

Full Length Research Paper

Studying the effects of organizational culture, organizational structure, and information technology on effectiveness of knowledge management: Using Khorasan Regional Electricity Company as a case study

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Nowadays many organizations wishing to survive and maintain their competitive position, have implemented knowledge management. But the implementation of knowledge management requires that different organizational factors in the organization like organizational behavior, organizational structure, and information technology have certain characteristics. In the absence of these features in organizational factors, the effective implementation of knowledge management will be prevented. This study, among many different models of organizational factors, examines three key factors as "information technology", "organizational structure" and "organizational culture", and the impacts of each dimension on effectiveness of knowledge management is separately examined. According to the literature of the subject, 21 items and a conceptual model that show the relationship between 10 variables involvement of culture, adaptability culture, consistency culture, mission culture, formalization, centralization, complexity, the communication flow, information technology support, and knowledge management effectiveness, was created. After determining the sample size and population, questionnaires were randomly distributed. Finally, after analyzing the data, the status of each of the dimensions, were maintained and the organizational culture of Khorasan Regional Electricity Company was drawn based on Denison model. Data analysis also showed that organizational culture, organizational structure, and information technology play important role in the effectiveness of knowledge management in Khorasan Regional Electricity Company. Hence, the analysis of organizational factors in terms of properties necessary for the implementation of knowledge management, is an important step which can provide strong foundation for future efforts in this regard.

Key words: Involvement culture, adaptability culture, consistency culture, mission culture, formalization, centralization, complexity, communication flow, information technology support, knowledge management effectiveness.

INTRODUCTION

Undoubtedly today world has special features; rapid changes, a sharp shift in power, the growing complexity, increasing competition and rapid advances in science

and technology are the main features of today's world. Complexity of the world in 21st century, has accelerated the atmosphere of revolution and those who cannot learn or adapt and accept changes, will simply be destroyed (Khoshsima and colleagues, 1384). Learning will save us and this will be by the management of organizational knowledge (Sabherwal and Fernandez,

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2003: 225). Nonaka (1991) believes that in today's knowledge-based economy, where the only stable is unstable, one of the main sources which can gain critical competitive advantage is knowledge. Cantu et al. (2009) also believe that knowledge is the source of wealth for organizations and for today communities, is the engine of economic and social development.

Prusak and Davenport (2000) stated that nowadays companies cannot rely on the past products and actions that brought them profits. They nowadays are distinct according to their knowledge. Staler and Narver (1995) believe that the ability of organizations to respond quickly and effectively to environmental changes is dependent on their deep understanding of the environment and the free flow of information.

Hence, in an era in which knowledge is determinant of power and wealth of communities, knowledge management is the most important task of communities and organizations. Knowledge management is a systematic and integrative process of coordinating organization-wide activities of acquiring, creating, storing, sharing, defusing, developing and deploying knowledge by individuals and groups who are determined to achieve organizational goals (Rastogy, 2002: 54).

Knowledge management has several benefits for organizations, and this has led to various investigations related to knowledge management (Lee and Choi, 2002: 179). Skyrme and Admindon (1997) argue that knowledge management improve the organization's competitive advantage, improve customer orientation, improve working relationships, enhance creativity and reduce costs in the organization. Davenport and Prusak (2000) believe that for knowledge management to be successful in organizations, some changes should be made in organizational factors.

In this study among several different organizational models that have been mentioned, three key factors related to effectiveness of knowledge management will be dealt with: "Information Technology", "organizational structure" and "organizational culture". Gold et al. (2001), consider these three factors as a set of strong infrastructure of knowledge and the ones that affect the effectiveness of knowledge management.

Moradzadeh et al. (1385) argue that supporting organizational culture and organizational structure are critical success factors of knowledge management in the organization. Aggestam (2006) considers the information technology as a prerequisite of effectiveness of knowledge management. Hence knowledge management effectiveness requires a specific type of organizational culture, organizational structure, and information technology that promotes knowledge, and in their absence would be not possible achieving knowledge management effectiveness and improving organizational performance. These conditions motivated the researcher, to conduct this study with the title of the effect of organizational culture, organizational structure, and

information technology on effectiveness of knowledge management.

THE IMPORTANCE OF KNOWLEDGE MANAGEMENT IN A PUBLIC SECTOR

Many public organizations are chiefly "intelligent organizations" and officials can be considered as knowledge workers par excellence (Park, 2007: 41). Alvani (1379) believes that one of the challenges public management is facing with at this time is knowledge management in organizations. Knowledge management in public sector improves the abilities of employees, customers' service and innovations and reduces costs (Romal-Velazquez, 2001: 30).

Complex decisions are particularly knowledge demanding (Park, 2007: 41) and decision making is an integral part of public organizations, so knowledge management helps these organizations in decision making. What we see today, is that workforce is aging. According to a report (GAO, 2001), approximately 71% of U.S. government's current employees will be eligible for retirement by 2005. (Cong and Pandaya, 2003: 29). Hence, government employee pension planning is a challenge these organizations are facing (Pandaya, 2003: 29).

Knowledge management can play an important role in meeting this challenge by gaining technical knowledge from retired employees and re-use after their retirement. Barquin et al. (2001) argue that the public sector deals with two major challenges, the first one is to improve relations with customers and move toward self-governance and the other one is to change in the internal work setting of government for empowering process of knowledge sharing.

Both of these challenges are dealt with by knowledge management (Romal-Velazquez, 2004: 31). Knowledge management improves knowledge sharing in the public sector (Chia-Cheng, 2007: 3) and is a key initiative to information sharing between public sector agencies and citizens they serve (Yuen, 2007: 3).

THEORETICAL FRAMEWORK FOR THE RESEARCH

Given the importance of knowledge management and its impact on organizational performance, different models for the research related to knowledge management are presented. Model considered in this study, is the pillars of knowledge management (Astankosky et al., 1999) which is one of the most comprehensive knowledge management models. Each of the columns in this model of knowledge management is crucial to the success of organizations.

