



A study of the impact of Knowledge Management capabilities on the organizational performance in the Pars Khodro

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ABSTRACT

Objective: The purpose of this study is to investigate the impact of knowledge management capabilities on the organizational performance in the Pars Khodro. The present study, in terms of purpose is practical and in terms of descriptive data collecting method is survey type. **Methodology:** Statistical population included all employees working in the headquarters of Pars Khodro automotive, total number of 1200 persons. The sample size of 291 people has been determined by using Morgan table. To evaluate the knowledge management capabilities, researcher made questionnaire of knowledge management capabilities with Likert-type scale and Cronbach's alpha (reliability of 0.923) for all questions is used.

Results: In order to describe the data, frequencies tables and also bar graph and pie charts are used and in the section of inferential statistics, Kolmogorov-Smirnov normality test, correlation coefficient (Pearson and Spearman), multiple regression and structural equation are used. **Conclusion:** Analysis of the results shows that knowledge management capabilities have a positive impact on organizational performance.

1. Introduction

Knowledge is a concept that can be used as a key strategic resource to create value for the organization. Organizations can develop and exploit organizational knowledge using the knowledge management capabilities.

Knowledge management capabilities can include the knowledge exchange, knowledge protection, saving and earning it (Tseng, 2014). The main characteristics of knowledge management capabilities include improving the capability to create innovation, improving the coordination of efforts, rapidly commercializing new goods and products (Liao et al, 2007). In general, knowledge management is a systematic and purposeful management. Processes and its roots associated with the overall goal of understanding the potential of knowledge in effective decision making, problem solving, facilitate the innovation and getting competitive advantage at all levels (individual, group and organizational, national, etc.). Tsang, (2009) believes that knowledge management is an umbrella term that includes a series of organizational processes and activities that their common features are value creating from knowledge. Liu, (2010) states that knowledge management is a group of determined defined processes and procedures, managing and illustrating crucial knowledge among different operations.

Its goal is to identify new products and strategies and to enhance human capital management to achieve goals of the organization (Liu, 2010). American Productivity Quality Center defines knowledge management as a systematic strategy and defined processes of obtaining, transferring and applying knowledge and information by individuals and organizations for innovation, competition and promoting productivity (Aarabi and Mousavi, 2009). Denhardt has identified the 8 particular advantages of knowledge management, including prevention of loss of knowledge, improving decision making, flexible and adaptability, competitive advantage, property development, product increasing, customer management and applying investments in human capital section. The organization purpose of knowledge management is in fact system of strategic goal of knowledge management i.e. improving accountability and learning capability of the organization using knowledge management systems, as well as increasing knowledge and intellectual talent of staff and above all improving production efficiency and increasing profitability through knowledge management system. In planning the strategic of

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any organization, Knowledge capital existing in the organization should also be addressed. For this purpose, in each organization, knowledge teams are formed which play an important role in the implementation of knowledge management. In fact, teams knowledge in any organization move the cycle of knowledge in that organization and helps to produce, to organize, to store and share knowledge throughout the organization (Albert and Nora, 2008). Continuous improvement of organizational performance creates a synergistic massive force that can support growth and development and create opportunities for organizational excellence. Governments, organizations and institutions, applying Jlvbrndhay attempt in this case. The performance can be defined as achieving or exceeding corporate objectives and social and duties that the individual undertakes them and results measurement (Rezaeian, 2007).

Albert and Nora (2008) believe that the performance evaluation is the process by which performance of a working is measured and when it done properly, employees, supervisors, managers, and finally, the organization will benefit it.

Performance evaluation in organization dimension usually is synonymous with in activities effectiveness. Effectiveness means achieving amount of the aims and objectives with the efficiency features of the activities and operations (Rezaei Rad et al, 2012).

