

Investigating Factors Affecting the Process of Knowledge Management and Intellectual Capital in Al-Ghadir Research Institute

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Abstract: Intellectual capital at the level of macro-management and the management of organizations can create new understanding of economic-social system and taking into account a broad range of organizational and management requirements and the growing importance of accurate knowledge, we must try to understand the factors affecting and influencing it. The aim of this study was to assess the role and effectiveness of the relationship between intellectual capital and knowledge management in the organization. The population consisted of staff of Al-ghadir Research Institute. To achieve the main purpose, researcher at the start of the study and a main hypothesis of effort put into the design of three subsidiary ones. Intellectual capital three dimensions of human, structural and communication and knowledge management to five; collect knowledge, storing knowledge; knowledge of constant refinement, use of knowledge and knowledge distribution, were divided. Questionnaire validity by content validity methods and structural analysis by Lisrel software which shows the validity of the questionnaire was obtained and reliability through Cronbach's alpha 0.89 and 0.91 obtained which indicates an acceptable validity. Data analysis was performed using SPSS statistical software. All three sub-hypotheses and main hypothesis were confirmed.

Key words: Knowledge management, intellectual capital, knowledge management effectiveness, dimensions, capital

INTRODUCTION

Recent advances in information technology, data management costs are significantly reduced. Such changes the concept of learning organization, knowledge organization and knowledge management literature is managed. Organizations through the application of knowledge management strategies promote innovation in processes, activities, products and services and thus improve the competitive situation. In a dynamic environment, today's business challenge for organizations moving toward learning organizations of the requirements for success in such an environment. Understanding the influencing factors includes the initial steps in implementing effective knowledge management and intellectual capital of the organization. On the other hand, intellectual capital is a new concept play much more important role than physical and human capital plays in organizations and communities. Today in sociology and economics and more recently in management and organization, the concept of intellectual capital is widely used. The concept of intellectual capital refers to that

portion of the total capital or assets, knowledge-based company and company owner and its owner is considered in the absence of intellectual capital, other capital lost its effectiveness and traverse paths of development and economic and cultural development, is rugged and difficult. Intellectual capital, both at the macro management at the level of the management of organizations and firms, could be a new understanding of economic social systems. And assist managers in conducting studies show better systems companies in the field of knowledge management did not do 30-40% of the companies in the field of knowledge management would have done. Product or competitive advantage is with backward than its competitors (Moorhead, 1998). In fact, in such circumstances, knowledge management in organizations is a special place and, increasingly, the role and importance increases.

Research in this field, suggest that 80% of large organizations in Great Britain have benefited from knowledge management in a study of the 200 largest companies in America conducted, 82% of them have benefited from knowledge management (Alvani and

Seyed, 2002). On the other hand, suitable for use, effectiveness and efficiency of knowledge management in organizations requires knowledge management of success factors as well. One of the effectiveness of knowledge management is human beings. In other words effectively implement knowledge management processes, interactions and human communication is important. The organization is more effective interaction among its employees are in groups, organizational units increase the likelihood of new knowledge creation, transfer and exchange of knowledge between the employees and the result will be more effective organizational knowledge. Stewart believes that intellectual capital is a set of knowledge, information, intellectual property, experience, competence and organizational learning, which can be used to create wealth. In fact all employees, intellectual capital, knowledge and abilities it takes to create added value and the continuous competitive advantage and can collect, produce, disseminate and share knowledge in organizations is not successful (Tajbakhsh, 2005). This study examines the role of intellectual capital in the effective management of knowledge. According to the definitions and dimensions of knowledge, management and intellectual capital that the emphasis is on communication and interaction among researchers concluded the relationship between intellectual capital and knowledge management effectiveness that can be searched and the role of intellectual capital in knowledge management effectiveness tested.

Theoretical expression

Knowledge management: Knowledge management process that helps organizations to find, select, organize, publish and transmit information. In addition, specialized pay for activities such as problem solving, dynamic learning, strategic planning and decision-making is essential. Knowledge management refers to measures to systematically search for, organize and available intellectual capital and strengthens the culture of continuous learning and knowledge sharing in organizations is done.

