

THE EVALUATION OF SUCCESS IN ESTABLISHMENT OF KNOWLEDGE MANAGEMENT AND PRIORITIZATION OF ITS DIMENSIONS BY HP IN OIL AND ENERGY INDUSTRY OF IRAN

ABBAS KHAMSEH^a, ZEINAB HABIBITABAR^{b1} AND AMIR SHAHIDI SHADKAM^c

^aAssistant Professor, Department of Industrial Management, College of Management and Accounting, Karaj Branch, Islamic Azad University, Alborz, Iran

^bManager Director, PadidehTabar CO.

^cManagement of planning and systems, Development company of Qeshm Energy and Oil Industries

ABSTRACT

By power of knowledge, the organizations can preserve their long-term priorities in various competitive areas. Despite other managements, knowledge management is not transient but it has long-lasting effects. The competitive space and condition of organizations are more complex than before and rapidly changing such that the speed of change in most organizations is much bigger than the power of responding and conforming. Continuous change of knowledge has created new imbalance status for organizations. In this regard, just those organizations can survive who can preserve their competitive advantage. According to the scholars and thinkers, this maintenance of competitive advantage and organization survival is possible through knowledge management such that it is possible to continuously create new knowledge in organization. This paper measures evaluation of knowledge success in Qeshm Oil and Energy Development Company, which is one of companies working in oil and energy industry. It also specifies the dimensions of success evaluation, status of company and determines the gap in each dimension. The research methodology is descriptive- evaluative for which a questionnaire with 35 questions and 8 dimensions has been designed based on the model of building blocks of knowledge management. At the end, some solutions have been offered for improvement of the status of company.

KEYWORDS: Knowledge, Knowledge Management, Information Technology

Knowledge is a combination of experiences, values, information and attitudes. Knowledge derives from information and information derives from knowledge. Most knowledge is implicitly in hands of individuals. In one hand, knowledge is accepted as a competitive advantage in capital-belief communities, thus, knowledge management helps organizations to have effective knowledge process. For selection of market, organizations should utilize the current knowledge and creation of new knowledge. Knowledge management helps organization in this regard. Analysis of knowledge management makes us perceive the status of organization and know which part of organization should be developed. This makes us obtain some information on knowledge transfer process and the way to transfer it in information organization and proceed in its promotion, facilitation and utilization (Ramezani, 2004).

Knowledge management can be indicative of the promotion and integration of many ideas on improvement of organization (including comprehensive quality, re-engineering, organizational learning, measuring, competitive intelligence, innovation, organizational agility, capital management, management of supply chain, change management etc.). This study summarizes these concepts in a wide and

holistic approach and focuses on effectiveness and knowledge application. Alternatively, it can be argued that it focuses on encircling technology instruments by normal flow of organizational activities in parts of organization which are overlapping (Mohammad Lou, 2004).

All famous theorists of economy and business define knowledge as the ultimate password and competitive advantage for new companies. Thus, each method or model which can keep knowledge promotion in itself and shape its distribution is proposed as the success key of the current companies of the world.

REVIEW OF LITREATURE

Various scholars have defined different approaches for knowledge. Some have defined it based on its function and some based on its formation. Some other scholars have defined knowledge through different approaches. Karl Sveiby, one of the most important advisors of knowledge management, has classified these scholars (Rading, 2004).

1. There are some scholars, called as knowledge-object population by Sveiby; they define knowledge based on information theory. This group believes that knowledge is information-

- oriented and is produced through information management.
2. Second group, called knowledge- process population by Sveiby, defines knowledge based on philosophy, psychology and sociology. These two

groups do not overlap. They approach the concept of knowledge from different start points and use various expressions in definition and discussion of knowledge. The following table shows these differences.

Table 1: Two different parts of knowledge (Entezari, 2006)

Knowledge as information	Knowledge as process
Structured and unstructured information and data	Implicit knowledge, experiences, Knowledge of how and trends
Information theory	Philosophy, psychology and sociology
Information management	Training, teaching and learning

The first group, i.e. knowledge- object group who reflects data- orientation/ information of information technology experts perceive knowledge easily as the information target; however, business managers might consider knowledge as process and an identify which is manifested in the employees of organization and business process. In what follow, several definitions of knowledge have been presented:

Nonca (1994) expresses knowledge according to traditional epistemology, “confirmed honest belief”. Although, traditional concepts focus on “honesty” as the necessary feature of knowledge, today, it is considered as a personal “believe” and the significance of knowledge “confirmation” should be emphasized.

