The Macrotheme Review
A multidisciplinary journal of global macro trends

THE RELATIONSHIP BETWEEN THE FINANCIAL PERFORMANCE AND INTELLECTUAL CAPITAL IN THE FOOD AND BEVERAGE ENTERPRISES

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Abstract

The increasing of intangible assets of enterprises has shown that traditional accounting systems are not able to calculate intellectual capital and intangible assets sufficiently. The food and beverage enterprises as a service provider are one of the enterprises that have more intangible assets and intellectual capital than other enterprises. However, the research about the relationship between financial performance and intellectual capital that conducted for food and beverage enterprises are a limited extent. Thus, the aim of the study is to reveal the relationship between financial performance and intellectual capital in food and beverage enterprises. For this aim, a questionnaire was employed to food and beverage enterprises, and the relationship between financial performance and intellectual capital was revealed.

Keywords: Financial performance, intellectual capital, food and beverage enterprises

1. INTRODUCTION

The information resources obtained, developed and managed by enterprises are conceptualized as intellectual capital in general (Stewart, 1997: 10). Intangible resources and their operation is the essence of intellectual capital (Bontis, 1996: 41). According to Edvinson and Malon (1997) intellectual capital can be defined as the difference between the carrying value and the market value of the company. Increase of the difference between market value and book value of the companies has led to an increase in the number of the studies aiming to find missing values in the financial statements.

The food and beverage enterprises, which are operating in a service providing sector, are one of the companies that have many intangible capitals such as human, knowledge and culture. However, the number of the studies focusing on relationship between intellectual capital and financial performance in the food and beverage enterprises seems very limited. Therefore, the primary objective of this study is presenting the relationship between intellectual capital and financial performance, and making recommendations. In addition, it has been also aimed to measure the correlation between human capital within the scope of intellectual capital, structural capital and relational capital and financial performance in the food and beverage enterprises.

2. LITERATURE REVIEW

Intellectual capital is considered as an important source of value creation and competitive advantage (Drucker, 1993; Grant, 1996: 110). It has been concluded that there is not any widely accepted definition of intellectual capital in the literature. Edvinsson and Malone (1997: 44) have described intellectual capital as "information, experience, organizational technology, customer relationships and professional skills that provide competitive advantage to the firm". Intellectual capital also refers to intangible assets such as information, data, skills and intellectual property that are used to create prosperity (Kannan and Albur, 2004: 389). On the other hand, Stewart (1997) has defined intellectual capital as tangible assets that are formalized, obtained and leveraged in order to create prosperity by producing higher-value assets.

As in the definition of intellectual capital, the researchers have examined different elements within the scope of intellectual capital. Osterland (2001) has considered information capital as intellectual, human, costumer and supplier capital, while Sullivan (2000) has also included experience, general technical knowledge and skills of the staff in human capital.

The researchers (Bontis, 1999: 433; Curado and Bontis, 2007: 316; Roos et. al., 1997; Sallebrant et. al., 2007: 1473; Sharabati, 2010: 107; Stewart, 1999; Sveiby, 1997) mention three categories in the subject of dividing intellectual capital into categories. These categories include human capital, structural capital and relational capital. Human capital represents the intangible assets created by individuals. People create capital by using their competence, behaviors and intellectual abilities (Roos et al, 1997). According to Bontis (1998: 66) the structural capital, the second capital of the enterprises, covers concrete structures. On the other hand, Stewart (1999) argues that culture is an extensive and valuable element in the structural capital. The third category is the relational capital, which is a capital of all enterprises that have stakeholders and shareholders (Stewart, 1999). According to Rudez and Michalic (2007: 195) the relational capital consists of customer satisfaction, image, brand and distribution channels.

According to Marian (2011: 263), the financial performance determines the criteria to see how a company use its intellectual capital elements and how it obtains a profit. Fathi et al. (2013: 9) have argued that it is not possible to calculate the true value of a business by using traditional financial accounting tools. Intellectual capital offers a new model to measure the true value of an organization (Fathi et al. 2013: 9). In a study conducted by Gan and Saleh (2008: 124) the relationship between intellectual capital and business performance has been measured and it has been concluded that intellectual capital has an important effect on profitability and productivity. In addition, Appuhami (2007: 23) has identified a significant relationship between intellectual capital and earnings per share of the investors. Marian (2011: 265) has carried out a study, which was aiming to present the effect of intellectual capital on the financial performance of the companies in Romania. Marian has proven that there is a positive relationship between intellectual capital and financial performance of the companies (Marian, 2011: 269). Şen (2014: 104) has investigated the effect of adapting the International Financial Reporting Standards on intellectual capital of the companies, which are producing agricultural or agricultural-based products and traded in Istanbul Stock Exchange, and concluded that the adaptation of International Financial Reporting Standards has no statistically significant effect on the intellectual value added coefficient. Kurgun and Akdağ (2013: 155) have investigated the relationship between intellectual capital and organizational performance at the hotels by using the

data collected from hotel managers. According to the results of the study, there is a positive relationship between organizational performance and customer capital and also there is a positive correlation between structural capital and organizational performance (Kurgun and Akdağ, 2013: 155). Ong et al. (2011) have examined the intellectual capital efficiency in Malaysian food and beverage industry.

