

“The Design of Organizational Intelligence and Knowledge Management (KM) structural model” (Case study: Personnel of Universities in Chalooos Town)

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Abstract

This investigation was conducted by aiming at design of organizational intelligence and Knowledge Management structural model in descriptive- analytical form so by virtue of research questions it is considered as an applied type of study and also interpretive method and theoretical analysis were adapted to design this model. The simple randomized sampling technique was employed to determine sample group and statistical population of this survey includes 407 participants from personnel of universities in Chalooos Town (northern Iran) out of them 197 respondents were elected as statistical sample by means of Morgan’s Sample Size Table and a standard questionnaire consists of 28 questions about Organizational Intelligence and 24 questions regarding Knowledge Management, which were administered for them through revision of research backgrounds and the relevant theories including four variables of Organizational Intelligence and seven factors of KM, which were identified and drawn up within an inventory format at interval scale and reliability and validity of their saturating factors were estimated and presented for this purpose. Questionnaire forms have been formulated based on Likert five- scale spectrum and Bartlett Sphericity Test (KMO) was adapted to estimate sampling adequacy and also reliability of questionnaire was estimated by Cronbach Alpha Coefficient. And in order to analyze data, SPSS (v.22) and lisrel (v.8.8) software were used. Finally, organizational intelligence - Knowledge Management structural model was designed for personnel of universities in Chalooos Town.

Keywords: Organizational Intelligence, *Knowledge Management (KM)*, Organizational Intelligence and Knowledge Management *Structural Model*

1- Introduction:

office of one KM system, requires an enormous effort and other similar information technologies, start, startup and operation of that, require saleintiant effort. The success of a KM systems, several issues related to the management of people and cultures should be considered. now we study these people. knowledge Assistant to facilitate the implementation of fulfillment of Projects- behavior oriented, Support and cooperation of senior management of an organization is required. Most institutions that are developing knowledge management systems, position as knowledges Assistant in high level, have introduced. The nature of the role of Assistant knowledge, maximizing investment of firm’s knowledge, design and implementation of knowledge management strategies, internal and external exchange of capital knowledge effectively and promote the use of KM system. Managing Director, high ranking staff and managers of organization, Managing Director against the knowledge Assistant is responsible for

defense of activities relevant to knowledge management. He must ensure that the knowledge manager , an efficient and capable and is able to provide all the resources required for the success of the project. He must has broad support to help and implementation of KM systems in the level of the organization. In addition, the organization’s Managing Director should prepare organization to change due startup KM system. Supporting of knowledge management and information management system, is the vital responsibilities of a Managing director. other senior staff of the organization generally must put at knowledge Assistant, his resources needed for perform his duties. Financial Assistant to the availability of financial resources necessary to ensure. Manager director must ensure that the people are dedicated knowledge management activities in processes of their daily work. The other senior staff of the organization generally should provide the required resources for science deputy to perform his/her duties. Interactive groups: success of many knowledge management systems are always

dependent on the active participation of the people who are sharing the knowledge and benefit from it.

2- Research literature:

According to Mervic, KM is called to a group of regular and systemic organizational activities, which are done to achieve the higher value by available knowledge (Mervic, 2001). Based on Wig's view, KM includes human behaviors, attitudes, and capabilities, business philosophies, models, operation, procedures, and complicated technologies (Wig, 2002:2). KM outside the organization is practically purposed as identifying and recognition of intellectual capitals and creation of new knowledge for preference in competition in world field while inside organization it is also presented to facilitate access to information, sharing in appropriate processes and access to Information and Communication Technology (ICT) (Barkley and Mary, 2005). From another perspective, KM is process of creation and sharing, transfer, and retention of knowledge in such a way that to be able to employ it efficiently in the organization (Hoffman, Hoelsher, and Shrif, 2005:178).

Knowledge-based organizations generally lay foundation of HRM on new cornerstones (Thite, 2004). Duties of HRM are based on the axis of attraction, maintenance, and retention of knowledge workers in learning organizations. Term "knowledge workers" was introduced by Peter Drucker for the first time in 1989 and he employed this term for the personnel, who create value-added for the organization by processing the exiting data to generate new information thereby the problems can be defined and resolved (Horwitz et al, 2003). The most common strategy to attract knowledge-workers in the organization comprises of purposeful promotion via media and using private job finding agencies and recruitment of employees through internet (Noe, 1995). It is extremely important for the organizations to maintain and retain knowledge-workers because they can work effectively with abstract ideas, symbols, and other similar objects (Lee et al, 2001) and two main factors for maintenance and retention of key personnel are as follows: One is to recognize and comprehend this point that what may motivate them since they think differently, behave differently, and at the same time have different needs (Holland et al, 2002) and the latter one is to enhance rate of their loyalty to the organization (Smith, 2002).

