The relationship between knowledge management with platform used by information technology in staff of Day Bank

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Abstract: The purpose of the present research is to study and consider the relationship between knowledge management and information technology in staff of Day bank and representing a model about it. The present study is correlational descriptive research. The participants include all 1550 of Day bank staff in 2011 and 2012. The multi-stage random sampling was done 300 by Murgan table and 300 participants were selected. Two questionnaires of knowledge management and information technology were used. Pearson correlation and multi-regression were used to analyze the data. The results showed that there is a relationship between using IT and establishment of knowledge management among staffs with 95% confidence interval. Regression analysis showed that knowledge management predicted 0.674 of variance of using IT. Knowledge storage (Beta=0.323) has more stake in prediction of IT using. Also the effect coefficients of knowledge creation variable (B=0.246), knowledge achievement (B=0.213), applying (B=0.429), storage (B=0.323) and knowledge propagation (B=0.173) show that these variables can predict the changes of using and applying IT among bank staffs. It shows the positive relationship between sub-scales of knowledge management (knowledge creation, knowledge achievement, knowledge storage, knowledge propagation and knowledge using) and use of IT in Day bank.
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1-Introduction

In the present world the are some problems which cannot be solved by past solutions. The main feature of today problem is the wideness of data and information which should be collected, kept, produced, analyzed and recycled. The feature that produces lots of organization complexities is the movement toward a new technology called IT. It facilitates working with data and huge information.

Information technology includes collecting, storing, organizing, analyzing and publishing information in voice, picture, text or numbers which is done by computer and communication equipments (Mantle, 2006).

IT entered scientific and industrial world two decades ago and nowadays it is an interdisciplinary expertise combined of computer sciences, mathematics, information, communication, and management knowledge. On the other side considering experts' opinions and theoretical foundations show that applying knowledge management in organizations is undeniable. Some factors like globalizing, government minimization, importance of citizenship and the necessity of citizens' participation attract a special attention to knowledge management. Organizations should manage their knowledge effectively (Abtahi, Salavati, 2007). The most important attributable role to knowledge management is to regard it as a change methodology. Knowledge management through attracting new knowledge into the system and by effective management of those knowledge can be the most important factor of change of an organization. Because of the proximity of knowledge to decisions and organization efforts, it can be more effective than data and information and improves the service quality of organizations generally and governmental organizations specially (Hals, 2006).

Presently the great power of information has made managers and staffs to change different parts of their activities so that pioneer managers are following to find new fields of information uses. Entering global competition needs having optimized international information-communication systems to help the organization in collecting the possibility of combining different sources and make considerable strategic changes. With growth of electronics technology, communication and computer in recent years, combination and creation of huge computer networks has caused to consider information instead of information technology (Sarrafizadeh, 2003). Knowledge management which is producing wealth and value by use of thought assets based on knowledge needs a system to support this process. The effect of managerial part of knowledge needs logical

combination and consolidation of technical, cultural and human infrastructures. IT which is the most important factor in in enabling knowledge management process has improved knowledge considerably with a high speed and precision (Lee, 2008). The factor that has facilitated knowledge management and changed it to competitive advantage is supporting role of IT (Abtahi, 2007). The greatest factor of the success of knowledge management in today's world is the capacities that IT makes for itself. Devenport and Prosak (2007) are among scholars who has considered the elements of knowledge. The four features of knowledge that differentiates it from other assets include:

1.   Knowledge is a human and human dependent activity. Computer systems don't guarantee knowledge growth because it is made in human mind and is the result of human thinking.

2.   Presentation and distribution of knowledge help its growth. Knowledge is the only known asset that increases when others participate in it.

3.   Knowledge is not made quickly. Among the features of knowledge is its gradual production and its massive nature. Past knowledge is effective in its future formation.

4.   Knowledge is presented in different forms. The methods of knowledge presentation are not peculiar. It is presented in different time, places and methods. Dominance on different methods of knowledge creation and presentation have made more capacities for organizations to achieve new knowledge (Mc Damet, 2005).