Organizational culture and organizational structure are selected from the organization column, and from the

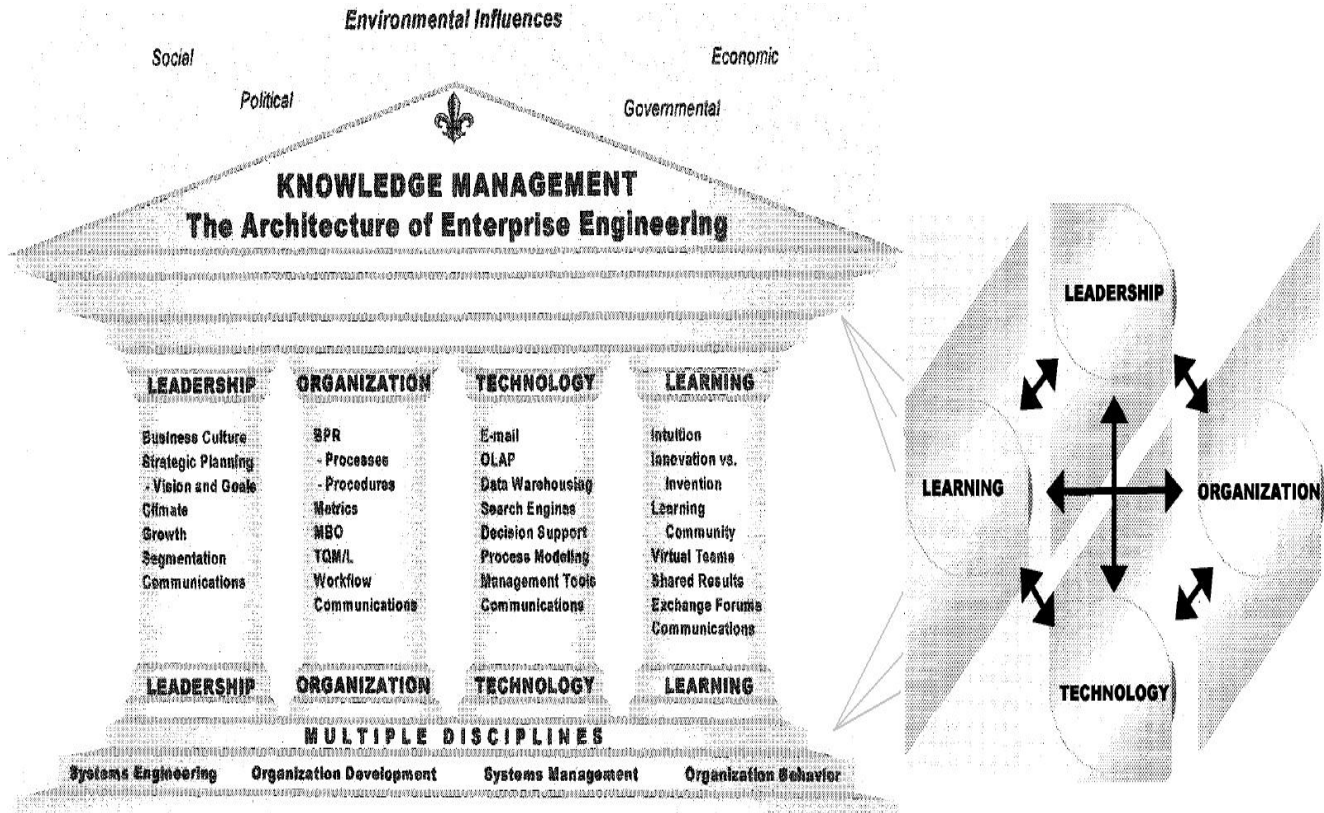


Figure 1. Model of KM columns. Source: Stankosky and Baldanza (2001).

technology column, technology Information is selected from the technology column and dimensions of each of these factors, separately and according to effectiveness of knowledge management will be evaluated (Figure 1).

Research objectives

The main objective of this research is to understand the condition of organizational culture, organizational structure, information technology and knowledge management effectiveness in Khorasan Regional Electricity Company and the effects of organizational culture, organizational structure, and information technology on effectiveness of knowledge management in this company. To achieve this objective, two sub-objectives will include:

1. To understand organizational culture, organizational structure, information technology, and knowledge management effectiveness in the Khorasan Regional Electricity Company.
2. To investigate the effects of organizational culture, organizational structure, and information technology on effectiveness of knowledge management in the

Khorasan Regional Electricity Company.

Research background

Although the topic of knowledge management in recent years has been widely regarded by academics and executives, we see several researches in connection with our private sector.

But in the case of knowledge management in the public sector little information is available and little research has been done. An example of research in knowledge management (KM) in the public sector is presented in the Table 1.

The research variables

Dependent variable

Knowledge management effectiveness: The measurement of KM and KMS success is important for building and implementing efficient KM initiatives and systems from the perspective of KM academics and practitioners (Jennex, 2005: 2). Jennex et al. (2008)

Table 1. Review of research conducted.

The research description	The researchers names
Park (2007) in exploratory studies compared and applied knowledge management practices in private and the governmental sector. But in this study, he found some differences in practices of in both sectors knowledge management practices and found also that the private sector has focused on knowledge management processes more than the public sector and takes advantage of Coding approach	Park (2007)
Romal - Velazquez (2004) in an empirical study examines the relationship between organizational culture and success of knowledge management in Public sector. The study concludes that There is a strong relationship between tribal culture and a adhocracy culture and the personalization approach also there is a strong relationship between market culture and hierarchical culture and codification	Roman-Velazquez (2004)
Roland and Syed (2004) in several experimental studies examined the relationship between organizational factors (organizational culture, structure Organization, technology, human resources or personnel, and political directives)and the process of knowledge transferring in entrepreneurship of Malaysia. In this study they found the critical role that organizational factors play in the process of knowledge transfer	Rowland and Syed (2004)
Kim and Lee (2004) in an experimental study examined the impact of organizational factors (organizational culture, organizational structure and Information Technology) on the process of knowledge sharing capabilities in e-government. They observed Significant relationship between these organizational factors and process of knowledge sharing. The major limitations of this study were that sample compared to total population was small	Kim and Lee (2004)
Leibowitz and Chen (2003) investigated how to create a knowledge management and the nature of sharing culture and in Governmental organizations. In this study they found that government agencies in terms of indicators of culture are shared in the lowest possible level, and often have hierarchical and bureaucratic structures and this cause the organization to face with the challenge in sharing knowledge	Leibowitz and Chen (2003)

believe that three approaches exist compared to measuring the effectiveness of knowledge management in the organization: process measure approach, outcome measure approach, and combination of process and outcome measures.