Intellectual capital: Intellectual capital refers to the sum of knowledge and skills of all employees to create wealth for the organization (Albers *et al.*, 2015). In other words, intellectual capital, knowledge-based assets are defined as a group which are specific to an organization and among its features and significantly increase the level of added value to key stakeholders, to improve the competitive situation leading organization. Several of the researchers and experts in intellectual capital consists of three

dimensions of human capital, customer capital, structural capital (the relationship) who went on to explain each of them explains:

The human dimension of intellectual capital: Human capital capabilities, skills, expertise and organizational members applies. The most important human capital indicators include: professional competence and expertise of key personnel, education, experience, the number of companies associated with background as well as the exact distribution of responsibilities in relation to clients. Human capital includes the skills and competencies of the workforce. Their knowledge about subjects that is important for the success of the organization. And conduct their talent, succession planning program within the organization is planning to develop the schedule and supporting teamwork, presentation of new ideas, the consent of the employees of the organization, the staff learn from each other, problem solving ability and leadership styles.

Relationship dimension (customer) intellectual capital: Customer capital or external communication includes attachments such as customer loyalty, reputation and relationships with providers of it. This is the perceived value of a customer to do business with the organization. Customer capital includes items such as the value of the concessions owned by the company, relationships with people and organizations associated with customers, market share, retention rate or the loss of customers as well as net profitability per customer (Pourezat, 2001). Relational capital (customer) relations including strength and customer loyalty, increase market share, reduce the time to solve the problem, understanding of customer demands and get feedback from the customer.

After intellectual capital structure: Structural capital is related to the mechanism and structure of a business unit and can help employees in intellectual function optimally and thus, organizations will be able, its performance. In other words, structural capital, knowledge that at the end of each working day to remain in the organization belongs to the entire organization, re-producible and to share with others.

Hypotheses

The main hypothesis: There is a significant relationship between intellectual capital and knowledge management effectiveness.

Sub-hypothesis:

- There is a significant relationship between the structural dimension of intellectual capital and knowledge management effectiveness
- There is a significant relationship between the intellectual capital and knowledge management effectiveness
- There is a significant relationship between the human dimension of intellectual capital and knowledge management effectiveness

MATERIALS AND METHODS

This research has an aim, because the purpose of this study is to identify practical effect of intellectual capital for further promotion and application of effective knowledge management in the organization.

The method of data collection is descriptive survey to evaluate the hypothesis of relationships between variables of the questionnaire used for data collection. The questionnaire used in this research is the type of package and specific questions with answers offered to respondents which to measure and measured answers provided by the respondents of the 5 point Likert scale and the options include very high to very low, have been used. After designing the questionnaire validity and reliability were tested and 30 questionnaires were distributed among the statistical samples SPSS Software was used to calculate the coefficient α rate for the questionnaire of knowledge management and intellectual capital value of 0.89 and 0.91 were obtained for the questionnaire and it was found that the questionnaire is valid. Alpha coefficient higher than acceptable for practical purposes is 70% higher. It could be argued that the questionnaire has acceptable reliability. The population of this research consisted of employees Al-ghadir Research Institute and the number of available population of 152 people. In this study, random access is used with regard to ease of access to the population. The population is assumed to be limited because the sample size of the sample is obtained. In the present study using the Software SPSS, inferential statistics including Kolmogorov-Smirnov, Friedman's analysis of variance, correlation and analysis and verify the hypotheses.

RESULTS AND DISCUSSION

Factor analysis research model: The results of the model indicate the suitability of the conceptual model and the first order was a significant factor analysis of knowledge management. Model parameters are as follows: $\chi^2 = 260.25$, $df = 252$, $p\text{-value} = 0.34705$, $RMSEA = 0.022$, Goodness of Fit Index (GFI) = 0.91, Adjusted Goodness of Fit (AGFI) = 0.87.

