ASSESSING THE LEVEL OF READINESS FOR IMPLEMENTATION OF KM IN THE BANK OF TRADE OF QOM PROVINCE USING THE ASIAN PERFORMANCE ORGANIZATION MODEL

EVALUAR EL NIVEL DE PREPARACIÓN PARA LA IMPLEMENTACIÓN DE KM EN EL BANCO DE COMERCIO DE LA PROVINCIA DE QOM UTILIZANDO EL MODELO DE ORGANIZACIÓN DE DESEMPEÑO ASIÁTICO

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Abstract: *The main objective of this research is to examine the status of readiness for KM implementation using the APO model at the Commercial Bank of Qom Province. The present research is an applied research based on the purpose and a descriptive-survey one based on the nature and method. The statistical population of this research is the branches of the Bank of Commerce of Qom Province, which has 30 branches and 295 personnel that using a sample size chart for kerjesi and Morgan, 167 people were selected as the statistical sample. The instrument for collecting information in this research is the standard questionnaire of the Asian Performance Organization Model (APO). Cronbach's alpha for data gathering tool was higher than 0.7 which indicates the reliability of the questionnaire. Statistical tests such as mean, mode, and total score of the obtained scores from the statistical population were used to analyze the data using Excel and SPSS software. The findings of the research showed that the company's status is in the beginning phase of the implementation of KM. That is, the organization began to recognize the need for knowledge management or may have started a pilot project of knowledge management.*
Key words: *Knowledge Management, Asian Productivity Organization, Bank of Commerce.*

Abstracto: *El objetivo principal de esta investigación es examinar el estado de preparación para la implementación de KM utilizando el modelo APO en el Banco Comercial de la provincia de Qom. La presente investigación es una investigación aplicada basada en el propósito y una encuesta descriptiva basada en la naturaleza y el método. La población estadística de esta investigación son las sucursales del Banco de Comercio de la provincia de Qom, que cuenta con 30 sucursales y 295 personas que utilizan una tabla de tallas para kerjesi y Morgan, 167 personas fueron seleccionadas como la muestra estadística. El instrumento para recopilar información en esta investigación es el cuestionario estándar del Asian Performance Organization Model (APO). El alfa de Cronbach para la herramienta de recopilación de datos fue superior a 0,7, lo que indica la fiabilidad del cuestionario. Las pruebas estadísticas tales como la media, el modo y la puntuación total de los puntajes obtenidos de la población estadística se utilizaron para analizar los datos utilizando Excel y el software SPSS. Los hallazgos de la investigación mostraron que el estado de la compañía está en la fase inicial de la implementación de KM. Es decir, la organización comenzó a reconocer la necesidad de gestión del conocimiento o pudo haber iniciado un proyecto piloto de gestión del conocimiento.*
Palabras clave: *Gestión del conocimiento, Organización de productividad asiática, Banco de comercio.*

Introduction

In the era of rapid change and evolution, successful organizations are those institutions that constantly produce new knowledge, extend it at the organization level and use it quickly in the products and services they offer. Over the years that management of knowledge has been considered as a specialized concept, different definitions have been presented by researchers and experts. Knowledge management can be considered as a concept for describing processes through which organizations identify, collect, organize, store, and share knowledge in order to create value and gain competitive advantage (Akhavan, Bagheri, 2013). In a good definition, knowledge management is a combination of explicit knowledge acquisition and storage, along with the management of intellectual capital (Galych Lee, 2013). Knowledge management is the process of creating, impacting, distributing, and applying knowledge, which provides the setting for teaching feedback, retraining, or eliminating instruction which is commonly used to create, maintain, and restore organizational capabilities (Baht[1], 2008).

Despite the fact that today knowledge management is recognized as an important factor in achieving competitive advantage in a competitive business environment, and its significance is clear to all individuals and organizations, but it seems that there are problems and ambiguities in identifying applied tools and techniques, assessing and implementing knowledge management in internal organizations, especially small and medium-sized organizations.

As with the implementation of any project, the deployment of knowledge management and the acquisition of its benefits require a purposeful and programmed movement that its prerequisite is to measure the readiness of the organization to establish such a system. In the field of managerial studies, organizational readiness is considered as a pioneer in the success of complex changes (Amatayakul[2], 2005). Based on Levine's three-step model, specialists in the field of management have prescribed different strategies for preparing themselves through the release of existing mentality and motivating change (Weiner, 2009). Organizational readiness for change is not only a multilevel structure, but also a multifaceted structure and specifically, it refers to the commitment of the members of the organization to the change and the effectiveness of change for its application (Wiener, Amik and Lee, 2008, and Weiner, Lewis and Lee, 2009). Organizational readiness in the field of knowledge management was formed where managers were aware of the importance and competitive advantages of knowledge management but they did not know where to start, and whether their organization was prepared for changes needed to implement knowledge management or not . It means that by knowing and preparing the organization for the best implementation of knowledge management, and then the application of it, knowledge assets should be implemented and with the development and updating of the goals of the organization and the environmental conditions, they'll be used appropriately.

