Knowledge Management Process as Development Policy in Public Sector.
Cases in Guadalajara, Mexico

Proceso de gestión del conocimiento como política en el sector público.
Casos en Guadalajara, México

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ABSTRACT

The competitive approach to the theory of knowledge management has allowed the first decade of the twenty-first century government institutions to focus on human resources as feedstock to generate knowledge in the organization that benefits users of various governments, solving the most common conflicts and supporting the continuity of the common processes without falling into routines that lead to low utilization of resources. This work aims to show how it has improved the performance of some public agencies in the city of Guadalajara through a knowledge management model.

Key words: knowledge management, intellectual capital, public sector.

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Univ. Empresa, Bogotá (Colombia) (19): 11-22, julio-diciembre de 2010

11

RESUMEN

El enfoque competitivo de la teoría de la Gestión del Conocimiento ha permitido que en la primera década del siglo xxi las instituciones gubernamentales se enfocaran en los recursos humanos como materia prima de generación de conocimiento en la organización que beneficia a los usuarios de las distintas dependencias gubernamentales, resolviendo los conflictos más frecuentes y apoyando a la continuidad de los procesos comunes sin caer en rutinas que llevan al bajo aprovechamiento de los recursos.

Este trabajo tiene por objeto mostrar cómo ha mejorado el rendimiento de algunas dependencias públicas de la ciudad de Guadalajara a través de un modelo de gestión del conocimiento.

Palabras clave: gestión del conocimiento, capital intelectual, sector público.

I. INTRODUCTION

Mexican government has shown significant changes in its organizational structure, particularly in those units that are in the states of the country and attend citizens in the three levels of government: federal, state or municipal. Each level of government has been concerned in recent years to respond efficiently to users who come to perform the various procedures that are in the Mexican laws.

Bureaucratic models, although still in operation in some offices had been minimized by the actions taken on administrative matters, noticing that the main capital that Mexico's government at all levels are its human resources and the experience that they have and has been collected over the years. It is worth mentioning that the implementation of knowledge management has become a basic tool to obtain information that can be exploited in the organization and is managed to create useful knowledge, from which intellectual capital is obtained transferable to other agencies and feedback and change to suit the conditions of the reality of each of the offices where applicable.

Inside organization, knowledge management is a simply application basic tool for external and internal sources obtained information transformation that could be applied at managerial processes that have an impact on citizens. To apply the model, the best distribution channel is the employees, because they work like receptors of the information collected with users and directives, transform it in transmissible knowledge with other members of organization. These steps form the dependence intellectual capital, that can be distributed in the regional offices and make better the governmental processes and citizen attention.

The knowledge creation is important to improve the activities in the Public Sector, to support at first the requirements that approach the skills of the organization members to contribute with institutional development and knowledge generation for common services.

II. THEORETICAL FRAMEWORK

Before proceeding to the definition of knowledge management, we must define knowledge. Data in an organization reveals results and facts. Relations existing between data and other relations are capable to represent such data in the form of organized information (Zar, 2009). Nonaka and Takeuchi (1995) shown that the concept of knowledge management has emerged due to a change in business trends, which have evolved from an environment that was predictable and incremental, to one that is radical and discontinuous.

The goal of knowledge management is to capture, store, maintain and deliver useful knowledge in meaningful form to anyone who needs it a anyplace and anytime within an organization (Luban, 2009). Due to this, the concept has expanded its focus of attention, gradually moving from internal to external and from organizational performance to personal and team productivity (Apostolou, 2009), this increasing value of

knowledge in the first decade of XXI century derives from the increasing importance of intangible assets of the institutions and the availability of technology capable of processing larger amounts of information. At the same time employees are demanding more and competitive advantage in learning becomes faster (Cabañas, 2003).

There are 2 kinds of knowledge that we can apply in any organization, those are: Explicit and Tacit Knowledge. First one is a kind of knowledge that can be captured and written down in documents or data bases; explicit knowledge is formal and systematic, which can be easily communicated and shared (Nonaka, 1991); also Tacit knowledge is the knowledge that people have in their minds. It is much less "concrete" than explicit knowledge. It is more of an "unspoken understanding" about something, knowledge that is more difficult to write down. Tacit knowledge can be difficult to access as it is often not known to others (Nonaka, 1995).