As can be seen from the model parameters that fit the model. Chi-square value is low and good (if towards Chi to df is smaller than 3, Chi-square and down the right amount and type of fitness is relative. Whatever that amount is less than the Chi-square test in other words, lower than df square to fit the model better and more appropriate. In this model, the ratio is about 1). The RMSEA value < 0.05 and indexes GFI (0.91) and AGFI (0.87) the suitability of the model. In other words, conceptual model is a large extent consistent with observed data. The software output coefficients and parameters obtained from the first meaningful measurement model of knowledge management indicate that all coefficients are significant (test value each of them significantly larger than the number 2 and number 2 is smaller). In other words, the output shows the results of the first analysis and the relationships defined in the model was significant in all cases. The results of the model indicate significant factor analysis of the suitability of the conceptual model and the second is knowledge management. Model parameters are as follows: $\chi^2 = 3.06$, $df = 5$, $p\text{-value} = 0.69125$, $RMSEA = 0.000$, Goodness of Fit (GFI) = 0.98, Adjusted Goodness of Fit Index (AGFI) = 0.95.

It can be seen that the model parameters that fit the model. df chi-square value is equal to a square, so the appropriate amount and down. Other indicators also show the suitability of the model. RMSEA is equal to 0.000 and less than 0.05. Index GFI (0.98) and AGFI (0.95) the suitability of the model. In other words, the observed data is a large extent based on a conceptual model of research. Software output coefficients and parameters also obtained from a meaningful measure of knowledge management model show that all the coefficients obtained are significant (the significance test every one of them larger than 2 and is smaller than the number 2). In other words, the output shows the results of exploratory factor analysis second and relationships defined in the model were significant in all cases. LISREL is determined so that the output of the output effect of intellectual capital in knowledge management effectiveness in studies called as Structural Model. The following results are obtained from the output LISREL: $RMSEA = 0.094/0$, $p\text{-value} = 0.00/0$, $df = 26$, $\chi^2 = 5/76$.

The $p\text{-value}$ and the calculated value are small. The structural model presented is a good fit. The original model for the study is confirmed (Fig. 1).

Test hypotheses

The first hypotheses test: There is a significant relationship between the structural dimension of intellectual capital and knowledge management effectiveness. Because the value is a significant level of

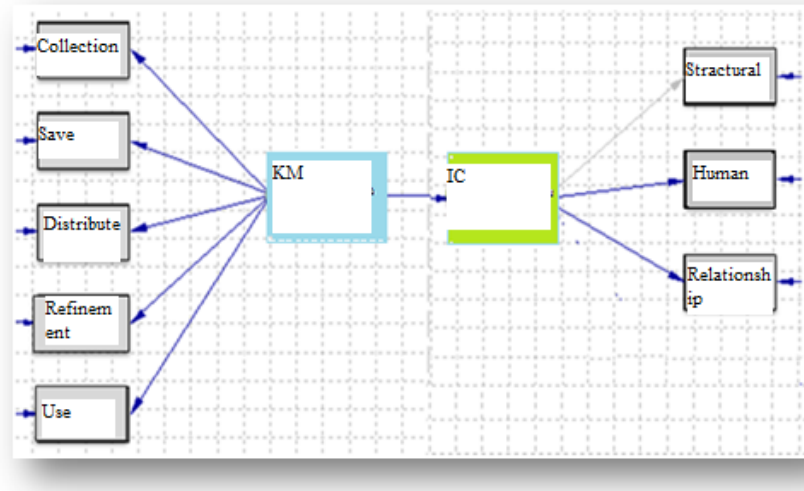


Fig. 1: The original model for the study is confirmed

Table 1: Test hypotheses

Hypothesis	Correlation coefficient	Result	Error value	Significant level
First	0.602	There is relationship	0.05	0.021
Second	0.522	There is relationship	0.05	0
Third	0.672	There is relationship	0.05	0.014
Main	0.512	There is relationship	0.05	0.014

0.021 and smaller than the assumption is wrong, then one would conclude that there was no correlation between these two variables. The correlation coefficient is 0.622, indicating a very high correlation between the structural dimension of intellectual capital and knowledge management effectiveness.

The second hypothesis test: There is a significant relationship between the intellectual capital and knowledge management effectiveness. Because of the significant level of 0.000 and less than the assumption is wrong, then one would conclude that there was no correlation between these two variables. The correlation coefficient is 0.522, indicating a very high correlation between relational dimension of intellectual capital and knowledge management effectiveness.

The third hypothesis test: There is a significant relationship between human dimension of intellectual capital and knowledge management effectiveness. Because of the significant level of 0.014 and less than the assumption is wrong, then one would conclude that there was no correlation between these two variables. The correlation coefficient is 0.672, indicating a high correlation between the effectiveness of cognitive intellectual capital and knowledge management.

