.
Results of calculation of mean and criterion deviation at all the components in the four groups under study show that the most mean number given to the proposed model concerns directors of the organizations.
After asking view- of the specialists about the proposed model, necessary amendments were made on the model and again it was distributed among 30 specialists and received mean 6.15 of max number 7. Therefore, it is possible to use statistical quantitative results on separation and synergy components in Knowledge management of environment system of country .

CONCLUSION

1-Based on study of literature, research record, theoretical fundaments and views of the researcher, 3 principal components were discovered which provide basis of preparation of the model.
2- Researcher, following study of the proposed model including philosophy and aims, theoretical fundaments, conceptual frame-works (Knowledge,

insight, skill), implementation steps and evaluating and re-engineering system, prepared the proposed model.
3-Principal elements of the model and its components were calculated by content admissibility method and Crown Bach's method. Based on Crown Bach's method, durability of the questionnaire was calculated 95.73%.
4- Statistical results of descriptive and conclusive inputs indicate suitability of the model from view of each of four groups,(directors, deputies, managers of groups, scientific board members in environmental organizations of country) with scale 6.15 out of 7, and operative load of each component was specified.
5-To promote ability of individuals, all the members of the statistical sample requested for implementation of the model in environmental organizations of country.

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