Based on the 2 kinds of knowledge described by Nonaka, the intellectual assets in many organizations are the primary source of competitive advantage. This advantage can only be achieved from the transformation of Individual Knowledge (Tacit) and Organizational Knowledge (Explicit) in capital that could be distribu-

Univ. Empresa, Bogotá (Colombia) (19): 11-22, julio-diciembre de 2010

13

ted in the organizations, changing according to the environment and redirecting in different circumstances, the capital that can help the organizations to improve the processes is called Intellectual Capital.

Intellectual capital is generally classified into three dimensions that represent human, relational, and organizational (Isaac, 2009). Human capital is concerned with the skills, knowledge, innovativeness, capabilities and overall competence of employees (Sullivan, 1999). Relational Capital sometimes refers to customers, in public sector case the users, social capital, and stakeholders (Ordõnez de Pablos, 2003). Finally the organizational capital dimension is identified with technologies and supporting systems that help employees to do their jobs and ultimately create revenues for the organization that result in corporate wealth.

In the public sector the management is of increasing importance for governments in dealing with the challenges created by the knowledge economy. These challenges are addressed in the following aspects (OECD, 2003):

1. Knowledge has become a critical determinant of competitiveness for the public sector.

2. Private firms produce goods and services that are increasingly intensive in intangible capital, directly competing with the public sector for the delivery goods and services such education, science, security and knowledge.

3. Retirement of civil servants and frequent transfer of knowledge workers across government departments.

To apply the knowledge management systems in the public sector that has the characteristic before written, many researchers have proposed a variety of knowledge management frameworks, models, and perspectives to help understand the concept and conduct knowledge management (Cong, 2003).

Public Administration functions in the modern, democratic society are complex. Ideally, but unrealistically, civil servants should possess the best expertise and collaborate with the most advanced state-of-the-art understanding. Public Administration dependences must provide initiatives, leadership, and coordination to implement the most effective approaches and ascertain that society as a whole in served appropriately (Wiig, 2000).

III. METHODOLOGY

In this work the chosen methodology is basically aiming at measuring the exchange and flow of knowledge

within the organization, this model was developed by Sánchez (2008) adapted from Li-Yueh Chen (2006) model.

The polls were conducted in different offices of the three levels of government located in the city of Guadalajara, Jalisco, having applied to the Senior and Middle managers with the aim of determining the level of knowledge management in relation to the exchange and flow within the organization itself.

The assessment was conducted by acceptance or rejection of 3 hypothesis. The hypothesis presented in this paper were developed based on the moderating variables (production, generation, storage and exchange of knowledge, organizational learning and coercivity) of the processes of knowledge exchange and flow according to the questionnaire that was applied. There are two variables which are the guiding questions of the instrument, from which to assess the veracity of the opinions of the respondents to answer the same questions were used to control these factors comprise the predominant knowledge management processes to analyze, only when these are perceived equally important that the guiding questions you can talk about the proper execution of the processes studied (flow and exchange of knowledge).

In order to get a better perspective of what is happening in the business, to survey among staff who work there, the sample was 180 people, all surveys were taken as valid as it completed 100%. The questionnaire deals with fundamental issues in knowledge creation and the process it takes to be assimilated within the organization.

IV. HYPOTHESIS

H1: The more experience for abroad, greater the knowledge in the organization.

H2: The more intellectual capital, lower the routine processes in the organization.

H3: A grater knowledge management, better services for users.

V. QUANTITATIVE ANALYSIS

The questionnaires were applied to 180 people that work in different dependences of public sector in the three levels of government, that conforms the new knowledge organizations of Mexican government.

61.7% of the sample are people with 30 years or less, that means that the public dependences are working with young people and that favor to apply new theories and restructure the organization systems; the second big

Univ. Empresa, Bogotá (Colombia) (19): 11-22, julio-diciembre de 2010

15

group are people with 31-35 years old, this group represents 14.8% of the total interviews, next one are the workers at 36 – 40 years range this group are the 8.7% of the sample, people between 41 and 45 years are the 5.5% of the organization's workers, people with more than 50 years represent the 6.6%, and 1.1% are in the range of 46-50 years, in this poll 3 persons didn't answer this question.