It is difficult to explain the difference between information and knowledge. Knowledge, information and data have hierarchical relation. Data are the objective and discrete realities about the events or subjects and when they are able to make relation in some way through language, graphs or table, they are ordered, analyzed and represented to be transformed to information. According to what McDermott (2001) expresses concerning the difference between knowledge and information, knowledge is a flow of messages or meanings, which can be added to knowledge, reconstruct or change it.

Data is a collection of facts and realities about a phenomenon. Information includes organizing, grouping and categorizing data in meaningful patterns and knowledge includes information combined by experience, context, interpretation and thinking and enable proper action (Ja’fari and Kalantar, 2003).

Knowledge (knowing based on experience) is a key source in any organization. The more human knows, the better he will be able to act. Now, the period when just money, land and human power were considered as capital are expired. In today’s world,

knowledge is not only considered as a capital, it is also considered as the most important capital for organizations. Thus, in knowledge era where knowledge is as the most important capital, organizations require different managerial approach concerning the organizations and employees. Keeping and maintaining the employees of organizations and nurturing their learning capacity have determining role in success and competitive advantage of organization. Thus, the same as management of physical resources such as money, knowledge management should be part of standard policies of organization (Entezari, 2006).

Knowledge management is related to systematic use of knowledge in organization and its application in activities to fulfill the objectives and duties of organization. The aim of knowledge management is to prevent repetition of errors and make decisions based on knowledge of organization (Milton, 2002).

There is no agreed and universal definition of knowledge management. For example, Davenport (1998) defined knowledge management as collection, distribution and efficient use of knowledge sources. O’dell and Gravson (1998) considered knowledge management as a strategy which should be created in organization to make sure that knowledge reaches to appropriate individuals in real time and individuals share it and use any information to correct organization performance. For Bhatt (2001), knowledge management is the process of creation, confirmation, presentation, distribution and application of knowledge. Bounfour (2003) considered it as a set of procedures, infrastructures, technical and managerial instruments which are designed for creation, sharing and using information and knowledge inside and outside organizations. Amin et al (2001) provides a definition near to Bounfour: “processes and technologies for

attraction, sharing and using collective knowledge to make optimum decision in real time”.

Knowledge management is a combination of obtaining and storing manifested knowledge along with

intellectual capitals management. Table 2 summarizes the definitions offered for knowledge management in three approaches:

Table 2: Present approaches concerning knowledge management

Approach	Specification
Business approach	Knowledge management is a business activity with two main aspects. Paying attention to knowledge in business activities which is reflected in strategy, policy and procedure in all levels of organization, and making direct relation between intellectual capitals and positive results of business. From the same approach, knowledge management is a combined collaborative approach for creation, achievement, organizing, accessibility and use of intellectual capitals of organization.
Science of knowledge	Knowledge- visions, perceptions and technical practical knowledge- is a main source which enables us to behave intellectually. During times, main knowledge is transformed to other forms- like books, technology and trends- inside all organizations and in overall in societies. These deformations lead to obtaining experience and when used appropriately, they have increase of efficiency. Knowledge is one of the main factors which enables personal, organizational and social intellectual behavior (Wigg, 1993).
Process/ technology approach	Knowledge management is a concept based on which information transforms to applicable knowledge which can be used by individuals who can use it.

METHODOLOGY AND RESEARCH MODEL

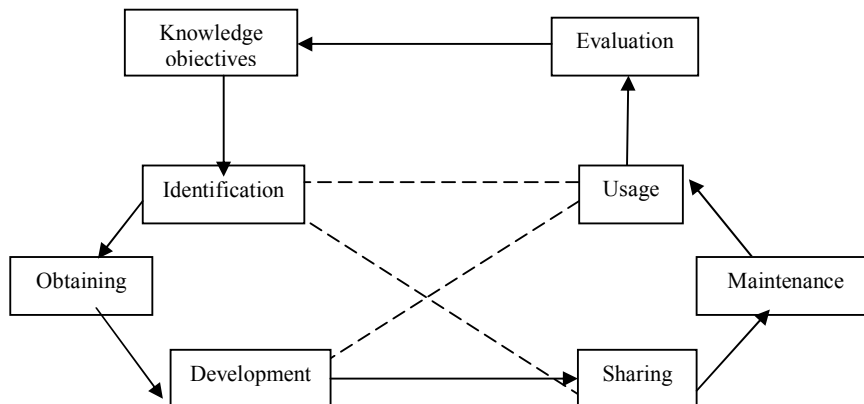
Building blocks model has been used as the model of study as represented in figure1. This model has been offered by Probst, Raub and Romhardt (2000) as building blocks for success. This model is called building blocks model for knowledge management. This model is one of the most complete models in realm of functional models. The designers of this model see knowledge management as a dynamic cycle which is always turning. Its procedures include 8 parts which

constitute two cycles; inside cycle and outside cycle (Probst et al, 2000).

