The Relationship between Knowledge Management and Competitive Advantage: A Case Study in Small and Medium-Sized Companies in the Packaging Industry of Khorasan Razavi

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Abstract

The purpose of this study is to examine the relationship between knowledge management and competitive advantage in small and medium enterprises in packaging industry of Khorasan Razavi. The 4-component model of knowledge management, knowledge acquisition, knowledge conversion, knowledge application support is made. The three components of the product differentiation and competitive advantage, cost leadership and focus on the market are made. The population consists of all managers, whether higher, middle and small and medium-sized companies operating in the packaging industry of Khorasan Razavi that their number was 330 and by the limited sampling of 74 Cochran sampling random was selected. The questionnaire was distributed among them. In this study, two questionnaires were used to collect data. According to this hypothesis, the present research is experimental. To analyze the data in the study, both descriptive and inferential statistical methods were used. In cross-sectional analysis, the central tendency tables and indices such as mean and standard deviation is calculated. In inferential statistics, to evaluate hypotheses, Pearson correlation test was used for normality distribution. The results indicated that all components of knowledge management played a significant role .

Keywords: Knowledge management, competitive advantage, small and medium-sized companies

Introduction

Nowadays, information and knowledge for enterprises has become an important source and in the event of capital formation and organization so that it can be claimed modern organizations cannot be managed without their knowledge. As today's dynamic and turbulent environment is maintained, the technical infrastructure, as well as people's knowledge and experience in many different fields, intimate conversations in the hallways of most people and staff in their knowledge of their exchange after a period of time that may be desired are not achieved, and technical or administrative units or design engineers as well as experts in other units may solve a specific problem or issue in relation to the roles they have assumed. Also, a lot of time should be spent on their problem-solving knowledge that you gain while providing the opportunity and facilities can be done without wasting your precious time as soon as the desired source of knowledge for its own gain. On the other hand, today's organizations are in competition to attract customers because these customers will benefit from the organization and their business. The knowledge of our business practices knowledge ahead of its competitors. In the event of its competitive advantage by others or factors that mimic or imitate, it is not very difficult, expensive or time consuming. Knowledge can be considered as a competitive advantage that organizations can hardly imitate its competitors. It is important to create, convert, and share, support and protect the source of every organization and

business organization is the most important asset and source of manpower or human capital (Radyng, 2012)

Knowledge Management

Knowledge management is a strategic effort that tries to control the use of their intellectual capital and organizational support in the race to be superior. Getting the storage and distribution of knowledge makes employees work smarter, avoids duplication and produces more innovative products that better meet customer needs (Nekodry and Yaghobi, 2011). Knowledge management is not new, human civilizations to preserve and transfer knowledge from one generation to another, to understand the past and predict the future, respectively. In today's complex and dynamic business environment, thirst for knowledge is broader in scope and depth. Knowledge is rapidly changing and is being disseminated outside the organization. Information technology and the Internet are new challenges in creating, maintaining and managing knowledge (Abbasi, 2007). Flexible and interchangeable mix of experience, values, meaningful information and expert insights provides a framework for evaluating the integrity of the data and offers new experiences (Davenport and Prosak, 1998). Students are taking full advantage of the data combined with the competencies, skills, attitudes, perceptions, commitment and inner motivations. Knowledge presents itself in the form of opinions or judgments, relationships, perspectives and concepts and drives on a post-industrial economy (Mess McCormack, 1997). Today, information technology is very important element for the success of any knowledge management system. Knowledge management is facilitated by information technology, but their information technology, knowledge management is not. Self-knowledge is defined in different ways. Some definitions focus on the knowledge management process, while others focus on the goal of knowledge management (Azizi et al, 2010).