Process measure approach execution and implementation of effective knowledge management processes, means the realization effectiveness of knowledge management and outcome measure approach means the success rate in achieving the goals of knowledge management and finally combination of process and outcome measures is success in both the run and effective implementation of knowledge management processes and achieving goals of effectiveness of knowledge management.

Wood (2005) inspired by the work of Delone and McLean (2003) provides a perspective separate from these approaches in connection with the effectiveness of information systems. He defines two aspects for knowledge management effectiveness: quality of knowledge and satisfaction of knowledge management and knows the effectiveness of knowledge management subject to the fulfillment of these two dimensions in the organization. He integrates the research of Sabherval (2003), Delyn and Maclean (2003), and McKinney et al. (2002), and provides the following indicators for the

quality of knowledge in the organization: availability, relevance, being on time, sufficiency and reliability.

Wood (2005) believes that for the satisfaction of knowledge management in the organization, we should assess people satisfaction from processes of knowledge creation, acquisition of knowledge, knowledge transfer and applying the knowledge. Hence the indicators of satisfaction of knowledge management will include:

1. Satisfaction rate with the process of knowledge creation in organization.
2. Satisfaction rate with the process of knowledge acquisition in organization.
3. Satisfaction rate with the process of knowledge transfer in organization.
4. Satisfaction rate with the process of knowledge utilization in organization.

Question 1: What is the state of knowledge management effectiveness in Khorasan Regional Power Company?

Independent variables

Organizational culture: Organizational culture is a pattern of shared assumptions that the group has learned

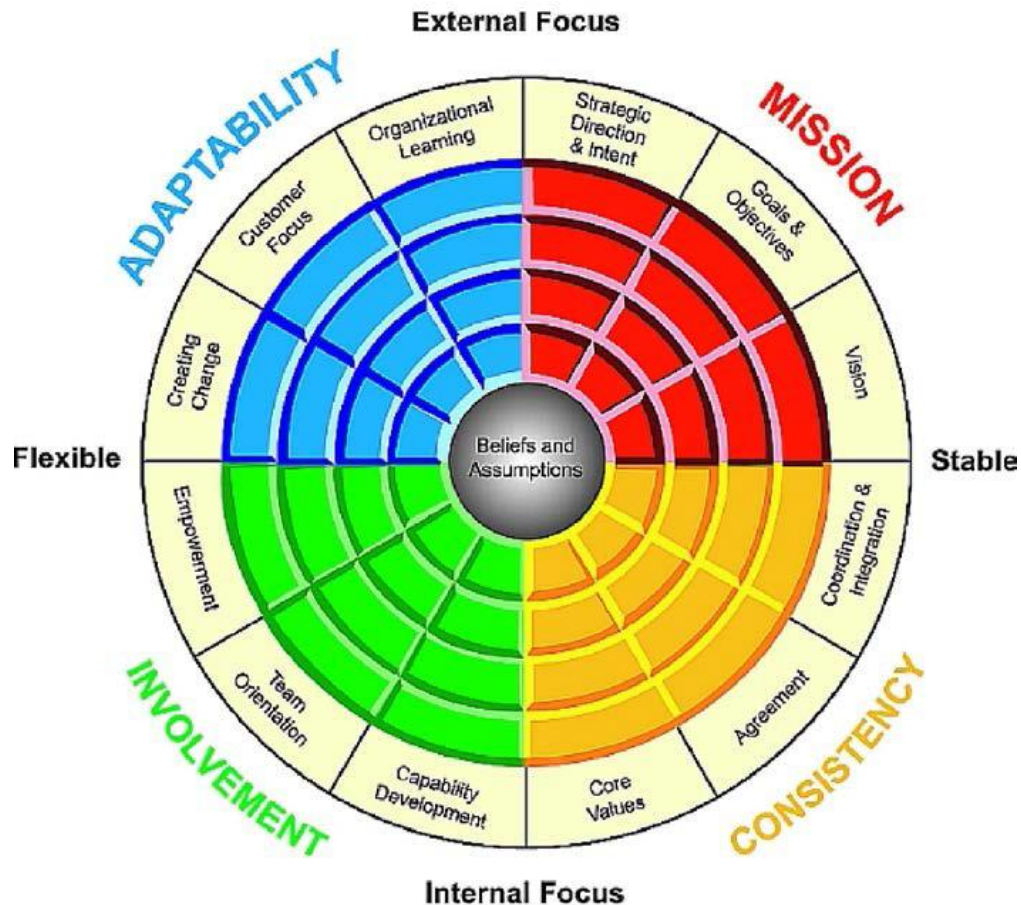


Figure 2. Denison model. Source: Juechter et al. (1998).

as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to these problems (Shein, 1985: 7).

To understand the effect of organizational culture and organizational culture on knowledge management effectiveness, a newer and more complete model compared to Denison model (Monavaryan and Bkhtay, 1384: 1) has provided further insights as to the specific processes by which these traits facilitate or inhibit effectiveness (Yilmaz and Erguns, 2008: 292) (Figure 2).

Involvement: Effective organizations empower their men and develop human resource capabilities at all levels. Members of organizations are committed to their work and feel as a part of a body. People at all levels feel involved in decision making and the decisions that affect their activities and their works are directly linked to the organizational goals.

