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INTANGIBLE-INTENSIVE PROFILE OF A COMPANY: THE KEY TO OUTPERFORMING³

This study explores corporate strategies regarding intangibles. We argue that companies consciously or unconsciously follow particular investment strategies in intangibles by allocating resources among intangible assets. The key contribution of our research is a new way to classify companies according to intangibles employed. The research question is if intangible-intensive profile exists. For the purpose of our each profile is identified on the intersection of the relevant theory of intellectual capital and empirical investigation. The intellectual capital concept enables elaboration of the framework of each company's profile. The empirical analysis provides us with the clusters matched with the theoretical framework. The database consists of about 1700 listed European companies observed from 2004 till 2011. The database includes figures from annual statistics and financial reports. The information about intangibles was collected from publicly available sources like company websites, patent and information bureaus, and rating agencies. As a result more than 20 indicators are involved in the analysis. K-means clustering allows us distinguishing four major profiles of intangible-intensive companies.

The empirical analysis allows identification of three profiles of companies: two of them (innovative and conservative) represent intangible intensive strategy. The third profile that doesn't have clear priorities in intangibles was called in this study moderate (low) and was used as a benchmark to examine if intangible-intensive profiles enable better performance.

JEL Classification: O30, G30.

Keywords: intangibles, strategic profile, companies' performance

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Introduction

In the late 70's and the beginning of the 80's, different strategic typologies were proposed by scholars like Miles, Snow, Meyer & Coleman (1978), Porter (1985) and Maidique and Patch (1982). Later, with the resource-based perspective, the research orientation sifted from the study of typologies to the specific factors in companies (Jusoh and Parnell, 2008). However, still there is room for testing typologies related to the use of idiosyncratic assets (intangibles in this case) and how those strategic profiles can contribute to higher performance of companies.

Therefore, this paper aims:

- 1) at the exploration of companies' profiles related to the components of companies' intangibles, and
- 2) if they exist, at testing which profiles have higher performance than others do.

This understanding would help managers to define the strategies that should follow in order to be better off.

Literature Review

Strategic Profiles

Managers would appreciate if they could identify how to define strategies for their companies in order to reach better performances. Each company is special. In that sense, Rumelt (1991: 167) suggests that "industry may not be the most useful unit of analysis" when considering the business strategy. Moreover, according to him, the neoclassical idea that firms in an industry are homogeneous is not correct when he probes that the real industries are highly heterogeneous. Osborne and Cowen (2002) remark that companies with similar sizes, products and years in business can differ greatly in performance. They look for the common features of high-performance companies from their experience as consultants. They just separate high-performance companies profile from also-rans. Meanwhile, this paper will look for companies' profiles using empirical data.

The existence of factors that gather the common features of firms can help to cluster them and extract consequences in order to outperform those companies without a clear

strategy. Companies stake out their strategic position consciously or unconsciously (Nickerson and Silverman, 1998). Once identify the clusters, they can be analyzed to extract ideas for managers in order to establish deliberate strategic position that helps companies to perform better.

Managerial literature looks for profiles of companies. Mostly related to its strategy. Miles et al. (1978) present a strategic typology considering three strategic positions (defenders, analyzers and prospectors) together with what they consider as a strategic failure (reactors). Porter (1985) propose three broad generic strategic positions for companies: cost leadership, differentiation and focus or niche strategy. Each one of them provide the company a long-run position to outperform the competitors. Also there is a forth via that is “get stuck in the middle”. Companies with this profile have failed in their positioning and they are not able to perform at the same level of their competitors. Insch and Steensma (2006) follow the typology of Maidique and Patch (1982) and point out four profiles in business strategy: first mover, imitator, low cost producer (LCP) and niche. First movers need innovation and R&D to succeed. They will look for strategic alliances with research firms and universities. Moreover, according to Insch and Seensma (2006), they will also look for evaluating customers’ needs.

Osborne and Cowen (2002) draw the profile of high-performance companies. They assert that high-performance companies have solid strategies and a superb execution of their strategy.

Intangibles, its strategic use and performance

Some idiosyncratic assets must support each strategic position (Nickerson and Silverman, 1998). Intangible assets are among those peculiar assets that can provide an advantageous situation. It becomes them in core strategic resources for a business. They enable an organization to differentiate itself from rivals and consequently to create sustainable value (Lev, 2001; Kristandl and Bontis, 2007).