        Establishment of knowledge management is face with lots of problems in many organizations. One of the most important problems is the lack of accessibility to important and needed knowledge and information which is caused by ignoring the significant role of IT in providing this knowledge. So a huge wave of IT use has been expanded in Iran and lots of organizations show the tendency to use IT. Not any revolutionary factor other than IT will have considerable effects on knowledge management. We should search the effects of IT, so research is vital in this field. All aspects should be considered in this issue

to gain satisfying results. Regarding these cases the present research studies the relationship between IT use and establishment of knowledge management among managers and staffs of Day bank to answer this main question:Is there any relationship between knowledge management and IT use?

2-Research questions:

The main question: what is the appropriate model of the relationship between knowledge management and IT for Day bank?

2-1-Secondary questions:

1-Is there any relationship between knowledge creation and IT use in Day bank?

2-Is there any relationship between knowledge achievement and IT use in Day bank?

3-Is there any relationship between knowledge storage and IT use in Day bank?

4-Is there any relationship between knowledge propagation and IT use in Day bank?

5-Is there any relationship between knowledge use and IT in Day bank?

6-What is the effect of each of knowledge management elements on IT (what is mathematical relationship between knowledge management and IT)?

3-Research method

        The present research is descriptive correlational research. The participants include all 1550 of Day bank staff in 2011 and 2012. The multi-stage random sampling was done 300 by Murgan table and 300 participants were selected.Two questionnaires of knowledge management and information technology were used in this study.

        1-Knowledge management questionnaire: this questionnaire includes 23 questions based on 5 point Likert scale. Content validity and reliability of the questionnaire calculated by Kronbach Alpha is 0.76

        2-IT questionnaire: this questionnaire includes 23 questions based on 5 point Likert scale. Content validity and reliability of the questionnaire calculated by Kronbach Alpha is 0.73.

4-Results

Main question: is there any relationship between the establishment of knowledge management and IT use in Day bank?

Table 1. Pearson correlation. Knowledge management and IT use

(p-value)	r	N	variables
0/00	0/586	300	IT and Knowledge management establishement

        According to results since observed value is equal to P-value and 0.000 is less than Sig level (a=0.5), so there is a relationship between IT use and establishment of knowledge management among staffs of Day bankwith 95% confidence.

        First question: is there any relationship between knowledge creation and IT use in Day bank?

Table 2. Pearson correlation. Knowledge creation and IT use

(p-value)	r	N	variables
0/00	0/321	300	IT and creation

As shown in table 2, since observed value is equal to P-value and 0.000 is less than Sig level (a=0.5), so there is a relationship between IT use and knowledge creation among staffs of Day bank with 95% confidence.
Second question: is there any relationship between knowledge achievement and IT use in Day bank?

Table 3. Pearson correlation. Knowledge achievement and IT use

(p-value)	r	N	variables
0/00	0/415	300	IT and achievement

As it is obvious in table 3,since observed value is equal to P-value and 0.000 is less than Sig level (a=0.5), so there is a relationship between IT use and knowledge creation among staffs of Day bank with 95% confidence.
Third question: is there any relationship between knowledge storage and IT use in Day bank?

Table4. Pearson correlation. Knowledge storage and IT

(p-value)	r	N	variables
0/00	0/109	300	IT and knowledge storage

As it is shown it table 4, since observed value is equal to P-value and 0.000 is less than Sig level (a=0.5), so there is a relationship between IT use and knowledge storage among staffs of Day bank with 95% confidence.
Fourth question: is there any relationship between knowledge propagation and IT in Day bank?

Table 5. Pearson correlation. Knowledge propagation and IT

(p-value)	r	N	variables
0/00	0/614	300	IT and propagation

According to results of table 5, since observed value is equal to P-value and 0.000 is less than Sig level (a=0.5), so there is a relationship between IT use and knowledge storage among staffs of Day bank with 95% confidence.
Fifth question: is there a relationship between knowledge use and IT use in Day bank?

Table 6. Pearson correlation. Knowledge use and IT use

(p-value)	r	N	variables
0/00	0/714	300	IT and Knowledge use

As it is obvious from the results of table 6, since observed value is equal to P-value and 0.000 is less than Sig level (a=0.5), so there is a relationship between IT use and knowledge use among staffs of Day bank with 95% confidence.
Question six: how much is the effect of each of the elements of knowledge management on IT in Day Bank?

To predict the share of IT use in making the conditions of knowledge management (knowledge creation, knowledge achievement, knowledge storage, knowledge propagation, and knowledge use) for Day bank staffs, the following regression is reported".