Asia Performance Knowledge Management Framework is a simple and comprehensive framework that illustrates all elements of a KM approach and is considered as a reference for all organizations. The starting point of this framework is the recognition of the mission and vision of the organization, which outlines the strategic orientation of the organization. Understanding these topics helps identify the competencies needed to achieve business goals and the result is creating insights for designing knowledge management plans, road maps, and operational plans for the organization. There are three levels in this framework that include facilitators (containing KM drivers and boosters). Leadership is the driving force behind the advancement of knowledge management in the organization. Processes, people, and technology also enable the organization to accelerate the implementation of KM strategies. Knowledge processes (five main activities in knowledge processes) are: identifying, creating, storing, sharing and applying knowledge. These activities form the second layer of the framework by forming an integrated process. The knowledge process begins by identifying what the organization needs to know about it and what it really knows. Then knowledge gaps are separated through the process of creating, storing, sharing, and applying to knowledge assets and the results and achievements of this layer will help improve the quality of products and services, productivity, profitability and growth, and thus contribute to socio-economic development. Considering all the elements related to knowledge management, The Asia

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1 Baht
2 Amatayakul

Knowledge Management Framework helps companies that initially implement KM to achieve a successful and effective knowledge management implementation. This framework ensures that none of the important dimensions of knowledge management will be ignored, while reducing the diversity and complexity of knowledge management for managerial work. Therefore, in this research considering the importance of this, the knowledge management status and the readiness level of the commercial bank of Qom is evaluated for its establishment using the APO model.

Theoretical Foundations

Knowledge Management Concept

Different authors have defined the knowledge management from different perspectives and with different approaches. From Rabitz's point of view, knowledge management includes all of the ways in which an organization manages its own knowledge assets, including how to accumulate, store, transfer, use, update, and create knowledge.

Newman (quoted from Dehghan Najm, 2009: 48-49) believed that knowledge management is a set of phenomena that involves the creation, dissemination, and application of subjective and objective knowledge in an organization. To properly understand these definitions, we need to define and explain knowledge separately from data and information.

Data: A data is a fact of a situation or an item of a particular context without any relation with other things.

Information: Adding setting and interpreting data and their relationship to each other creates information.

Knowledge: Adding comprehension and memory to the information leads to natural development after the information. Brief summary (accumulation) of basic information leads to knowledge. In this case, knowledge can be defined by insights from information and data that can be efficiently divided in different ways and in different circumstances. Knowledge is to minimize the gathering and reading of information rather than increasing access to information. Efficient knowledge helps eliminate unwanted data and information (Norouzian, 2005: 25).

According to Bhatt (2008), knowledge management is the process of creating, influencing, and presenting, distributing and applying knowledge. These five factors provide feedback and retraining training, or the elimination of training, which is usually intended to create, maintain, and retrieve organizational capabilities. Many organizations have begun introducing knowledge management and technology investment processes to support these knowledge management processes for using knowledge sources; but most knowledge management projects have failed. The high rate of these failures can largely be attributed to the fact that many organizations focus only on technology; therefore, the success of knowledge management requires that organizations recognize their knowledge needs and use appropriate methods to meet these needs (Chang Tsing, 2012). Implementing knowledge management to achieve optimal perfection requires ample and significant changes in processes, infrastructures and culture; it is therefore unlikely that it will result in a sudden rise; therefore, continuous improvement is based on evolving and step-by-step steps, not on the basis of revolutionary innovations. These evolutionary stages of knowledge management which evolves over time are known as knowledge management maturity. In other words, knowledge management is required to reach maturity and be transformed from a stationary status to an interdisciplinary function that is firmly established in the organization (Ahmadi et al., 2008).

Roding (2003) also considers knowledge management as a way of identifying, accessing, organizing, and processing information to create knowledge which is then distributed and available to others to be used to create more knowledge. Gray (quoted by Dalker, 2013) also defines knowledge management as a comprehensive and collaborative approach for creating, maintaining, organizing, acquiring, and using the intellectual property of organizations.

Knowledge Management Benefits

Professionals and practitioners outlined the following benefits for knowledge management:
1. Saving and Performance: Processes are more efficient and eliminate the need to

recreate ways to do things.
2. New opportunities. New markets and new business opportunities are identified.
3. Change and Innovation: The organization can detect changes, give them the appropriate feedback and change itself in time.
4. 4) Better use of human resources. The organization makes a better use of its human resources.
5. Speed in the process. Knowledge management enables organizations to reduce the cycle time, decrease processes because the delays caused by the recreation of solutions are eliminated. In addition, the detailed knowledge of processes enables the employees to optimize the processes.
6. 6) Continuity. Particularly in organizations and industries with high employee exchange rates, knowledge management is an effective mechanism to transfer knowledge from experienced employees to new employees, thus maintaining continuity (Roding, 2010).

Types of organizational knowledge

One of the most famous taxonomies of knowledge was taken by Nunaco (1994). In his taxonomy, Nunaco divides knowledge into two forms of explicit knowledge and hidden knowledge. Nonaka believes that this type of knowledge is independent of the staff and exists in computer information systems, books, organizational documents, and the like (Abtahi and Salavati, 2006). This category identifies two types of knowledge:

1. **Explicit knowledge:** This knowledge is the knowledge that is objective and can be formally expressed in systematic language. Nonaka believes that this type of knowledge is independent of the staff and exists in computer information systems, books, organizational documents, and the like**.** Documents, documents, reports, and organizational rules and regulations, and all achievements of the organization that are written are obvious examples of this knowledge (Khanqahani, 2013).
2. Implicit or hidden knowledge: Hidden knowledge is very personal and it is hard and difficult to formulate or transfer, or share it with others. Hidden knowledge exists in the human mind and can not be easily expressed; the hidden knowledge is also known as non-verbal, intuitive, and subjective knowledge. Hidden knowledge is deeply rooted in individual actions and experiences, as well as its ideals, values or emotions (Galych Lee, 2009).