Knowledge management deals with these idiosyncratic assets and is a main counterpart of the strategic behavior of any company. Still the diversity of the businesses challenges the specific application areas of knowledge management depending on the type of a particular company. This study states that diversity of companies can be set in a number of homogeneous clusters. The specific features of these clusters represent a certain profile of a company.

According to Mouritsen (2009), the heterogeneity of intangibles is their key characteristic. Its classification has been studied during the last years. The Intellectual Capital

(IC) structure suggested by Edvinsson (1997) with three components: human (HC), relational (RC) and structural capital (SC) is widely accepted. Molodchik et al (2014) suggest a subdivision of those components considering: management capabilities, human resources capabilities, internal process capabilities, innovative capabilities, customer loyalty and reputation, and networking capabilities. This study is going to consider these components in order to classify the companies.

Nickerson and Silverman (1998) describe a process that integrates business strategy, IC management and technology strategy. The idea is to identify superior business opportunities. The IC management would have to decide how to place, promote or restrain the use of the intangibles in order to create competitive advantage. As any other resource, intangibles are limited, so managers have to decide which ones maximize, maintain or cut back. Identifying the allocation of resources formally expressed or implicit will provide a landscape with profiles of companies regarding their employment of their intangibles.

Some studies analyze a set of companies with common features in order to define a particular profile. For example, Osborne and Cowen (2002) identify high-performance companies and extract from them the distinctive characteristics that separate them from the rest. This study does the other way round, from an empirical analysis, identifies profiles and then checks if any particular profile performs better. With that information, managers will have additional information in order to allocate the intangibles resources of the company.

Research design and Methodology

The research question addressed in this paper is: Do companies have certain intangible-intensive profile? If they do, how this profile influences companies' performance.

The hypothesis to check in this study is if a company will likely be better off by following a strategy in a certain intangible-intensive profile.

To test this supposition, first a new way to classify companies according to the intensity of the employment of intangibles is proposed. The new classification will enable to reveal intangible-intensive profiles of companies. Taking these profiles for the analysis, it can be tested if they generate different outcomes.

Thus, this study raises two important issues regarding management decisions towards intangibles.

- The first issue concerns intangible-intensive profile of companies as a way to classify them.
- The second issue challenges the comparison of the performance of companies that belong to the different intangible-intensive profiles.

According to these two important issues the analysis is designed in two stages. The first one is based on an exploratory investigation. That means that the study doesn't put forward any hypothesis regarding how many and which intangible-intensive profiles exists. It just explores a sample of more than 1600 listed European companies observed from 2004 till 2011. It is assumed that these companies can be clustered in a number of groups according to the common features of the intangibles that they employ. The result of this stage of the analysis will be a number of distinguished clusters of companies. If these clusters would be established, it would be stated that each cluster represents a particular profile. At that point, some of these profiles might be considered as intangible-intensive if they evidently reinforce certain intangibles. Meanwhile some of them could have no clear features on intangibles intensity. Thus we could conclude which intangible-intensive profiles exist and how such profiles could be interpreted.

The second stage of this analysis is based on the results of the previous one. If a number of intangible-intensive profiles would be revealed these profiles could be compared in terms of the economic outcomes that they produce. First of all, it is necessary to establish if the revealed profiles are significantly different from each others considering each one of the coordinates of intangibles. If that is true, it can be concluded that pronounced intangible-intensive profiles exist. Each profile would represent a common strategic position of a certain group of companies. This common strategy will be in most of the cases implicit. It is interesting to know how different strategies on intangible portfolio results in companies' performance. To learn that, the causal relationship between companies profile and the performance generated by intangibles is explored. For that purpose, a model of the interrelation effect of companies' intangibles and intangible-intensive profile is specified and regressed to companies' performance. Figure 1 represents the stages of the analysis in more details.