3. RESEARCH MODEL

As a result of the information obtained from reviewing the literature, intellectual capital is divided into three sub-categories: human capital, structural capital and relational capital. The following hypotheses are established in accordance with the goals desired to be reached within the study and the literature mentioned above;

H_1: There is positive relationship between intellectual capital (IC) and respectively human capital (HC), structural capital (SC), and relational capital (RC) in the food and beverage enterprises.
H_2: There is positive relationship between HC and respectively innovation and creation, training and education, and experiment and expertise in the food and beverage enterprises.
H_3: There is positive relationship between SC and respectively system and programs, and R&D in the food and beverage enterprises.
H_4: There is negative relationship between SC and intellectual proprietary rights in the food and beverage enterprises.
H_5: There is positive relationship between RC and respectively knowledge about partners, suppliers and customers, and relationship with partners, suppliers and customers in the food and beverage enterprises.
H_6: There is positive relationship between RC and alliances, agreements and licensing in the food and beverage enterprises.
H_7: There is positive relationship between HC, SC, and RC and financial performance in the food and beverage enterprises.

4. METODOLOGY

The questionnaire was developed towards food and beverage companies operating in the service sector by benefiting from the survey included in the study conducted by Geri (2012: 55) in order to present performance values of the food and beverage companies and their position in the market and the questionnaire developed by Sharabati et al. (2010) to measure the intellectual capital and its sub-dimensions. The questionnaire consists of two parts. In the first part, six questions were asked to the participants to determine the characteristics of staff working in the food and beverage companies included in the study. In the second part of the questionnaire, a total of 92 statements related to the sub-dimensions of intellectual capital such as human capital (32 statements), structural capital (30 statements) and relational capital (30 statements) were given to the food and beverage companies with 5-point Likert Scale (1: I strongly disagree; 5: Strongly agree). In addition, a total of 14 statements related to financial performance were given to the food and beverage companies included in the study with 5-point Likert Scale (1: I strongly disagree; 5: Strongly agree).

Croanbach's Alpha (CA) value was calculated in order to test the reliability of the scale used in the study. The CA value of human capital was identified as 93%, whereas the CA value of

structural capital was identified as 93%, the CA value of relational capital was identified as 94% and the CA value of financial capital was identified as 91%, respectively. The scale can be considered as reliable since the Croanbach's Alpha (CA) value is greater than 70% (Hair et al., 2009).

The target population of this study is food and beverage companies serving in Antalya, where the study is conducted in. The data were obtained through a total of 71 questionnaires applied to the middle and senior managers of randomly selected food and beverage companies. Intellectual capital, human capital, structural capital, relational capital and financial performance were designed as they were previously designed in a study conducted by Sharabati et al. (2010) using the average values of factors, since it is known that which variables measure what factor in order to obtain the dimensions to be used later (Özdamar, 1996). The reliability analysis was conducted for each dimension obtained and all Croanbach's Alpha values were identified between 82% and 92%. Since the Croanbach's Alpha value is over 70%, it can be suggested that each dimension is reliable (Hair et al., 2009).

5. ANALYSIS AND RESULTS

The frequency analysis was performed in order to present the features related to the personnel of the food and beverage companies included in the study and the results are summarized in Table 1. Considering the distribution of inexperienced employees in food and beverage business, 1-10% comes first followed by 0%, respectively. Since the ratio of inexperienced employees is low, it can be concluded that the participant food and beverage companies prefer to recruit experienced employees to be working this business. Similarly, since the ratio of employees with professional experience in food and beverage companies is higher than 30%, these companies prefer to recruit professionals in their businesses. In addition, as it can be seen in Table 1, the ratio of the employees who know at least two languages is between 1% and 10%.