Knowledge Management Models

Different models have been developed based on the attitudes and approaches that the experts have taken towards knowledge management. The effectiveness of each of these models depends on the status of the organization (Niazi, 2012).

1. Newman's General Pattern of Knowledge

Newman has provided a general knowledge model. In this template, knowledge is organized in four areas:

Creating Knowledge: Behaviors that are related to the entry of new knowledge into a human or social system that encompass a wide range such as discovery, acquisition, call, development, which has a close link with the behavior that is called innovation. Newman assesses this component by examining problems and failures publicly, welcoming the ideas, insights and new knowledge of individuals, evaluating individuals for the development of new knowledge.

Preservation of knowledge: It includes all activities that lead to the survival and maintenance of knowledge after it enters the system. Preservation activity involves various behaviors, such as activities related to the validity of knowledge, updating it, and so on. Newman examines this component with issues such as assessing successes and failures, informing people about new knowledge, recording new knowledge and skills.

Knowledge transfer: Includes a variety of behaviors such as: communication, translation, interpretation, refinement and presentation of knowledge. Newman examines this component with issues such as holding multiple sessions to examine specialized topics, sharing positive experiences between individuals, and continuous assessment of individuals.

Application of knowledge: the use of knowledge to make decisions, actions and achieve goals. Newman examines this component with issues such as the use of ideas of individuals, the creatively use of existing skills, using the creativity and innovation of employees to improve organizational knowledge and attempting to overcome non-creative ideas of individuals (Newman, 1999).

Measurement Model of Organizational readiness (Mosa Khani, Ajali and Safavi model)

This model includes 25 indicators that are categorized into 5 categories. These five categories are culture, organizational structure, IT infrastructure and change management. For assessing the readiness of organizations in knowledge management, there are questions that cover each domain for each of the indicators in this model.

The Maturity Model of Knowledge Management (Sohrabi, Raisi and Alidousti Model).

The purpose of this model is to describe the approach by which knowledge management can be evaluated and improved in a strategic way and in order to improve future developments. This model is made up of five levels. At the first level of puberty, the organization does not have consistent and integrated processes for documenting knowledge and most of the procedures and processes in each project are re-tested and used. At this level, asset managers are not a reliable basis for evaluating employee efforts. At the second level of puberty, the organization has initiated the initial infrastructure for deploying repeatable processes. On the third level, the organization identifies useful knowledge and experiences and integrates them into their business processes. These processes and experiences are documented and used through training in all business processes of the organization. In the fourth level of this model, the organization uses its descriptive performance data to systematically and continuously manage its processes. The function of all processes is explained by the indicators and generates a history of processes' performance. Finally, at the fifth level, which is the highest organizational maturity level, the organization uses its deep knowledge to continuously improve processes (Sohrabi et al., 2010). 4. Steve Halls Model: This model emphasizes knowledge processes. This model presents the following six strategies: 1- Search for knowledge. At this stage, knowledge management needs to look for new knowledge in different areas. These domains can be inside or outside the organization. 2- Move to the learning organization. 3- Storage. 4. Distribution. 5. Removing the redundant knowledge. 6- Application. Noteworthy in the Steve Halls model is his focus on the outside of the organization as a source of knowledge (Abtahi, Salavati, 2006).

Effective Factors in KM Implementation

Knowledge management is a set of systematic efforts to find, organize, and manage intangible assets of the organization, as well as continually reinforce the learning culture and knowledge sharing in organizations (Gupta & Sharma, 2004). Many organizations focus on knowledge management and extensive IT investments to have access to the benefits of knowledge management (Shi and Ching, 2005). Successful implementation of knowledge management requires a comprehensive and inclusive approach to various organizational factors. One of the key challenges for organizations understands of knowledge management and how it is implemented. Today one of the organization's greatest wishes is to define a knowledge management system in a way that is appropriate to its organization and administration (Khodaei, Abbasian, 2010). Various researches have been made on the key factors behind the success of KM and there are many definitions in the literature for

them. One of the most famous definitions is the definition of Rokart (1979). He sees key success factors as a limited number of areas of activity that lead to successful competitive performance. Bruno and Lydker (1984) state in another definition that key success factors are the characteristics, conditions or variables that, if properly managed, can have a significant effect on the success of an organization's competitive position.

Introducing the Model of Asia Productivity Organization and Conceptual Model of Research

Knowledge Management Framework of Asian Productivity Organization (APO):

This framework provides a common understanding of knowledge management among member countries and emphasizes the value of this framework for achieving organizational success. This framework is based on the experience of several Asian countries in the field of knowledge management and best practices in America, Australia and Europe.

The KM framework is a simple and comprehensive framework that shows all the elements of a KM solution and is considered as a reference for all organizations. The objective of this framework is to improve organizational performance by using knowledge management. The starting point for this framework is the recognition of the mission and vision of the organization that outlines the strategic orientation of the organization. Understanding these topics helps identify competitive competencies needed to achieve work that its result is creating insights for achieving purposes, designing of knowledge management plans, roadmap and operational plans for the organization.

The tool for assessing the Asian Performance organization Management Knowledge is a way to identify areas where an organization should focus its knowledge management initiatives on them. The result of this evaluation specifies the organization's strengths and areas that need to be improved. The specific objectives of the Asian Performance Organization Knowledge Management tool are:

1. Determine whether knowledge management has already been implemented in the organization and on which level has it been applied?
2. Determine whether the organization is in a position to create and sustain the systematic management of knowledge processes.
3. (C) Identify the strengths and opportunities of the organization to improve knowledge management.