1st stage	identification of the intangible-intensive profiles	specification of the coordinates of companies intangibles
		clusterization of the companies in the system of these coordinates
		interpretation and analysis of the revealed clusters
2nd stage	comparative study of the intangible-intensive profiles of companies	identification of the significant difference between revealed profiles in all coordinates of intangibles
		confirmatory analysis of the causal relationship between revealed clusters of companies and their performance
		interpretation of the moderation effect brought by a particular intangible-intensive profile

Figure 1. Stages of the analysis

The identification of the intangible-intensive profiles is based on the conceptual framework introduced by Molodchik et al (2014). In this research an architecture of six element of companies' intangibles was empirically validated. The main idea was to introduce homogeneous elements in the classical three components of intangibles (Edvinsson, 1997). The econometric strategy of the research is based on the two stages of the research introduced on the figure 1. The first stage of this study requires the following steps of analysis:

- Principal Components Analysis (PCA) for each of the element of IC (intangibles): Human Capital (HC), Relational Capital (RC), Structural Capital (SC)
 - 2 PCA in HC: management capability (MC), human resource capability (HRC)
 - 2 PCA in RC: customer loyalty (CL), networking capability (NWC)
 - 2 PCA in SC: business process capability (BPC), innovative capability (InnC)
- K-mean clustering
 - 3 clusters with almost equal number of cases (2500-3300)
- ANOVA
 - Estimate the difference between clusters according to each criterion

P – vector of dummy variables for the intangible – intensive cluster
 C – vector of control variables (industry, year, country)

The first model estimates the contribution of intangibles portfolio to the economic value added of a company by taking into account its intangible-intensive profile. The second model approximates the impact of intangibles portfolio together with the intangible-intensive profile to the market value creation.

Data description and empirical results

The empirical analysis is based on data of more than 1600 European public companies observed during the 8-year period from 2004 to 2011. Information about companies located in five European countries has been collected: United Kingdom (44%), Germany (24%), France (25%), Spain (5%) and Italy (2%). The entire GDP of these countries covers more than 70% of the European GDP. The composition of this database indicates that it represents the European market according to the country criterion. It also accurately represents these countries in relation with the industry structure of the European economy. The Statistical Classification of Economic Activities in European Community (NACE) has been applied and the following sectors are included in the database: “Management of Companies and Enterprises” (25%), Manufacturing (20%), “Professional, Scientific and Technical Services” (12%), “Finance and Insurance” (10%) and “other industries” (33%). The representative rate of SME and large enterprises in the database is 36% and 64% respectively.

The dataset in this study has been collected from a combination of detailed longitudinal databases, namely Bureau Van Dijk (Amadeus) and Bloomberg. The database consists of financial and non-financial indicators underlying the variables which reflect several quantitative and qualitative characteristics of IC. The database includes figures from annual statistics and financial reports. Other information was collected from publicly available sources like company websites, patent and information bureaus, and rating agencies.

As a result 22 variables are involved in the empirical investigation carried out in our study. Table 1 introduces the description of these variables with the references to the papers, which have employed the same or nearly the same indicators in the analysis of intangibles.

Table 1. Short description of the variables involved in the analysis

Name of the variable	Reference to the literature	Source of the information
Cost of employees	Baiburina & Golovko, (2008) Orens, et al (2009)	Company's Annual Report*, section "Financial data"
Productivity	Baiburina & Golovko, (2008) Orens, et al (2009)	Company's Annual Report, section "Financial data" Earnings before interested and taxes divided by Sales
Qualification of board of directors	Tseng & Goo (2005) Orens, et al (2009) Kamukama, et al (2010) Shakina & Barajas (2012)	Company's Annual Report, section "Directors information" If more than one third of directors have postgraduate level of qualification and more than 5 years experience – 2 points. If more than one third of directors have postgraduate level of qualification or more than 5 years experience – 1 point. Another – 0.
Human brand	Thomson (2006)	Search on company name in the ranking "LinkedIn's Most In Demand Employers" on the website: http://www.rankingthebrands.com/ If it has a rank – 1 point, otherwise – 0 point
R&D expenditures	Poletti Lau (2003) Gleason & Klock (2003) Sellers-Rubio & Mas-Rubio (2007) Huang (2008) Huang & Liu (2005)	Company's Annual Report, section "Financial data"
Intangible assets	Sellers-Rubio & Mas-Rubio (2007) Shakina & Barajas (2012)	Company's Annual Report, section "Financial data"
Awards for innovation	Anton & Yao (1989)	Company official websites, sections 'Awards' and 'Press releases'
Patents, licenses, trademarks	Tseng & Goo (2005) Sellers-Rubio & Mas-Ruiz (2007) Shakina & Barajas (2012)	Search on company name and number of patents on the website QPAT: http://library.hse.ru/e-resources/e-resources.htm
Strategy implementation	Tseng & Goo (2005) Kamukama, et al (2010) Shakina & Barajas (2012)	Search on company location on their website using the following words as "strategy", "strategy implementation" If company has news about these as listed above – 1 point, otherwise – 0 points Important to put "1" or "0" in the year of implementation
ERP implementation	Kamukama et al. (2010) Murthy & Mouritsen, (2011) Shakina & Barajas (2012)	Search on the web-site of the company using the following words as «ERP», «Oracle», «NAVISION», «NAV», «SQL», «SAP» If company has news about these things – 1 point, otherwise – 0 points. Important to put "1" or "0" in the year of start implementation
Knowledge management system	Kamukama et al. (2010) Murthy & Mouritsen, (2011) Shakina & Barajas (2012)	Search on the web-site of the company using the following words as «knowledge management», as «intellectual resources», If company has news about these things – 1

