

THE EFFECT OF KNOWLEDGE MANAGEMENT ON PERSONNEL'S PERFORMANCE AT SARMAYEH BANK IN TEHRAN

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ABSTRACT

Today's diverse world makes it necessary for organizations to search for new tools in order to survive and grow. Knowledge management is one of tools that can help organizations to achieve these goals. It can reform a variety of functional specifications for organization via giving the ability of "more intelligent performance". To do so, this research has reviewed the effect of knowledge management on the performance of staffs working at branches of the Sarmayeh Bank in Tehran. The present study from the view of goals is a practical research and from the view of gathering information and data, and the method of analyzing is a descriptive and non-experimental research while with respect to execution is a kind of survey research. In this study, the data gathered from questionnaires were the base for analysis. The questionnaire has three sections as general, knowledge management and staff performance section, in which each section has its own specific aspects. To validate the questionnaire, Richardson and Cronbach's Alpha was used. In addition, to analyze data, structural equation model with the help of AMOS software was used. The results clearly showed that the process of knowledge management has a positive and meaningful effect on staff performance. This connection supports the main perception of the research. Also by prioritizing the aspects that form two main structures of the research, knowledge management and organizational performance, showed that, in the structure of knowledge management, inventing knowledge has highest score and saving it has lowest score. In other word, with 95% of certainty we believed that in the studied society, the most emphasis subsequently was on knowledge creation and maintenance.

Keywords: *Knowledge Management, Organizational Performance, Human Resources, Knowledge Acquisition, Knowledge Creation, Knowledge Distribution*

INTRODUCTION

Today's diverse world leads organizations to find new tools in order to survive. Knowledge management is one of the tools, which can help them to reach that goal. Knowledge management (KM) is a process in which helps organizations to find the knowledge and information while select, organize and diffuse it. That is a specialized tool for activities such as problem solving, active learning and decision-making. Knowledge management can enable an organization to perform more intelligently (Davis, 2005). Globalization and diverse workforce changed the dynamics of work situation. The changing rules of traditional knowledge sharing, learning and training in organizations, and organizational knowledge systematically divides into tacit and explicit knowledge (Nunanka, 1994). Explicit knowledge has the capacity to be written, transferred and shared (Jarra, 2002) and disseminated in knowledge repositories. This explicit knowledge includes databases and guidebooks (Duffy, 2000). However, the complex part is the tacit knowledge transfer that is because it embedded in human's behavior and conception (Duffy, 2000). This dimension of knowledge reveals in skillful actions (Miller *et al.*, 2006). Examples of tacit knowledge are conception, ideas and values (Cummings, 2003). People's tacit knowledge is one of the main sources of an organization. Many researchers believe that the organization is the body of knowledge (Grant & Baden, 2004) and its importance is beyond other assets such as natural financial and Resources (Martinez, 1998) in which these resources is reachable for anyone (Jarra, 2003) and thus creates the only competitive advantage. Knowledge management is an organizational and systematic process in which everyone has access to find, organize, Dissemination, transfer, and recreates

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both tacit and explicit knowledge for people in order to leverage organizational performance and value creation (Alavi *et al.*, 2001).

In fact, this article is going to reach the following practical goals:

1. Propose solutions to improve the effect of knowledge management in branches of Sarmayeh Bank in Tehran.
2. Propose solutions to improve personnel's performance in branches of Sarmayeh Bank in Tehran.

Knowledge Management

In new millennium, knowledge management became one of important and controversial issues in the world; while it is not a new concept. In fact, knowledge management existed since people were transfer and passes their experiences to new generations. Knowledge management entered to the new era with its new form in late 1970 and its importance increased in mid 1980 by revealing the position of knowledge and its competitiveness effect on business markets. In this decade, systems based on intelligent systems applied to knowledge management and concepts such as Knowledge Acquisition, Knowledge Engineering, and Knowledge –based systems came into existence. Late 80th is the boom and the rise of KM articles in science journals while the very books in this realm were published. In early 90th, the forceful works of American, Japanese and European companies increased dramatically. In mid 90th, World Wide Web caused new activity to knowledge management field. The international knowledge management network in Europe, and developed knowledge management committee of USA developed their activities through World Wide Web. In 1995, European Union investigated in a program named ESPRIT to develop KM programs. Gradually, such companies as Ernest & Young and Booz Allen & Hamilton and many others entered to the KM processes economically. Today, for many developed countries in early years of 21st century KM known as a brand for competition and an element to reach power and development. Since 2000, Major companies in Europe invested about 55 percent of their income on knowledge management.