Performance evaluation subjects can be studied from different angles of the two basic views of the traditional and modern. The traditional view targeted judgment and remind performance and control self-assessment and command style. This view merely focuses on the performance of the last period and has been shaped by the exigencies of the past. New view targeted education, self-development capacities assessment, improvement and development and performance of individuals and organizations, providing consulting services and public participation of stakeholder, motivation and responsibility for quality improvement and optimization of the activities and operations and it is based on identifying the strengths and weaknesses and organizational excellence. New patterns of performance evaluation use quantitative models such as a measure of productivity and value-added approach, efficiency criterion with effectiveness and efficiency approach and profitability criterion with the performance audit approach and quality models, such as descriptive and normative criterion with organizational commitment approach and organizational ethics and other several criteria. For evaluating the performance of an organization, there are at least seven scales that are not necessarily distinct from each other. These scales include: effectiveness, efficiency, profit and profitability, productivity and utilization, quality of employment life, innovation and quality. Many researchers consider only the financial aspects of organizational performance whereas Non-financial data such as the results of the process of developing of new services, improving the capability to attract, education and development should be considered (Karimi, 2006). However financial indicators are not correlated with the long-term business objectives, and cannot create a competitive advantage for organizations in adverse conditions. On the other hand, a good relationship with suppliers can be considered as a good strategic investment for the organizations to survive in a competitive environment. Evaluating the performance of knowledge management system of an organization by financial aspects leads to mainly two parts: First, it includes costs such as knowledge management system and costs related to operations of Knowledge Management System. Second, the capitals and the profits earned by using the knowledge management system. Knowledge management systems focus on both financial and non-financial sections and take into account the following three aspects.

1. The financial performance that includes the firm's market performance, profitability, growth and customer satisfaction
2. Performance process which refers to quality and productivity.
3. The internal performance that is related to human capabilities such as qualification degree of employees, employees' satisfaction and creativity (Vazifehdust, 2014).

2. Materials and methods

Evaluate performance knowledge management system can reflect the organization's knowledge management and organizational development trend in the future and also be a good solution for the organization awareness of its knowledge management. Managers can be aware the problems existing in the process of acquiring, sharing, applying knowledge and innovation and based on it, they can carry out actions for improvement. It can also evaluate the principles study knowledge management and find new problems that need to be solved; thus causes promote and improve the development of organization knowledge management. Accurate and objective evaluation of performance level of knowledge management is very important for effective supervision for success in knowledge management as well as organizational development and finding the key factors affecting performance improvement. Of the most important and the most common patterns and models of the evaluation process implementation can be as follows.

2.1 *Balanced Scorecard system*

This model created by Albert and Nora (2008) suggests that in order to evaluate the performance, any organization must use a series of balanced indicators so that senior management can have a general view on four aspects of financial, internal business, customers and learning and innovation.

The authors believe that the problem of rising and accumulation of information is disappeared by gaining information on these four aspects through the limiting indicators used. The managers will only have to focus on a limited number of critical indicators. In addition, the use of several different aspects of performance prevents section optimization.

2.2 *ISO quality management system*

ISO quality management system is not introduced merely as a system for comprehensive evaluation. This system focuses on how to manage processes affecting the quality and for this subject determines requirements which to take its certificate, all the requirements and needs should appropriately be fulfilled. The efficiency and effectiveness of processes are such the requirements which is emphasized in ISO (2000 edition) so much. According to this standard, all the processes existing in the organization must systematically be identified and their effectiveness and efficiency be measured and ultimately analysis of this indicator lead to improve processes (Choi and Lee, 2003).

2.3 *Malcolm Baldrige method*

Baldrige method is in act the method that helps to implement concepts of a comprehensive quality management system in an organization. In this method, seven criteria and methodology to implement comprehensive quality management system are provided which are: Leadership, Business Process Management, financial results, the use of information and analysis, strategic planning, human capitals and focusing on customer satisfaction.

2.4 Organizational Excellence Model

Organizational Excellence Model is a non-prescription model consisting of nine criteria. The first of the 5 parts are called "Enablers" and its four parts are called "results" (Sajadee et al, 2008).

2.5 System of management by objectives

In this management, the organization's goals are determined and then by negotiating with different levels of managers and employees ultimately, the major objectives are converted into targets and finally spread to the same organization. Finally, individuals are determined and evaluated based on the fulfillment of targets without regard to how to achieve it (Michael et al, 2009).