The Asian Performance Organization Management Knowledge Tool is based on the Asian Performance Organization Management Knowledge Framework, as shown in the picture below. In this method, in order to identify the status of organization in terms of knowledge management, a questionnaire has been designed that the questions raised in the questionnaire are based on the seven elements contained within the framework of this model. The starting point of the framework for this model is the recognition of the vision, mission, organizational goals, and strategic paths. This helps the organization analyze its core capabilities and abilities, and identifies those that need to be developed and improved. The four accelerators (individuals, processes, technology and leadership) can help the organization understand how these effective factors influence the organization and can help the organization use and apply successfully the knowledge management. The five main processes of knowledge (identification, creation, storage, sharing and use of knowledge) provide an initial assessment of the existing knowledge management activities that can be applied in a timely fashion when implementing knowledge management. Occasionally, organizations may use knowledge management unconsciously. The results of knowledge management efforts measure the effectiveness of knowledge management processes supported by critical success factors (accelerators, perspectives, and missions). These results should be able to demonstrate the improvement of learning and innovation that creates individual, team, organizational, and social capabilities and ultimately leads to improved service quality, productivity, profitability, and organizational growth.

For a better implementation of knowledge management in an organization, the level of readiness of the organization should be measured first. One of the models that organizations use to assess the implementation of knowledge management is the Rao model. Rao believes that organizations can, according to the Eight C Framework, review the organization's readiness to implement knowledge management as well as its evaluation and analysis. In this way, knowledge management can be facilitated through adequate access to knowledge management tools, user-friendly content, experiential groups, knowledge-based culture, learning capacity, cooperative spirit, material incentives, and investment return on knowledge management. In another model, the US Center for Productivity and Quality and the Anderson Counseling Center in 1995 created a KMAT model to help organizations' self-assessment and identify strengths and opportunities for improving knowledge management. This model can be used to select the appropriate type of knowledge management in companies. In KMAT, there is no standard structure, procedures, and processes for knowledge management, and it is difficult to find a comprehensive, clear standard reference.

In the "Asian Productivity Organization" model, we tried to compensate for the shortcomings of the KMAT model as a comprehensive measure to assess the readiness of knowledge management and the strengths and weaknesses, opportunities and threats of the organization in terms of knowledge management are identified. In fact, having the same advantage that is not found in other models and the coherence of the research objectives with the goals expressed in the model is the main reason of choosing this model from several models for assessing the readiness of knowledge management. On the other hand, in this model the status of knowledge management is evaluated using the seven criteria, while in other models, fewer factors are used. Also, studying the research background shows that considering the newness of this model, it has not been used in Iranian organizations so far. The APO model is designed for use by Asian organizations and is reviewed at the same time as science and technology progresses. Therefore, it is superior to the proposed models in this regard .Considering the above, this model has been used to measure the readiness of knowledge management in Caspian Company in this research. The tool consists of seven criteria, each of which has six questions, and the respondent will respond to each question using a 5-point Likert scale. Given that the maximum score that an organization can gain from an assessment is 210, the organization will be ranked according to the score it gains and the knowledge management maturity model.
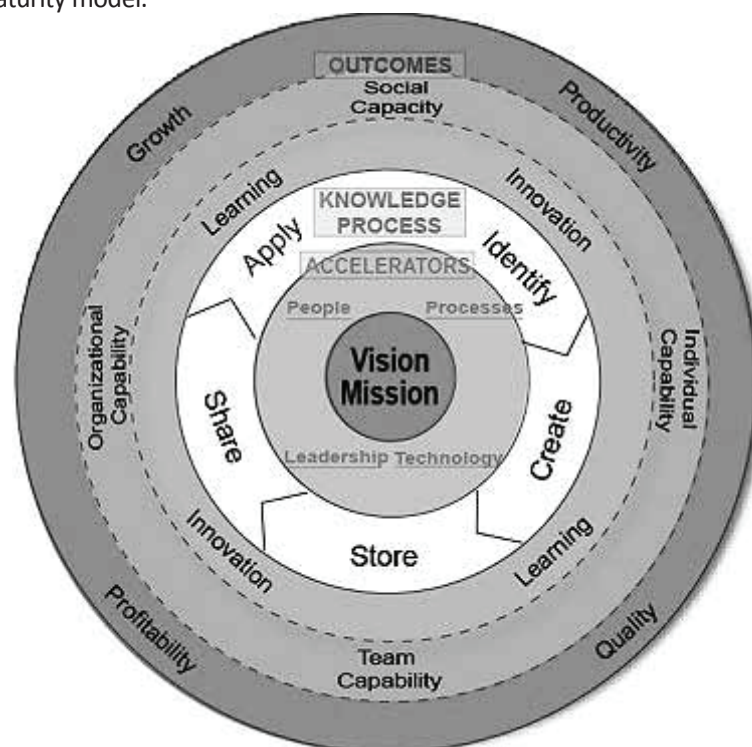

Figure 1: Knowledge Management Framework of the Asian Productivity Organization

There are seven audit categories in the APO KM Assessment Tool based on the key elements of the Framework:

1. KM Leadership

This category evaluates the organization's leadership capability to respond to the challenges of a knowledge-based economy. The KM leadership is assessed in terms of KM policies and strategies that are in place within the organization. The leadership is also assessed in terms of efforts to initiate, guide, and sustain KM practices in the organization.