Knowledge management is a process that helps organizations in identifying, selecting, organizing, sharing and transferring information. The structure of knowledge, effective problem solving, dynamic learning, strategic planning and decision-making is possible. Knowledge management initiatives identify knowledge expressed in such a way that it can be informal sharing and leverage the value of their property as a result of this focus (Turban and Miquelon, 2004). Competitive advantage is in today's information-based era of the transition from the era of knowledge-based competitive advantages (Lang, 2001). Today's knowledge is related to a world where knowledge is an essential commodity and the knowledge has become the most important factor in the economy (Suuassee and Sewary, 2003). This means that the value added in the business today, thanks to knowledge is not good (Lang, 2001) Thus, the ability of companies is in the operation of intangible assets, and the ability of the operation of physical assets is tangible. Drucker has stated openly that the most valuable asset in the twenty-first century is workers' knowledge (Drucker, 1993)

Elements influencing the knowledge management

Competitive Advantage: Competitive Strategy and Competitive Advantage are defined in terms of value creation, and whatever cause more income than expenses becomes an increased expression (Rumelt , 2003). Maintaining a competitive advantage may be higher than the normal definition (Peteraf, 1993).

Competitive advantage often means that the firm can produce goods or services that their customers are more valuable than the goods or services produced as a result of their competitors (Saloner et al, 2001). Identification of potential competitive advantage and superior firm's market position as one would be compared to its rivals (Hay and Williamson, 1991). The unique location of an organization's competitive advantage is developed against its rivals through resource development model (Hofer and Schendel , 1978). Competitive advantage to a firm's performance

develops when it is higher than normal finds and which is more worth than the expected value resources (Barney, 2002). Despite all these definitions about the competitive advantage, providing a precise definition of competitive advantage is difficult. Factors such as the organization's competitive advantage can be more than competitors and competitor or a portion of the invoices or attaining them are costly and time-consuming.

Elements influencing the competitive advantage

Small and medium enterprise: All companies involved in the small and medium enterprises, include small and medium industrial enterprises, trading and agriculture. Usually, on the role of human resources in the amount of working capital to small enterprises, medium and large are divided. These firms, due to their special features, are unique functions, including job, the distribution of wealth in society, developments of marginal areas, supplying needs, training manpower for industries and large firms. Usually companies and small and medium enterprises have three quality attributes including the unity of ownership and management, individual and family ownership , and independent of other firms

Literature review

Regarding the studies done in this area, the following tables show some of these studies:

Table 1. Studies done about the role of knowledge management

No	Researcher	Title	Research Years	Conclusions
1	Aligholi, Askari and Saeedi	The role of knowledge management and intellectual capital to gain competitive advantage	2012	Significantly between knowledge management and intellectual capital of these two variables to gain a competitive advantage
2	Feizi, Farsi Jani and Shafiee Nick Abadi	The impact of competitive forces on the application of knowledge	2011	The positive impact of two factors, competitive forces and the dynamics of organizational innovation and the application of knowledge to improve financial performance
3	Lajevardi and Hatami	Examine the role of tacit knowledge management, competitive advantage	2010	Affecting employees' ability to create new knowledge
4	Naghizade and Ellahi	Research on Knowledge Management of Innovation and Technology	2010	Innovation management, science and technology are the three basic concepts and requirements of organizations involved use of advanced technologies
5	Allama, Hosseini and Khadem	The effect of knowledge on sustainable innovation and organizational	2009	Effective management of knowledge innovation and organizational alignment with the organization's effectiveness
6	Zakeri and Danesh Far	Impact of Knowledge Management on strengthening the competitiveness	2009	Relatively acceptable level of knowledge management activities
7	Ghilich Lee	Research in the field of intellectual capital, social capital for competitive advantage	2006	The significant positive correlation between the elements of intellectual capital, social capital for competitive advantage