As an executive director in a Korean company said that involvement in work means intellectual engagement with the work and based on that person work eagerly and do whatever he can. In this model, this feature is measured using

three indicators:

1. Empowerment: people have the initiative and ability to manage their work. This creates a sense of ownership and responsibility in the organization.
2. Team orientation: values are given to work group toward common goals. So that employees such as managers feel that they are responsible for their work. These organizations rely on teams to get things done.
3. Capability development: to meet the needs and remain in the competitive environment stage, the organization continually develops the employees' skills.

Question 2: What is the state of involvement culture, in Khorasan Regional Electricity Company?

Question 3: What impacts does the involvement culture have on effective knowledge management in Khorasan Regional Electricity Company?

Consistency: Research has shown that organizations that are most effective are stable and integrated and employee behavior is derived from fundamental values. Leaders and followers have the skills to reach an agreement (even when cross-view) and organizational

activities are well-coordinated and continuous. Organizations with similar characteristics, have a distinct culture and are strong and have enough influence on employees' behavior. This feature is examined by three indicators:

1. Core values: members are involved in a set of values which form their identities and expectations.
2. Agreement: members are able to agree on the important differences. The agreement also includes an agreement on the bottom line and the ability of reaching agreement in other areas.
3. Coordination and integration: Institutional units with different functions can work together very well to achieve common goals. Organizational boundaries also never cluttered.

Question 4: What is the state of the consistency culture in Khorasan Regional Electricity Company is located?

Question 5: What impacts does the consistency culture have on the effectiveness of knowledge management in Khorasan Regional Electricity Company?

Adaptation: Organizations that are well integrated, find it difficult to change. So the internal consistency can be an advantage and superiority. Compatible organizations are driven by customers, risk and learn from their mistakes, and failures. They continually improve the organization's ability to value their customers. These features are examined by three indicators:

1. Initiating change: an organization is able to initiate necessary changes pave the ways for responding to stimuli and making further changing.
2. Customer focus: organizations understand customers and respond to them and seek to advance the future supply. Indeed customer orientation shows the degree to which organizations meet customers' needs.
3. Organizational learning: measures the environmental signs that organizations receive, translate and interpret, and promote opportunities for creativity.

Question 6: What is the state of the adaptation culture in Khorasan Regional Electricity Company?

Question 7: How does adaptation culture impact has the effectiveness of knowledge management in Khorasan Regional Electricity Company?

Mission: Perhaps the most important feature of organizational culture is its mission. Organizations that do not know where they are and how their condition is often go astray. Successful organizations have a clear perception of their goals and direction, so that organizational goals and strategic objectives define and depict organization prospect.

Most troubled organizations are the organizations that are forced to change the mission. When an Organization has to change its mission the changes in strategy,

structure, culture and behavior is required. In such situation, the organization outlook indicates a strong leadership and creates a culture that supports this perspective.

1. Strategic direction and intent: clear strategic trends show organizational purposes, and any person can participate in its own sector (industry).
2. Goals and objectives: The objectives of the strategy, mission and vision link to each other and draw the direction of people who work.
3. Vision: Organization has a shared vision of the future. Expresses its fundamental values, thoughts of human resources with himself and at the same time also defines the direction.

Question 8: What is the state of the Mission Culture in Khorasan Regional Electricity Company?

Question 9: What impact does mission culture have on effectiveness of knowledge management culture in the Khorasan Regional Electricity Company?

Stable - flexible spectrum and internal – external

focus: As seen in the model of Denison, the model has horizontal and vertical axis which divides the model to four parts (quadrant), vertical axis includes organizational culture. The axis on one hand leads to an external focus and on the other hand leads to an internal focus. The horizontal axis refers to the flexibility of organization which from one side leads to a static culture and from the other side leads to flexible culture.

Question 10: Khorasan Regional Electricity Company, which has a greater affinity spectrum of Stable or flexible?

Question 11: Khorasan Regional Electricity Company has affinity to which the spectrum likely to internal or external?

Structure: Organizational structure consists of elements that are connected together and gives them the realization of the organization (Alvani, 1375: 35). Wang and Ahmed (2003) believe that for the structure of knowledge-based organizations must be created higher levels of structural dimensions. This level includes trust-based relationship, externally-oriented interactive relationship, emotionally- inclusive relationship. They stressed the importance of interaction and fluidity as a structural requirements needed for effective knowledge management. Hence, they believe that the Position of knowledge-based structures is distinct, apart from the mechanical or organic structures. Given this, Rowland and Syed (2004) in their research on the relationship between organizational structure and function of knowledge transfer process, call the structure as a relationship flow and assessed it.

This research, Hence, and according to the goal of this survey, we also, in addition to setting forth the traditional

