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A NOTE ON INTELLECTUAL CAPITAL, CORE COMPETENCIES AND BUSINESS PERFORMANCE

Приводятся результаты исследований по выявлению связей между основными компонентами «интеллектуального капитала» (человеческий капитал, структурный и относительный капитал) и бизнес-процессами. Исследования проводились на основе социологического опроса руководящего состава предприятий и данных по бизнес-процессам (база данных SABI) за 2007–2008 гг.

This paper seeks to test the existence of links between core competencies –grouped according to the dimensions of intellectual capital (Human Capital, Structural Capital and Relational Capital) and business performance. With information from a survey conducted among business managers, and business performance data for 2007 and 2008 obtained from the SABI database, non-parametric contrasts were performed in order to verify such links. The results show a positive and significant link of the ROA with the competencies linked to Human Capital in 2007 and 2008, and equally for 2008 with the competencies linked to Relational Capital. However, no significant relations were found between the competencies linked to Structural Capital and business performance.

1. Introduction

Knowledge is a critical element in today's society. It has led to substantial changes in the way of understanding corporate reality. Thus, sustainable competitive advantages in companies hinge on their intangible resources, particularly those due to knowledge –*intellectual capital*–, where innovation plays a crucial role. Special mention should be made of the *core competencies*, as they are the basis of their competitive advantages, in such a way that possessing them enables business value to be created.

Therefore, the aim of this paper is to seek for the existence of positive links between the core competencies –grouped according to the dimensions of the intellectual capital: Human Capital, Structural Capital and Relational Capital– and business performance.

The paper is structured as follows. The second section justifies the key role of intangible resources in business competitiveness, from the resource-based view, to then show their link with intellectual capital and core competencies. The third section first describes the study methodology, including the results obtained. Finally, we present the conclusions obtained, the limitations of the study and future lines of research.

2. Intangible resources as competitive strategic factors

2.1. Intangible resources, Intellectual Capital and competitive advantage

Resource Based View has been a decisive contribution to strategic management. Different authors noted that companies have or control a wide variety of resources and combinations of them (capabilities) that are essential for the company to be able to operate. These resources have intrinsically different levels of efficiency, some of which are superior to others. Therefore, companies endowed with superior resources will have a greater likelihood of better perform (Barney, 2001). This is the origin of Resource Based View. Amit & Shoemaker (1993) highlighted five characteristics that differentiate them: inimitable, rare, valuable, non-transferable and non-substitutable. We have added durability to the aforementioned characteristics. Intangible resources are those that combine all these requirements with more facility, and therefore become more frequently the key factor of business competitiveness (Lev, 2001). This statement is particularly applicable to the intangible resources based on knowledge, that is, to intellectual capital. There is a certain consensus about the three components or basic dimensions of intellectual capital: Human Capital, Structural Capital and Relational Capital (Roos et al., 2001; Bontis, 2002; Bueno, 2003; Marr & Roos, 2005). Another useful differentiation in intangible resources is between *intangible assets* and *core competencies* (Schunder-Tatzber & Markom, 2004). *Intangible assets* are "codified" intangible resources, so that the relevant rights regarding their holding or ownership by the organisation are clearly established, by means of a contract, a regulation or any other legal title. The *core competencies* are the set of skills or aptitudes developed by the company that generate a significant value or benefit for the client (Hamel y Prahalad, 1994). These competencies may be associated to the different IC dimensions (Rodríguez-Castellanos et al., 2007). Therefore, we put forward core competencies linked with to HC, or to SC or to RC[*]. Core competencies are the resources most valuated by companies (García-Merino et al., 2008). If core competencies are the most valid resources of the companies, the holding of said competencies must be expressed in the company results. Thus, we could ask: does holding a core competency associated to a specific type of IC provide the company with better results? We will try to answer this question.

3. Intangible resources and business performance

3.1. Methodology

3.1.1. Hypotheses

Core competencies linked to Human Capital

HC has been considered as a critical resource in the majority of companies and is a source of competitive advantage. Recent studies show that attributes such as education, experience and skills of the employees, among other, lead to better business performance (Hitt et al., 2001). This leads us to conclude that holding a core competency linked to HC can lead to better results. Therefore, the following hypothesis is advanced:

***H$_1$**: The key competitiveness factors linked to Human Capital are associated to better business performance.*

We must consider the variables that more directly affect the operating result of the company; complementarily, it can also be seen in greater growth of sales and profits. The secondary hypotheses will therefore be:

H$_{1.1}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Human Capital have greater economic profitability (ROA).

