Evaluating the relationship between human resource management component and the conversion process of knowledge management with emphasis on Nonaka & Takeuchi Model in Pars Khodro Co. (car manufacturer) from IRAN

Ayoub Kheirollahi¹, Yousef Mahdi², Mohammad Sadrinia³
1- Researcher, University of Science and Technology, Iran
2- Researcher and direct manager of GFC company, Georgia
3- Researcher, allameh tabatabai university, Iran
Jamshid.business@yahoo.com

ABSTRACT

By increasing competition and complexity of environment, organizations are competing for competitive advantage and survival using different methods. Human resources and knowledge can be a competitive advantage which by using those, organizations can achieve to their short and long term goals.

By studying different models of human resources, four factors for this realm have been chosen which are: choosing and employing human resources, training and promoting human resources, performance management, and raising and rewarding human resources. For knowledge management, also, by using Nonaka and Takeuchi models, factors of socialization, internalization, externalization and Combination were considered. In the rest of the study, the relationship between human resource management and implementing knowledge management through a case study in Pars Khodro Company has been studied to identify effective factors on implementing knowledge management and by paying more attention to these factors pave the ground for better implementation of knowledge management in organizations.

This study is a survey research and by using questioner necessary data for accepting or rejection the hypothesis was provided. Also, Likert Spectrum was used in making the questioner and by using Spearman Correlation, hypothesis have been studied.

Analysis indicates that in Pars Khodro Company there is a significant relationship between human resources factors and knowledge management factors. Among four human resources factors, the factors of hiring and employing human resources have the most relation and association, although, the relationship between rewarding and socialization was not proved and didn’t have an effective relationship.

Keywords: Human resources management, Knowledge management, Nanuka and Takuchi Models, relationship, organizations..

1. Introduction
In the new economy, knowledge assets have basically important role in organizations and its underlying structure for creating competitive advantage for organizations.

With large changes in the structure of human resources and demand for labor, and by changes in the process of knowledge and learning concepts and use of organizational knowledge, human resource management, they play a vital role in the creation, use, share and deliver knowledge to gain the competitive advantage .Therefore, it has been created passion for knowledge management and its relation to human resource management (Nonaka and Takvchy, 1994).

There are two orientations in the field of knowledge management:

In this paradigm, information technology has an effect on knowledge management ideas and the other one is human resources and people involved in the organization, it plays a major role in knowledge management.

In order to facilitate the implementation of knowledge management and human resource policies to prevent them from their conflict and failure, this research is provided framework for the assessment of components associated human resource management with knowledge management.

2. Literature review

1. The concept of knowledge management

KM is a set of processes that govern the flow of knowledge in society as a continuous and increasing the conductivity. Below are some definitions of knowledge management including:

1. Conscious process of creation, validation, presentation, and distribution of knowledge and its application.

2. Systematic process to select, organizing and deliver information and knowledge so that to improve the specific individuals understanding areas that needed.

3. Helping the organization to understand the results documented and transparent set of experiences gained and increases flexibility.

4. A collection of regular and systematic actions that gain the most valuable result of knowledge that's made available The process of creating, disseminating and applying knowledge to achieve organizational goals.. (Sorrento and Kriya, 2003).

1.2 Knowledge management models

Nonaka and Takuchi models (base model of choice): According to this model, knowledge is made up of explicit and implicit elements. Polany defined tacit knowledge based on non-verbal, and expression is not intrinsic. Knowledge to explicit knowledge expressed through writings, drawings, paintings, computer programs and...
According to this model, the process of social interaction or socialization begins. At this stage, tacit and implicit knowledge can be transferred to another person. People in Meetings and companies to work together they can share their ideas and knowledge to influence each other.

In the second stage, it is called the externalization or External appearance and explicit knowledge, the internal knowledge transfer from the previous step, to explicit knowledge and it is transferable. Implicit and tacit knowledge have been documented. And the universal experience form has been.

In the third stage, it is called the integration and combination, Explicit and external knowledge becomes more complex and more complete than before. In fact, by the integration of various knowledge, Combination and complete knowledge is obtained.

The fourth stage is called the internalization model. It is also clear that the external and explicit knowledge is completed, and the new knowledge has been made by Combination of public comments that it becomes the Knowledge lies within the individual Members of organization Make the new knowledge internally and it is created new understanding, knowledge within the minds of organization members.