Personnel's Performance

Performance coming from personnel's activities depends on the allocated time; as a publisher publishes, number of books in a day meanwhile could have service aspect like the reception of clients and guiding them to different departments in an organization by a clerk. Usually the desired performance happens after an organizational unit as an example the performance of a worker at the end of a day or a clerk at the end of the fiscal year. many years ago Worum declared the performance as an outcome of two elements of capability and motivation, later, Porter, Lawler, Gamble and Britchard believed performance as the product of intelligent, skills, endeavors and responsibility.

According to the concept of performance, there are different views as follow:

- a) It is the behaviors related to the people's job.
- b) It is the forecasted criterion in which proposed in a format and that format is a kind of tool for judgment about effectiveness of people, groups and organizations.
- c) It is the product of people's activities according to duties in an allocated time.
- d) It is the product or the result of purpose process. Process is something that should be done in order the work be applicable and reaching to the goals is something that causes the purpose be reached.
- e) Performance is something that people do as their duties (Abtahi, et al 1992).
- f) Performance is reaching to the social goals or responsibilities from the viewpoint of observer.
- g) Performance is reaching to the results coming from duties of people in an organization.
- h) It is the behavior to reach to the organizational goals, which is measured.

Factors Affecting Performance

1. Managers and their leading principles
2. Physical conditions in work place
3. Groups effects and their relations
4. Personal and structural differences in which three categories are affecting on behavior and performance of workforce according to:
 - A. Personal characteristics:

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- Abilities, views and people's personalities such as their maturity in reaching success, goals, personal motivations in work place.
- Their responsibilities to organization and values.

B. Context / situation:

Situation or organization like technology, culture, values, rules, organizational climate, structure and leader.

Effecting Personal Behaviors

C. Synchronization between personnel's and job:

Some believe the following factors have effect on job satisfaction, motivation and behaviors in workplace:

- Personal differences such as personnel's abilities, skills, intelligence and personalities.
- The nature of performance and competencies in work.
- Time, personnel's physical and intellectual maturity.
- Social Sources affecting personnel such as family and work groups
- Personnel Performance measurement and judgment.
- Organizational behaviors (work) affecting on behavior and its characteristics in which have effect on views and or resistance.
- The roles, personnel play in work.

Knowledge Management in State Organizations

Organizations due to some reasons follow the knowledge management. The first is reaching to the innovation in organization. The second is because of retired personnel, which exit from the organization. By identification of knowledge workers before their retirement, the component core for organizational memory and databases could be reached by knowledge management activities.

Communities in which people share their beliefs, ideas and values are of knowledge management programs that people make ready to share what they have learnt. Therefore, this sense should be improved in people because their consciousness also will be increased during their fellowship in communities. Return of insight in organization in contrast to return of investment should be concerned through KM activities while it develops organization's insight. OECD in its 2003 report studied the importance and essentiality of KM in state organizations and concluded that the organizations have to use it because of following reasons:

Knowledge as the most important source for activities in organization: due to the issue in which one the most important duties of government is decision making and planning, the KM has the key role as Cong & Pandya (2003) believes; it seems new tendencies in planning to acquire knowledge is in line with this issue. Today, in realm of new planning methods, the use of argumentation for acquiring knowledge is selected and tendencies toward cognitive principles and chaos theories are seen. So taking the nature and essence of knowledge and tacit knowledge into consideration is very important. Jurisdiction instead charging: one of critics toward governments in late years is size of governments. Critics quote the amplitude and varsity of governments led to bureaucracy, which hinders its performance. Now it is the main crucial issues for governments to minimize the duties in order to return to their jurisdiction roles. Jurisdiction leads governments to knowledge-based activities. Globalization: it seems globalization is and or will be a challenge for state and governmental organizations. By developing globalization, the competition among organizations, which give similar services, is crucial and the need for acquiring knowledge and skills has importance. Individual agencies: The capability of individual agencies is getting higher and their abilities in using techniques such as re-engineering the business processes, quality management, strategic knowledge management and other similar techniques led to the bigger gap between individual and governmental organizations. Increasing citizen's knowledge: unlike past communities, the high amounts of citizens are skillful and educated which are the main valuable sources for organizations.

Citizens are amongst main partners of governments in planning. Scientist, researchers, academics, press publishers and doctors are amongst the affecting people in government planning as individuals. These

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people called knowledge citizens. Many organizations rely only on their internal knowledge sources while the external sources are main knowledge resources. Missing experienced workforce in organizations: knowledge is a social and humanistic issue and unlike the current information, it is not related to technology. By leaving educated and skilled workforce from organization, a part of knowledge will exit the organization, which the government invested on during the years; this can be managed by applying knowledge management models (Cong & Pandya, 2003).