For this study we are going to use four multivariate studies; first the KMO and Bartlett's Test Study, then the total variance explained, after the rotation factor matrix and finally the One way Analysis of Variance (ANOVA) to determine the correlations between variables to prove or disprove the planted hypothesis.

According the KMO and Bartlett's sphericity (Table 1) to study this research is viable, because the Chi Square represents the positive side of the research, therefore the obtained results are in the principal ranges with minimal differences and relative significances.

Through the Total Varian Explained test (Table 2) the principal results explain the 62% of total research, this percentage is based on the rotation sums of square loadings, this represent more than minimal size for the general explanation.

The Rotation Factor Matrix (Table 3) shows that all questions have correlation and most of them have 20% correlation between all the questionnaires.

In the ANOVA study we determine that:

H1: Rejected, because the significance levels between the correlation of dependent variables and independent variable are close to cero, which mean that the principal path to obtain knowledge is the internal environment of the organization (Table 4).

H2: The hypothesis is accepted, the significance levels are between 20 – 80 % (Table 5) , in the organization the routine processes had been reduced and had been transformed for knowledge systems and that means more efficiency in the services.

H3: This hypothesis is rejected, because according ANOVA (Table 6) there are no reasons to suppose that increasing knowledge management in the organization will make the services better.

VI. CONCLUSIONS

Public sector in Mexico and principally the offices located in Guadalajara are trying to build a system to use knowledge management as a competitive tool to acquire and use timely

and relevant information in order to discover and exploit opportunities, and to foster a culture based on their potential intellectual capital.

Though this research indicates that Mexican Public Sector recognizes the importance of knowledge management, identifying it as an essential process for discovering the user needs, understanding the problem or institutional failure lies essentially in the implementation process knowledge management. In this moment the System based on Knowledge Management is not mature but in a short time and with the optimal conditions will be the real system that works in the sector.

Future studies will be relevant to analyze the other hand, the view not only of middle managers and managers but also to compare them with the views of all levels of the organization, thereby verifying whether or not the flow of information shared, spread and communicated across those institutions.

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Univ. Empresa, Bogotá (Colombia) (19): 11-22, julio-diciembre de 2010

17

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ANNEXES

Table 1 – KMO and Bartlett's Sphericity Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.650
Bartlett's Test of Sphericity	Approx. Chi-Square	3070.386
	df	406
	Sig.	.000

Table 2 – Total Variance Explained

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.062	24.352	24.352	6.723	23.183	23.183	4.744	16.359	16.359
2	3.075	10.603	34.955	2.713	9.357	32.539	3.104	10.703	27.062
3	2.516	8.674	43.629	2.166	7.469	40.008	1.923	6.631	33.693
4	2.064	7.119	50.748	1.667	5.750	45.758	1.841	6.348	40.040
5	1.623	5.598	56.346	1.297	4.474	50.232	1.514	5.221	45.262
6	1.477	5.095	61.440	1.103	3.803	54.035	1.415	4.880	50.141
7	1.234	4.256	65.696	.858	2.960	56.995	1.241	4.281	54.422
8	1.162	4.006	69.702	.805	2.777	59.772	1.189	4.099	58.521
9	1.065	3.673	73.375	.698	2.406	62.179	1.061	3.658	62.179
10	.958	3.302	76.677						
11	.905	3.119	79.797						
12	.813	2.804	82.601						
13	.595	2.051	84.652						
14	.547	1.886	86.538						
15	.516	1.778	88.315						
16	.434	1.498	89.813						

Univ. Empresa, Bogotá (Colombia) (19): 11-22, julio-diciembre de 2010

19

Total Variance Explained									
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Va-riance	Cumulati-ve %	Total	% of Va-riance	Cumulati-ve %	Total	% of Va-riance	Cumulati-ve %
17	.404	1.392	91.206						
18	.395	1.361	92.567						
19	.363	1.253	93.820						
20	.327	1.127	94.946						
21	.269	.927	95.873						
22	.257	.886	96.759						
23	.204	.704	97.462						
24	.184	.636	98.098						
25	.164	.566	98.664						
26	.137	.473	99.138						
27	.109	.377	99.515						
28	.084	.291	99.806						
29	.056	.194	100.000						

Extraction Method: Principal Axis Factoring.