Inside cycle: it is identified, obtained, developed, shared, applied and maintained from knowledge through building blocks.

Outside cycle: it includes the blocks of knowledge objectives and knowledge evaluation which specify knowledge management cycle. Feedback completes these two cycles. The following table represents the components of this model.

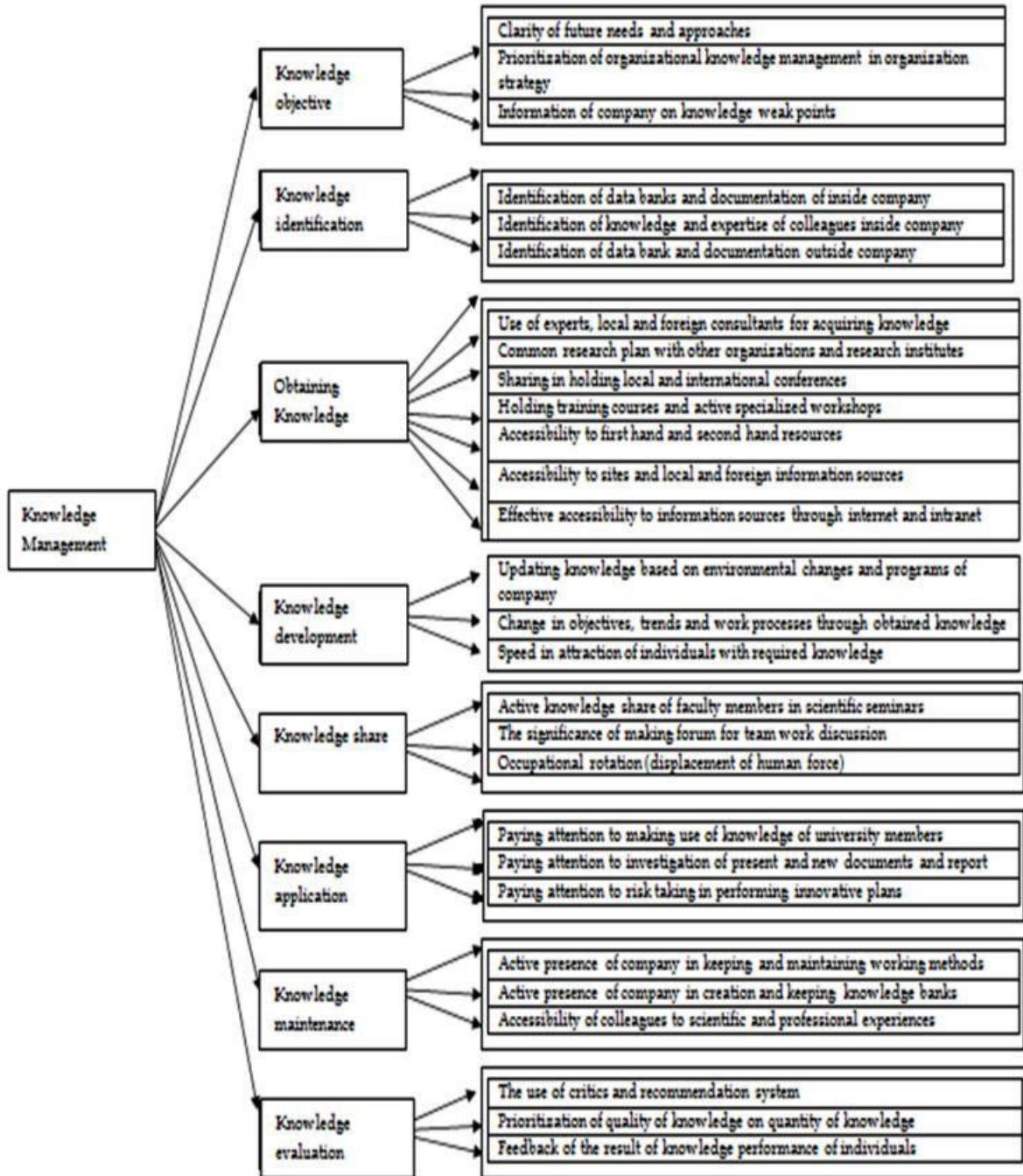
Figure 1: Building blocks model of knowledge management (Probst et al, 2000)



The indices' tree has been designed based on the above model according to figure2 and research questionnaire has been constructed and designed based

on it. The validity of questionnaire has been confirmed by experts' idea and its reliability was confirmed by Cronbach's Alpha as 0.91.