Table 2. Review of studies done in foreign countries

No	Researcher	Title	Research Years	Conclusions
1	Chen et al	Investigate the dependency between the elements of intellectual capital, structural capital and business practice elements	2004	Significant positive correlation between the elements of intellectual capital, structural capital and business practice elements
2	Sveiby & Simons	Working atmosphere for sharing knowledge	2002	Decrease with increasing scattering atmosphere of cooperation
3	Paco	Research on technical knowledge and competitive advantage	2002	Knowledge and knowledge of a team of technical staff in the company as the most relevant source of competitive advantage
4	Lang & Fahey	Factors influencing knowledge management and competitive advantage	2000	Due to the acquisition of knowledge as a competitive advantage of a common corporate culture
5	Zack	Research on business strategy and knowledge management	1999	Business strategy as the conduct of knowledge management
6	Pierce, Kalka and Katsyks	The relationship between competitive advantage and export performance	1998	Positive results on the link between competitive advantage and export performance
7	Bontis	Exploratory study and evaluation of models and measures of intellectual capital	1998	Interactions between the components of intellectual capital
8	Subramaniam & Katraman	The benefits of successful knowledge management system	1998	Management system to help improve financial performance and enhance competitive advantage

Hypotheses

The main hypothesis

There was no significant relationship between knowledge management and competitive advantage.

Secondary hypotheses

H1: There is a significant relationship between knowledge and competitive advantage.

H2: There is a significant relationship between knowledge conversion and competitive advantage.

H3: There is a significant relationship between knowledge management and competitive advantage.

H4: International protection of children, and there are significant competitive advantage.

Conceptual model

Tidal current concept of combining factors influencing factors of knowledge management and competitive advantage is derived from the points of view in (Kitagawa, 2001) and (Sayadi, 2008) is selected as shown in Figure 1.
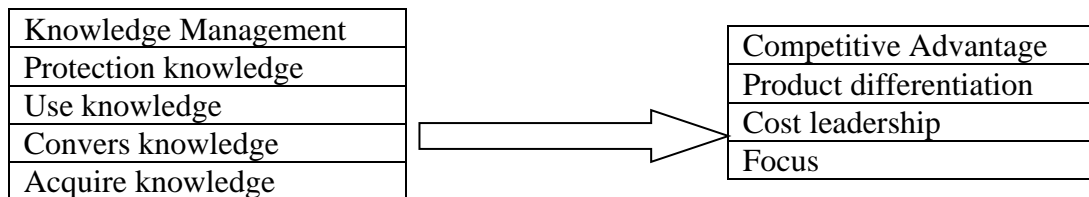
Knowledge Management
Protection knowledge
Use knowledge
Convers knowledge
Acquire knowledge

Competitive Advantage
Product differentiation
Cost leadership
Focus

Figure 1: Conceptual model

Research Findings

Descriptive statistical analysis: Data on the age distribution of respondents indicated that the 74 respondents, 17.6 per cent are in the age range 20 to 25, 39.2% in the range of 26 to 30 are the most frequent included. 27% in the range of 31 to 35, 13.5 percent of 36 to 40, and 7.2 percent were 41 and older. Out of 74 respondents, 62.92 percent (46 patients) and 37.8 percent (n = 28) women. The results showed that 37.8% of respondents to the organizational position in the marketing department with the highest percentage of 27.1% in the commercial sector and 35.1 in sales work. The results of previous work showed that 44.6% of respondents have between 1 and 4 years, 33.8% between 5 to 8 years, 16.2% between 9 to 12 years, 4.5% between 13 to 16 years.

Inferential statistical analysis
The main hypothesis of the study

Table 3. The results of the original hypothesis

	Pearson's correlation coefficient	p-value	Test results
Knowledge Management and Competitive Advantage	0/631	0/000	+

$\begin{cases} H0 \geq 0.05 \\ H1 < 0.05 \end{cases}$

Secondary hypotheses

Table 4: Results of assumptions for Knowledge Management and Competitive Advantage

Variable names	Pearson's correlation coefficient	p-value	Test results
Knowledge and Competitive Advantage	0/642	0/000	+
Knowledge and Competitive Advantage	0/393	0/019	+
Application of Knowledge and Competitive Advantage	0/529	0/001	+
Supporting Knowledge and Competitive Advantage	0/591	0/000	+

$\begin{cases} H0 \geq 0.05 \\ H1 < 0.05 \end{cases}$

Linear regression model for the dependent variable and independent variables of competitive advantage is knowledge acquisition, knowledge conversion, knowledge application and knowledge protection.