Table 7. Regression model. Variance analysis, IT regression and knowledge management

SE	R^2	R	P	F	Ms	df	SS	Category model
29/466	./674	./379	./012	2/599	886/414	4	7091/312	Regression
					341/008	296	42284/944	residual
						300	49376/256	Total

Supposing that R^2 is the common percent of knowledge management categories in predicting the use of IT, the results of table 7-4 show that knowledge management predict 0.674 of IT use. Regarding that observed F is meaningful in a lower level than 0.55 (P=0.012, F=2.599), so linear regression model is meaningful and two variables of linear relationship are meaningful.

The result of meaningful model in regression tables is shown in table 8:

Table 8. Regression coefficients of IT and sub-scales of knowledge management

p	t	Beta	SEB	B	Scale variable
./0001	4/475		9/414	42/121	fixed
./014	2/485	./246	./693	1/721	creation
./025	2/421	./213	./767	1/508	achievement

./058	3/316	./429	./814	./258	using
./001	3/424	./323	./466	1/595	storage
./088	1/506	./173	./830	1/250	propagation

Table 10-4 shows that the variance of knowledge management sub-scales can predict IT use. T test is meaningful for regression coefficients in less than 0.05. Regarding that b coefficient is non-standard, comparison of standard regression coefficients is suggested. The comparison of standard regression coefficients show that knowledge storage (Beta=0.323) has a bigger part in IT use prediction. Also considering t results of meaningful model in regression coefficient table, it is shown that effect coefficients of knowledge creation (Beta=0.246), knowledge achievement (Beta=0.213), knowledge using (B=0.429), knowledge storage (Beta=0.323) and knowledge propagation (Beta= 0.173) can predict use of IT among staffs that shows the positive relationship of knowledge management sub-scales and IT use in bank system.

5-Conclusion

The results of research time span verifies the relationship between establishment of knowledge management and IT use in Day bank. So the results are in line with Reid et al (2007) to the most recent achievements of knowledge management to regulate and optimize service level. The results are also in line with the sixth sentence of Japan golden law about using knowledge management and modern technology to achieve bank customer satisfaction (Turpine, 2004).

6-Suggestive model

Knowledge-based institutions like banks should find systematic solutions to achieve, store and use their staffs' knowledge and try to change all the staffs and managers to knowledge–based individuals without regarding their job title and responsibilities. The researcher studying different models of knowledge management in literature review and identifying the parameters of these models and the regarding results of the present study suggests a new model of knowledge management. The following model is suggested as a proper model to perform knowledge management.

First stage: determining knowledge targets

The targets of knowledge management should be emanated from main purposes of organization and specified in strategic and operational levels. Smart treatment with knowledge source is an important and effective factor in the success of organizations. The followings are the targets of knowledge management of Day bank:

6-1-Income increase

-Using knowledge as an important assetand organizational strategy.

-Increasing growth of jobs which are based on creation and use of knowledge

-Convergence of IT and communication and bringing new tools in this field

6-2-Second stage: informational technology

IT is the most important criteria and dependent variable of this research in the suggestive model. Proper and supported condition on behalf of high management of organization pave the way for IT to be used in one or some of cycles of knowledge management. Knowledge conditions include the kinds of computer equipment, communication hard ware, the cost and method of hard ware updating, information capacity of computer systems and manual archive systems. In manual and automatic knowledge systems, the capacity of information storage affects access speed and finding information and determines the kind of used security system. Software capabilities include technical ability of the used software in the network, the degree of convenience of software use, the cost of other side soft wares needed for backing automatic knowledge management system, the existence of new versions of used software and their capacity to store and categorize information. The used technology in knowledge management include advanced communication and participatory technologies like internet and other inter-organization networks, a collection of needed tools for achieving, changing and transmitting information and especial technology of information base that can store and find information quickly. Identifying the persons who know the kind, place and methods of information storage in organizations is very important. To this end Day bank should consider the experts inside and outside of the organization.

6-3-Third stage

Necessary condition to change information and separate experiences that all of organization can use them include knowledge storage, knowledge distribution and sharing it inside the organization. The most important step is to analyze, store and transfer knowledge from the person to the organization. Issues like the methods of knowledge propagation and its transmission to proper and needed place and the methods of knowledge transfer from person to group and the level of accessible organization knowledge are among the cases which are considered in this stage.