It is difficult to define knowledge management KM due to its multilevel concept (Lee and Choi, 2003). From Simon's point of view (1996), KM is intellectual design of processes, tools, and structure

etc in order to increase, renovate, share, and or improve using knowledge that is revealed in each of three elements of intellectual capital i.e. structural, human, and societal components.

1-2 The attitudes regarding KM:

Whereas KM covers a wide range of difficult and various scientific and philosophical concept (Beckman, 1999) thus there are generally three approaches toward KM:

1. *Economic perspective*: Spender (1996) separates knowledge from other traditional production factors and he argues that today knowledge is manifested as the most strategic factor in production.

2. *Competitive advantage perspective*: Organizations possess numerous sources but knowledge is a peerless and inimitable and valuable source that plays key role to form competitive advantage in an organization (Prahalad, CK & Hamel G, 1990:79). The organizations ever-increasingly rely on knowledge creation as vital factor for their survival in markets (Nonaka, 1991).

3. *Intellectual capital perspective*: According to the conducted studies by Wig.K (1995), Chief Executive Officers (CEOs) in American leading organizations agree with this idea that knowledge is the paramount organizational capital.

2-2. Organizational Intelligence meaning

Karl Albrecht believes that organizational intelligence is the ability of an organization to stimulate the mental ability of the organization and to focus this ability toward fulfilling that mission (Albrecht, K, 2002). Organizational intelligence is a combination of all of the necessary skills for an organization which include the skills necessary for coping with change, speed of action and interaction, flexibility and ability to renovation. (Schusk, G, 1996). Matsuda (Matsuda, T, 1992) one of the creators of the theory of organizational intelligence, believes that organizational intelligence, is a combination of human intelligence and machine intelligence. Organizational intelligence model that Matsuda introduces leads to integration of human knowledge processing and the knowledge-based machine. From his perspective, organizational intelligence is the ability of an organization to solve organizational problems.

1-2-2. Perspectives in relation to a variety of organizational intelligence.

Organizational intelligence can be studied from two perspectives (Matsuda, T, 1992).

1-1-2-2. Organizational intelligence as a process

This view reflects the integration and coordination of technical and human intelligence within an organization. Technical intelligence is the ability of the organization to process the data and information of the computer that is important in today's communications systems. And the human intelligence which success in using IT depends on the type of this kind of intelligence includes skills such as thinking, vision and awareness. In this view, the cumulateness of organizational intelligence is posed that presents in a hierarchical form (Schusk, G 1996). This includes knowledge at the individual level, group level, and organizational level and coordination between them is being emphasized as a process. Organizational Intelligence with this view has five components (organizational memory, organizational knowledge, organizational learning, organizational communication, and organizational performance) (Unland, R. 1994).

2-1-2-2. Organizational Intelligence as a result of a process

In this view, of the existing knowledge and information are used to improve and solve problems. Applying knowledge in the right time, place and respond quickly to changes represent

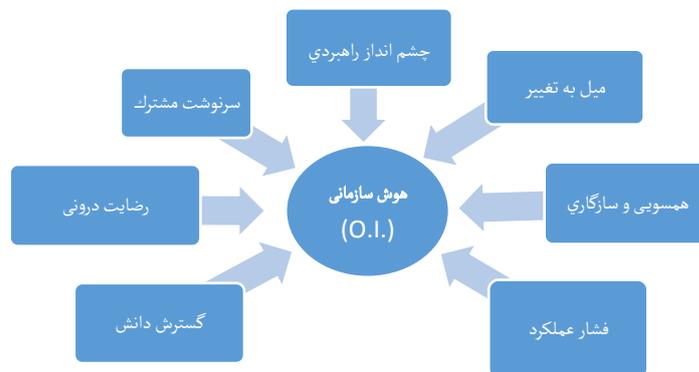


Figure 1 - The seven indicators of organizational intelligence

Each one the seven dimensions of organizational intelligence does not involve a set of behaviors, a structural characteristic, a process or a certain practical way, but a feature. Each of these intelligences or features has several predictors or causal factors.

