

A model for Application of Knowledge Management in Public Organizations in Iran

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Abstract—This study examines knowledge management in the public organizations in Iran. The purpose of this article is to provide a conceptual framework for application of knowledge management in public organizations. The study indicates that an increasing tendency for implementation of knowledge management in organizations is emerging. Nonetheless knowledge management in public organizations is toddler and little has been done to bring the subject to use in the public sector. The globalization of change and popularization of some values like participation, citizen-orientation and knowledge-orientation in the new theories of public administration requires that the knowledge management is considered and attend to in the public sector. This study holds that a knowledge management framework for public organizations is different from this in the public sector, because public sector is stakeholder-dependent while the private is shareholder-dependent. Based on the research, we provide a conceptual model. The model proposed involves three factors: Organizational, knowledge citizens and contextual factors. The study results indicate these factors affect on knowledge management in public organizations in Iran.

Keywords—knowledge management, public organizations in Iran, model of knowledge management.

I. INTRODUCTION

ORGANIZATIONS are repositories of knowledge. Knowledge is lodged in the brain of the organizations' members, as well as in artificial memories, including files, records, and other documents [1]. Some researchers do not separate between knowledge, information technology, and data, and use the three terms casually. Yet, knowledge is not the same as data or information, although it uses both [2]. Davenport and Prusak (1998) defined knowledge as a fluid mix of framed experience, value, contextual information, expert insight and grounded intuition that provides an environment of and framework from evaluating and incorporating new experience and information[3].

The concept of Knowledge Management (KM) is nothing new [4]. The enormous amount of studies and research carried out on implementation of KM in organizations in recent years is an indisputable reality [5]-[8]. While literature on KM has been addressing issues, challenges and opportunities for the private sector, little has been discussed for the public sector [9]. KM has for something been at the core of government tasks-inseparable from strategy, planning, consultation and implementation. However, evidence drawn from the existing

literature suggests the public sector is falling behind in these practices [10]. Based on literature, there are some models about knowledge management. These studies try to help organizations for better understanding of knowledge and using it to improve decision processes and policy making to represent organizational services. Studies show although these models consider some important dimensions of knowledge management, they are not sufficient for public organizations and don't include the entire elements. Joshi and Holsapple (1999) have studied knowledge management comparatively in public and private organizations.

II. ELEMENTS AND DIMENSIONS OF KNOWLEDGE MANAGEMENT IN PUBLIC ORGANIZATIONS

Based on literature, current models are not comprehensive enough for public organizations because of the following reasons:

Processes of knowledge management in public organizations need more comprehensiveness. The public sector is widely accepted as being different from the private sector and has some unique features of its own. A framework for the Public sector is different for two reasons: the public organizations are "stakeholders" dependent while the private organizations are "shareholders" dependent. Stakeholders can be citizens, state, and local governmental, organizations of private sectors and lobby groups. In the private sectors, companies mainly responsible for their shareholders. But in public sector, all of the represented services should satisfy Stakeholders while in private sectors they should satisfy only shareholders. Secondly, the private sector is competition based, while the public sector is dependent more on the factors such as service delivery, information provision, and knowledge identification, sharing, and utilization. The basis for knowledge management in private sectors is the return of capitals and interests but these criteria can't be the basis for successful knowledge management in public organizations [11], [12].

Cong & Pandya (2003), Asho et al (2002) and Wiig(2000) have suggested in order to know the elements and dimensions of knowledge management in public organizations a lot of research should be done. In spite of this they have suggested the following elements for knowledge management in public organizations:

A. *People and organizational culture*: creating an organizational culture (values and behaviors) is the most important and the most difficult challenge for knowledge management since Knowledge management is a human subject, its success depends on people's incitement, their

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ability and using other people's knowledge. Based on hierarchical system of public organizations and weak relationship between different parts of organizations the following factors should be considered [10],[13].