H$_{1.2}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Human Capital have greater growth in sales.

H$_{1.3}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Human Capital have greater growth in operating profits**.**

Core competencies linked to Structural Capital

According to Bontis (1998), HC only generate competitive advantage if it transforms into SC. Previous studies (Rodríguez-Castellanos et al., 2006) show that the intangibles making up SC are the most important in the organisations. The greater preoccupation to maintain and improve SC generates increases in the economic value of the company. It can be seen from the above that core competencies associated to SC seem to be particularly valid. Therefore, the following hypothesis is advanced:

***H$_2$**: The key competitiveness factors linked to Structural Capital are positively associated to better business performance.*

And, consequently, the secondary hypotheses are:

H$_{2.1}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Structural Capital have greater economic profitability (ROA).

[*] The link between core competencies and IC dimensions goes on double sense: on the one hand, the competencies contribute to IC generation; on the other hand, IC can generate new basic competencies.

$H_{2.2}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Structural Capital have greater growth in sales.

$H_{2.3}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Structural Capital have greater growth in profits.

Core competencies linked to Relational Capital

The interest in knowledge about the stakeholders with which they maintain relations increases the likelihood of outdoing the competition and therefore the likelihood of generating greater value in the company, which leads to an increase in its economic results (Kandampully, 2002). Based on the above, the following main hypothesis is advanced:

***H_3**: The key competitiveness factors linked to Relational Capital are positively associated to better business performance.*

And as secondary hypotheses:

$H_{3.1}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Relational Capital have greater economic profitability (ROA).

$H_{3.2}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Relational Capital have greater growth in sales.

$H_{3.3}$: The companies whose executives consider that their most relevant competitiveness factor is associated to Relational Capital have greater growth in profits**.**

3.1.2. Selecting the population, obtaining the sample and research process

An empirical study was performed doing a survey that focused on companies in the Basque Country (Spain). Table 1 (Study technical data) contains the technical datasheet of the conducted survey. The choice of these two years for the study is due to, while 2007 was still a year of growth, in 2008, the economic downturn begun.

Table 1

Study technical data

Population	3,263 companies in the Basque Country
Sample	517 valid questionnaires to directives
Technique for data collection	Telephone survey
Calendar	20 November 2007 to 14 January 2008
Source of economic-financial data	SABI Database
Calendar	November 2009
Final sample	300 in 2007; 219 in 2008
Random final error	Random error of ±5.4 % in 2007 and ±6.4 % in 2008, with a level of confidence 95 %, p = q = .5

The research process was organised as follows: first of all, though a telephone survey, the opinion of Basque executives were gathered about different aspects relating to the importance of intangibles and their financial valuation. The initial questionnaire was validated by means of a *pretest* with the members of the Management and Finance Forum[*]. Next, information was gathered from SABI database about the business performance of the companies analysed in 2007 and 2008. Later, given that the variables did not match normal distribution, and that the standard transformations to achieve normality were not successful, non-parametric tests, particularly the Mann and Whitney test, were performed.

3.2. Results

3.2.1. Key competitiveness factors linked to Human Capital

The results for 2007 and 2008 are shown in tables 2 and 3. In both cases, only the positive differences in the ROA variable are statistically significant to 5 %, it is not significant in the other cases. Therefore, the secondary $H_{1.1}$ hypothesis is accepted for 2007 and 2008. In a previous study (García-Zambrano, 2010), referring to the 2004–2006 time period, the results are similar. It may be indicative that, in all times, the companies that have previously invested in HC are in better conditions to maintain, and even increase, its profits, than other type of companies, despite the lower sales.

Table 2

Key competitiveness factors linked to Human Capital. 2007 contrast statistics

	ROA	Growth in turnover	Growth in operating profits
Mann-Whitney's U	9,082.000	9,682.000	8,362.500
Wilcoxon's W	25,918.000	25,972.000	21,242.500
Z	–2.103	–.935	–.061
Asymptotic significance bilateral)	.035	.350	.951
Grouping variable: Key competitiveness factor linked to Human Capital			

[*] The Management and Finance Forum (*Foro de Gestión y Finanzas*) is an association integrated by financial directives of the main companies of the Basque Country.