Figure 2: The indices' tree of the study



Since the results of this study can be used in Qeshm Oil and Energy Industries Development Company, this is practical in terms of objective. Concerning the presence in organization and obtaining information from inside organization, and using questionnaire for data collection

from experts, it is field study. Furthermore, since the result of this study is in Qeshm Oil and Energy Industries Development Company, it is case study.

RESEACH OBJECTIVES AND QUESTIONS

This study aims to specify the status of using knowledge management in Qeshm Oil and Energy Industries Development Company and identify the gaps and provides solutions to compensate for the gap. Concerning research objectives, research questions are:

1. Where is knowledge management in Qeshm Oil and Energy Industries Development Company and how is the present gap in each dimension in respect to desired level?
2. How is the prioritization of dimensions of knowledge management in Qeshm Oil and Energy Industries Development Company?

INTRODUCTION OF STATISTICAL POPULATION

Qeshm Oil and Energy Industries Development Company (OEID) was established for development of technical knowledge of oil industries in the country by focusing on collection and producing

technical knowledge through powerful and wide presence in local and international projects of oil and gas. One of the main topics of company Includes: performing services in form of general contract and performing all engineering, designing and executive activities and operations related to oil industries (including underground and ground level). Thus, it can be argued that OEID Company is one of the active companies in oil industries activities concerning its commission and subject of activity and perform oil projects in form of management, design and construction of EPC services, contract management, General contractor and consultant services.

Concerning the limited number of experts, the research has been done in form of total counting. Moreover, the mid and top managers and the experts of Qeshm Oil and Energy Industries Development Company with BA and MA degree and with work experience higher than one year, as experts, constitute statistical population of the study (table 3).

Table 3: The educational specification and working experience of statistical population

Education	Number	Percentage	Average working experience
BA	12	34	7
MA	24	66	6.4
Sum	36	100	6.6

SUMMARIZATION OF RESEARCH FINDINGS

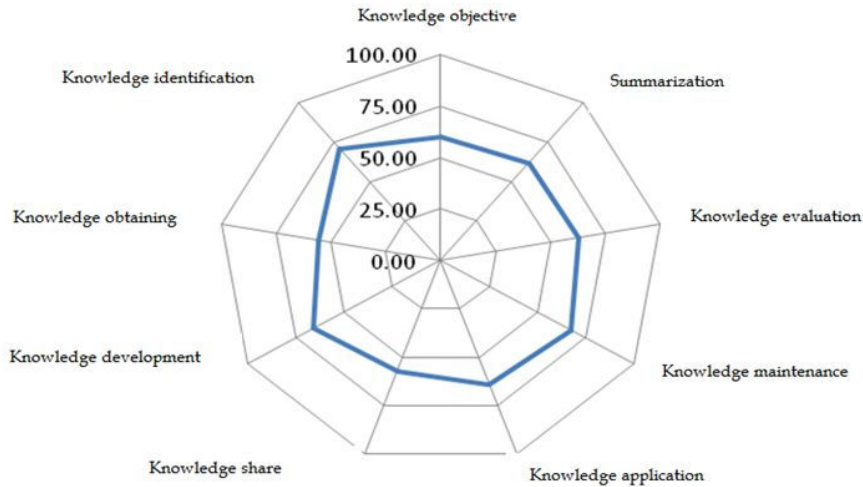
First question: How is the success of knowledge management in Qeshm Oil and Energy Industries Development Company?

Table 4: Comparison of status quo and desired level of each dimension of knowledge management

Dimensions	Mean (percentage)	Gap (percentage)
Knowledge objective	60.09	39.91
Knowledge identification	70.49	29.51
Obtaining knowledge	55.71	44.29
Knowledge development	65.83	34.17
Knowledge share	57.01	42.99
Knowledge application	63.70	36.30
Knowledge maintenance	67.22	32.78
Knowledge evaluation	62.87	37.13
Sum	61.40	38.60

The comparison of success level of knowledge management for each dimension and the gap in respect to desired level are represented in table 6 and graph 2.