6-4-Fourth stage: knowledge development

Knowledge development is a basic element which completes knowledge achievement. It emphasizes on skills, better ideas and more efficient processes. Knowledge development includes all managerial efforts that concentrate consciously on production abilities that that have not been presented in

the organization yet or don't exist out of it. Usually this issue is searched in organization market or in development and expansion of organization market. Efficient knowledge can come from other parts of organization. Knowledge use needs consideration of various limitations and generally helps organization to specify that is the amount of existing knowledge in organization effective in its success or it is necessary to develop and expand knowledge based on existing

information. The targets of knowledge development direct knowledge management and determine the kind and levels of skills to be developed. Knowledge use is grounded in a supportive organizational culture in which individuals' skills are shared and developed. This issue provides the conditions for efficient knowledge management.

The relationship between knowledge management and IT in Day bank.
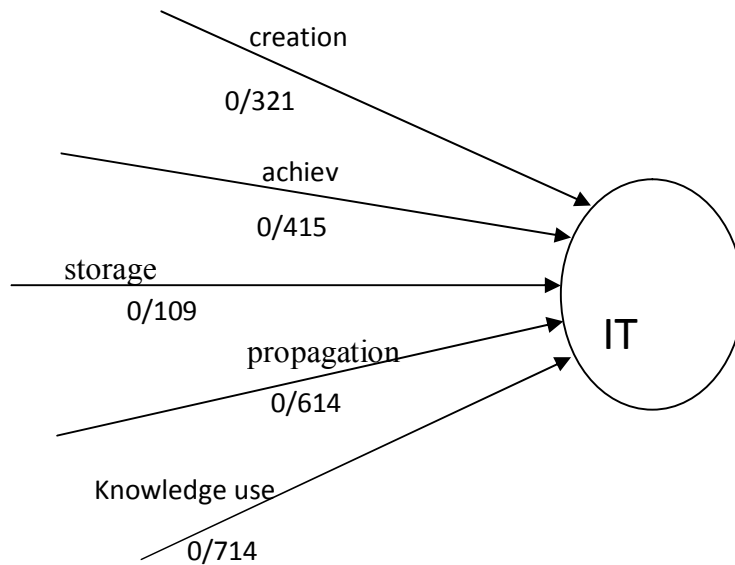
All variables of knowledge management are meaningful in relation with IT.

In regression analysis, knowledge creation, knowledge achievement, knowledge use and knowledge storage were meaningful in 0.05, 0.05, 0.06 and 0.01 levels. So graph 1 presents a proper model of the relationship between knowledge management and IT.

Graph 1. Suggested model based on study results
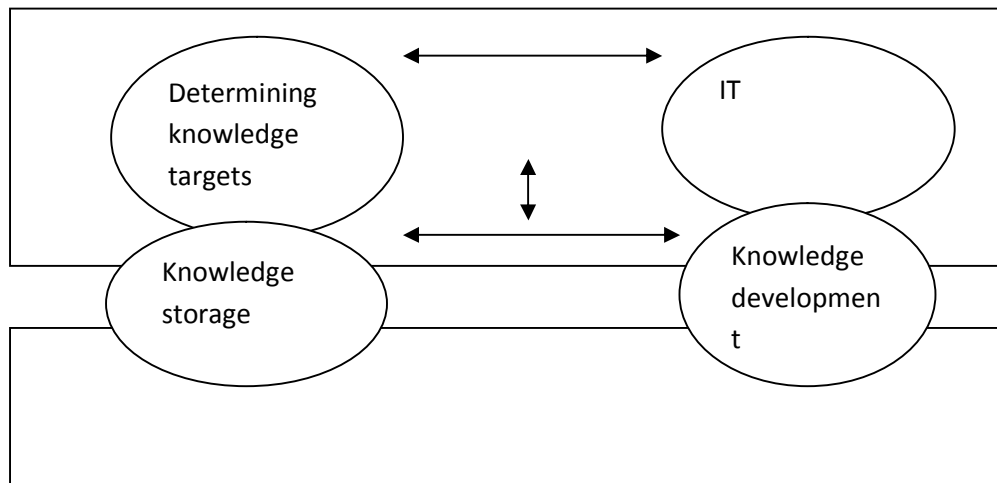
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