These predictors may involve clear organizational structures, competent leadership, products and processes to suit the demands of the business environment, coherent missions, clear goals, core values and policies that determine right and behavior s of the employees. In each dimension, we have several predictors that can maximize the effectiveness of that intelligent factor. Seven intelligence features are described as follows.

organizational intelligence as a result. In this view, organizational intelligence manifests in the efficiency of the organization. In other words, this view emphasizes on the ability of the organizational intelligence transfer for providing services and products and prepares combinational guide and plan for designing information systems for the organization.

3-2. The dimensions and characteristics of organizational intelligence

Dr. Howard Gardner psychologist and researcher of the Harvard University claims that humans have more than one kind of intelligence. Contrary to the general belief, Gardner says, "j-factor" is an old view about intelligence that we have one intelligence. According to Gardner, these types of intelligence include intelligence, as traditionally defined as "intelligence" and we have half a dozen or more intelligent as abstract, social, practical, emotional, delicate and tenderness.

Similarly, we can say that organizations have several kinds of intelligence or dimensions of competency and have quantitative intelligence. In fact, each of these seven dimensions of intelligence have a complementary relationship with each other. As shown in Figure 1.

1-3-2. Strategic vision

Any significant action requires a theory, concept, principle of organization, or a definition of a destination that is trying to achieve. Their leaders must ask and answer questions like: Who are we? What is there to do? What is the main value of the work which is at the core of our existence? Why should the world accept me and appreciate what we're doing and reward it?

2-3-2. Shared Fate

When all or most people, including beneficiaries such as key suppliers and business partners, and in some cases even their families are involved in a job, knowing what the mission is, having a sense of common purpose, and understanding the role of individual's mission in the pursuit of cause, would strengthen cooperation between people. The idea that "we're all in the same boat" create a strong social spirit and cooperation.

3-3-2. Appetite For change

People, who are in these environments, feel the need to restructure the business plan as an experience to learn new ways to success. The appetite for change must be high enough to realize all various changes in the strategic approach.

4-3-2. Heart

Apart from the shared fate, the factor of inner satisfaction includes satisfaction of outperforming standards. Organizational psychologists mention the vision quest as mount of the energy that members of the organization use more and higher than what is necessary to employ. In a job that inner satisfaction is low or nothing, the employees only work on the line of their job description. In the organizations that inner satisfaction is high; s leaders are trying to obtain some criteria for vision quest. For example, the willingness of employees to achieve something more than expected because they define their success by the success of the organization.

5-3-2. Alignment and Congruence

The members of any group in the organization cannot have any interaction with each other without certain rules. To fulfill the organization's mission, they need to organize the jobs, division of labor and use a set of rules to interact with each other and the environment.

Any organization that you imagine, exercises some constraints, pressures and also collaborative supports. With a shattered system, you cannot operate intelligently and efficiently. When designing the organization and its structure, systems, procedures, processes, policies, rules and reward systems, lead the people towards a direction other than the organization mission, the solution turns into the problem.

6-3-2. Knowledge Deployment

Today, most of the success or failure of an organization is based on the effective use of knowledge, information and data. Almost every

organization depends highly on the needed knowledge, know-how, judgment, intelligence and common sense, the competency of its staff, as well as the value of the practical information which flows through the structure every minute. The ability to create, convert, transfer, organize, and use the knowledge is the most critical factor for the competitiveness in the complex business environment. Beyond the correct use, the valuable information and mental resources must be used according to organizational culture. "Knowledge management" for IT and the like, is worthwhile to turn from a structure or process subject into a topic related to anthropology. Organizational intelligence should cover free flow of knowledge among cultures and delicate balance between keeping sensitive information and access to the information in key points also supporting and encouraging new ideas and inventions.

7-3-2. Performance Pressure

It is not enough that the managers and executives of the organization get aware of the organization's strategic goals and tactical results. In a smart organization everybody must evaluate his/her performance in achieving the organization's mission and to strive for the common success. When people are accountable to each other for the realization of the organization mission and each new member can feel the sense of participation as an obligation. These seven dimensions or criteria of organizational intelligence are plotted in Figure 1 as converging lines towards a syntropy position. We consider it as a fundamental model.