Table 1. Features Related to the Personnel of the F&B Companies		
Distribution of Inexperienced Employees		
	n	*%*
% 0	17	23.9
% 1-10	37	52.2
% 11-20	14	19.7
% 21-30	2	2.8
% 30+	2	2.8
Total	71	100
Ratio of Employees with Professional Experience		
	n	*%*
% 0	0	0
% 1-10	7	9.8
% 11-20	10	14.1
% 21-30	20	28.2
% 30+	34	47.8
Total	71	100
Ratio of the Employees Who Know at Least Two Languages		
	n	*%*
% 0	10	14.1
% 1-10	22	31.0
% 11-20	21	29.5
% 21-30	11	15.5
% 30+	7	9.9
Total	71	100

Some questions are asked to the employees regarding on the job trainings and R&D expenses and the ratio of these expenses in operating expenses in order to present the importance given to training and R&D activities by food and beverage companies. The results are given in Table 2. Since the ratio of on the job training expenses in the operating expenses is between 1-10%, it can be concluded that the food and beverage companies do not pay enough attention to the job trainings of their employees. Similarly, the ratio of R&D expenses in between 1-10%, the R&D activities of these companies are insufficient.

Table 2. Ratio of Training and R&D Expenses in Operating Expenses		
Ratio of on the Job Training Expenses in the Operating Expenses		
	n	*%*
% 0	4	5.7
% 1-10	39	54.9
% 11-20	24	33.8
% 21-30	2	2.8
% 30+	2	2.8
Total	71	100
Ratio of R&D Expenses in the Operating Expenses		
	n	*%*
% 0	4	5.7
% 1-10	29	40.8
% 11-20	22	31.0
% 21-30	6	8.4
% 30+	10	14.1
Total	71	100

According to a question asked to the food and beverage companies to see the changes in their market shares, it has been observed that the number of the companies claiming that their shares in the market have been increased in the last five years is 55 (77.5%) (Table 3). The market share of 14.1% of the companies has not been changed, whereas 8.4% of the companies said that their market share has been reduced for the last five years.

Table 3. Please Indicate Yours Last 5 Years Market Changes		
	n	*%*
Increased	55	77.5
Not changed	10	14.1
Reduced	6	8.4
Total	71	100

The correlation analysis was performed to test the hypotheses of the study. The results of the correlation analysis, which was performed in order to see whether there is a positive correlation between intellectual capital of the food and beverage companies and human capital, structural capital and relational capital, respectively, are given in Table 4. According to Table 4, there is a strong correlation between intellectual capital and human capital, structural capital and relational capital. Since the human capital, structural capital and relational capital are considered as the basic elements of intellectual capital, this is a major cause of this strong relationship (Curado and Bontis, 2007: 316; Sharabati et al., 2010: 107). Hypothesis 1st is accepted based on these findings.

Table 4. Relationship Between IC with HC, SC and RC		*Human Capital*	*Structural Capital*	*Relational Capital*
Intellectual Capital	Correlation Coefficient	.908	.946	.899
	Significant	.000*	.000*	.000*
	N	71	71	71
*Correlation is at 0.01 level				

The correlation analysis carried out in order to test hypothesis 2 is summarized in Table 5. According to Table 5, there is a positive correlation between human capital with respectively innovation and creation, training and education, experiment and expertise. The results support hypothesis 2. According to the findings, the food and beverage companies with human capital are more advantageous than other companies in terms of respectively innovation and creation, training and education, experiment and expertise.

Table 5. Relationship Between HC with Innovation, Training, and Experiment

		Innovation and Creation	Training and Education	Experiment and Expertise
Human Capital	Correlation Coefficient	.914	.909	.927
	Significant	.000*	.000*	.000*
	N	71	71	71
*Correlation is at 0.01 level				

The results of the correlation analysis in order to test the hypothesis 3 and 4 are presented in Table 6. According to Table 6, there is a strong correlation between structural capital and systems and programs, R&D and intellectual proprietary rights. The results support hypothesis 3, while they don't support hypothesis 4. Although there is a positive relationship between structural capital and intellectual proprietary rights, according to a study conducted by Shabarti et al. (2010: 114) applied on pharmaceutical industry, there is a negative relationship between structural capital and intellectual proprietary rights. Shabarti et al. (2010: 114) have considered patents and copyrights as the causes of this negative relationship.

Table 6. Relationship Between SC with Systems, R&D, and intellectual proprietary rights

		Systems and Programs	R&D	Intellectual proprietary rights
Structural Capital	Correlation Coefficient	.925	.903	.871
	Significant	.000*	.000*	.000*
	N	71	71	71
*Correlation is at 0.01 level				

The results of the correlation analysis in order to test the hypothesis 5 and 6 are presented in Table 7. According to Table 7, there is a strong and positive relationship between relational capital of the food and beverage companies with their knowledge and relations about partners, suppliers and customers, respectively. In addition, a strong and positive relationship has been found between relational capital of the food and beverage companies and their alliances, agreements and licensing.