2. Process

The process category assesses how knowledge is used in managing, implementing, and improving the organization's key work processes. It also assesses the extent to which the organization continually evaluates and improves its work processes to achieve better performance.

3. People

In the people category, the organization's ability to create and sustain an organizational knowledge-driven and learning culture is assessed. The organization's effort to encourage knowledge sharing and collaboration is evaluated. The development of knowledge workers is also assessed.

4. Technology

The technology category reviews the organization's ability to develop and deliver knowledge-based solutions, such as collaborative tools and content management systems. The reliability and accessibility of these tools are also assessed.

5. Knowledge Processes

The organization's ability to identify, create, store, share, and apply knowledge systematically is evaluated. Sharing of best practices and lessons learned to minimize reinventing of the wheel and work duplications are also assessed.

6. Learning and Innovation

This category determines the organization's ability to encourage, support, and strengthen learning and innovation via systematic knowledge processes. Management's efforts to inculcate values of learning and innovation and provide incentives for knowledge sharing are also assessed.

7.KM Outcomes

The KM outcomes category measures the organization's ability to enhance value to customers through new and improved products and services. The organization's ability to increase productivity, quality, and profitability, and sustain growth through the effective use of resources and as a result of learning and innovation is evaluated.

There are 42 questions that cover these seven categories with a maximum score of 210. There are six questions for each category, with a maximum score of 30. Each question can be ranked in one of the five possible options of one (poorly done, or never done) to 5 (very well done).

How to use the Asian Productivity Organizational Preparedness Assessment Tool

Seventy to eighty percent of the organization's staff, from all levels and sectors, must respond to the assessment questionnaire. Respondents should have at least six months or more in the organization. The reason for this is to ensure that respondents are familiar with the organization and are able to answer most of the questions. The average score of each category (of the seven categories described) is calculated and plotted in the form of a radar chart (shown below).
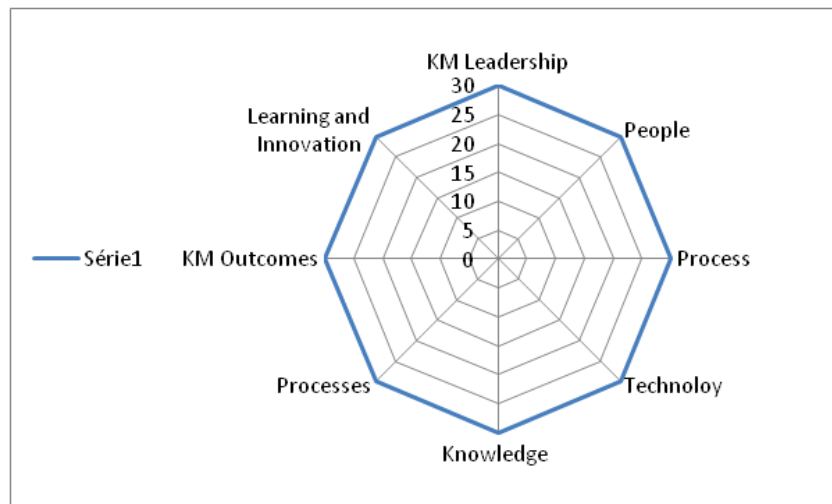
Figure 1: Asian Performance Model Radar Chart

This chart shows the average real score for each category against the maximum possible score of that category. These scores identify the categories that are in good condition and the categories that need improvement. Then, the overall assessment score is compared with the maturity model of knowledge management shown in the figure below. This shows the level of maturity of the organization's knowledge management. The assessment results allow the recognition of the level of readiness for knowledge management in the organization. Organizational readiness levels may range from the ((response)) that is lowest level to the (puberty) as the highest level. The conditions that describe each of these levels are in fact related to the existence, absence, or weakness of the four boosters, learning and innovation, and the results of knowledge management in the organization.
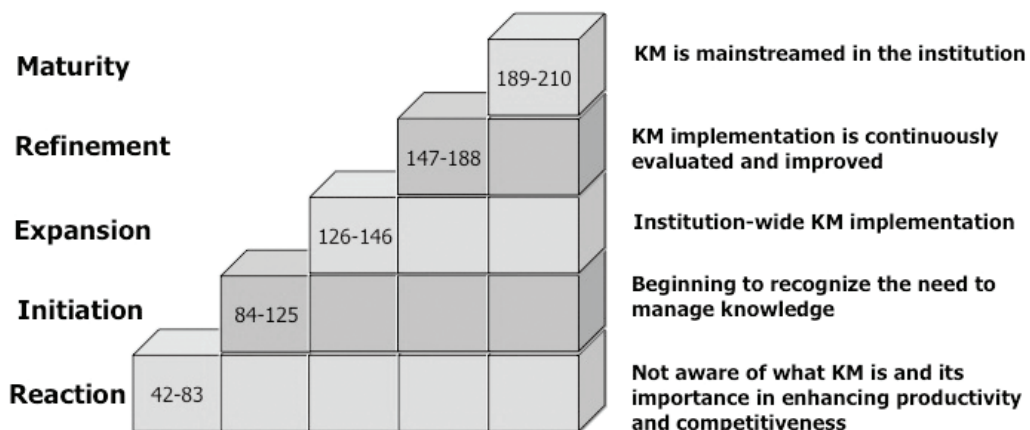

Figure 2: Maturity levels of knowledge management in the APO model

There are five levels of organizational readiness available within the framework of the knowledge management maturity model:

Level 1, Passivity: The organization is unaware of what knowledge management is and what its importance is in improving productivity and competitiveness.