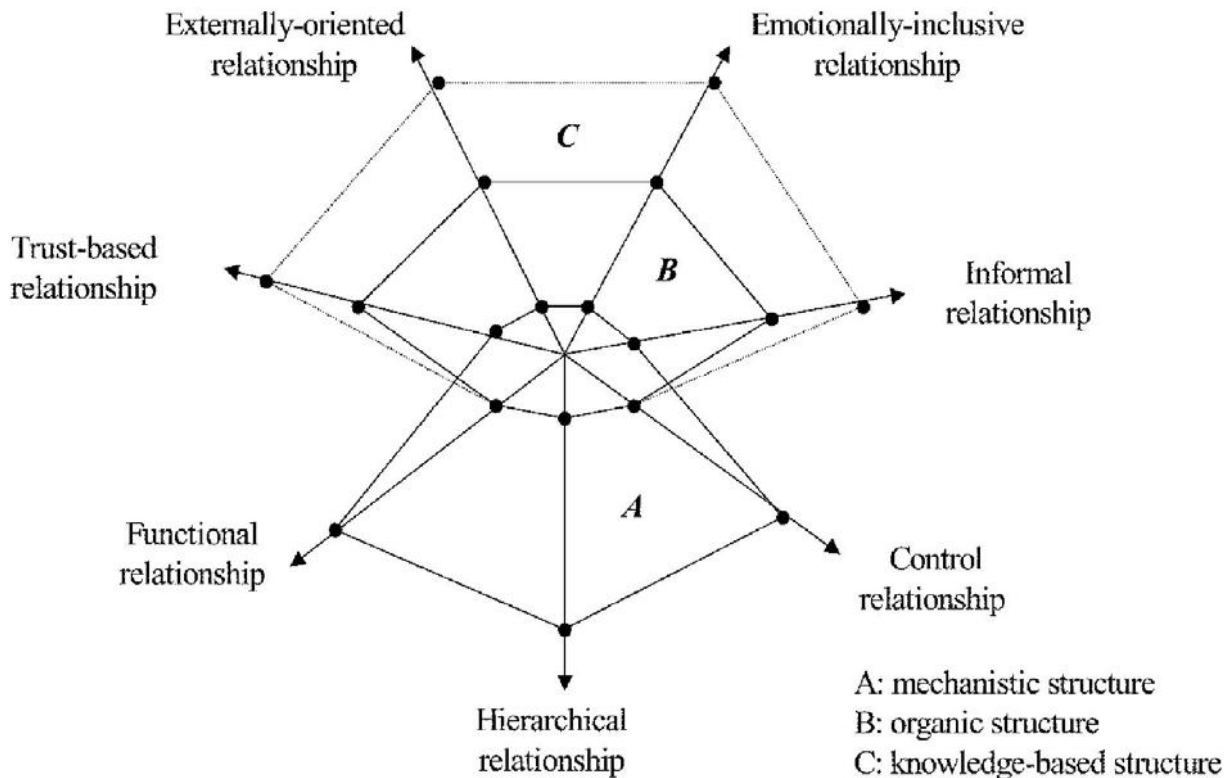


Figure 3. The knowledge-based structures. Resource: Wang and Ahmed (2003).

aspects of Robbins's view, will consider the current situation and the impact of communication on the effectiveness of management. Given this, the dimensions of organizational structure are shown in Figure 3.

Formalization: Formalization refers to the extent to which jobs are standardized (Robbins, 1986: 89). Caruana et al. (1998) believe that it refers to the formal of the existence of laws and regulations in the organization.

Question 12: What is the state of formalization in the Khorasan Regional Electricity Company?

Question 13: What impact does the Formalization have on the effectiveness of knowledge management in Khorasan Regional Electricity Company?

Centralization: Centralization refers to the extent to which decision making is concentrated at a single point in the organization (Robbins, 1986: 2 to 298). Caruana et al. (1998) argue that it refers to the higher levels of concentration of power in decision-making points.

Question 14: What is the state of the centralization in Khorasan Regional Electricity Company?

Question 15: What impact has the Centralization on the effectiveness of knowledge management in Khorasan Regional Electricity Company?

Complexity: Complexity refers to the denotative level which exists in the organization. Complexity means separation of the components and elements of forming the organizations (Dooley, 2002: 1). In this study, three types of vertical complexity, horizontally, and geographically will be assessed.

Question 16: what is the state of complexity in Khorasan Regional Electricity Company?

Question 17: What impact does the complexity have on the effectiveness of knowledge management in Khorasan Regional Electricity Company?

Communication flow: In traditional structures we witness too many organizational layers and very high chain of commands (decisions are made at the top of the chain of command and transferred to lower levels. They are defined only in terms of T to B direction (top to bottom). This kind of communication/decision making can significantly slow organizational processes, which can be very detrimental to the organization (Rowland and Syed, 2004: 101).

Lord and Ranft (2000) argue that these structures prevent the knowledge transfer among different parts of organization and cause limited access to the accumulated knowledge by other division of the corporation and thus the employees needs cannot be

satisfied (Rowland and Syed, 2004: 101). Rowland and Syed (2004) believe that effective communication from top to bottom and from bottom to top could improve the company's ability to benefit from their current knowledge. They believe that with support for four channels of communication, more knowledge is created and transferred. Day and Bedeian (1995) know the rate of easy flow of information to high levels, rate of easy flow of information to lower levels, and flow of information to the same level as the indicators of communication flow.

Question 18: What is the state of the communication flow in Khorasan Regional Electricity Company?

Question 19: What impact does communication flow have on the effectiveness of knowledge management in the Khorasan Regional Electricity Company?

Information technology: Information Technology is a collection of hardware, software, and thoughtware which facilitate information flow and allow its utilization (Sanayei, 1383: 15) and it is used to describe the technologies used to help recording mother, storage, processing, recovery, transmit, and receive their assistance (Behan and Holmez, 1377: 5). To know the status of information technology and its impact on effectiveness of knowledge management technology from the supporting information technology aspect will be used. This aspect is used in researches done by Gold et al. (2001).

Information technology support: Information technology support means the degree to which knowledge management is supported by the use of information technology (Gold et al., 2001: 187). Among the various knowledge management process models, Zheng model is elected. The reason for this choice is that it is a new model and is used in government agencies. Hence, the indices of supporting information technology in this research will include:

1. The rate of supporting information technology knowledge from creating knowledge (acquisition and knowledge creation).
2. The amount of supporting information technology knowledge from transferring process.
3. The amount of supporting information technology from using knowledge process.

Question 20: What is the state of the information technology support in Khorasan Regional Electricity Company?

Question 21: What impact does the information technology support have on effectiveness of knowledge management in the Khorasan Regional Electricity Company?

THE RESEARCH MODEL

Since in this study the influences of organizational

culture, organizational structure, and information technology on the effectiveness of management knowledge are examined, separately the research model showing the relationship between these variables is shown in Figure 4.

DESIGNING OF RESEARCH

Method of research

This research in terms of method of data collection is descriptive.

Definition of the statistical population

The scope of this research is Khorasan Regional Power Company, which is centered in the holy city of Mashhad statistical population of the study is selected from the managing director, deputy managing director and consultant, director, executives, heads of departments and groups, and experts and senior staff in charge of Khorasan Regional Power Company, which their total numbers are number 93.