3- Methodology:

The present research is of descriptive- analytical type and with respect to research questions, it is an applied study. Also, field study method has been adapted for the validation of current research. Statistical population of this investigation includes 407 members of personnel from universities in Chaloos city (Mazandaran province) among of them 198 respondents were elected as statistical sample by simple randomized technique and a standard questionnaire comprising 52 questions regarding Organizational Intelligence and KM was drawn up with an inventory based on interval scale after review the backgrounds of the conducted studies and relevant theories and reliability and validity of their saturating factors were estimated and purposed. This questionnaire has been codified based on Likert five-scale spectrum. The questions of the inventory were revised and judged by professors and experts in educational sciences and also the compliance of the given components with research subject and goals was examined and eventually the needed adjustments were

implemented based on their comments. Then research tools were perfectly revised in terms of face validity and content validity according to comments of professors and experts and finally

verified by them. Reliability of questionnaire was estimated 0.916 by means of Cronbach Alpha Coefficient

Table 1: Reliability coefficient for group of questions in Organizational Intelligence -KM structural model inventory

N	factor	question	Cronbach Alpha
198	Organizational Intelligence	28	0/962
198	Knowledge Management	24	0/868
198	Total	52	0/916

4 - Data analysis:

To analyze data, descriptive and inferential statistics, structural equations, and t-statistic were utilized. After estimation of sampling adequacy, Bartlett Sphericity Test (KMO) was adapted to examine construct validity of the questionnaire and the findings suggested the appropriate conditions for implementation of modeling structural equations.

Table 2: Presentation of KMO values in Bartlett Sphericity Test
(Determinant = 1.000E-0.13)

Kmo	Bartlett	Df	Significant level
0/854	2424/130	231	0/000

4-1 Research major question

What is Organizational Intelligence-KM structural model for personnel of universities in Chaloo town?

At first, it necessitates introducing research conceptual model based on Organizational Intelligence -KM variables in the questionnaire forms, which include 28 and 24 questions respectively and identifying respondents' scores by means of choices in Likert five-scale spectrum as

the scores of Organizational Intelligence -KM variables. As it observed in the figure, Organizational Intelligence -KM variable is a hidden (latent) variable. Now, we examine type of effect (relationship) between variables by description of findings and explore several correlations among variables by presentation of model as standard responses.

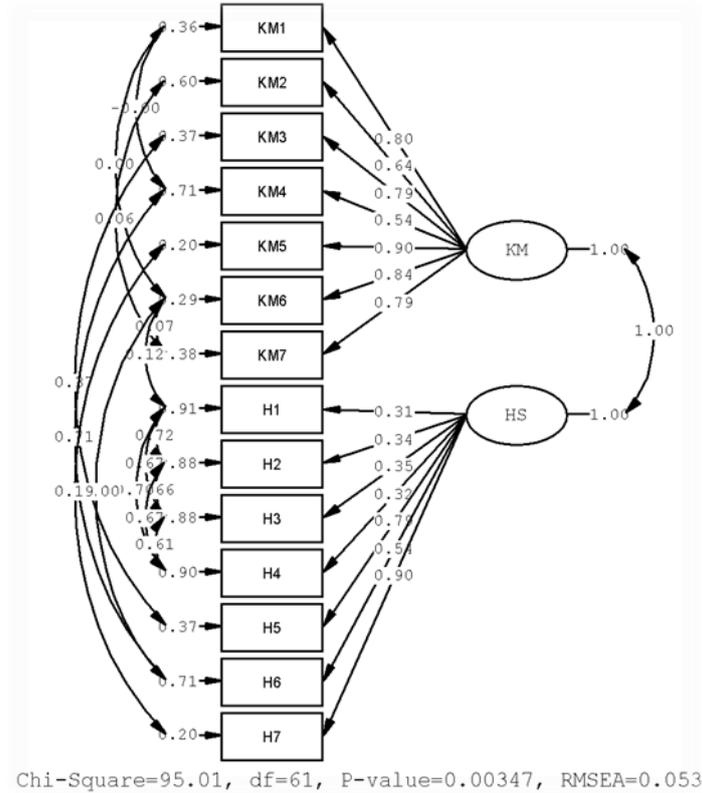


Diagram 2: Organizational Intelligence -KM structural model

In the table, we may observe maximum and minimum values of correlation coefficients and error levels regarding Organizational Intelligence -KM variables.