B. Technology: it is necessary to maintain technology of organizational knowledge. Technology should help people to get the knowledge they need. For Knowledge management in public organizations it is better to choose technologies which help organizations to have dynamic relationship with citizens [14].

C. Improving the quality of public services: knowledge management should give preference to improve the quality of public services because Public sectors have relationship with all of the people not some special groups, improving the quality of services in this sector has important effect on the quality of people's life [15],[16].

III. PRO AND AGAINST OF KNOWLEDGE MANAGEMENT IN PUBLIC ORGANIZATIONS

There is a growing interest in the application of Knowledge Management (KM) in the public sector; there is, however, a dearth of research on the design and development of effective, integrated Knowledge Management Systems [17].

It seems there is collective agreement about the importance of knowledge management in public organizations, but some theoreticians (e.g. Boyn, 2002), believe there is a lot of gap between public organizations and private organizations, and therefore it's not possible to use the current models of knowledge management. It is necessary to prepare and create new models for private sectors [12].

Second group (Pro) are theoreticians (e.g. Lane, 2000; Cong & pandya, 2003; Wiig, 2002) that say, with traditional concepts of public management it's not possible to get effective knowledge management because it is a social and humanistic concept and it is not matched with positive approach. using Positive approach all of the knowledge is considered objectively not subjectively and therefore based on this approach researchers ignore a great part of knowledge (tacit knowledge). They indicate new values for public management which are mainly related with New Public Management (NPM). The practices of NPM and its increasing acceptance by countries around the globe show that the concept and practice of KM stemming from the private companies can be adopted in the public sector [18].

IV. STUDYING KNOWLEDGE MANAGEMENT IN PUBLIC ORGANIZATIONS OF IRAN

Based on researches which have done in Iran, the average of education for employees in public organizations is increasing. For example in one of the researches which has been done in public organizations to know the amount of human capital based on average of education years in the average of education for public employees have increased from 1.5 in (1966) to 6.7 in (2000). There is not only increase

in average of education years but also the number of staff who work in research and development sectors has increased. The rate of research credit to (GDP) in the Islamic republic of Iran is increasing. This shows there is tendency in public organizations for doing their duty and job based on knowledge [19].

V. RESEARCH METHODOLOGY

For doing this, Researchers have used experts groups and Delphi study and for analyzing data survey and statistical method were selected.

Research methodology is concept mapping. For using this method researchers did this activity:

1) Questionnaire number one is based on literature review of research and effective variable on knowledge management were considered. Researchers wanted from experts to select between suggested titles some factors, which they are considered main cluster (criterion). This questionnaire was distributed between 170 people of experts in universities and in industries.

2) Questionnaire number two based on information of questionnaire number one and some new information from experts society designed and again distributed between them.

3) Based on analyzing information on questionnaire number two last one was designed and this questionnaire is based on Likert scales

A. Research questions

This research has started with two main questions:

- How it is possible to manage knowledge in public organizations of Iran effectively?
- What are dimensions of knowledge management model in public organizations?

B. Research hypotheses

Based on conceptual model, the hypotheses of this research are these:

Hypothesis 1 - organizational factors have direct effect on knowledge management in public organizations.

Hypothesis 2 - knowledgeable citizens can effect on organizational factors and based on this they can affect on knowledge management in public organizations of Iran

Hypothesis 3 -Contextual factors effect on public organizations of Iran via effecting internal organizational factors.

Based on literature and analysis experts' idea, Dimensions and Index of KM indicate for public organizations in Iran are presented in Tables 1, 2.