Level 2, Level of Initiative: An organization understands the need for knowledge management, or it may start a pilot project for knowledge management.

Level 3, Level of development: Knowledge management has been fully implemented and effectively used in an organization.

Level 4, Level of refinement (control): The implementation of knowledge management is continuously evaluated for continuous improvement.

Level 5, Maturity Level: Knowledge management is prevalent in organization.

Research literature

Khodaei et al. (2013) examined the readiness of knowledge management implementation at Islamic Azad University of Mashhad (the views of faculty members of the university). Descriptive statistics, one sample T test, Friedman analysis of variance and SPSS software were used for data analysis. There were no significant differences in the subsections mentioned between the views of the faculty members regarding the different educational groups. The most effective and important index was organizational culture rated at 21.2 and the least important infrastructure index was technology rated at 80/1. In faculty members' view, the readiness of knowledge management implementation at the Islamic Azad University of Mashhad is modest.

Dashti, Sadeghi, Shirazi and Khodamoradi (2015) investigated the knowledge management assessment based on APO model in Tehran regional power company. The model has dimensions of leadership in knowledge management, process, people, technology, knowledge processes, learning and innovation, and the results of knowledge management. The results of the research indicate that the knowledge management maturity in Tehran regional power company is at the beginning level. This means that the organization has begun to understand the need for knowledge management.

Erfani, Naghibian and Rismanabaf (2015) investigated the factors influencing the implementation of knowledge management and factor ranking using the APO model in the Iranian language Institute. The research method was survey and a questionnaire was used to collect data. The research community consisted of staff, teachers and managers of the Iran language Institute in Mashhad. Knowing the effective factors in implementing knowledge management and their ranking has helped to clarify the pathway in the research community and suggestions for implementing knowledge management in Iran language institute were made. The results also showed that the maturity level of the company was in the reaction stage.

Gilich Lee and Ebrahimi (2016) conducted a research on the feasibility of establishing knowledge management with the approach of the Asian Productivity Organization (APO). In this paper, the Assessment Model of Asian Productivity Organization Knowledge Management was first described; then, the organization's readiness to establish knowledge management was determined by questionnaire and field studies. The findings indicate that the level of knowledge management maturity is at the level of reaction; that is, the level of readiness of the organization in the field of knowledge management was at the lowest level of the company that is the level of response. This means that the organization is not aware of what knowledge management is and what its importance in improving efficiency and competitiveness is.

The Radmahani, Tjakratemadja, and Twha (2012) conducted a study titled Assessing the maturity of knowledge management at PT.XYZ. This study examines the knowledge management and factors that affect the performance of the organization. In this study, the quantitative method and the framework of the Asian productivity model were used to measure the knowledge management maturity level of the company. The results of this research showed different levels of knowledge management maturity in terms of gender, age and organizational variables. Financial reports have been used to see how it is related to organizational performance. Hinge, Colg, Lo, and Gadding (2013) explored the relationship between critical success factors in implementing knowledge management and the benefits it brings. The study was conducted in Malaysia and organizations that implemented and conducted comprehensive quality management were studied. The results of this research show that organizational culture, commitment and leadership of top management and employee participation have a positive relationship with the benefits of knowledge management. In the following, recommendations were made for the organizations involved.

Research questions

The main question: What is the level of readiness for the implementation of KM in branches of the Bank of Commerce in Qom?

Sub-questions:

1) What is the readiness of the branches of the Bank of Commerce of Qom Province to implement knowledge management in terms of facilitators?

2) What is the readiness of the branches of the Bank of Commerce of Qom Province to implement knowledge management in terms of knowledge Processes?

3) What is the readiness of the branches of the Bank of Commerce of Qom? Province to implement knowledge management in terms of results and achievements?

Research Method

The present research is an applied research based on the purpose and a descriptive-survey one based on the nature and method. The statistical population of this research is the branches of the Bank of Commerce of Qom Province, which has 30 branches and 295 personnel that using a sample size chart for kerjesi and Morgan, 167 people were selected as the statistical sample. The instrument for collecting information in this research is the standard questionnaire of the Asian Performance Organization Model (APO) Which consists of the following components: 1- Leadership of knowledge management (6 items) 2- Process (6 items) 3- People (6 items) 4- Technology (6 items) 5- Knowledge processes (6 items) 6 - Learning and innovation (6 Item) (7) - Results of Knowledge Management (6 items) which evaluates the organization with a maximum of 210 points. Each category with a maximum score of 30, and each item or question, will be in accordance with the following table from 1 to 5:

score	1	2	3	4	5
Alternatives	It is not done at all or very poorly done	Poorly done	Enough is done	Well done	Very well done

To determine the reliability of the completed questionnaire, Cronbach's alpha was calculated using 30 questionnaires that showed its reliability.

In this research, statistical tests such as Friedman test, regression test, and Pearson correlation were used and the data obtained were analyzed by Excel and SPSS software.