Stepwise regression method is applied. In this method, at each step, one of the independent variables entered in the equation.

Table 5. Correlation coefficient for the variables of the study

correlation coefficient	coefficient of determination	coefficient of determination adjusted for the estimation error	Durbin-Watson value
0.642	0/4	0/392	1.8

Table 6. Regression coefficients for knowledge management

Constant	Beta coefficient	T	Test probability
2.04 Knowledge: 12:53	0/642	4.148 4.810	0.000

Table 7 Regression conversion, application and protection of knowledge

Variables	Beta coefficient	T	Test probability
Knowledge Conversion	-0.023	-0.133	0.895
Application of knowledge	0.183	1.024	0.178
Protection of knowledge	0.300	1.755	0.296

Table 8: Correlation coefficient and the adjusted probability for different product variants

Correlation coefficient	Coefficient of determination	Coefficient of determination adjusted for the estimation error	P
0.682	0/46	0/394	0.001

Table 9. Regression coefficients for distinct products

Constant		Beta coefficient	Regression coefficient: T	Test probability
1.930		0.409	2.997	0.005
Knowledge:	0.359	-0.227	2.051	0.49
Knowledge conversion:	-0.237	-0.036	-1.217	0.233
Applying Knowledge:	-0.31	0.509	-0.158	0.876
Supporting Knowledge: 0.498			2.381	0.026

Table 10. Correlation coefficient for determining the amount of risk mitigation and cost leadership

Correlation coefficient	Coefficient of determination	Coefficient of determination adjusted for the estimation error	P
0.622	0/38	0/303	0.004

Table 11: Regression coefficients for cost leadership

Constant		Beta coefficient	Regression coefficient: T	Test probability
1.515		0.146	1.969	0.58
Knowledge:	0.143	-0.091	0.685	0.499
Knowledge conversion:	0.107-	0.137	-0.459	0.649
Applying Knowledge:	0.134	0.459	0.571	0.572
Supporting Knowledge: 0.501			2.003	0.54

Table 12: Correlation coefficient for determining the amount of adjustment for a variable focus

correlation coefficient	coefficient of determination	coefficient of determination adjusted for the estimation error	P
0.610	0/372	0/288	0.006

Table 13. The regression coefficient for the variable focus

Constant		Beta coefficient	Regression coefficient: T	Test probability
1.717 Knowledge:	0.701	0.682	2.103	0.044
Knowledge conversion:	0.015-	-0.013	3.157	0.04
Applying Knowledge:	0.037	-0.036	-0.063	0.951
Support Knowledge 0.169-		0.148	0.147	0.884
			-0.637	0.529

Discussion

The main hypothesis: According to the above table, the Pearson correlation coefficient is positive (r=0.631), which showed the hypothesis is confirmed. The relationship between knowledge management and competitive advantage of the company is positive.

Sub-Hypothesis 1: The Pearson correlation coefficient is positive and it equals to 0.591, which support the competitive advantage.

Sub-Hypothesis 2: The positive value of 0.529 confirmed the relationship between the process of applying knowledge and competitive advantage.

Sub-Hypothesis 3: The Pearson correlation coefficient of 0.393 confirms the knowledge of a competitive advantage.

Sub-hypothesis 4: According to the table, the Pearson correlation coefficient is 0.642, which confirmed the negative relationship between the process of acquiring knowledge of a competitive advantage.

Also, according to the results of underlying regression analysis, it was observed that all of the assumptions underlying this model are established. According to Table 5, the coefficient is equal to 4.0, which indicates that 40% of the independent variables on the dependent variables. Watson value is equal to 1.88, that is as close as 2, which confirms the assumption of independence of the residuals. And, since the probability of the test is 0.000, and the 0.05 is lower shows the regression model is significant. Table 6 shows the fixed and variable gain knowledge in the model is significant.