Table 1: An overview of some key model for knowledge management

<table>
<thead>
<tr>
<th>The model</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davenport and Prusak (1998)</td>
<td>Knowledge production</td>
<td>Encode and organizing</td>
<td>Knowledge transfer</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Newman and Conrad</td>
<td>Knowledge creation</td>
<td>Existing knowledge</td>
<td>Knowledge transfer</td>
<td>Use of knowledge</td>
<td>-</td>
</tr>
<tr>
<td>Boisot (1997)</td>
<td>Knowledge diffusion</td>
<td>Socialization</td>
<td>Externalization</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lustri (2007)</td>
<td>establishment of information</td>
<td>internalization</td>
<td>Combination and Externalization</td>
<td>Knowledge transfer</td>
<td>Use of knowledge</td>
</tr>
<tr>
<td>Flynn (2004)</td>
<td>Identify knowledge</td>
<td>knowledge Development</td>
<td>Use of knowledge</td>
<td>Results and performance monitoring</td>
<td>Allocation of rewards</td>
</tr>
<tr>
<td>Nonaka and Takeuchi</td>
<td>socialization</td>
<td>externalization</td>
<td>Combination</td>
<td>internalization</td>
<td>-</td>
</tr>
</tbody>
</table>

2. Human resources management and its aspects

Glimpse into the evolution of Human Resource Management shows that the nature and content of this field is gradually transformed and enriched And the current world situation most significant distinction between organizations that can benefit from the expertise of a partner, ally and strategic partner to be considered Accordingly, the people as a critical resource, knowledge and experience are considered as the capital. (Huselid et al, 1997).

Strategic approach to human resource management includes recruiting, development, management, motivation and commitment to achieving the organization's key resource the
people who work in or for it. Focused on human resource management policies, procedures and systems that it has an effect on conduct, attitude and performance (Noe et al, 2000)

Workforce planning, implementing, maintaining information systems of human resources, training and manpower development, Organizational culture, change management, employee performance, advantages and benefits, organizational conflict management, labor relations, Human health and the protection of some aspects of human resource management.

Stood and Noe (1993), Schuler and Jackson (1987), Fombrun and colleagues (1999) and Stephan and Negande (2002) Parts and dimensions listed in Table (2) special emphasis has been on human resource management.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Planning and implementation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Development and Evaluation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Promotion and reward motivation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Health and human safety</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Labor relations</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>The research workforce</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Decision</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizing</td>
<td>✓</td>
<td></td>
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</tr>
</tbody>
</table>

3. The relationship between human resource management and knowledge management

If so, human resources management is involved by human capital management and if the knowledge to be valuable resources of this capital, In this case, human resource management and knowledge management are highly interdependent. Human resource management and knowledge management at the business units, Teams, as well as functional cooperation and communication networks within the boundaries of the organization, Activities and share common goals. Find an area where knowledge management and human resource management with no subscription, It is very difficult.
If the human resources management does not support knowledge management, and it does not meet the required measures and strategies, it will deviate from its original path. The same problem also exists for knowledge management if knowledge required to manage the people, their interpersonal relationships and their relationships with the organization does not matter. Some researchers believe that knowledge management is an evolved human resource management. Human resource management can be considered as a strategic management staff that the acquisition, organization and motivation of human resources are focused on applying knowledge about people and helping them to learn and grow in it to professional and individual.

It also encourages employees to acquire knowledge and participation in social networks and communities to remove barriers to enterprise development deals (Wenger, 2002). It also created to invest in training and human resource development deals. Knowledge transfer to various forms of learning, knowledge sharing, creating solutions that training needs analysis to assess and pay and provide training and assessment, leading to overall organizational learning through better management of human resources deals (Sange, 1994). Application of knowledge about human resource development by means of appropriate leadership, the division of tasks, reward systems and performance evaluation is the tasks of effective human resource management, measurement, review, create, shape and use that knowledge workers (Yahya, 2002)

When it comes to the organization's knowledge assets, the traditional range of human resource management takes a different shape and color. In such circumstances, human resources system should be deployed in any environment that supports organizational learning and coordinated manner with organizational knowledge management system that is responsive to the needs of knowledge.
3. The methodology and model

This research is a descriptive study and it is a survey that seeks to describe and explain the relationship between human resource components and implementation of knowledge management in the Pars Khodro Company. In this study, as many descriptive studies to collect similar information in order to test the hypothesis. Questionnaires are composed of two parts. Closed questions are questions of the type and scale of the Likert scale.

Statistical population includes a survey of managers, directors and experts of Pars Khodro Company. And the sample size and the type of variable (qualitative) were using the following relationship between the employees were 320 Pars Khodro According to various sectors of the population of each distribution company. Of these questionnaires, 264 were completed and returned and were analyzed.