		point, otherwise – 0 points. Important to put “1” or “0” in the year of start implementation
Brand value	Riahi-Belkaoui (2003) Murthy & Mouritsen, (2011) Shakina & Barajas (2012)	Search on company name in the ranking BrandFinance Global 500 on the website: http://www.rankingthebrands.com/ If it has a rank – 1 point, otherwise – 0 point
Citations in search engines	Shakina & Barajas (2012)	Search on company’s name and its score in the web-site: http://www.prchecker.info/check_page_rank.php
Advertising expenditures	Hirschey (1982)	From Bloomberg (according to the company ticker)
Associations	Molodchik et al (2014)	Company Annual Report, section “Common information” + Company Website For those who involved in business associations it is given 1 point and otherwise 0 points
Foreign capital employment	Shakina & Barajas (2012)	Company Annual Report, Section “Shareholder name”, vertical vector “country” If company has foreign investors it gains 1 point and otherwise 0 points
Subsidiaries	Shakina & Barajas (2012)	Company’s Annual Report, section «Subsidiary name». If company has less than 100 subsidiaries put the total number, otherwise use the following vector «First 100 out of Y subsidiaries».
Proximity of University	Huang & Liu (2005) Swartz & Firer (2005) Orens, et al (2009) Shakina & Barajas (2012)	Company’s Annual Report, section “Common information”, The main activity.
Location in the capital of a country	Shakina & Barajas (2013)	Search on company’s location on their website, see the status of the city location in Wikipedia If it is the capital of the state (or region) – 1 point, otherwise – 0 points
Global Competitiveness Index – Labor markets	Molodchik et al (2014)	Search on the website of World Economic Forum in the relevant reports. The scores are different within countries and years.
Dummy variables for 2008 and 2009	Molodchik et al (2012)	If year=2008 or 2009, is 1, otherwise 0

Source: own elaboration

Most of the indicators included in the exploration of intangibles in this study are measured by continuous variables. All of them are not normally distributed having skewness and being long-tailed. Nevertheless, significant outliers are observed only in financial indicators. This appears to be easily explained since the database included all listed companies not putting any restrictions on the scale of their activity.

Profiles identification

Principal component analysis

Molodchik et al (2014) validated six elements of intangibles on a longitude dataset of European companies (the same database is used in this research) by applying factor analysis and structural equation modeling. For the purpose of this research it would be better to implement principal component analysis (PCA). This technique allows to find out the standardized index that explains the common part of the variation of the indicators involved in the estimation of the latent construct. This estimation is more appropriate for the future clustering process of the sample. It is also notable that the implementation of a different technique allows to check the robustness of the results established in the cited research.

By running PCA technique six components were revealed. The results of the empirical testing is introduced hereafter.

Human Capital

Human capital was tested on the basis of six indicators that represent a number of significant features of this part of the portfolio of intangibles in companies intangibles. In total more than 10,000 cases were involved in the estimation. As a result first two principal components have the eigenvalue significantly more than 1. The first component is represented by 3 indicators: Qualification of the board of directors, Corporate University, Strategy implementation. All these indicators are referred to the strategic management of the company and are run by top managers. That is the reason to tie this principal component to the Management Capability of a company.