According to variable regression coefficients in Table 7, knowledge conversion, knowledge application and knowledge protection are statistically removed from the model. Table 8 shows the coefficient of determination is equal to 0.46, which shows that independent variables explain 46% of variation in the dependent variable. ANOVA probability value which is equal to 0.001 is smaller 0.05 and shows that the model is significant. Based on the coefficients in Table 9 shows that only a fixed amount and variable gain knowledge of a significant effect on the dependent variable is differentiated product the regression model is as follows.

(Acquiring knowledge) 0.359 + 1.93 = product differentiation

According to Table 8, the coefficient of determination is equal to 0.38, which indicates that the independent variables can explain 38% of variation in the dependent variable.

ANOVA probability value 0.004 is less than 0.05 and show that the model is significant. Based on the coefficients in Table 9, none of the variables had a significant effect on the dependent variable expenses are reduced. According to Table 10, which indicates that the coefficient is equal to

0.37 independent variables explain 37% of variation in the dependent variable. The probability of the ANOVA is 0.006 which is smaller 0.05 and shows the regression model is significant.

Based on the coefficients in Table 11 shows that only a constant and significant effect on the dependent variable knowledge on market the regression model is as follows:

(Acquiring knowledge) 0.701 + 1.717 = concentration on the part of the market

The results showed the greatest impact on competitive advantage and management knowledge of its components is a component of knowledge acquisition. Component of knowledge acquisition in small and medium enterprises Khorasan Razavi packaging industry is a very special look and we can say that the company is seeking to acquire knowledge and probably knowledge as a source of competitive advantage for their account and certainly acquire this knowledge must be relevant and constructive interaction with the internal and external environment interact. Importantly, the aforementioned results is that the three components of knowledge management discussed in this study such as the conversion of knowledge, application of knowledge and supporting components. No matter what the component affects the acquisition of knowledge on cost leadership the latter is very important because it can achieve "cost leadership", which means a business unit to the manufacturer or supplier with the lowest cost in the industry itself becomes decisive. If more than one company in a competitive environment to achieve cost leadership in their efforts creates dangerous conditions for business owners. In fact, it can be said with certainty that knowledge management in small and medium industries are not properly packaged Khorasan Razavi and it can cause many factors including lack of culture, lack of appropriate knowledge strategy, the lack of proper training of manpower or lack of efficient manpower, lack of knowledge and failure to use the proper sharing of knowledge and knowing.

Recommendations of the study

Since research has proven hypotheses and the business impact of knowledge management on competitive advantage is clearly demonstrated. But other elements of knowledge management component do not have a competitive advantage. Looking for ways to better implement the correct knowledge to publish this collection of other components of the event is also effective knowledge management. That it alters the conditions of competition in the market will be competitive with other companies (for the lack of effect is statistically significant). It is proposed to convert the Company's knowledge, seek ways to create a better life and participates, transferring knowledge between employees in different parts of the enterprise. For example, we can develop a culture of information exchange exposure among its employees. To improve our knowledge of the company become more and new knowledge must be replaced with old knowledge. Also, the adoption of the necessary knowledge and changing the knowledge of the competitive conditions should be considered. One of the fundamental steps of the research program is new competitors and market intelligence. Its products are used in the development of further knowledge. One of the most important methods to improve the performance of support is the support of the views of the administrators blame for this. We are now the senior managers determine which factors, including the acquisition of knowledge, transfer of knowledge from the collection making and special support their participation. Of innovation and creativity among the staff is welcoming and staff are encouraged to use innovation and creativity. Manpower is as an asset for any collection. The company is looking to recruit trained and skilled workforce should be made and with experience in this industry, followed by absorbing the forces remains technically in a lower degree try to hold the training and knowledge of their industry to the day they teach.

Suggestions for future research

- Other models of competitive advantage for knowledge management evaluation are recommended

- It is recommended to expand the research model for the relationships between the components of culture on knowledge management, knowledge management, competitive advantage, and then examine the relationship be checked impact of culture on knowledge management, so we can directly and indirectly affect competitive advantage clearly identified.
- It is proposed to investigate the relationship between of knowledge management practices and sales should be checked whether the relationship between knowledge management and its components.

- It is suggested that the concept of knowledge-based marketing management feasibility be paid attention to in the industry.

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