Purpose of the Study

Determination of knowledge management on personnel' performance at Sarmayeh Bank in Tehran

Hypothesis of the Study

H1: Knowledge management has effect on personnel' performance at Bank Sarmayeh

MATERIALS AND METHODS

Data Collection Tools

Current study is a kind of practical one as intends to investigate the effect of knowledge management in personnel performance at Sarmayeh Bank in Tehran. Also, data gathering method follows descriptive and un-experimental survey. To gather data the researcher used library research by searching the information through World Wide Web and fieldwork as used a questionnaire to analyze the data. The best and practical way to classify variables is to divide them into dependent and independent. In this study, the dependent variable is organizational performance. To calculate capability the author used the Richardson and Cronbach's Alpha as the formula came here. The SPSS package (version 19, for windows) used to calculate alpha.

$$\alpha = \left(\frac{j}{j-1} \right) \left(1 - \frac{\sum s^2_j}{s^2} \right)$$

Subjects of the Study

Human subjects or participants in this study, as usual for all researches, had at least on shared characteristics. The shared characteristics are common to all participants while it differentiates them from outside community. Current study's participants are all from Sarmayeh Bank based in Tehran N= (320) personnel. The following formula was used to select the participants, in which (n) means the minimum required samples; (N) equals to the overall participants in this study; (P) is distribution; ($z^2 \propto 2$) the total amount comes from standard equals to 0.05; while (d) mentions the error which is observed by researcher in which in social sciences has a standard value that equals to 0.05.

$$n = \frac{Nz^2 \propto 2P(1-P)}{(N-1)d^2 + z^2 \propto 2P(1-P)}$$

Note if the value for P was not reachable, so it is possible to consider the value 0.5 in which this formula will give the biggest number and that is 0.5 in current research. Therefore, the minimum required sample is 174. In this study, 220 questionnaires distributed to mentioned personnel while 175 questionnaires returned to the researcher that used as the analysis base. It is notable to mention that the job for selecting samples was accidentally done.

$$n = \frac{(320)(1.96)^2 (0.5)(1-0.5)}{(320-1)(0.05)^2 + (1.96)^2(0.5)(1-0.5)} \cong 174$$

Data Analysis

Descriptive Analysis

To describe the findings the frequency tables used in this study. In addition, to describe data more accurately, the mod, mean, median and standard deviation were calculated.

Inferential Analysis

For analyzing data first, it is needed to describe data statistically then the hypothesis as is "the effect of knowledge management in personnel performance at Sarmayeh Bank" will be investigated based on.

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Generally, the data will be analyzed based on two level of descriptive and inferential. It is notable to say that in inferential analysis to investigate causative relations between research variables, knowledge management and personnel performance, researcher have used Structural Equation Modeling (SEM) by Amos software. This software could infer the variables through measured correlation coefficient and covariance and could be used for explorative analysis, variances, path analysis and Conformity Factor Analysis.

RESULTS AND DISCUSSION

Results

Table 1: Descriptive indexes of research variables

Structure	Component	frequency	minimum	maximum	mean	Standard deviation
Knowledge Management	acquisition	175	1.17	4.33	2.9181	0.62229
	creation	175	1	4.83	3.2848	0.82138
	Dissemination	175	1.44	4.56	3.1873	0.50943
	Sharing	175	1	4.71	2.9094	0.7422
	Maintenance	175	1	4.6	2.8297	0.72811
Performance	Capability	175	1.5	4.75	3.2929	0.54957
	Cognition	175	1	5	3.1848	0.65567
	Support	175	1	5	2.5714	0.82126
	Motivation	175	1	4.17	2.4093	0.68332
	Feedback	175	1	5	2.82	0.72101
	Validity	175	1	5	3.0869	0.7045
	Adaptability to situation	175	1.5	5	3.6029	0.80104
	valid	175				

Variables Distribution

In this section the focus is on research variables distribution; evaluating variables distribution considering the normality is the very first need to use statistical tests. In other words, to have normal data, is the fundamental issue in using parametric tests. Graphic and nominal methods are amongst evaluating the normality of data distribution. Two tests, Colomograph-Smironoph and Shapiro-Vilik tests are used in this study. These tests used according to the different measures which “knowledge management” as independent variable could generate.