Graph 2: The comparison of the status quo of knowledge management in each dimension in respect to desired status

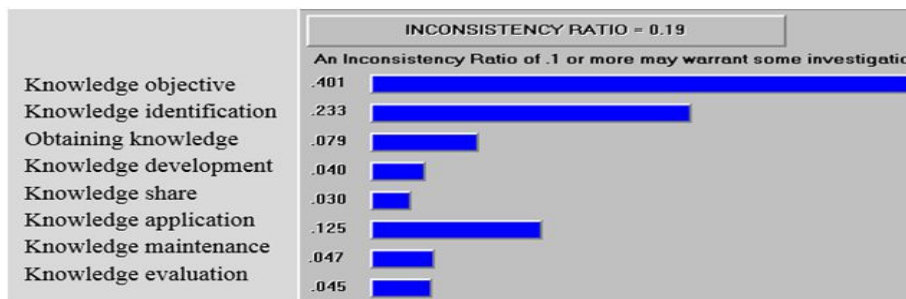


Second question: How is the prioritization of the dimensions of knowledge management in Qeshm Oil and Energy Industries Development Company?

To respond to the second research question, paired comparison model and AHP hierarchical analysis were used. In this method, by pair comparison of the dimensions of knowledge development in respect to

each other, the prioritization of dimensions has been specified. To obtain paired comparison matrix, by AHP questionnaire the opinion of managers and experts were asked. The collected information was analyzed by Expert choice software and the dimensions of knowledge management was prioritized according to graph 3.

Graph 3: The prioritization of the dimensions of knowledge management by AHP



RESULT

According to the results of table 4

- In knowledge objective dimension, the highest score is related to perspectives and future demands of organization and the knowledge management.
- In knowledge identification dimension, the highest score is related to data bank and the documentation of inside and outside company and the least score is related to knowledge and expertise of users and colleagues outside company.

- In knowledge obtaining dimension, the highest score is related to effective access to information through internet and intranet and the least score is related to holding international conferences.
- In knowledge development dimension, the highest score is related to change in objectives, trends and work processes and updating knowledge and the least score is related to holding international conferences.

- In knowledge share dimension, the highest score is related to team work index and the least score is related to scientific meetings.
- In knowledge application dimension, the highest score is related to documents' investigation and the current indices and the least score is related to risk taking in performing innovative plans.
- In knowledge maintenance dimension, the highest score is related to creation of knowledge bank and the least score is related to keeping knowledge bank update.
- In knowledge evaluation dimension, the highest score is related to critics and recommendation system and the least score is related to feedback of knowledge performance of individuals.

Furthermore, according to the results of table 5

- Among knowledge management dimensions, "knowledge identification" with score of 70.49% is the strongest and "knowledge obtaining" with score of 55.71% is the weakest dimension.
- Among knowledge management dimensions, "knowledge identification" with score of 29.51% has the least gap in respect to desired level of experts and "knowledge obtaining" with score of 44.29% has the greatest gap in respect to desired level intended by experts.

REFERENCES

Amin, A .&Bargach, S.&Donegan, J .& Others, (2001),Building a Knowledge- Sharing Culture, Oilfield Review, 13(1). 48-65.

BASKERVILLE, R. & DULIPOVICI, A,(2006),The theoretical foundations of knowledge management. Knowledge Management Research & Practice, 4, 83-105.

Bhatt, G,(2001),Knowledge Management In Organisations :ExaminingThe Interaction Between Technologies, Technique And People, Journalof Knowledge Management, 5(1),68-75.

Bounfour, A,(2003),The Management of Intangibles, the Organisation'sMost Valuable Assets, Roudlege, London

DAVENPORT, T. H. & PRUSAK, L,(1998),Working Knowledge: How Organizations Manage what They Know, Harvard Business School Press.

EARL, M. J. & SCOTT, I. A,(2007),What is a Chief Knowledge Officer? Sloan Management Review, 40, 29-38.

Entezari, A.(2006). The comparison of awareness culture between institution of Higher Education and KnowledgeManagement and Planning, Master's thesis, Department ofTelevision and Radio,School oftheairline industry.

Ja'fari, M. and SeyedKianoosh, K. (2004).Knowledge management in organization. Tadbir. No. 142, March, pp. 29.

McDermott, R .& O'Dell, C,(2001),Overcoming Cultural Barriers toSharing Knowledge, Journal of Knowledge Management, 5(1), 76-85

Milton, N,(2006),Knowledge Management)KM .(Bound Guidance NotesSeries,5, 1-4.

Mohammad Lou, M. (2004). Knowledge and talents' management. Tadbir.(147). 29-32.

PROBST, G. J. B., RAUB, S. & ROMHARDT, K,(2000),Managing Knowledge: Building Blocks for Success, Wiley.

Rading, A. (2004). Knowledge management. Translated by Dr. Mohammad HosseinLatifi. 1st ed. Samt publication.

Ramezani, A., (2004). Brief and Interesting: the process of knowledgemanagement. Tadbir, (15). 84-85.