Data analysis
Reliability of measuring instrument

Cronbach's alpha coefficient was used to validate this questionnaire. Cronbach's Alpha coefficient of the components of the questionnaire is reported in Table (1):

Table 1. Descriptive statistics

Component	N of items	Cronbach's Alpha
KM Leadership	6	.861
Learning and Innovation	6	.874
Process	6	.911
People	6	.854
Knowledge Processes	6	.792
Technology	6	.893
KM Outcomes	6	.912

Analysis of data and descriptive findings

Descriptive statistics for demographic information have been used in this research. To analyze the data of the questionnaire, descriptive statistics method including frequency, frequency percent, mean and standard deviation were used and analyzed with the help of related statistical tables and graphs. At first, the general profile of respondents was examined; then descriptive statistics were

used to categorize the subjects' demographic characteristics in terms of gender, work experience and education, as well as the responses of the subjects to the research questions.

Table 2. Demographic Information

Component		Frequency	Percent
Gender	Men	88	52.7
	Women	79	47.3
Education	Associate Degree	11	6.6
	Bachelor Degree	137	82.0
	Masters & PhD	19	11.4
Years of service	1-5 years	14	8.4
	6-10 years	65	38.9
	11-15 years	24	14.4
	16-20 years	26	15.6
	21-25 years	22	13.2
	<20 years	16	9.6

According to Table 3, the highest average is related to the dimension of the process (M = 4.0419) and the lowest average for the dimension of individuals (M = 3.3313). Because the average of all dimensions is higher than average level 3, so the level of utility of all dimensions is higher than the average level.

Table 3. Descriptive statistics

Component	N	Mean	Mode	St. Deviation	**Minimum**	**Maximum**
KM Leadership	167	3.6277	3.67	.47245	2.33	5.00
Learning and Innovation	167	3.5469	3.83	.51545	2.17	5.00
Process	167	4.0419	4.33	.42065	2.83	5.00
People	167	3.3313	3.50	.52258	2.17	4.67
Knowledge Processes	167	3.5060	3.67	.58795	1.50	5.00
Technology	167	3.8363	3.67	.50083	2.67	5.00
KM Outcomes	167	3.9072	3.83	.44270	2.17	5.00

The results of Table 4 indicate that the components of the processes with the score of 14.2155 is in the first priority, the results of knowledge management with the score of 13.4431 in the second priority, technology with a score of 13,018 in the top priority; Leadership in knowledge management with a score of 11, 6656 in the fourth priority; Learning and innovation with a score of 11, 284, 11 in the fifth priority; knowledge processes with a score of (0359/11) in the sixth priority and individuals with a score of (9/9880) are in the seventh priority.

Table 4. Score Knowledge Management Questionnaire

Row	component	scoring	Maximum score	ranking
1	KM Leadership	11.7665	30	4
2	Learning and Innovation	11.2814	30	5
3	Process	14.2515	30	1
4	People	9.9880	30	7

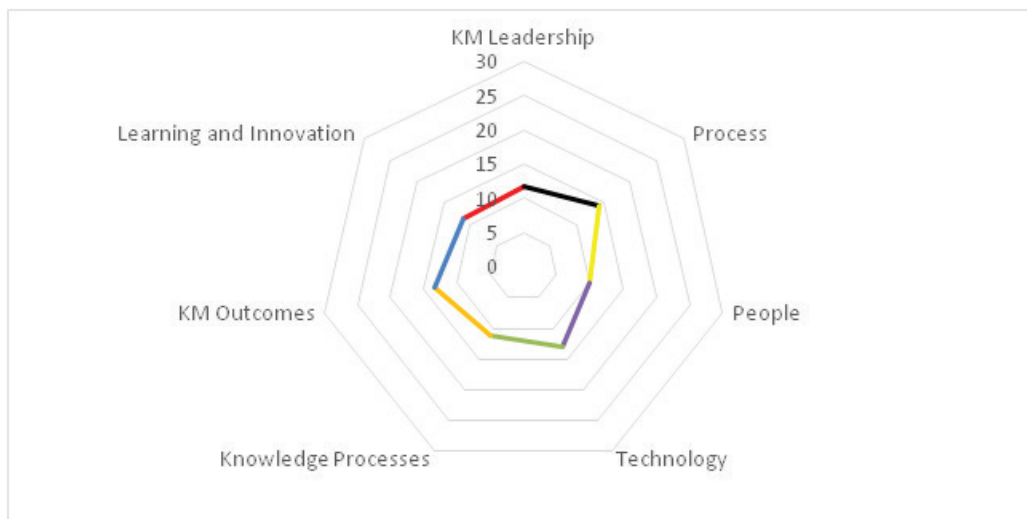| 5 | Knowledge Processes | 11.0359 | 30 | 6 |
6	Technology	13.0180	30	3
7	KM Outcomes	13.4431	30	2
Sum scores		84.4784	210	

Figure 2: Spider diagram related to the organization's readiness for deploying knowledge Management.

Table 5: Organizational Position in APO Model

KM is dominant in the organization	189-210				
The implementation of knowledge management is continuously evaluated and improved in the organization		147-188			
Extensive knowledge management implementation in the organization			126-146		
Start understanding the need for knowledge management				84-125	
unawareness about the quality of knowledge management and its importance in improving productivity and competitiveness					42-83

