

Investigating the influence of intellectual capital and knowledge creation process on competitive advantage in food industry of east Mazandaran industrial towns

Mohammad Khorasani^{*1}, Seyede sanam bazmaraye hosseini² and Ahmad Kameli³

¹ Faculty Member of Shomal University. khorasaniamoli@gmail.com, Corresponding Author

² MA. Student of Industrial Management Shomal University. sanambz94@gmail.com

³ MA. Student of Business Administration, University of Samangan, Amol.

Ahmad.kameli121@gmail.com

Abstract: Knowledge creation managing as a strategic factor in decision making directly affects the effectiveness and competitiveness of organizations. The impact of intellectual capital and knowledge creation process on competitive advantage will be examined in the food industry of east Mazandaran industrial towns. The statistical population was distributed on the basis of random-stratified sampling among 30 senior managers of food industry in eastern Mazandaran province. Findings show that structural capital and human capital have a direct impact on competitive advantage, and the direct effect of relational capital has not been confirmed on competitive advantage. The process of creating knowledge is an intangible variable, and any upgrade at the end of the level of the studied statistical community can be realized by paying attention to its four explanatory variables in real knowledge

Keywords: Intellectual Capital, Human Capital, Structural Capital, Relative Capital, Knowledge Creation Process, Competitive Advantage.

1. Introduction:

Knowledge management means the transformation of implicit knowledge into explicit knowledge is a strategic indicator that influences organizational effectiveness and competitiveness. Clear knowledge is objective and has the storage capability for use in later stages (Mohamed et al 2006). While knowledge is Subjective mental and by mediation socialization processes such as sharing, metaphors, and comparisons through social interactions, It becomes explicit knowledge (Nonaka & Takeuchi, 1995) explicit knowledge can be coded and expressed and allows for the exchange of beliefs (Gopalakrishnan and Bierly 2001), while implicit knowledge is derived from information derived from the experiences and communications stored in the organization. Knowledge , As an effective factor in the ability of organizations to achieve sustainable competitive advantage (Krogh et al., 2000) Knowledge management in organizations changes knowledge assets to opportunities for sustainable competitive advantage (lee at al 2005) so that intangible resources As vital assets of the organization, will have a sustainable competitive advantage and long-term success of the organization. (Alavi et al, 2006) In today's competitive market, knowledge creation is an important competitive weapon. Without the continuous creativity of knowledge, a business is condemned to decline. That is, innovation-centered studies are essential for organizations (Chou, 2005).

2. Backgrounds and assumptions

Intellectual Capital:

Intellectual capital is an abstract and complex concept that is difficult to define and operate at the organizational level. Some of which will be referred to below.

Today, intellectual capital is recognized as a strategic asset for organizational performance, and intellectual capital management is very important for organizations' competitiveness (Rous 1997)

Intellectual capital has been defined as the overall capital of knowledge, information, technology, intellectual property rights, experience, organizational learning, communication systems, customer and brand relationships that are able to value the company. (Vasil, 2008)

The first attempts at intellectual capital concepts were inspired by Fritz Mecklen's studies in 1962, but historically first introduced by economist John Kenneth Galbraith in 1969.

Drucker (1993), the famous thinker of the management, says that we are entering a knowledge society in which other major economic resources aren't longer capital, natural resources, and more labor, and ..., But the main economic resources will be knowledge.

Intellectual capital is considered a real business asset, although its calculation is very subjective. Companies typically spend millions of dollars annually on training their employees in special business debates, or in order to increase employee qualifications. The capital employed will generate returns for the company, which can be worth several years of trading.

