Application of the ISO 10015 Standard in Knowledge Management and Employee Training

Fereshteh Moradi[*1] and Asghar Bahramian[2]

[1]Member of Young Researchers and Elite Club, Khorasgan (Isfahan) Branch, Islamic Azad University, Khorasgan, Iran (**corresponding** *author*)
[2]MS in Educational Management, Kho rasgan (Isfahan) Branch, Islamic Azad University, Khorasgan, Iran

 Abstract

Today's rapid, growing and amazing developments are taking place in the environment of organizations. Therefore, in order to identify and resist these changes, proper and efficient management must be provided in the organization. By equipping the organizations with knowledge (which is today known as the only competitive advantage) and by effective management of information resources, opportunities for growth and development and increase of organizational productivity can be created since only by the knowledge capital, the natural and human capital can be converted into wealth and only by the obtained potentials progress and development can be achieved. One of the human resource practices is the implementation of knowledge by means of educational standards in the employee training. By means of employee training, organizations can increase the individuals' skills, attitudes and behaviors in undertaking their tasks in order to achieve organizational goals. This study was conducted by investigation and using of library and electronic resources concerning the benefits and obstacles of implementation of knowledge management (KM) and models of knowledge transfer and also previous studies. Conclusion: the ISO 10015 standard is effective in knowledge creation and transfer and employee training. In order for the optimal Organizational Learning (OL) to be achieved, knowledge must be implemented and distributed all over the organization and ISO 10015 is one of the tools of distribution of knowledge all over the organization. Organizational culture and conversion of tacit knowledge into explicit knowledge are considered as the most important challenges for implementation of KM in organizations. In this paper, ISO 10015 standard and dimensions of the Nonaka & Takeuchi model of KM and its application in employee training will be explained.

Keywords: ISO 10015, knowledge creation and transfer, employee training, the Nonaka & Takeuchi model of KM

Introduction:

Knowledge management (KM) refers to the process of creative, efficient and effective use of all the knowledge and information available to the organization in favor of the customer and as a result, to the benefit of the organization, or in other words, the process of conversion of tacit knowledge into applied knowledge; therefore, it is observed that knowledge has an idea which will surpass all traditional capital assets. In order to acquire the ability in conversion of knowledge into competitive advantage, organizations must create a cultural environment in which knowledge and information can be shared and managed and used. Knowledge is one of the factors effective in gaining competitive advantages and collective resources. Over the recent years, we have witnessed the emergence of numerous approaches in the field of KM. The power of knowledge is a valuable and important source for maintenance of valuable heritage, learning new

matters, overcoming problems and difficulties, creation of competition kernels and establishing new positions for the individuals and the organization, at present and for the future (Movahhedzadeh, 2008). Managers' awareness of the value of intellectual capitals has drawn their attention to the ways for release of these powerful capacities and capabilities; such that Nonaka et al. (2001) have admitted that organizational knowledge is the major source for gaining sustainable competitive advantage. Drucker was the first person who, more than 25 years ago, drew public attention to this issue and since then other thinkers in management and pioneering and leading companies have taken major steps in this field. KM is the systematic approach of creation, reception, organization, achievement and use of knowledge and learningsin the organization which in educational organizations helps to the improvement of decision-making, more flexibility, reduction of workload, increase of productivity, creation of new business opportunities, reduction of

costs and improvement of employee motivation. KM is one of the tools for resisting the current problems of the organization and is an important issue since it is related to the most important valuable capital of the organization, that is, intellectual capital (MacDonald, 2002). Employee training affects the development of KM capacity. The continued professional development, specifically for knowledge workers, is highly important. Organizations need to offer and provide the internal and external training opportunities for development and training of the knowledge and expertise required by the employees. Presentation of various training programs can precipitate and prepare the employees for learning new knowledge and expertise, gaining greater insight and being equipped with innovative minds and skills. Such training programs must stimulate the employees to share their expertise and experience, acquire new knowledge and apply what they subsequently learn in work. As a result, training programs are important and vital for employees in the KM process (Argote et al., 2003).

The Study Method

This study has been a review and the data was collected by means of library resources and electronic databases.