Discussion and Conclusion

People are one of the most important assets of a company or organization. In this regard, the Asian Productivity Organization's Knowledge Management Model proposes a framework for coordinating individuals with processes, leadership and technology, which ensures future success of the organization. An organization without people and employees is like a car without a driver. From the point of view of knowledge management, individuals create the main components of knowledge sharing functions. They also need to be aware of the KM initiatives and actions, to be aware of its importance and, in fact, to be part of it. According to the results of the questionnaire, the score of the branches of the Bank of Commerce in Qom province, which is the sum of the scores of seven indicators of leadership, process, technology, individuals, processes of knowledge, learning

and innovation, and knowledge management results, was 84.47 which indicates that the state of preparedness of branches of the Bank of Commerce of Qom Province is in the second stage that is the beginning phase. This means that the bank has undergone the first phase of preparation, which is the stage of reaction, and has entered the second stage. In other words, the organization is well aware of the concept of knowledge management and is aware of its importance for improving organizational performance and competitiveness. In the second stage, where the organization is located, the organization's understanding of the management of knowledge has been started and the bank has started the business of implementing KM in a pilot. As the results showed, the components of the processes scored (14.2515), the results of knowledge management scored (13.4431), the technology scored (13.180), the leadership of knowledge management scored (11.6665); learning and innovation scored (11.2814), Knowledge process scored (11,0359) and individuals scored (9/998) which are all moderate and low. So according to the results, the following suggestions are presented:

- Creating a commitment to senior management to support knowledge management programs in the organization.
- Change employee perceptions of knowledge management, its importance, and tools in the company that can help increase their knowledge and awareness about knowledge management.
- Holding joint meetings between staff of different departments to share employee knowledge.
- Extensive advertising of knowledge management and its tools and functions by installing screens, cubicles and classrooms in all parts of the company.
- Paying attention to the content of training courses based on the actual needs of staff.
- Provide the necessary training in the field of knowledge management to all employees.
- Improve the technical and professional skills of employees in the use of information systems.
- Encouragement of the staff to share knowledge management.
- Creating an IT infrastructure that matches the strategic goals of the organization.
- Revising knowledge management processes and omitting its problems.

References

Ahmadi, Ali; Barzinpour, AliReza; Karami, Farnaz (2008). Comparison of Knowledge Management Maturity Patterns, Tadbir, No. 201, p. 27 -21.

Akhavan, Peyman, Bagheri, Ruhollah (2013); "KM Management from Idea to Practice", Fifth Edition, Tehran, Atinegar.

Amatayakul M. (2005). EHR? Assess readiness first. Health Finance Manage, 59:112-113.

Asian Productivity Organization. (2010). Knowledge Management Tools and Techniques.

Bhatt, F.D. (2008). Knowledge management in organizations: Examining the interaction between technologies techniques, and people. *Journal of knowledge management*, *27,* 23-37.

Chin, Tsang, H., (2009)., "*The relationship between knowledge management enablers and performance, Industrial Management &amp Data Systems*", 10(9), p-p: 98-117.

Dashti, Amir Saeed. Sadeghi, Fereshteh, Agha Hasan, Shirazi, Sadegh and Khodamoradi, Khalid (2015). Assessment of Knowledge Management Based on APO Model (Case Study: Tehran Regional Electric Company). Eighth National Conference and 2nd International Knowledge Management Conference, Tehran, 1-8.

Dehghan Najm, Mansour. (Sep. 2009) "Knowledge management and its role in organizational

innovation", Automotive and Industrial Engineering, No. 10.

Erfani, lia. Naghibian, Raheleh Sadat and Rismanbaf, Amir (2015), Identification and evaluation of effective factors in the implementation of knowledge management and factor ranking using the APO model in ILI. 7th National Conference and First International Knowledge Management Conference. Tehran.

Gupta, J. N. D., and Sharma, S. K. (2004)., "Creating Knowledge based Organizations", Hershy, PA: Idea Group Publishing

Khanqahi, Malih Al Sadat (2013); "The feasibility of applying knowledge management system in IRALKO Company with an emphasis on the model of Noaka and Takuchi", Tehran, Central Azad University.

Khodaii, Farbod, Abbasian, Mohammad (2010); "Identifying Key Success Factors in KM Implementation in Universities", Journal of Military Management Research, No. 40, pp. 199-220.

Nonaka, I. & Takeuchi. H. (1994). The knowledge-creating company. New Porter, M. A. "Competitive Adventage: Creating and Sustaining Superior Performance:. New York: The Free Press 1985.

Norouzian, Meysam (May 2005). "Application of Knowledge Management in Niyazi, Isa (2012), Journal of Library and Information Research, vol. 46, No. 60, pp. 119 to 140.the Public Sector", Tadbir No.156, p. 24.

Qalich Lee, Behrouz and Ebrahimi, Shima (2016) Feasibility Study on the Deployment of Knowledge Management with the Approach of the Asian Productivity Organization (APO), Quarterly Journal of State Management Outlook No. 25, Spring 1995, p.

Rading, Allen (2010); "Knowledge Management Succeeding in a World-Wide Information-Based Economy", translated by Mohammad Hossein Latifi, Tehran.

Ramadhani, S., Tjakraatmadja J.H., Thoha, N., (2012)., "*Knowledge Management Maturity Level Assessment (Case Study of PT.XYZ)*", Vol. 1 No.9, pp 672-679.

Rockart, J., (1979)., "Chief Executive Define Their Own Information Needs", Harvard Business Review, March - April, pp. 81-92.

Sohrabi, Babak, Rayesi Vanayi, Iman, Alidousti, Sirous (2010); "Presentation of an Applied Model for Measuring the Maturity of Knowledge Management in the Software Industry", Journal of Science and Technology Policy, Vol. 3, No. 1.

Weiner BJ, Amick H, Lee SY: Conceptualization and measurement of organizational readiness for change: a review of the literature in health services research and other fields. Med Care Res

Weiner, Bryan J. (2009). A theory of organizational readiness for change. Implementation Science, 4(67): 1-9.