Table 3 – Rotated Factor Matrix

Rotated Factor Matrix[a]									
	Factor								
	1	2	3	4	5	6	7	8	9
Question 1	.209	.334	.081	.186	.099	-.060	.009	.071	.633
Question 2	.223	-.041	-.188	.320	.024	.134	-.054	.765	.001
Question 3	.048	-.071	.855	-.176	.009	-.059	-.020	-.035	.207
Question 4	.593	.159	.021	.164	-.106	.078	.147	.041	.023
Question 5	.462	.294	-.060	-.343	.062	.037	.169	.553	.137
Question 6	.673	.129	.154	-.069	.137	.132	.184	.205	.040

Rotated Factor Matrix[a]									
	Factor								
	1	2	3	4	5	6	7	8	9
Question 7	-.216	-.110	.236	-.033	.180	-.181	-.295	.222	-.027
Question 8	.641	.101	-.113	.071	.160	.206	-.058	.133	.073
Question 9	.066	.359	-.086	.550	.086	.154	-.259	.061	.067
Question 10	.595	.041	.074	.043	-.088	.121	.035	-.059	.021
Question 11	.115	.227	.142	.722	-.038	-.283	.118	.157	.041
Question 12	.208	.094	.023	-.034	.057	.036	.590	.021	.044
Question 13	-.226	-.200	.321	.484	.125	-.197	-.174	-.011	.205
Question 14	.615	.090	.133	-.073	.120	-.037	.110	.210	-.072
Question 15	.237	-.063	.663	.231	-.011	-.154	-.033	-.085	-.093
Question 16	.495	.204	-.226	-.041	-.168	.195	.346	-.055	.456
Question 17	.544	.563	.127	.211	.072	-.077	-.370	-.065	.048
Question 18	.675	-.003	.157	.130	-.277	-.127	.121	.015	.138
Question 19	.016	.216	.004	.196	.745	-.056	.084	.032	.142
Question 20	.122	-.102	-.155	.312	-.507	-.004	.150	-.067	.290
Question 21	.362	.420	.053	.256	.245	.217	-.381	-.035	.059
Question 22	.755	.370	-.267	-.186	-.217	.070	-.002	.063	.151
Question 23	.191	.736	.025	.141	.153	-.007	.171	.082	.155
Question 24	.590	.055	.086	-.063	.357	.353	-.057	-.030	.142
Question 25	.272	.773	-.167	-.030	.254	.017	-.035	.005	-.075
Question 26	.191	.235	-.044	-.077	-.295	.622	-.168	.255	.136
Question 27	.059	.143	.474	.200	.109	.229	.053	-.080	-.227
Question 28	.248	.057	-.083	-.153	.096	.602	.232	.005	-.140
Question 29	-.004	.801	.003	.059	-.095	.253	.158	-.002	.162

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 22 iterations.

Univ. Empresa, Bogotá (Colombia) (19): 11-22, julio-diciembre de 2010

21

Table 4 – One Way ANOVA Hypothesis 1

		Sum of Squares	df	Mean Square	F	Sig.
	ANOVA					
	Between Groups	94.156	4	23.539	11.892	.000
Question 9	Within Groups	346.394	175	1.979		
	Total	440.550	179			
	Between Groups	70.568	4	17.642	15.883	.000
Question 19	Within Groups	194.382	175	1.111		
	Total	264.950	179			

Table 5 – One way ANOVA Hypothesis 2

		Sum of Squares	df	Mean Square	F	Sig.
	ANOVA					
	Between Groups	2.809	4	.702	.412	.800
Question 22	Within Groups	297.991	175	1.703		
	Total	300.800	179			
	Between Groups	5.685	4	1.421	1.501	.204
Question 17	Within Groups	165.709	175	.947		
	Total	171.394	179			

Table 6 – One Way ANOVA Hypothesis 3

		Sum of Squares	df	Mean Square	F	Sig.
	ANOVA					
	Between Groups	110.826	4	27.706	21.903	.000
P11	Within Groups	221.369	175	1.265		
	Total	332.194	179			
	Between Groups	14.793	4	3.698	2.371	.054
P3	Within Groups	272.957	175	1.560		
	Total	287.750	179			