Discussion

Importance of Knowledge in the Organization

KM has some sub-categories one of the most important of which is the knowledge life cycle (KLC). KLC is the basis of knowledge processing which creates organizational learning. Training can be considered as one of the learning tools that facilitates the KLC. Training gives them the courage for innovation and creativity. A teacher is an innovator of the method of communication of knowledge and the factor of elementary cycle of decision-making for teaching in the classroom who applies KM in part of his/her professional duties by constant design, operation, supervision and evaluation (Celep and Cetin, 2005). In today's dynamic, challenging and competitive business environment, flourishing of human resources and movement of organizations toward learner organizations is one of the prerequisites of success in such an environment. Today, organizations must be able to acquire or create their required knowledge

for presentation of services and achievement of organizational missions and objectives and share them among the employees. Employee training that is carried out by different forms, goals and methods in the organizations, is an example of traditional actions of organizations for acquisition and creation of the knowledge required by the organization and its transfer and sharing among the employees. By reflection on the literature of employee training and optimization, various types of employee training can be observed which experts have classified in terms of content, goal, place, structured programs, time duration of the period, presence of the learners and specific or general level of trainings and they are usually applied in the organizations (Abtahi & Arabi, 2008). Today, by admitting knowledge as the largest source for obtaining competitive advantage and sustainability of the KM system at a pervasive level, organizations have been encouraged to make use of capacities and processes of KM, in addition to the employee training system, in order to enhance the competences of human resources and achieve organizational goals. According to different experts, KM processes have been named and studied in different methods.

Definition of Knowledge Management (KM)

Most writers have admitted that wedo not have a proper understanding of the learner organization nor do we have an accurate understanding of the concept of KM (Loermans, 2002). If we are absolutely determined regarding KM, we must clarify its meaning further. Lack of an overall agreement in a specific presentation of this concept has led to some confusions that have been well reflected in different studies that were carried out in this regard. KM is the enhancement of a comprehensive approach for identifying, possessing, retaining sharing and evaluating an organizational information capital. This information capital might consist of data, documents, policies and procedures (Gartner Group, 1999). KM is a process during which the organization creates wealth through its knowledge and intellectual capital (Nonaka & Takuchi, 1995). KM refers to the creative, efficient and effective use of all knowledge and information available to the organization in favor of the customer and therefore to the benefit of the organization (Mac Donald, 2002). KM is the use of individual and collective experience and knowledge through the process of knowledge creation,

knowledge sharing and its implementation by means of technology in order to achieve organizational goals (Baqayinia, 2007). KM is implementation of intellectual capital for achievement of the organization in competition with counterpart organizations; also, it refers to innovative responses for new challenges and acts as some leverage for action and a mediator (Alaqeband, 2003). Most experts agree regarding the importance of knowledge in management and divide it into two dimensions: the first dimension is explicit knowledge and the second dimension is tacit knowledge. Explicit or manifest knowledge is a knowledge that can be easily transferred and can be codified and coded by means of a series of signs (letters, numbers, etc.) within the framework of writing, sound, image, picture, software, and database. Due to this, sharing of explicit knowledge is easily possible. Usually, explicit knowledge in the organizations changes into rules, work procedures and daily programs based on which each of the employees carries out their tasks. Tacit or latent knowledge is a subjective and personal knowledge which can't be easily expressed, transferred, shared and formulated. Insight, vision, understanding and wisdom of each person and the tips and tricks used by every person are within the scope of their tacit knowledge. Tacit knowledge can't be easily coded and converted into rules and guidelines and it is obtained through observation and imitation. In most organizations, for improvement of the level of performance of the organization, we have to use tacit knowledge of employees in line with their explicit knowledge. For this reason, the proper atmosphere for transfer of this knowledge and communication of employees with one another must be provided since tacit knowledge is usually transferred through language, body and physical display of skills. Most experts agree regarding the importance of knowledge in management and divide it into two dimensions: the first dimension is explicit knowledge and the second dimension is tacit knowledge. Explicit or manifest knowledge is a knowledge that can be easily transferred and it can be codified and coded by means of a series of signs (letters, numbers, etc.) within the framework of writing, sound, image, picture, software and database. Due to this, sharing of explicit knowledge is easily possible.Usually, explicit knowledge in the organizations turns into rules, work procedures and daily programs based on which each of the employees carries out their tasks. Tacit or latent

knowledge is a subjective and personal knowledge that can't be easily expressed, transferred, shared and formulated. Insight, vision, understanding and perception of every person and the tips and tricks used by every person are within the scope of their tacit knowledge. Tacit knowledge can't be easily coded and converted into rules and guidelines and is obtained through observation and imitation (Movahhedzadeh, 2008). In most organizations, for improvement of the level of performance of the organization, we have to use tacit knowledge of employees in line with their explicit knowledge. For this reason, the proper atmosphere for transfer of this knowledge and communication of employees with one another must be provided since tacit knowledge is usually transferred through language, body and physical display of skills.