Formula (1) to estimate the sample size:

\[ n = \frac{N(Z_{\alpha/2})^2(P)(1-P)}{\varepsilon^2(N-1)+(Z_{\alpha/2})^2(P)(1-P)} \]

N: Population size
n: Sample size requirement
z: Standard value (95% confidence level that equals the value of the table 1/96) is achieved.

<table>
<thead>
<tr>
<th>Table 3: Demographic variables, Statistical sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td><strong>Education</strong></td>
</tr>
<tr>
<td>Diploma Associated</td>
</tr>
<tr>
<td>BA</td>
</tr>
<tr>
<td>MA</td>
</tr>
<tr>
<td>PhD</td>
</tr>
<tr>
<td><strong>Experience</strong></td>
</tr>
<tr>
<td>Less than 5 years</td>
</tr>
<tr>
<td>5 to 10 years</td>
</tr>
<tr>
<td>10 to 15 years</td>
</tr>
<tr>
<td>More than 15 years</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Determine its validity face ,validity of the method used is content with faculty researcher and to determine the reliability of Cronbach's Alpha method is used in both human resources and knowledge management that The reliability coefficient for each of the 88/0 and 89/0, respectively, and this means that the reliability of the questionnaire is distributed fairly reasonable.
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Cronbach relationship is:

Formula (2):

\[ \alpha = \frac{n}{n-1} \left( 1 - \frac{\sum S_i^2}{S^2} \right) \]

n : number of questions
a: cronbach's coefficient alpha
\( S_i \): Standard deviation of the question
\( S \): Standard deviation of the questionnaires

In order to analyze the data using Spearman correlation coefficient and the SPSS software:

Formula (3): The Spearman correlation coefficient

\[ r_s = 1 - \frac{6\sum d_i^2}{n(n^2 - 1)} \]

n: sample size

Assumed zero in this test assumes that there is no correlation between dependent and independent variables.

How to calculate the correlation between paired ordinal data \((x_i, y_i)\) is the way that first of all in terms of X values that we rank and Y is the same as we do. The difference between each pair which ranks with \(d_i\) that is suggested. We want to calculate, the second power of \(d\) is calculated, the ordinal correlation coefficient is calculated using the formula. Calculated values for \(n>10\) the distribution of the normal distribution approximation will be \(r_s\). This method is used when the scale is ordinal data.

4. Research hypotheses

4.1 The main hypothesis

Between the components of human resource management and knowledge management implementation, there is a significant relationship.

4.2 Sub-hypotheses

The identification and selection of four components and Staffing, training and development, performance management and reward and promotion of human resources as human resources management And a choice of four internalization, externalization, combination and socialization as a component of knowledge management model based on Nonaka and
Takeuchi, 16 sub-hypotheses about the relationship between individual components have been designed. Results of the test data is given in table 4

<table>
<thead>
<tr>
<th>Row</th>
<th>Aspects of human resources</th>
<th>Components of human resource management</th>
<th>Rank correlation</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selection and manpower</td>
<td>Socialization</td>
<td>0.259</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>2</td>
<td>training and development</td>
<td>socialization</td>
<td>0.264</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>3</td>
<td>performance management</td>
<td>Socialization</td>
<td>0.283</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>4</td>
<td>promoting and rewarding</td>
<td>Socialization</td>
<td>0.117</td>
<td>Reject the hypothesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sig. (2-tailed) = 0.58</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Selection and manpower</td>
<td>Internalization</td>
<td>0.480</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>6</td>
<td>training and development</td>
<td>Internalization</td>
<td>0.326</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>7</td>
<td>performance management</td>
<td>Internalization</td>
<td>0.540</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>8</td>
<td>promoting and rewarding</td>
<td>Internalization</td>
<td>0.302</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>9</td>
<td>Selection and manpower</td>
<td>externalization</td>
<td>0.322</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>10</td>
<td>training and development</td>
<td>externalization</td>
<td>0.370</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>11</td>
<td>performance management</td>
<td>externalization</td>
<td>0.424</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>12</td>
<td>promoting and rewarding</td>
<td>externalization</td>
<td>0.148</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>13</td>
<td>Selection and manpower</td>
<td>Combination</td>
<td>0.278</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>14</td>
<td>training and development</td>
<td>Combination</td>
<td>0.224</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>15</td>
<td>performance management</td>
<td>Combination</td>
<td>0.215</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>16</td>
<td>promoting and rewarding</td>
<td>Combination</td>
<td>0.386</td>
<td>Confirm the hypothesis</td>
</tr>
<tr>
<td>17</td>
<td>Aspects of human resources</td>
<td>Knowledge management</td>
<td>0.58</td>
<td>Confirm the hypothesis</td>
</tr>
</tbody>
</table>

About the fourth hypothesis, because the level of significance (sign) of the error rate (0.05) is H1 (between human resources social promotion and reward system, there is a relation) is rejected and is no relation between these two variables, H0 is confirmed.