TABLE I DIMENSIONS OF KM IN PUBLIC ORGANIZATIONS OF IRAN
(ORGANIZATIONAL FACTORS)

Dimensions of KM in public organizations of Iran(organizational factors)	Index
organizational culture of knowledge creating	-pay attention to knowledge and persons who have knowledge-Make motivation about getting and using knowledge – mutual confidence between managers and staffs- having flexibility about new ideas – encourage group activity – the system of reward and evaluation for staffs activities should be based on how much they participate in knowledge production
knowledge Leadership	– Having attractive and acceptable perspective to knowledge – need to the specific responsible or guidance for knowledge management activity – using knowledge like guidance reference.
knowledge workers	-help to use knowledge near daily duties(group of leadership for knowledge) – having interest to educate and learn – educate and learn others
knowledge managers	Giving new chances to learn and improve knowledge - focuses on education and learning as a basic activity - Make motivation to get knowledge, distribute and use it – making internal organizational bazaars – propagating knowledge management concepts.
knowledge Resources	knowledge workers knowledge managers
structure-Based Knowledge	– flat structure – allocating place for conversation and exchanging ideas - having positions to handle activities which is related to knowledge management in formal structure – possibility of contact with environment outside of the organizations to get knowledge of outer group organizations –easily access to elites, experts and managers of organizations
knowledge based organizational processes	Easily access to needed information and knowledge– need for systematic processes for collecting, classification and omit unnecessary information and represent information
knowledge portal	The existence of a center in organization as a focus for all knowledge processes organizations to guide employees– having one library digital – coordination for getting knowledge and information outside of organizations which reduced duplication – having a responsible team for recognizing and keeping vital knowledge of organization – accessibility to necessary information in a short time based on previous research and collective agreement of elites for all of these indexes

C. Population and statistical sample

The statistical populations are Public organizations of the Islamic republic of Iran. For preparing and generalizing knowledge management, the first sample of this research has been selected between a group of experts and theoreticians of country. For this, 170 experts of KM were selected. Experts of this research were selected from Allameh Tabataba'i University, Shahid Beheshti University, Tehran University, Tarbiyat Mo'aref University, Organization of Development and Renovation of Industry, ministry of road and transportation, Organization of Management and Planning.

TABLE II DIMENSIONS OF KM IN PUBLIC ORGANIZATIONS OF IRAN
(CONTEXTUAL FACTORS)

Dimensions of KM in public organizations of Iran(Contextual Factors)	Index
Citizens Knowledge	Publishing and giving needed information and knowledge to citizens – recognizing and getting citizens knowledge– using citizens knowledge in decision makings and solving organizational problems
political factors	distributing the power of decision making in organizations –establishing free political atmosphere to present different idea – relative management constancy
Technological factors	Having necessary communication network for exchange knowledge and international information with other organizations - Having necessary communication network for exchange knowledge and information with other internal organizations - - Having necessary communication network for exchange knowledge and information with other citizens - Having necessary communication network for exchange knowledge and information in organizations
cultural factors	-Tendency to collaboration doing collective work – positive thinking and trusting other people – having the habit to read books

D. Testing research hypothesizes

For testing hypothesizes researchers have used MPL in the confidence level of 99 percent and beta coefficient in the confidence level of 95 percent.

From the data indicated in Table 3, all hypotheses were achieved the positive level of significance. Thus, with the 95 percent confidence level “organizational factors have direct effect on knowledge management in public organizations of Iran, environmental and citizens factors with organizational factors effect on knowledge management.

E. Path diagram

Drawing a path diagram is useful to analysis Lisrel technique. Path diagram connect important concept of model. This diagram shows the direction of knowledge management (Fig 1).

For evaluation whole goodness of fitting of knowledge management model chi-square test and (RMSR) have used. Large amount of chi – square shows bad goodness of fitting and small amount of chi – square shows good goodness of fitting of model. For evaluating and judging about largeness and smallness of chi – square it's better to use freedom degree and P-value. Knowledge management model have been confirmed because the amount of chi- square is 0/001 and the amount of p-value shows the good goodness of fitting. Amount of RMSR in this model is near the (0/00) which it means this model is desirable for knowledge management.