The main hypothesis test: There is a significant relationship between intellectual capital and knowledge

Table 2: Friedman coefficient factors related to knowledge management

Factors related to knowledge management	Mean
Data collection	57/3
Storage and organization of knowledge	16/4
Distribution of knowledge	30/2
Constant refinement of knowledge	54/2
Use of knowledge	44/2

management effectiveness. Because of the significant level of 0.014 and less than the assumption is wrong, then one would conclude that there was no correlation between these two variables. The correlation coefficient is 0.512, indicating a high correlation between intellectual capital and knowledge management effectiveness (Table 1).

Friedman's analysis of the current status of the five factors of knowledge management according to Table 2 a significant number (Sig.) of less than 0.01 and close to zero and a standard significance level ($\alpha = 5\%$) is less. Therefore, we can say that factors related to knowledge management have the same rank. According to the Table 3 has the highest and lowest scores related to storage and organize knowledge about the distribution of knowledge.

Friedman's analysis of the current status of the five factors of social capital. According to Table 4 significant values (Sig.) of <0.01 and close to zero and a standard significance level ($\alpha = 5\%$) is less. Therefore, we

Table 3: Friedman's analysis of the status of the five factors of knowledge management

Statistics	The calculated values
Number	105
χ^2	240/256
Degrees of freedom	4
A significant number (Sig.)	<0.01

Table 4: Friedman coefficient factors related to social capital

Factors related to social capital	Average rating
Human dimension	72/3
Structural dimension	21/3
Relational dimension	95/3

Table 5: Friedman's analysis of the current status of the five factors of social capital

Statistics	The calculated values
Number	220
χ^2	20/28
Degrees of freedom	3
A significant number (Sig.)	<0.01

can say that factors related to intellectual capital have the same rank. As well as the Table 5 is observed, the highest and lowest scores related to communication related to social capital structure.

The growing importance of knowledge as a factor in determining the success and competitiveness of organizations has caused that knowledge management is a vital task and the attempt to create, retain and transfer and use of knowledge in order to improve their activities and performance to become learning organizations (Lee and Lim, 2014). Most organizations are the basic steps needed to upgrade technology and equipment have made the success of knowledge management but have reached a plateau for them does not cause other value-added, this change will require major changes and focusing on key aspects such as culture and other social areas such as intellectual capital of organizations. In this study, the effect of three dimensions of intellectual capital (human, relational and structural) examined the effectiveness of knowledge management as a result of the hypotheses indicated that after the significant intellectual capital structure and taking into account the correlation coefficient is 0.602 significant relationships with knowledge management effectiveness. Thus, it can be concluded that the organization move to further develop and improve the capital structure of thought, effectiveness of knowledge management will be facilitated and can be moved in order to improve it. The second hypothesis was that the result of the relational dimension of intellectual capital at significant level 0.000 and taking into account the correlation coefficient is 0.522 significant relationships with knowledge management effectiveness. Thus, it can be concluded that organization's intellectual capital to further develop and improve communication after move, effectiveness of

knowledge management will be facilitated. The result was the third hypothesis that the human dimension of intellectual capital at a significance level of 0.014 and taking into account the correlation coefficient is 0.672 significant relationships with knowledge management effectiveness. The main hypothesis using Spearman correlation coefficient between knowledge management and intellectual capital in Al-ghadir Research Institute was 0.512.

Moreover, the correlation between these two variables is significant and the correlation coefficient shows reservation essential role in establishing intellectual capital research firm knowledge management in the organization as much stronger knowledge management and intellectual capital will be more successful. Direct relation on the premise means that increasing or decreasing the value of intellectual capital, knowledge management component of the decrease or increase. The results of this study, Aldroon studies about the relationship between intellectual capital and the transfer of knowledge and Baker (2003) in communication and interaction with the creation and application of knowledge, intellectual capital is approved. The results of studies Hunt, Cohen and Hoffman is based on the harmonious relationship between intellectual capital and knowledge management.

CONCLUSION

In other words, this case concluded there is a significant relationship between the three dimensions of intellectual capital and knowledge management effectiveness. Then, position the organization in terms of knowledge management and intellectual capital was ranked and finally recommendations to improve knowledge management and intellectual capital are presented.

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