5. Discuss and review results

The results of the hypothesis show that the selection and deployment of human recourse and socialization, knowledge management and a significant positive relationship exists and it can be concluded as much in selecting and recruiting firm of Manpower carefully and the criteria for selecting and applying appropriate manpower to use Socialization of knowledge building
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and the implementation of knowledge management to be facilitated. It is well established to select the same between the other components of knowledge management.

The second hypothesis, sixth, tenth and fourteenth ones organization to facilitate the implementation of knowledge management, it should pay special attention to training and manpower development. If organization does proper training and related employees require executing the process of knowledge management will be facilitated. Appropriate Performance Management for Employees has a positive and constructive role in socialization, internalization, externalization and Combination.

Hence, the organization must have appropriate procedures for employee performance management. About promotion and reward Factors in associated with the fourth component of knowledge management hypotheses. It is not approved Component of the promotion and reward associated with socialization.

About the twelfth hypothesis, in addition to low correlation coefficients and significance level (sign), although is less than the error rate (05/0) but is higher than other hypotheses. The main hypothesis of this study was also approved among the components of human resource management and knowledge management component, there is a positive relationship and More attention to the components of human resources could be facilitated the implementation of knowledge management.

In comparing the results with each other, and choosing the appropriate factor in the relationship between human resources and associated components is required and This means that Personnel of the Pars Khodro Company think that the recruitment of qualified staff may be appropriate to establish a knowledge management, also, This system can challenge the efficient staff development and training. In other words, even the best training does not compensate for improper recruiting and selection.

Promote and reward the agent has the lowest correlation. This research was conducted in line with results of other companies, such as "payment of bonuses in the Pars Khodro Company" (Jahandideh, 1389) is. Dominant as in the word "reward" is focused on cash rewards and Is essential that the System is designed so that internal rewards as well as non-cash rewards by employees as "bonuses" to be recognized. It also fits with the need to reward employees And prevent its uniform system of rewards can be more effective. Due to the importance of knowledge management as a competitive advantage for companies, Pars Khodro Company has revised its system of promotion and reward In line with its major objectives to it.

5.1 Conclusions

As mentioned in today's competitive world, organizations are looking to gain competitive advantage and one of the ways to achieve competitive advantages, access to knowledge and application of knowledge in business. On the other hand, the human resources of every organization is most valuable assets of them. And use of this effective precious resource will be possible to access to the competitive advantage. Thus, examining the relationship between human resources and knowledge management component helps to Organizations that they can use of their human resources and knowledge and achieve their strategic goals.

Thus, by using questionnaires to examine the relationship between the major components of human resources and knowledge management component was paid to determine which
component of human resources has a greater impact on knowledge management implementation, and they should be paying attention.

The following components were considered as the most important components of human resources:

Selection and manpower:

1. Training and Development
2. Performance Management
3. Promote and reward

KM initiatives were as follows:

1. Socialization
2. Internalization
3. Externalization
4. Combination

After analyzing the data was clear that there is significant relationship between the components of human resources and knowledge management component. And for the implementation and use of knowledge management should be given to these components.

5.2 Suggestions

According to survey results, the following suggestions can help managers in the company to do the better implementation of knowledge management.

1. Company must have a comprehensive system for the selection of required manpower. Purpose must be clear criteria for obtaining a job. The system for selecting from among applicants for employment of persons required to be designed according to specified criteria.

2. Educational system must be well designed to provide staff training to require. For this purpose, training needs assessment and must be done well. After that the design and implementation of training courses is done and assess the effectiveness of the taking courses.

3. Systems are designed for performance Management Company For example, the target is a partnership and their employees have a role in setting goals. Necessary commitment implements the objectives to be optimized. The performance evaluation system should also perform their duties well.

4. One of the factors that increase people's motivation is reward system and promotion. The Reward system should be so, that any employee does not feel the injustice.

5. New reward system for companies should be developed with regard to the conditions and the company's strategy. Surely editing systems without the reward strategy which derives from business strategy will not help.

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