Sample and sampling

In this study, sample is selected randomly from the population. Hence, sampling is random. Given the scale of variables of current study, for determining the sample size, the following formulas are used:

$$n_s = \left(\frac{z}{r} \cdot \frac{S}{\bar{Y}_N} \right)^2 \quad (1)$$

$$n = \frac{n_s}{1 + n_s/N} \quad (2)$$

R is the error bound which is already defined, N is the number of individuals, \bar{Y}_N , and S, respectively, are the mean standard deviation. Since the variable mean and standard deviation in community is indistinct, primary samples are used in this stage, regarding a primary sample consisting of 17 members, effectiveness of knowledge management was measured as to 3/19 and standard deviation equals 0/61.

Considering the size of the error bound of 93 = N r = 0 /02 with a coefficient of 95% (1 /96 z = 0/ 975), the required sample size by using the above relationship was approximately equal to 74. With regard to the prediction of returned or completed incorrectly by some respondents, the questionnaire was distributed among 83 of the respondents who 83 questionnaires were distributed since it was predicted that some respondents might return the questionnaires or returned them incomplete. 79 questionnaires were used for analysis.

Measurement tools (method of data collection)

This study is a descriptive survey and descriptive, like many similar studies in which questionnaires, interviews and all information are used to collect information, in this study questionnaires are used as

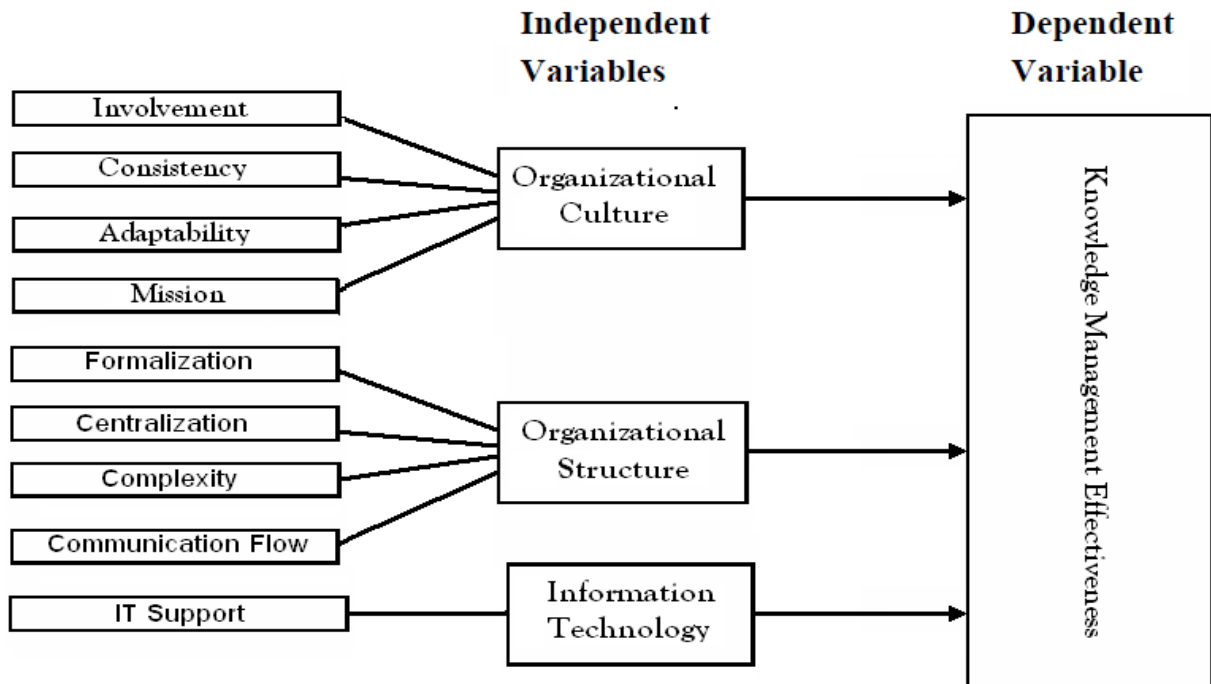


Figure 4. The research model in this study.

data collection tool. For measuring the organizational culture variables, organizational structure, information technology, and knowledge management effectiveness by taking advantage of the research conducted in connection with hidden variables, the researcher made questionnaire has been used.

Maintaining the validity and reliability of the measurement instrument

If the instrument for collecting information have not validity and credibility, or in other words cannot measure things properly, findings cannot be valid. For preventing of this problem we have to make sure that the questionnaire is valid. In this study for increasing validity of questionnaire the following instruments were used:

1. Investigating about the questionnaire and the questions that have been used in similar research.
2. Study of articles, research done, and the variables studied in numerous books, models, and all relating matters associated with them.
3. To consult with and obtain guidance from the Experts In this study cronbach's alpha method has been used to validate the questionnaire. The reliability of this study using SPSS for questions 1 to 34 for questionnaire related to assessment of independent variables is 86%.for questions 35 to 47 for questionnaire related to measurement of the dependent variable is 91%. Hence questionnaires have high reliability.

Statistical analysis methods

For analysis of collected data and results obtained in this study, with regard to research method, some range of tactical methods were used and for easy use of these methods SPSS software were used. Descriptive analysis of survey data and investigating of

research variables, statistics such as average has been used. And to investigate any influence of independent variables on the dependent variable, the Pearson correlation test was used.

RESEARCH RESULTS

State of research variables

Dependent variable

Knowledge management effectiveness: Table 2 shows review of position effectiveness of knowledge management in Khorasan Regional Electricity Company.

Independent variable

Organizational culture: Table 3 shows survey of organizational culture in Khorasan Regional Electricity Company

The organizational culture of Khorasan Regional Electricity Company based on Denison: Finally, if according to collected data, we draw the view of organizational culture of Khorasan Regional Electricity Company, an image as picture in Figure 5 is resulted. As seen in the figure, Khorasan Regional Electricity Company obtained the highest point in the index change, and the lowest score belongs to the index of organizational learning. In the spectrum of fixed and flexible, Khorasan Regional Electricity Company, have the tendency toward flexible and in the external and

Table 2. Review of position effectiveness of knowledge management in Khorasan Regional Electricity Company.