Components of KM

Therefore, in order to better understand the concept of KM, we must primarily look into the concepts of data, information, knowledge, wisdom and difference and relationship between them. The terms "information" and "data" are usually used instead of the term "knowledge"; but in fact, they have different concepts and understanding their difference is highly important and critical in order to conduct a knowledge-based task.

-Data

It refers to a reality of the situation. The data is raw and without presentation of explanations, it lacks any interpretation. The data reflects complete and single and coherent interactions and exchanges which are known as insignificant parts. These parts are stored and managed in databases.

-Information

Adding analysis and interpretation to the data and specifying their relationships with one another lead to creation of information. In other words, information includessummarized data that is grouped, stored, refined, organized and analyzed so as to indicate a special situation. Analysis of information leads to decision-making.

-Knowledge

It refers to a power for action and decision-making (Kanter, 1993), information that is authoritative and assumed to be accurate (Vance, 1997); it refers to

adding perception and memory to information and further summarization of the initial information (Baqayinia, 2007). In fact, knowledge acts as the insight obtained from information and data. Knowledge helps useful information to be collected and unwanted information to be eliminated.

-Wisdom

Application of knowledge, or in other words, application of knowledge, in order to achieve organizational goals, is called wisdom.

The Most Famous Classifications of Knowledge

Wiig (1999) has classified the processes of KM into creation, collection, publication and application of knowledge. Darroch has designed the processes of KM in the three components of acquisition, creation, distribution and accountability of knowledge and has applied them in some studies (Darroch, 2005, p. 106). Jashapara has divided the processes of KM into the four stages of production, organization, sharing and application of knowledge based on which organizations create knowledge and apply it eventually (Danaee Fard & Selseleh, 2010, p. 106). Dalkir, by a study of different approaches and views, has designed an integrated model of KM processes and has presented it as in figure 3 which includes all the views prior to itself (Dalkir, 1011, p. 64).
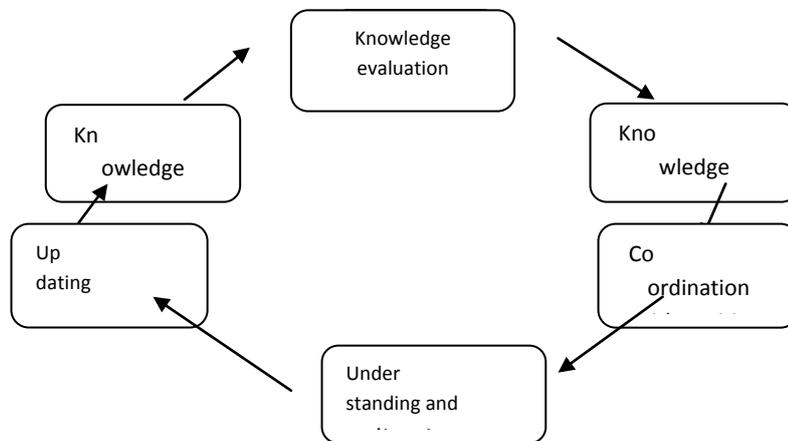

Figure 1: Integrated model of KM processes according to Dalkir (2011, p. 51)

KM processes and training methods can be inferred from the knowledge creation and conversion model of Nonaka & takuchi. According to Nonaka & Kenno, the socialization process is the first process of knowledge production and conversion in Nonaka & takuchi's model based on which tacit knowledge is exchanged between individuals and requires a kind of direct relationship between the individual and the colleagues and also the organizational environment, existence of a face- to-face relationship between individuals and method of training and learning through observation, training and coaching (Nonaka & Kenno, p. 40). In the externalization process, that is, conversion of tacit knowledge into explicit knowledge, written method of training, conceptualization, language of metaphors, interview and method of discussion and dialogue, it helps to the knowledge acquisition and sharing among the individuals (Dalkir, 2011, p. 65). Virtual training methods, using technology and database, in the process of combination and acquisition and sharing of explicit knowledge between the colleagues, has been reported as useful. The training method, through constant self-improvement byin-service training and learning though extracurricular education in the process of internalization and conversion of explicit knowledge into individual tacit knowledge, is considered as one of the effective methods (Dalkir, 2010, p. 67 &Nonaka & takuchi, 1998, p. 47).