Priorshipping Variables in each Research Structures

As we used parametric approach to test the variables in this study, so to priorshipping variables in each research structures we have used One-Sample t-test, while the dimensions of mean differences ranked based on standard number (3 = likert scale)

Structure for Knowledge Management Process

The below table shows the comparative mean for each components of knowledge management process. According to the measures as can seen in above table, it can be concluded that in knowledge management structure, the creation has the highest measure and consequently the knowledge Maintenance has the least measure. Therefore, we conclude with 95 percent assurance that in total some of participants the highest concentration focused on knowledge creation and then knowledge Dissemination respectively. Knowledge acquisition was in mean degree and knowledge Maintenance activities were less than mean.

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Table 2: One-Sample t-test for priorshipping the components of knowledge management process

Base number = 3						
	t	Degree of Freedom	Level of significance	Compare Mean	99 % Confidence Interval	
					Low	High
Creation	4.586	174	0	0.28476	0.1622	0.4073
Dissemination	4.864	174	0	0.1873	0.1113	0.2633
Acquisition	-1.741	174	0.083	-0.0819	-0.1747	0.0109
Sharing	-1.615	174	0.108	-0.0906	-0.2013	0.0201
Maintenance	-3.094	174	0.002	-0.1703	-0.2789	-0.0617

Performance Structure

According to the results obtained from One-Sample t-test, the performance component “adaptability to the situation” has the high value and the “motivation” shows the least value.

Table 3: One-Sample t-test for priorshipping the components of performance

Base number = 3						
	t	Degree of Freedom	Level of significance	Compare Mean	99 % Confidence Interval	
					Low	High
Adaptability to situation	9.956	174	.000	.60286	.4833	.7224
Capability	7.049	174	.000	.29286	.2109	.3749
Cognition	3.728	174	.000	.18476	.0869	.2826
Validity	1.631	174	.105	.08686	-.0183	.1920
Feedback	-3.303	174	.001	-.18000	-.2876	-.0724
Support	-6.903	174	.000	-.42857	-.5511	-.3060
Motivation	-11.435	174	.000	-.59067	-.6926	-.4887

Generally, with 95 percent assurance we conclude that the performance according to the component of adaptability to the situation, capability and Cognition were higher than the mean value respectively. From the validity perspective it is in mean level and from the feedback point of view, the support and motivation are in the lower level and beneath the mean of the whole community.

Investigating the Relations among Research Variables

According to the normal data distribution and the nominal nature of variables in current study, the Pearson correlation test was used as its results are shown in below table.

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Table 4: The results of Pearson correlation test between components of knowledge management and performance process

Title	Acquisiti on	creation on	Disse minati on	share	Mainten ance	Capabili ty	Cogniti on	suppo rt	motiv ation	feedba ck	validity
creation	.582**										
Disseminatio n	.500**	.525**									
sharing	.527**	.707**	.632**								
Maintenance	.435**	.482**	.551**	.637**							
Capability	.330**	.413**	.365**	.425**	.335**						
Cognition	.374**	.436**	.400**	.425**	.255**	.593**					
support	.283**	.372**	.348**	.366**	.340**	.343**	.352**				
motivation	.421**	.502**	.479**	.594**	.487**	.424**	.450**	.560**			
feedback	.333**	.428**	.419**	.413**	.343**	.437**	.609**	.385**	.589**		
validity	.305**	.410**	.457**	.472**	.362**	.538**	.587**	.316**	.586**	.621**	
Adaptability to the situation	.211**	.276**	.226**	.224**	0.124	.341**	.390**	.153*	.194*	.344**	.410**

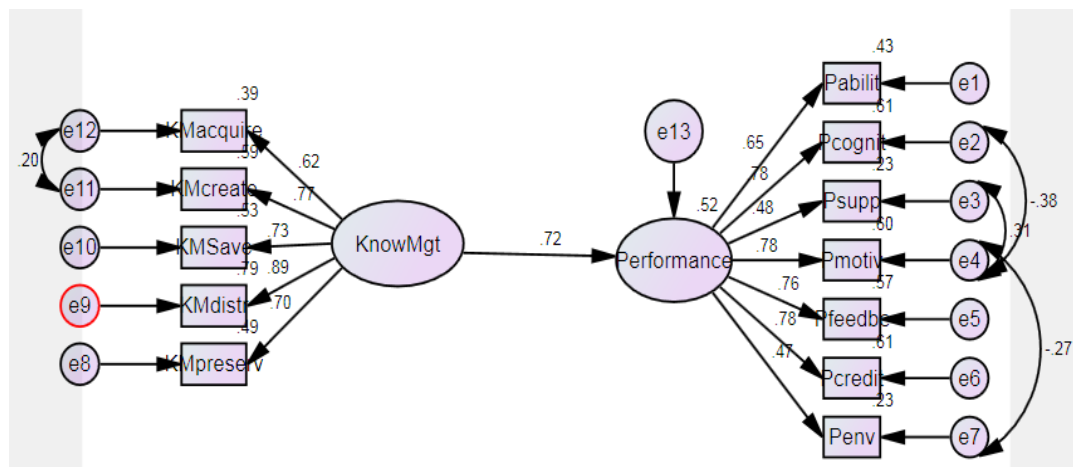
** correlation in error level of 1 percent is meaningful