Table 7. Relationship Between RC with Customers, Suppliers, and Partners

		Knowledge about partners, suppliers, customers	Relations about partner, supplier, customer	Alliances, agreements and licensing
Relational Capital	Correlation Coefficient	.881	.928	.867
	Significant	.000*	.000*	.000*
	N	71	71	71
*Correlation is at 0.01 level				

The results of the correlation analysis in order to test the last hypothesis of the study, which is "in the food and beverage companies, there is a positive relationship between financial performance and human capital, structural capital and relational capital, respectively" are given in Table 8. According to Table 8, there is a moderate correlation between financial performance of the food and beverage companies and their human capital, structural capital and relational capital, respectively. As long as the human capital, structural capital and relational capital of food and beverage companies increases, their financial performances also increase. According to the results, the hypothesis 7 was accepted.

Table 8. Relationship Between Financial Performance with HC, SC, and RC

		Human Capital	Structural Capital	Relational Capital
Financial Performance	Correlation Coefficient	.222	.293	.450
	Significant	.063	.013*	.000*
	N	178	178	178
*Correlation is at 0.01 level				

Table 9. Summary of Findings

H_1	There is positive relationship between intellectual capital (IC) and respectively human capital (HC), structural capital (SC), and relational capital (RC) in the food and beverage enterprises.	Accepted
H_2	There is positive relationship between HC and respectively innovation and creation, training and education, and experiment and expertise in the food and beverage enterprises.	Accepted
H_3	There is positive relationship between SC and respectively system and programs, and R&D in the food and beverage enterprises.	Accepted
H_4	There is negative relationship between SC and intellectual proprietary rights in the food and beverage enterprises.	Rejected
H_5	There is positive relationship between RC and respectively knowledge about partners, suppliers and customers, and relationship with partners, suppliers and customers in the food and beverage enterprises.	Accepted
H_6	There is positive relationship between RC and alliances, agreements and licensing in the food and beverage enterprises.	Accepted
H_7	There is positive relationship between HC, SC, and RC and financial performance in the food and beverage enterprises.	Accepted

The results of analyses performed in order to test the hypothesis of the study are summarized in Table 11. According to Table 11, the H1, H2, H3, H5, H6 and H7 have been accepted, whereas H4 was rejected.

6. CONCLUSION

The primary objective of this study was to reveal the relationship between intellectual capital of food and beverage companies and their financial performance. In this context, the literature related to intellectual capital and financial performance has been reviewed. The questionnaires, which are valid in the literature, developed by Geri (2012: 25) and Sharabati et al. (2010: 122) are adapted to the tourism. The data were obtained by applying the questionnaire developed to the middle and senior managers of the food and beverage companies.

According to the findings, it has been concluded that the average ratio of employees with professional experience in food and beverage companies is higher than 30% in Antalya. Since the ratio of inexperienced workers of food and beverage companies is low, it can be said that the human capital of these companies is high. The ratio of on the job training and R&D expenses of the food and beverage companies included in the study in the operating expenses is between 1-10%. Although the food and beverage companies have a good human capital, spending of these companies to protect and improve their human capital are insufficient.

In the study, we have found a strong and positive relationship between intellectual capital and human capital, structural capital and relational capital. The strong and positive relationship between human capital and creation and innovation, learning and education, experience and expertise in the food and beverage companies shows that these companies increase their human capital. In addition, the systems, R&D and capital ownership rights owned by food and beverage companies increase the structural capital. A strong and positive relationship has been found between relational capital of the food and beverage companies and their agreements, partnerships and contracts. According to the correlation analysis performed for the primary objective of the study, there is a moderate correlation between financial performance of the food and beverage companies and their human capital, structural capital and relational capital, respectively.

According to the findings, there is a positive relationship between intellectual capital (human capital, structural capital and relational capital) of the food and beverage companies and their financial performance and intellectual capital affects the financial performance of the food and beverage companies. Therefore, intellectual capital of the food and beverage companies should be increased in order to increase their financial performance. Food and beverage companies should pay more attention to education, training, innovation, R&D activities, systems, and relationships with suppliers, relationships with partners, and relationships with customers, agreements, contracts and partnerships in order to maintain and improve their intellectual capital and they should make more spending for these.

This study was conducted with the food and beverage companies operating in tourism sector and it has been aimed to contribute to the literature in this regard. For the future studies, more participants are needed in order to generalize intellectual capital and financial performance into tourism industry and present to what extent financial performance is affected by intellectual capital in the tourism sector.

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