2.6 Analytical Hierarchy Process Method

Analytical Hierarchy Process Method is made by hierarchical classification structure and function by comparing priorities that decision maker conducted by decision hierarchy tree indicating that compared factors and evaluated competing options in decision and paired comparisons are then conducted. These comparisons determine the weight of each factor in line with competing options and finally a mathematical algorithm combines the matrices obtained from paired comparisons to obtain an optimal decision to assign the best possible coefficients. Numerous studies have addressed the relationship between knowledge management capability and organizational performance. In a study that Tseng, (2014) has conducted entitled impact of knowledge management and supplier relationship management capabilities on firm performance, the results suggest that knowledge management capabilities has a positive impact on firm performance. Whereas managing communication with suppliers is partial interfering variable between knowledge management capabilities and performance of the firm.

The results of Tseng, (2014) entitled Knowledge management and organizational performance in the service industry: The role of transformational leadership beyond the impacts of transactional leadership, show that relation between enablers of knowledge management and Performance Indicators of knowledge management such as strategy and leadership is positive and significant and relationship between Performance Indicators of knowledge management and Financial performance indicators is positive and significant. So enablers of knowledge management with the mediation of Performance Indicators of knowledge management have a positive impact on financial performance.

In a study entitled "processing of information, extending the knowledge and performance management capabilities of chain management strategy" that uses 58 data chain in 500 firms selected randomly, Hult et al, (2013) found that the knowledge management process is variable in cycle time.

In their research results entitled knowledge sharing behavior of competent staff, Mohammad Nejad and Nasrollahi (2009) state that knowledge is a source of organizational life and organizations in order to gain competitive advantage must rely on their employees. Because knowledge sharing is main activities by which staff can help to disseminate knowledge, innovation and thus competitive advantage.

In 2007 in a study entitled impact Supply Chain Management on the performance of small and medium firms, Michael et al (2009) found that indicators of supply chain management can have a direct and significant impact on organizational performance.

In their study entitled "Knowledge Management and Organizational Performance in an exploratory analysis", Michael et al (2009) examined the correlation between knowledge management and performance outcomes and the results showed that between knowledge management and organizational performance there is a significant and direct relationship. Also there is direct and significant relationship between organizational performance and financial performance. So, organizational performance acts as a mediator of relation between knowledge management and financial performance. In a study entitled "The relationship between knowledge and performance management enablers" Lai and Lee (2007) examined the impact of enablers of knowledge management on financial performance with the mediation of Performance Indicators of knowledge management. The result of research shows that the relationship between enablers of knowledge management and Performance Indicators of knowledge management such as strategy and leadership is positive and significant as well as the relationship between Performance Indicators of knowledge management and financial performance indicators is positive and significant. Therefore enablers of knowledge management with the mediation of Performance Indicators of knowledge management have a positive impact on financial performance of organization.

Because according to research literature that has been mentioned, the knowledge management capabilities variable affects the relation management with suppliers and organizational performance. In this study, using the following conceptual model in the studied firm (Pars Khodro), we try to check whether knowledge management capabilities have positive and significant impact on relation management with suppliers and how much the relation management with suppliers can affect organizational performance so that we can study the relationship between knowledge management capabilities on performance Pars Khodro.

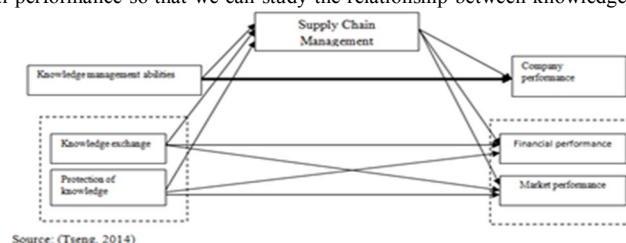


Figure 1. Supply Chain Management

3. Discussion and results

Current study, in terms of aim is practical and in terms of method of data collection is descriptive and survey. Statistical population of this study includes all employees in the headquarters of Pars Khodro car manufacturing with a total of 1,200 people. To determine the sample size, Morgan table was used and according to this table, for 1200 persons of population, the sample size will be 291 persons. To search for knowledge management capabilities as the independent variable, in this study researcher made questionnaire of knowledge management capabilities with Likert scale was used and its validity was confirmed by specialist professors and its reliability is estimated to be 0.923 by using Cronbach's alpha for the total number of questions. These numbers indicate that the questionnaire used has a high reliability. In order to describe the data, frequency tables as well as bar and pie graphs were used. Moreover, in order to describe the data better, central indexes and dispersion indicators were used. In Inferential statistics section, Kolmogorov-Smirnov normality test, correlation coefficient (Pearson and Spearman), multiple regression and structural equation were used.