Participation which is one of the other strategic actions of human resource management might interest the employees in positive involvement and participation in KM and learning activities. Persons that have a wider range of skills, expertise and responsibilities must have more independence and autonomy in undertaking their tasks. Providing more

autonomy and participation in decision-makingcan increase the involvement, awareness and commitment of employees. If employees have more opportunities for provision of inputs and determination of the required actions, they might increase the diversity and richness of exchanged knowledge and create newer ideas and eventually facilitate the discovery or identification and application of the knowledge and expertise expanded in the organization (Borumand & Ranjbari, 2009).

The Knowledge Exchange and Transfer Model of Nonaka &Takuchi

For knowledge conversion in every organization, Nonaka proposed four states (Nonaka, 1994).

From tacit knowledge to tacit knowledge (socialization): in this state, through establishment of interaction, people try to directly share their tacit knowledge with others. The noteworthy point is that the person is able, without using the language, to receive the tacit knowledge; for instance, through face-to-face communication.

From explicit knowledge to explicit knowledge (combination): the second state is conversion of knowledge followed by combination of different parts of explicit knowledge maintained by individuals and as a result, presentation of a new form. For instance, we can obtain and collect the different information in a specific field from different sections and departments of the organization and include them in a single report.

From tacit knowledge to explicit knowledge (externalization): coding and encoding of experience and insight in a form that can be used by others; for instance, through conversation and question and answer, we can turn our tacit knowledge into a tangible form.

From explicit knowledge to tacit knowledge (internalization): when people institutionalize their explicit knowledge and share it and subsequently use it for expansion of their tacit knowledge and its revision.

The main problem and challenge in KM is the process of conversion of tacit knowledge into explicit and manifest knowledge (Movahhedzadeh, 2008).

Training

Training is one of the most complicated duties in management of every organization and one of the important tasks of human resource management. Training and optimization lead to deeper insight and vision, higher knowledge and understanding and higher competencies and skills of the individuals employed in the organization for implementation of the duties assigned to them ; and therefore, it will lead to achievement of organizational goals with better and more efficiency and productivity. Today, not all organizations can improve and develop without training their employees. Due to training, fundamental intellectual, knowledge and skill diversity and changes are made in the individual and the individual is inclined toward new values (Khorasani & Hasanzadeh; Barani Kord, 2007). Training is not specific to newcomers; rather, for experienced employees some courses must also be designed as needed. In fact, training has not been specific to a group or a particular time. All employers, during their work life, must be constantly and continually trained so as to have the utmost effectiveness and efficiency in the position they are carrying out their tasks (Sa'adat, 2007). Trained employees react more consciously against organizational changes and will have a more effective role in efficiency and effectiveness (productivity) of the organization; therefore, training is a constant and ongoing process and employees, at every level of the levels of the organization, are in need of training and acquisition of knowledge and new skills so as to be able to achieve new methods and information in order to better conduct their tasks, whatever type they ate, and so that by using new technology, thoughts and ideas, improvement of the quality of performance of the employees and consequently efficiency and effectiveness of the organization is provided. Today, famous companies in the world consider education and development as their future investment and do not consider it as costs. Future belongs to learner organizations (Doroudi, 2006).

The ISO 10015 Standard

The role of this standard is provision of guidance for assisting the organizations in identification and analysis of training needs, training design and plan, implementation of training, evaluation of training results and supervision and improvement of training in order to access its goals. This standard stresses the