In this economy, the use of knowledge as a factor in production has a small role, but in the knowledge economy, knowledge or intellectual capital is preferred as a source of wealth production in comparison to other assets. (Bontis 1998)

In this economy, intellectual property is considered as the most important organizational asset, and the potential success of organizations is rooted in their intellectual capabilities, not in their proven assets (Tyls et al. 2002)

Intellectual capital and intangible assets are the main drivers of corporate profitability and success. The accounting profession has not yet addressed the challenges of measuring and reporting the results of knowledge-based units. The problem of measuring and reporting intellectual capital is an international domain, and intellectual capital is intangible and can't be measured correctly, but companies must use methods to increase the value of the stockholders. The interest in managing intangible assets has led to different ways of measuring intellectual capital. Many researchers have shown that in developed countries effective management of intellectual capital is directly related to the success of organizations. Based on the theory of intellectual capital, the most important role of intellectual capital is the production of value added services through active management of intangible resources that have a positive effect on the organizational performance of companies.

2.2 Knowledge Creation Process:

In terms of creating knowledge for the company, from the point of view of Unaka and Takuchi (1995), knowledge is defined as the process of adjustment to the truth. In order to create organizational knowledge, the company's ability to create new knowledge is its ability to publish it through the organization and its application in products, services and systems (Noaka and Takuchi 1995). The organization organizes knowledge through the interaction between tacit knowledge and explicit knowledge (Unaka et al. 2000). The distinction between tacit knowledge and explicit knowledge illustrates how epistemological dimensions (knowledge) can be described in the creation of knowledge. Though ideas are shaped in the minds of people, interactions between individuals typically play a vital role in developing these ideas. While these communications may be developed either partially or through organizational boundaries. It should be noted that there is another dimension in the creation of an organization that relates to the concept of social interaction between those who share knowledge and develop it (Noonaka 1994)

In recent years knowledge creation and knowledge management have been prominent factors for organizational competitiveness and organizational performance and success. Successful organizations are those who constantly create new knowledge.

The process of creating knowledge is a score that is evaluated in the form of a questionnaire and a Likert scale based on socialization, extrapolation, integration, and internalization.

2-3-Competitive Advantage:

Competitive advantage is considered as one of the most important issues of strategic management because the existence of competitive advantage in an organization means better performance than competitors and in the short term profitability and in the long run guarantees the growth and survival of the organization (Porter 1990).

The company's values are competitive for customers in a way that they are higher than customer costs. (Porter 1990).

A competitive advantage is the value of a business to give its customers the incentive to buy products and services against competitors' services, as well as a barrier to genuine competition with competitors (Christensen 2010).

A company once has a competitive advantage that can generate more economic value than competitors. The economic value of the difference between the perceived advantage of a customer that buys the company's products and the full cost of the economic product and service (Barney 1991)

2.4 Investigating the relationship between the variables of competitive advantage, intellectual capital and the process of knowledge creation:

If a company wants to make its competitive advantage based on knowledge, its knowledge must be valuable, heterogeneous, rare, constant, irreplaceable, and not easily imitated (Zapan 1996). Given the contribution of knowledge to creating a competitive advantage, the distinction between explicit and hidden knowledge, as stated by Polani (1996), should be noted. Explicit knowledge can easily be copied by rivals, while it is said that tacit knowledge is a more relevant source with a competitive advantage.

2.5 Overview of Research Background:

Bontis (1998) conducted a research paper titled "Thinking Capital: An Exploration and Examination of Models and Measures of Intellectual Capital in Canada." This research showed that there are mutual relations between the components of intellectual capital and all three human capital, structural capital and customer have a positive effect on business performance.

Camus and his colleagues (2011) in a research entitled Competitive Advantage: An Intermediary for Intellectual Capital and Performance investigated the intermediary effect of competitive advantage in the relationship between intellectual capital and financial performance in small institutions in Uganda. The main objective of EJAKD is to play a competitive role in the relationship between intellectual capital and financial performance. The findings show that competitive advantage is a significant intermediary between intellectual capital and financial performance, increasing the relationship between the two to 22.4% in small Uganda financial institutions. So the findings confirm a particular type of mediation relationship between intellectual capital, competitive advantage and financial performance.

3. Methodology

Example 1-3:

Since statistical societies have a large geographic scope and the possibility of referring to the researcher is not possible to all of them, therefore, it is inevitable to select a group of them as examples and generalize the results to the studied community, so the researcher chooses the sampling path. .