Position	Average	Variable	Dependent
Mean	3	3	Effectiveness of knowledge management

Table 3. Survey of organizational culture in Khorasan Regional Electricity Company.

Average	Mean	Indices of independent variables	Dimensions of the independent variable	Variable
3	3/ 36	Empowerment	Involvement culture (3/15)	Organizational culture
3	2/ 89	Team building		
3	3/ 24	Capability development		
3	2/99	core values	Consistency culture (3/04)	
3	3/18	Agreement		
3	2/95	Coordination and integrity		
3	3/ 44	Creating change	Adaptability culture (3/03)	
3	2/99	Customer focus		
3	2/60	Organizational learning		
3	3/36	strategic direction and Intent	Mission culture (3/15)	
3	3/10	Goals and objectives		
3	2/97	Perspective		

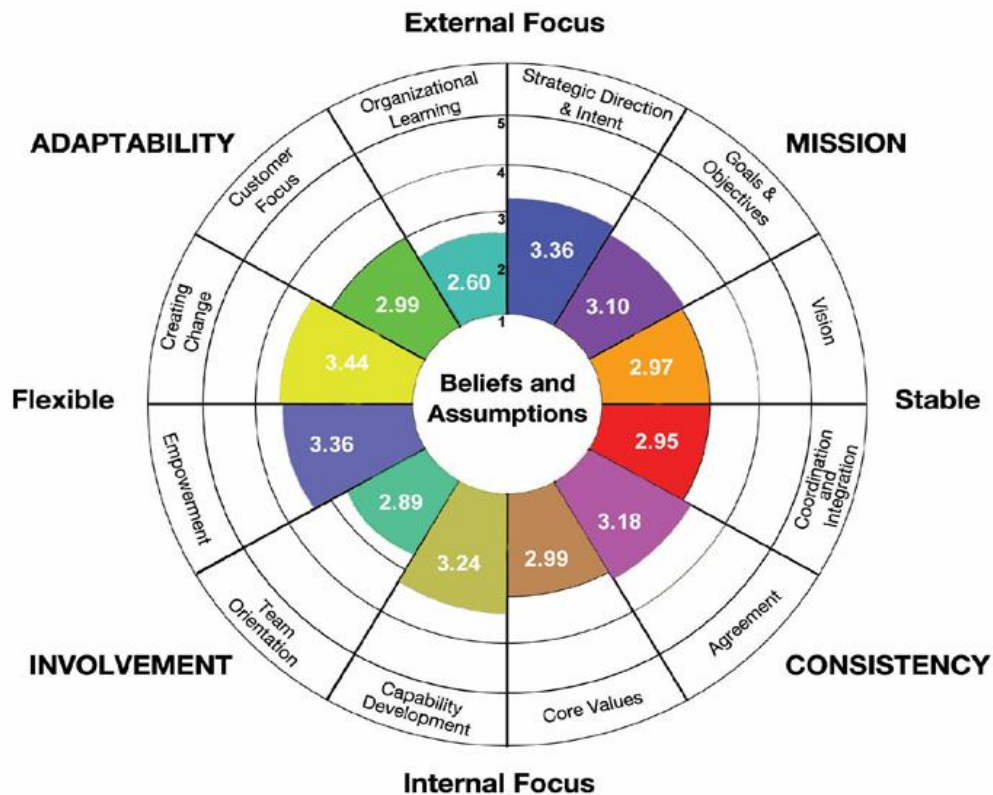


Figure 5. Diagram of the culture of Khorasan Regional Electricity Company.

Table 4. Evaluation of the organizational structure of the Khorasan regional Electricity Company.

Average	Mean	Independent variable dimensions	Independent variable
3	3	Formalization	Organizational structure
3	3/ 86	Centralization	
3	2/ 84	Complexity	
3	3/ 23	Communication flow	

Table 5. Evaluation of ICT in Khorasan Regional Electricity Company.

Average	Mean	Independent variable dimensions	Independent variable
3	3/41	Information technology support	Information technology

Table 6. Evaluation of the effect of the independent variables on the dependent variable pricing study.

Type of impact	P-Value	Correlation coefficient	independent variable dimensions	Independent variable
Direct	0/000	0/520	Involvement culture	Organizational culture
Direct	0/000	0/542	Consistency culture	
Direct	0/000	0/594	Adaptability culture	
Direct	0/000	0/630	Mission Culture	
Direct	0/015	0/272	Formalization	Organizational structure
Reverse	0/001	-0/364	Centralization	
No effect	0/222	-0/139	Complexity	
Direct	0/000	0/624	Communication flow	
Direct	0/021	0/259	Information technology support	Information Technology

internal spectrum concentration significant difference is not found.

Organizational structure: Table 4 shows evaluation of the organizational structure of the Khorasan regional Electricity Company.

Information technology: Table 5 shows evaluation of ICT in Khorasan Regional Electricity Company.

Investigating the influence of independent variables on the dependent variable

Evaluation of the effect of the independent variables on the dependent variable pricing study is shown in Table 6.

DISCUSSION AND RECOMMENDATIONS

The effectiveness of knowledge management

Results of this study indicate that the average effectiveness of knowledge management in Khorasan

Regional Electricity Company is 3. Measuring the effectiveness of knowledge management in this study was done via measuring the indices the quality of knowledge and knowledge management and satisfaction of knowledge management. Due to this improvement of effectiveness of knowledge management in the Electricity Company of Khorasan depends on improvement of these two indexes.

So the following suggestions for improving the effectiveness of knowledge management are presented as follows:

1. Improving the indices of quality of knowledge in the Khorasan Regional Electricity Company.

A. Enhancing employees' ability to access knowledge for employees to access it when needed.

B. Enhancing the relevancy of knowledge available to personnel with their operational tasks.

C. Providing the required knowledge to employees in timely manner.

D. Sufficient knowledge providing to employees for their success.

E. Maintaining the reliability of knowledge provided to

employees.