* correlation in error level of 5 percent is meaningful

Therefore, it is obvious that among all components of knowledge management and performance processes there is a correlation. The existence of such correlation relationship connotes that there is causative relations among these components and in last step as the results, includes their structures. These causative relations, who declared in form of this research hypothesis, evaluated next.

Hypothesis Testing

According to research hypothesis, “knowledge management has effect on the performance of the personnel at Sarmayeh Bank in Tehran” the results for this relation is shown in following table. Note: taking into account that one of indexes for evaluating the model is not enough suitable, the model was corrected according to the proposed relationships of the software, which led to the refined results.



Graph 1: Test path for research hypothesis

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Table 5: Refined correlation results

			Estimation	Standard error	Critical t	Certainty level
Performance	--->	KM	.510	.077	6.660	***
Capability	--->	Performance	1.000			
Cognition	--->	Performance	1.431	.166	8.641	***
Organizational support	--->	Performance	1.094	.194	5.643	***
Motivation	--->	Performance	1.472	.172	8.536	***
Feedback	--->	Performance	1.522	.176	8.634	***
Validity	--->	Performance	1.529	.173	8.830	***
Adaptability to the situation	--->	Performance	1.061	.189	5.617	***
Knowledge Maintenance	--->	KM	1.000			
Knowledge sharing	--->	KM	1.298	.126	10.338	***
Knowledge Dissemination	--->	KM	.733	.083	8.815	***
Knowledge creation	--->	KM	1.248	.135	9.247	***
Knowledge acquisition	--->	KM	.764	.101	7.533	***

Table 6: Standardized coefficient of refined model

			Standardized
Performance	☐---	KM	.722
Capability	☐---	Performance	.652
Cognition	☐---	Performance	.782
Organizational support	☐---	Performance	.477
motivation	☐---	Performance	.777
feedback	☐---	Performance	.757
validity	☐---	Performance	.778
Adaptability to the situation	☐---	Performance	.475
Knowledge Maintenance	☐---	KM	.697
Knowledge sharing	☐---	KM	.887
Knowledge Dissemination	☐---	KM	.730
Knowledge creation	☐---	KM	.771
knowledge acquisition	☐---	KM	.623

Indexes of processing for refined model are seen in below table:

Table 7: Indexes of processing refined model

Indexes	Acceptable value	Calculated for model	Model condition
RMSEA	0.08 and less	0.045	Acceptable processing
CFI	0.9 and higher	0.982	Acceptable processing
X2-Degree of Freedom	3 and less	1.36	Acceptable processing

Therefore, it can be mention that the process of knowledge management, positive effect ($\gamma=0.722$) and meaningful ($T= 6.66, > 1.96$) has effect on personnel performance and the hypothesis of the study is proved.

Discussion

Findings of current study have shown that knowledge management has positive effect on personnel performance. Although many researchers have been studied on the relationship between knowledge management and organizational performance, and the positive relationship between these two variables

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identified, (Darroch, 2005; Malhotra, 2000, 2005; Swan *et al.*, 1999) but Wong (2005) is pioneer in this issue whereas proposed that knowledge management as a standard should be accepted for personnel's performance. Therefore, the findings of this study were in line with past literature and the positive effect of knowledge management on personnel's performance proved. The effect of knowledge management on personnel's performance could be inferred that people / personnel at the time when they need the knowledge for their routine activities; and are capable to use it with knowledge management system in organizational context, and the needed knowledge and data be reachable so they are not eager to obey the try and error phenomena. Knowledge management system enables personnel to avoid the tricks on the way of suitable performance which the organization experience before. In addition, the knowledge suitable for people, enable them to reach the high quality performance by using the innovation opportunities, which happens. The results of current study shows that knowledge management as general, leads to better performance from personnel's side in organization. Therefore, we propose that it is necessary to review knowledge management activities in organizations, which consequently the better performance will be reached. According to current study which done in realm of Bank and financial section, we propose that, researchers review this study's model and carry their research in product-based organizations.

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