3.1 The first part describes the results

Table 1. Correlation test

Independent variable	The dependent variables	The correlation coefficient	r	P
Capabilities Dansh management	Relationship management with suppliers	Pearson	** 0.628	0.000
Dansh management capabilities	firm's performance	Pearson	** 0.197	0.001
Relationship management with suppliers	Financial performance	Pearson	** 0.231	0.000
	Market performance	Pearson	** 0.165	0.005
Exchange of knowledge	Relationship management with suppliers	Pearson	** 0.558	0.000
Protection of knowledge	Relationship management with suppliers	Pearson	** 0.400	0.000
Exchange of knowledge	Financial performance	Pearson	** 0.076	0.006
Protection of knowledge	Financial performance	Pearson	** 0.839	0.000
Exchange of knowledge	Market performance	Pearson	** 0.002	0.008
Protection of knowledge	Market performance	Pearson	** 0.349	0.000

** : Significant at 0.01 level of error

* : Significant at the 0.05 level of error

3.2 Research findings

The level of significance was obtained at an acceptable level ($p < 0.05$) in Table 1 for all variables that is an evidence of the relationship between independent variables and the other variables of study. Indicator r is also used to show the relationship and as can be seen in Table 1, the directions of relationship are all positive.

3.3 Linear regression

Table 2. Results of regression analysis of variables

independent variable	The dependent variables	The significance level	Regression coefficient beta	Period gram - Watson	F	R ² _{adj}
Knowledge management capabilities.	Relationship management with suppliers	0.000	** 0.628	1.794	188.360	0.392
Knowledge management capabilities	firm's performance	0.000	** 0.477	1.797	85.202	0.225
Relationship management with suppliers	firm's performance	0.001	** 0.197	1.718	11.677	0.036
Exchange of knowledge	Financial performance	0.008	** 0.045	1.682	345.760	0.704
Protection of knowledge		0.000	** 0.845			
Exchange of knowledge	Market performance	0.040	** 0.053	1.724	20.511	0.119
Protection of knowledge		0.000	** 0.357			

** : Significant at the 0.01 level error

* : Significant at the 0.05 level error

The level of significance was obtained at an acceptable level ($p < 0.05$) in Table 1 for all variables that is an evidence of the relationship between independent variables and the other variables of study.

3.4 Section II: Analysis of results

Hypothesis H0: knowledge management capabilities have not impact on firm performance.

Hypothesis Ha: knowledge management capabilities have impact on firm performance.

As shown in Table 1, analysis of correlation between these two variables show a positive correlation ($p < 0.01$, $r = 0.477$) that by strengthening knowledge management capabilities, performance is increased. In addition, we conducted linear regression to test whether the knowledge management capabilities will be explaining the level of Firm Performance. As shown in Table 3 variable knowledge management capabilities with beta coefficient of 0.477 has 47 percent of predictive power of variations in firm's performance dependent variable. Thus H0 is false And H1 is accepted. That is, knowledge management capabilities have impact on firm performance.

Table 3. Stepwise regression for the original number 1 hypothesis

The dependent variable	The independent variable	The significance level	Regression coefficient beta	Period gram - Watson	F	R ² _{adj}
firm's performance	Knowledge management capabilities.	0.000	** 0.477	1.797	85.202	0.225

** : Significant at the 0.01 level error

* : Significant at the 0.05 level error

Hypothesis H0: relationship management with suppliers has not impact on firm performance.

Hypothesis Ha: relationship management with suppliers has impact on firm performance.

As shown in Table 1, analysis of correlation between these two variables show a positive correlation ($p < 0.01$, $r = 0.197$) that by strengthening relation management with suppliers, performance is increased. In addition, we conducted linear regression to test whether the relation management with suppliers will be explaining the level of Firm Performance. As shown in Table 4 variable relation management with suppliers with beta coefficient of 0.197 has 19 percent of predictive power of variations in firm's performance dependent variable. Thus H0 is false And H1 is accepted. That is, relation management with suppliers has impact on firm performance.