2. Improving the indicators of customer satisfaction in Khorasan Regional Electricity Company.

A. Improvement of satisfaction of knowledge obtaining process:

- i. Acquiring knowledge about new products and services in the electricity industry around the world.
- ii. Use of performance feedback on projects performed to improve progress projects in progress.
- iii. Improvement of performance in benchmarking.

B. Improving satisfaction with the process of knowledge creation.

- i. Encouraging creativity and innovation in the company.
- ii. Producing more new ideas by taking advantage of the creativity techniques.
- iii. Creating the the more innovative processes in the company.
- iv. Enhancing company commitment to R & D issues.

C. Improving the satisfaction of knowledge exchange.

- i. Encouraging the staff to have more contact and communication with each other regularly to share knowledge and experiences and learn from each other.
- ii. Transferring employees' knowledge to the organizational knowledge.
- iii. Transferring organizational knowledge to employees' knowledge.
- iv. More training of staff and providing more information available to them.
- v. Not filtering the company's knowledge.
- vi. The desire and motivation to help other professionals in the company's staff.

D. Improving satisfaction of process of applying knowledge.

- i. Applying the knowledge learned from mistakes in order to more improve efficiencies.
- ii. Providing more opportunities for staff to use their knowledge to new situations.
- iii. Protection of organizational knowledge in terms of inappropriate and illegal use .
- iv. Evaluation of organizational knowledge in order to generate knowledge and provide more new models in the future.

Organizational culture

The findings of this study showed that organizational culture (involvement culture, culture adaptation, culture

consistency, mission culture) has a positive impact on the effectiveness of knowledge management in Khorasan Regional Electricity Company. This finding will support the views of many scientists in the field of knowledge management. They believe that the failure of the organization in issues such as motivation, creativity and organizational culture, eventually will follow the organizational failures in the management of knowledge (Malhotra, 2002; Martenson, 2000; Storey and Barnett, 2000: 97).

According to Ruggles (1998), the value of the organization's ability to create values is due to organizational culture and Zheng (2005) believes that organizational culture cannot directly affect organizational performance, but by affecting the knowledge management, organizational performance will eventually improve.

This is justified by the influence of culture on employee behavior. Behavior of employees will be guided by the acquisition, creation, transfer, and application of knowledge, guided by the norms and cultural values.

Results showed that the average culture of the company's involvement in the Khorasan Regional Electricity Company is 3/15 and among the three indicators related to the culture, the empowerment, team building and development capability, the only indicator of team is low.

The following guidelines are suggested for improving team building:

Encouraging teamwork in the Khorasan Regional Electricity through the three following strategies:

- A. Selection: the personnel department should hire people who have the ability to work in a team.
- B. Training: Human resource professionals in the Electricity Company of Khorasan should provide proper training for employees of these companies for development of teamwork skills.
- C. Reward: Electricity Company of Khorasan should implement a reward system that will enhance collaboration and cooperation among members.

Results showed that the mean cultural consistency of Khorasan Regional Electricity Company has 3/04 and the three indicators related to the culture, the core values, agreement and coordination and coherence, coordination and linkage between an index and core values are low. Each of these indicators suggests the following strategies to improve the:

1. Core values:

- A. Developing a clear set of values and methods to improve performance.
- B. Creating the appropriate conditions for employees.
- C. Developing an ethical charter that specifies the behavior of right and wrong.

2. Coordination and continuity:

- A. Creating a shared vision among different departments of the company.
- B. Project coordination between different departments in the company by sharing more information among them.
- C. Coordinating different levels of organization.

Results showed that the mean adaptability culture of Khorasan Regional Electricity Company is 3/03 and the three indicators that relate to this culture creating change, customer focus, and organizational learning, two indicators of customer focus and organizational learning are low. Each of these indicators suggests the following strategies to improve the customer focus:

- a. Creating conditions for receiving comments and suggestions and direct contact with their customers.
- b. The comments received from customers affecting decisions made by the company and the customer will result in the desired changes.
- c. In the decisions made by company will consider the interests of customers.

3. Organizational learning:

- A. Learning to be considered as the target of company.
- B. Regarding failures as opportunities for learning and development.
- C. Creativity and risk taking be valued.

Results showed that mission culture mean in Khorasan Regional Electricity Company is 3/15 and the three indicators related to the culture of the strategic direction, goals and objectives and perspective, and the indicator of perspective is lower. The following guidelines are suggested to improve this indicator:

1. Creating a common vision about the future of the company that is the motivation for employees.
2. Coordination of short-term thinking with long-term vision of organization.
3. The managers of company must have long-term view.

Organizational structure

Findings of this study, aspect of formalization and complexity in the organizational structure, has rejected the views of knowledge management scientists, concerning that these two dimensions have negative impacts on effectiveness of knowledge management.

In this study, formalization has a positive impact on effectiveness of knowledge management and complexity had no effect on the effectiveness of knowledge management. The findings confirm the view of both centralization and communication flow scholars in the field of knowledge management. In this research,

communication flow had a positive impact on the effectiveness of knowledge management and its average is high in the Electricity Company of Khorasan and organizational centralization had a negative impact on the effectiveness of knowledge management and its rate is high in the Electricity Company of Khorasan. So it is suggested to the Electricity Company of Khorasan that increases the degree of devolution to lower levels of organizational pyramid.

Information technology

The findings of this study indicate that the effectiveness of knowledge management in information technology had a positive impact on Khorasan Regional Electricity Company. This will strengthen the view of many scientists in the field of knowledge management. In support of this research, the supporting of information technology demension, from production processes (acquisition and create), transferring, and applying knowledge had a positive effect on the effectiveness of knowledge management. Since the average of supporting of information technology dimension of production processes generate (create and acquisition) transfer and apply knowledge in a Khorasan Regional Electricity Company is high, so it is in good condition.

Conclusion

This study showed that knowledge management is a systematic issue. A concept that requires the implementation of comprehensive and inclusive approach to organizational factors. Regardless of the organizational context, implementation of effective knowledge management is impossible. The organization as a whole, should consider all factors to succeed in implementing knowledge management.

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