Table 3

Key competitiveness factors linked to Human Capital. 2008 contrast statistics

	ROA	Growth in turnover	Growth in operating profits
Mann-Whitney's U	3,564.000	4,453.500	4,861.500
Wilcoxon's W	15,654.000	6,469.500	6,877.500
Z	−3.123	−1.016	−.050
Asymptotic significance (bilateral)	.002	.310	.960
Grouping variable: Key competitiveness factor linked to Human Capital			

3.2.2. Key competitiveness factors linked to Structural Capital

In 2007, and also in 2008, none of the variables are statistically significant at 5 %*. Consequently, we cannot accept H_2. Besides, the 2004–2006 time period produced similar results (García-Zambrano, 2010). An explanation of these surprising results is that the links between the different IC dimensions could not there be analysed, as only the core competencies that the executives perceive as the most important in their company are taken into account. Consequently the results obtained might not reflect the real role of SC in the analysed companies.

3.2.2. Key competitiveness factors linked to Relational Capital

In 2007 none of the variables were statistically significant at 5 %**. With regard to the 2008 results, the average of the ROA variable is (significantly) greater in those companies that consider their key competitiveness factors associated to RC (table 4). Consequently, the hypothesis $H_{3.1}$ is confirmed. The 2004–2006 analysis (García-Zambrano, 2010) indicates that companies whose key factor was associated to RC showed higher growth in sales, with 10 % significance. Bearing in mind that 2008 was the year that saw the start of the downturn, one possible interpretation is that, during 2004–2006, where all companies in general obtained good results, those companies that base their competitiveness mainly on RC achieve greater growth in sales, but that is not reflected in the profitability as a large part of the investments in intangibles are considered as costs. However, during the downturn (2008), where competition was much greater and only the best prepared companies survived and continued to be profitable, those that are better endowed with intangibles, in this case relational ones, prove to be more profitable.

Table 4

Key competitiveness factors linked to Relational Capital. 2008 contrast statistics

	ROA	Growth in turnover	Growth in operating profits
Mann-Whitney's U	4,852.500	5,607.500	5,705.500
Wilcoxon's W	8,857.500	13,992.500	14,090.500
Z	−1.940	−.291	−.076
Asymptotic significance (bilateral)	.052	.771	.939
Grouping variable: Key competitiveness factor linked to Relational Capital			

4. Conclusions

The results obtained were not as overwhelming as could have been expected. In fact, according to the analysis performed, the only variable that leads to significant improvements in the results is the economic profitability (ROA). In the case of the companies with core competencies associated to HC, the higher ROA is significant in each of the years in question (2007 and 2008), but also in the period 2004–2006, analysed in a previous study, and we therefore find a strong and stable result: being well-endowed with human resources is a good way to generate ideas and knowledge that positively influence R&D&i, and this in turn leads to being economic profitability.

On the contrary, companies whose executives consider the key competitiveness factor linked to SC does not obtain better results *a priori*. Therefore, this is, according prior findings, the most important in organisations. The results are therefore not perhaps reflecting the true role of SC in the analysed companies. We estimate that it cannot be claimed in any way that the core competencies associated to SC are not important in the organisations, as the competitive advantage is ultimately due to an appropriate combination between all dimensions of intellectual capital.

With respect to the core competencies associated to RC, they were only significantly reflected in a better ROA in 2008. Even in a previous period (2004–2006), they led to better growth in sales, but not in better profitability. One possible explanation is that, before where it was relatively easy for companies to obtain better

* The results of performed tests are valid on request.

** Also in this case the results of performed tests are valid on request.

results, the companies that mainly base their competitiveness on RC achieved greater growth in their sales, but it was not reflected in the profitability. However, in 2008, when only the best prepared companies survive and are profitable, the greater endowment of intangibles, rational in this case, leads to greater profitability.

We believe that these conclusions are particularly relevant; this study has been based on a representative sample of companies –any type of companies from all sectors–, while the majority of previous studies have focused on specific sectors or technological or innovative companies.

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