TABLE III RESULT OF TESTING RESEARCH HYPOTHESIS

Hypothesis number	variables		Maximum coefficient of MPL probability In the confidence level of 99 percent	Beta coefficient In the confidence level of 95 percent
	dependant	independent		
Hypothesis 1	Organizational factors	Knowledge management	0.74	0.84
Hypothesis 2	Knowledge factors	Citizens Organizational	0.41	0.52
	Citizens' Knowledge	Knowledge Management	0.11	0.20
Hypothesis 3	Contextual Factors	Organizational Factors	0.59	0.63
	Contextual Factors	Knowledge Management	0.15	0.31

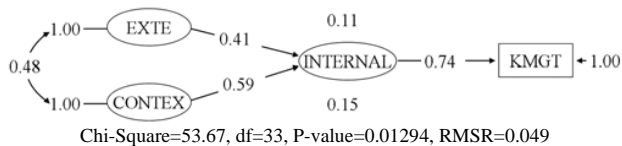


Fig. 1 Direction model of knowledge management

VI. PROPOSED MODEL OF KNOWLEDGE MANAGEMENT IN PUBLIC ORGANIZATIONS OF IRAN

In this research effective factor on knowledge management have been recognized and for testing the importance of these factors on knowledge management in public organizations of Iran researchers assembled the ideas of experts group.

Based on the model for knowledge management in public organizations these factors have been recognized:

A. Organizational factors: including culture of creative knowledge, knowledge leadership, resources of knowledge, knowledge portal, knowledge based structure and knowledge based process

B. Citizens: they are as the most important contextual stakeholders

C. Contextual factors: including political factors, cultural factors and technological factors

D. Knowledge management: including technical dimension (processes related to explicit knowledge) and social dimension (processes related to tacit knowledge).

Suggested model presented in Fig 2 shows connection between factors.

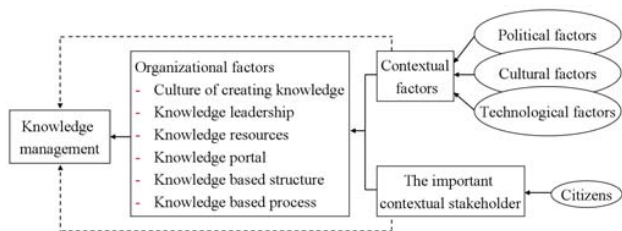


Fig. 2 Conceptual model of knowledge management in public

organizations of Iran

VII. CONCLUSIONS

This research done to find the answer of these questions: How it is possible to manage knowledge in public organizations effectively? And what is the suitable model for knowledge management in public organizations of Iran? To answer these questions, different kinds of knowledge management models had been studied. Each kind of models have specific attitude about knowledge management. Some of them present inner organizations attitude and others present outer organizations attitude. Most of the researches have done in private sectors not in public organizations and this is important point. Most of the models formed with the principle of private sectors. It seems it is not possible to give positive answers for these questions "Is it possible to use models of knowledge management in public organizations? Is it similarity between the principles and indexes of knowledge management in private sectors and public organizations?" Based on the research, answer for these questions are negative and patterns of private sectors it's not suitable for public organizations. Models for knowledge management in public organizations should be based on their policy and rules.

The present model for knowledge management in this research have combined internal and external organizations attitude. Because of this it presents comprehensive attitude to study knowledge management in public organizations. Base on different studies about knowledge management models and collective agreement of experts groups, **political factors** has been added to conceptual framework of knowledge management in public organizations. Because knowledge is considered as power and has effected on public organizations decisions and the interest of different groups directly and indirectly.

Based on analyzing the data, organizational factors have the most direct effectiveness on knowledge management to achieve success. Therefore these processes are important for knowledge management: culture of creating knowledge, leadership of knowledge, knowledge resources, knowledge portal, knowledge based structure and knowledge based process. Contextual factors and knowledge citizenship indirectly affect on organizational factors which affect on knowledge management in public organizations. These connections have shown in the model with dash line (Figure 2). As a whole it is possible to say knowledge management in public organizations is a new subject and need more research.

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