assisting role of training in constant improvement and the goal is to help organizations in more effective and efficient investment of training (Soltani, 2007). ISO 10015 defines training in a four-stage process by the names of analysis, program, action and evaluation and every stage is related to the next stage within an input-output relationship according to the model of figure 2. Based on the process-based concepts of the new family standards,ISO 2000:9000 has been founded, and it can be easily perceivedfor organizations that apply the qualitative tools related to ISO. Also, it is easily accessible to companies that work with those other than ISO since ISO 10015 acts as a management tool so that it isguaranteed that, in terms of using resources (money, time and energy), training has been properly organized and is effective in filling out the gap between the performance of the current and the desired states (Soltani, 2004).
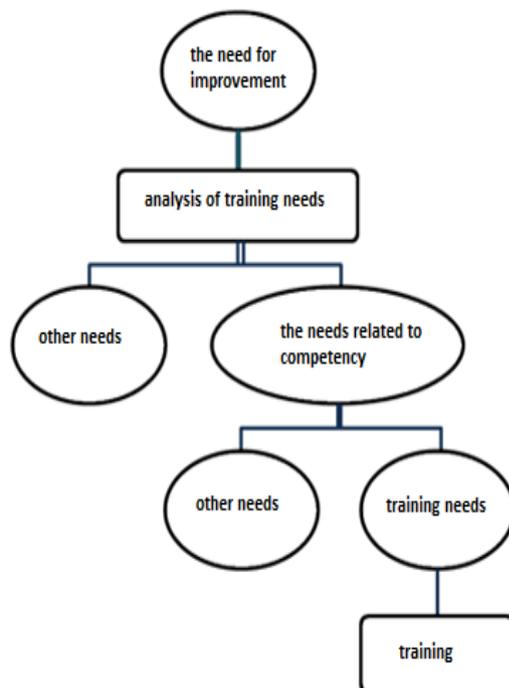

Figure 2: Improvement of quality through training (Soltani, 2004)

Solutions for Implementation of KM in Organizations

Today, different frameworks have been presented for implementation of KM. Here, by investigation of these frameworks, we will refer only to factors that are effective in successful implementation of KM. Surely, these factors are not inclusive and exclusive and do not include all the factors. What have been explored here are some of the most important factors that need to be paid more attention:

Definition of the role of leadership and specification of the management tasks: this requires cooperation of senior managers, perception of the dominant organizational culture and programming based on that.

Identification of the gap between the current knowledge and the desired knowledge

Increase of awareness of individuals regarding the benefits of KM: such that individuals must be taught that although monopoly is considered a power, sharing it is a double power.

The manager must primarily look for quantity. Welcoming quantity encourages people to think of their favorite views.

Institutionalization of creation of sense of necessity and urgency of change: not only should the managers adapt themselves and the organization to changes, but also they must be pioneering in the changes and try to create this feeling among their employees that change is an immediate and necessary need.

Formation of a committee for identification of active people and their commemoration: not only do these people include those that provide their knowledge for others; but they also include those that properly use the knowledge of others.

Content management: content management, as the center of KM, concentrates on marketing, distribution and application-of the current knowledge that was previously obtained. Keeping knowledge up-to-date and efficient, according to the needs and demands of employees, is one of the key activities in content management.

Creation of an environment based on trust for knowledge sharing between individuals

Provision of conditions for creation of short-term victories and successes (Baghayinia, 2007)

Conclusion

In order to have knowledge-based employees, managers must try to adapt themselves to the latest knowledge of the day. According to KM, the most valuable of the resources of organization is knowledge

of employees. In fact, it somehow stresses the central knowledge of employees in every organization. As the three main elements of every organization include: human resource, processes and technology, on the one hand, KM greatly emphasizes human resource and organizational culture for creation of a spirit of knowledge sharing and using it and on the other hand, it concentrates on methods and processes for knowledge discovery, creation and sharing and in the end, in order to store knowledge and render it usable at the time of group work, it focuses on technology. By creation of changes in the organization and by maintenance of this scope, the manager helps to the invention of more effective scopes of scientific thinking in the future. In order to enhance the level of quality of goods and services and obtain competitive advantage, there is a need for investment on human resources of the organization. Through investment on human resources, in the organization sustainable competitive advantage can be achieved. Training is one of the important mechanisms of investment on employees and oriented and applied training must be designed and implemented in all career levels of the organization. In order to systematize organizational training, ISO 10015 standard helps organizations to be able to implement the four stages of organizational training, including needs assessment, training planning, provisions and implementation of training and evaluation of its effectiveness, in the organization and to create the required human capabilities and influence the nature of quality. Although organizations partly have characteristics of open legal systems (obedience coupled with discipline, existence of power at the top of organization, exercise of top-to-bottom authorities and impersonal behavior based on formal regulations, but the manager of human resources must develop this culture in the organization based on which tendency for being legal and open not only does not lead to disintegration of employee training system, rather, it boosts their self-confidence in better carrying out their duties and their awareness regarding the benefits of KM and change and therefore increase of quality of training and learning process which is the ultimate goal of employee training.

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