Table- 4: maximum and minimum values of correlation coefficients and error levels regarding Organizational Intelligence -KM variables

factor	Maximum	Standard error	Minimum	Standard error
Knowledge Management	0/90(km ₅)	0/20	0/54 (km ₄)	0/71
Organizational Intelligence	0/90 (H ₇)	0/20	0/31(H ₁)	0/91

As it seen above table, the given statistics signify that the maximum effect between Organizational Intelligence factor, is related to variable of Performance Pressure while the minimum impact belongs to Strategic vision and at the same time among KM factors, variable of CEO’s support has the maximum impact while the minimum effect is related to variable of Knowledge- based strategies and policies and the rate impact of KM on Organizational Intelligence indicates the level of perfect, strong, and direct significant relationship. Now, we display T-value model to verify or reject major hypothesis.

Table- 5: T-values and the related error level to Organizational Intelligence and KM variables

Variable	Title of variable	Variable	Title of variable
KM1	Organizational culture	H1	Strategic vision
KM2	Knowledge sharing	H2	Shared Fate
KM3	Allocation of rewards to personnel	H3	Appetite For change
KM4	Knowledge- based strategies and policies	H4	Heart
KM5	CEO’s support	H5	Alignment and Congruence
KM6	Human Resources Management (HRM)	H6	Knowledge Deployment
KM7	The use of IT tools	H7	Performance Pressure

We can see maximum and minimum T-values and the related error level to Organizational Intelligence and Knowledge Management variables in this table.

Table- 6: and minimum T-values and the related error level to Organizational Intelligence and KM variables

factor	Maximum	Standard error	Minimum	Standard error
Knowledge Management	15/83(KM5)	31/6	7/94 (KM4)	59/9
Organizational Intelligence	15/83(H7)	31/6	4/25 (H1)	33/10

As it seen in above table, the presented statistics suggest that the maximum values among organizational intelligence variables belong to variable of Performance Pressure while the minimum value is related to variable of Strategic vision and at the same time among KM variables, , the maximum value is ascribed to variable of CEO's support while variable of Knowledge- based strategies and policies the minimum value so that all these statistics may suggest that major

hypothesis of this study is confirmed that expresses the relationship between these elements with Organizational Intelligence and KM variables.

Currently, we purpose indices of fitting model in the following table that approves presentation of an appropriate model for this question. Finally, with respect to output value in LISREL software, it can be implied that the given model has been fitted at very high level of accuracy.

Table- 7: LISREL output for Organizational Intelligence -KM structural model

Chi-Square(X^2)	01/95
df	61
P-value	00347/0
RMSEA	053/0
AGFI	89/0
IFI	99/0
NFI	98/0
GFI	94/0

5. Conclusion:

In order to design Organizational Intelligence-KM structural model for personnel of universities in Chaloos town, initially elements of Organizational Intelligence and Knowledge Management were identified and then the suggested model was designed. The results of factor analysis done by means of major variables with Varimax method for "organizational intelligence" scale expressed 7 existing factors, which were called respectively as Strategic vision, Shared Fate and Appetite For change, Heart, Alignment and Congruence, Knowledge Deployment, and Performance Pressure. 7 factors were derived for "Knowledge Management" scale, which were called correspondingly as organizational culture, knowledge sharing, allocation of rewards to personnel, knowledge-based strategies and policies, CEO's support, Human Resources Management (HRM), and application of IT tools. To establish organizational intelligence system among personnel of universities in Chaloos city, it is suggested to academic directors to be equipped with KM. with respect to this important point that there is relationship among Organizational Intelligence in personnel of universities in Chaloos city and

achievement of those organization thus one could find this fact that an organization with noticeable success is related to establishment of Organizational Intelligence at high level. As KM is reduced in an organization, the rate of achievement will decrease there to the same extent and it is followed by slackness and lack of success. With respect to the given findings, KM variable is one of the factors, which affect on Organizational Intelligence so that as KM increases, Organizational Intelligence is also improved and vice versa. Therefore, with improving KM, one could cause increasing level of Organizational Intelligence in personnel of the university.

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