Table 4. The results of regression analysis for the original number 2 hypothesis

The dependent variable	The independent variable	The significance level	Regression coefficient beta	Period gram - Watson	F	R ² _{adj}
firm's performance	Knowledge management capabilities.	0.001	0.197**	1.718	11.677	0.36

** : Significant at the 0.01 level error

* : Significant at the 0.05 level error

Hypothesis H: relationship management with suppliers has not impact on the market performance.

Hypothesis Ha: relationship management with suppliers has impact on the market performance.

We assumed that the firm's relationship management with suppliers has impact on the market performance.

As shown in Table 1, analysis of correlation between these two variables show a positive correlation ($p < 0.01$, $r = 0.628$) that by strengthening relation management with suppliers, market performance is increased. In addition, we conducted linear regression to test whether the relation management with suppliers will be explaining the level of market performance. As shown in Table 5 variable relation management with suppliers with beta coefficient of 0.628 has 63 percent of predictive power of variations in firm's performance dependent variable. Thus H0 is false and H1 is accepted. That is, relation management with suppliers has impact on the market performance.

Table5. The results of regression analysis for the original number 2 hypothesis

The dependent variable	The independent variable	The significance level	Regression coefficient beta	Period gram - Watson	F	R ² _{adj}
firm's performance	Knowledge management capabilities.	0.000	0.628**	1.794	188.360	0.392

** : Significant at the 0.01 level error

* : Significant at the 0.05 level error

4. Conclusion

Hypothesis of a research states that "knowledge management capabilities has an impact on the performance of Pars Khodro" The findings show that there is a significant positive relationship between these two variables. Results of regression analysis also showed that about 47 percent of Pars Khodro performance can be predicted by knowledge management capabilities. These findings are consistent with findings by Tseng in 2014 entitled "the impact of knowledge management capabilities and supplier relationship management". The research results by Tseng also suggest that knowledge management capabilities had positive impact on firm performance. However the relationships management with suppliers is partial interfering variable between knowledge management capabilities and performance of the firm.

Hypothesis of both research states that the relationship management with suppliers has an impact on firm performance. Analysis of correlation between these two variables show a positive correlation ($p < 0.01$, $r = 0.197$) and by strengthening relation management with suppliers, performance is increased. In addition, we conducted linear regression to test whether the relation management with suppliers will be explaining the level of Firm Performance. As shown in Table 4 variable relation management with suppliers with beta coefficient of 0.197 has 19 percent of predictive power of variations in firm's performance dependent variable. Thus H0 is false And H1 is accepted. That is, relation management with suppliers has impact on firm performance. These findings are consistent with findings by Lai et al, (2007) in a study entitled "impact Supply Chain Management on the performance of small and medium firms". They found that indicators of supply chain management can have a direct and significant impact on organizational performance.

The third hypothesis of the study suggests that relationship management with suppliers has an impact on the market performance. Analysis of correlation between these two variables show a positive correlation ($p < 0.01$, $r = 0.628$) that by strengthening relation management with suppliers, market performance is increased.

In addition, we conducted linear regression to test whether the relation management with suppliers will be explaining the level of market performance. As shown in Table 5 variable relation management with suppliers with beta coefficient of 0.628 has 63 percent of predictive power of variations in firm's performance dependent variable. Thus H0 is false and H1 is accepted. That is, relation management with suppliers has impact on the market performance. These findings are consistent with findings by Lai et al, (2007) in a study entitled impact Supply Chain Management on the performance of small and medium firms which show that the relationship between enablers of knowledge management and Performance Indicators of knowledge management such as strategy and leadership is positive and significant as well as the relationship between Performance Indicators of knowledge management and financial performance indicators is positive and significant. Therefore enablers of knowledge management with the mediation of Performance Indicators of knowledge management have a positive impact on financial performance of organization.

Since the findings of the study showed that knowledge management capabilities has an impact on the performance of Pars Khodro, managers of this firm are recommended to try to enhance the performance of their firm through improving the knowledge management capabilities, particularly by the sharing of knowledge. It is recommended to try document the experiences and projects because by documenting the experiences related to the project and its use can improve financial performance.

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