The method of sampling was selected by random stratified random sampling method. According to statistics obtained from the Ministry of Industries and Mines and Offices of Industrial Towns in the cities of Mazandaran, there are 40 businesses active in the judicial industry.

3.2 Data and Measurement Scale:

Since the present study is a survey type, a questionnaire was used to collect information. The questionnaire consists of a letter and three parts. The first part contains information from the

respondent, such as gender, education, age, etc. The second part examines the variables of intellectual capital, the process of creating knowledge and competitive advantage. The third part, in the end, was also considered to be part of the response of respondents to the suggestions and recommendations that they considered important and were not considered in the formulation of the questionnaire.

The tests used in the present study:

- 1- Kolmogorov-Smirnov for the purpose of examining the normal distribution of structural capital, human, relational, competitive
2. Correlation between variables and calculating some of the central indicators and dispersion
3. Calculating the coefficient of determination
- 4- Examination Friedman variance analysis.

3-3-Credit:

In order to localize a valid and standard questionnaire (Lee and Chou 2003), the measurement of variables has been utilized through the use of experts' views as well as an introductory sample (Frel 1997). The questionnaire was first provided to eleven professors and experts. After obtaining and applying corrective comments, a sample of twenty nine members of the statistical society was selected as a preliminary sample and the questions were asked to be regularized according to the statistical population of the study. Then the questionnaire was used.

3-4- Reliability:

Different methods are also available to determine the reliability of the measuring instrument. Reliability is a measure of the instrument's characteristics. The reliability of a measure indicates the stability and logical coordination of responses in a measuring instrument and helps to assess the accuracy or appropriateness of a measure (Danaie Fard, Alwani, and December 2010). In this study, two methods for determining the reliability of the questionnaire used Is.

One of the methods is to measure its internal consistency (Sarmat et al. 2005). The internal consistency of the measuring instrument with the Cronbach's alpha coefficient is measured. This is the method used in most research (Patterson 1994), although the minimum acceptable for this subtlety should be 0.7, but 0.6 is also acceptable. In the present study, the reliability of all variables is more than 70%, as shown in Table 4.

4. Findings:

After the studies, it was found that all research structures have a good reliability. Then, we examined the correlation between the variables of the research. The results show that human and structural capitals are positively associated with the process of creating knowledge, but capital is not related to the process of creating knowledge. Consequently, intellectual capital and the process of creating knowledge are related to each other. There is also a relationship between the process of creating knowledge and competitive advantage.

The results of our research hypotheses show that human capital and the relationship do not affect the process of creating knowledge, but structural capital has a positive impact on the process of creating knowledge. The process of creating knowledge, human capital, and structural capital also have a positive impact on competitive advantage, but the assumption of the capital relationship effect was not confirmed on the creating knowledge process.

Friedman was used to index the indices for each of the research variables. Finally, the mean test was used to show the suitability of the status of each of the research variables in the society, which indicates the suitability of the status of all variables in the population under study.

4.1 Correlation, statistics and reliability:

The following table explains the correlation between the variables listed in the research as a table of numbers and figures.

Let's say the meaning of the relationship that exists or not, with the mention of the reason.

Table 1: Correlation table between variables

	Intellectual Capital	creating knowledge process	Competitive Advantage
Intellectual Capital correlation coefficient		0.509	0.453
Significance level		0.004	0.012
creating knowledge process correlation coefficient	0.509		0.681
Significance level	0.004		0.000
Competitive Advantage correlation coefficient	0.453	0.681	
Significance level	0.012	0.000	

Based on our outcomes, since the significance level is less than 0.05, the hypothesis h0 is rejected, and the idea of the correlation between intellectual capital and the process of creating knowledge with a coefficient of 0.509 at a significant level of 0.05 is confirmed.

Based on our outcomes, since the level of significance is less than 0.05, the hypothesis h0 is rejected, and the idea of the existence of a correlation between knowledge creation and competitive advantage with a coefficient of 0.681 is accepted.

Based on our outcomes, since the significance level is less than 0.05, the hypothesis h0 is rejected and the hypothesis of the correlation between intellectual capital and competitive advantage is accepted with a coefficient of 0.453.

Based on our outcomes, since the level of significance is less than 0.05, the hypothesis h0 is rejected and the theory of the correlation between relational capital and the process of creating knowledge with a coefficient of 0.339 is rejected.

5. Discussion and Conclusion:

The present study aimed to investigate the factors affecting knowledge creation process on the competitive advantage in food industry of east Mazandaran. Studies have identified the factors influencing knowledge creation processes in different ways, first of all, from Pearson's Correlation Prediction to explain the knowledge creation process in the food industry in an integrated way that the four variables studied can be explained. It is a process of creating knowledge and clearly illustrating the effects of each of them. This will help managers to follow any changes and improvements in the process of creating knowledge in this way.

The analysis shows that the four variables of socialization and Web designing, combining and internalizing each with their own severity and weakness as factors influencing the process of creating knowledge have been.

According to the results of human capital, there is a positive and significant relationship between structural capital and the creation of knowledge. There is a meaningful relationship between intellectual capital and knowledge creation, and there is no relationship between capital and the

creation of knowledge. Relationship between human capital and competitive advantage there is a meaningful relationship.

Knowledge management is considered as a fundamental activity for growth and maintenance of intellectual capital in organizations (Snake et al. 2001). This means that successful management, intellectual capital, is closely related to the suitability of the organization's knowledge management processes. This in itself proves the fact that successful implementation ensures the proper use of knowledge management, the creation of the acquisition of growth and the preservation of intellectual capital. Its management consists of processes that facilitate the use and development of intellectual capital in order to create value and enhance and maintain competitive advantage.

According to the research rankings, intellectual capital has the highest average rating, followed by relational capital and then human capital. First, human capital must be strengthened, then capital and, ultimately, structural capital Strengthened. Among the factors related to the competitive advantage, innovation has the highest average rating, followed by quality and customer responsiveness and ultimately performance. Therefore, efficiency, then customer satisfaction and quality, and ultimately innovation, should be strengthened. The results showed that human capital has no effect on the process of creating knowledge in the businesses in the eastern food industry of Mazandaran. As already mentioned, human capital represents the knowledge giver is an organization's knowledge. This knowledge is in the minds of employees. If employees are not employed by the organization, knowledge in their brains is not activated.

Today, many companies around the world have found that measuring and managing intellectual capital can provide them with competitive advantages. Intellectual capital is a company of total human capital, structural capital and its related capital. Having control of these assets will enable the organization to have effective domestic governance and, on the other hand, have a successful external relationship with customers, suppliers and other stakeholders. Therefore, it requires the company to take steps to manage, control and report intellectual capital. It should be noted that the calculated value of intangible assets is not precise and most of the measurement methods are difficult because of their difficulty and require a lot of information and indices, and these indicators are not fully described, their implementation will be faced with problems. Ideally, intellectual capital reporting can also play an important role in determining the company's future value and stabilizing its current position in the industry.

The results of the present research indicate that the skills existing in the minds of people are not well applied and human capital is not used as a factor in creating knowledge.

6. Limitations and future research:

In the data collections of this research, perceptual criteria have been used and may have a negative effect on the credibility of the findings due to the cognitive aides of managers. The comprehensive statistical data used in this research is the food industry in the eastern industrial towns of Mazandaran province and has been selected because of the geographical constraints and cannot be generalized to the results of the whole society. As a matter of interest to the future, these are among the limitations of the present research, as well as the study of other factors affecting the competitive advantage and the process of creating knowledge that has not been studied in this study. Many executives were uninteresting about their study. Based on sampling formula, sample size was 36, but due to the lack of cooperation of the managers of the companies, 30 questionnaires were collected.

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