The second principal component is described by Productivity and Earnings per employee. These two indicators reflect the overall return on companies' human resources and are associated in this study with the Human resources Capability. The loadings and eigenvectors of principal components for Human capital is introduced in the table 2.

Table 2 PCA for Human capital

Number of components=2			
Trace=6			
Rho=0.45			
Number of observations=10356			
Component	Eigenvalue		
Comp1	1.43		
Comp2	1.25		
Comp3	1.00		
Comp4	0.84		
Comp5	0.75		
Comp6	0.73		

Variable	Comp1	Comp2	Unexplained
Qualification of the board of directors	0.53		0.60
Productivity		0.70	0.38
Corporate university	0.61		0.45
Earnings per employee		0.70	0.38
Share of the wages			0.99
Strategy implementation	0.57		0.52

Relational Capital

Relational capital is disported according to the supposition of this study into factors of Customer loyalty and Networking capability. Ten indicators were investigated to elaborate two principal components of the Relational capital. The fraction of explained variance is not very high (about 36%). Still the eigenvalues of the first two components is significantly high then all subsequent ones. Considering that the first component is represented by the following set of indicators as a characteristic of the Customer loyalty: Brand power, Citations in the search engines, Site quality, Number of subsidiaries. Meanwhile the second principal component described by the Proximity to a university and the Location in mega polis refers to the accessibility to the developed networks. This component is associated in this study with the Network capability of a company. The results of estimation are shown in the Table 3.

Table 3 PCA for Relational capital

Number of components=2			
Trace=10			
Rho=0.36			
Number of observations=11002			
Component	Eigenvalue		
Comp1	2.01		
Comp2	1.55		
Comp3	1.12		
Comp4	1.02		
Comp5	0.97		
Comp6	0.97		
Comp7	0.87		
Comp8	0.61		
Comp9	0.48		
Comp10	0.38		

Variable	Comp1	Comp2	unexplained
Advertising expenses			0.93
Participation in associations			0.94
Brand power	0.51		0.47
Citations in the search engines	0.49		0.45
Foreign capital employed			0.96
Site quality	0.31		0.79
Number of subsidiaries	0.52		0.46
University proximity		0.64	0.27
Location in the city with the population more than 1 mln		0.72	0.20
Awards			0.97

Structural Capital

Structural capital, being the most heterogeneous part of companies' intangibles, is also introduced in this research by two core elements: Business process capability and Innovative Capability. The PCA confirms the initial supposition about the architecture of companies' structural capital. Two principal components have been found out which together explain about 52% of the variance representing rather high prediction power. Seven indicators of structural capital are finally consolidated in two indexes. The first one composed by ERP, knowledge management and strategy implementation is called in the present research Business processes capability. The second principal component – Innovative capability – is described by the number of patents, intangible assets and R&D expenditures. The results of the analysis in introduced in the table 4.

Table 4 PCA for Structural capital

Number of components=2	
Trace=7	
Rho=0.52	
Number of observations=11226	
Component	Eigenvalue
Comp1	2.07
Comp2	1.54
Comp3	0.99
Comp4	0.84
Comp5	0.63
Comp6	0.55
Comp7	0.38

Variable	Comp1	Comp2	unexplained
Awards			0.97
ERP implementation	0.56		0.27
Intangible assets		0.45	0.61
Knowledge management implementation	0.56		0.28
Number of patents		0.55	0.46
Strategy implementation	0.48		0.46
R&D expenses		0.59	0.33

The overall results of the PCA are represented on the figure 2.

Human Resource Capability	Productivity
	Earnings per employee
Management Capability	Qualification of the board of directors
	Corporate university
	Strategy implementation
Customer Loyalty	Brand power
	Citation in search engines
	Site quality
	Number of subsidiaries
Networks Capability	Proximity of the University
	Location in the city with the population of more than 1 mln
	Foreign capital employment
	Subsidiaries
Innovation Capability	Intangible Assets
	Patents
	R&D expenditures
Internal process Capability	ERP system
	knowledge management system
	Strategy implementation

Figure 2. Principal components – Core six elements of companies' intangibles

As seen on the figure 2 six components of intangibles are described by two, three or four key indicators. These indicators explain the significant part of the phenomena to measure in this paper.

Cluster analysis

Thus, the PCA allows to elaborate a system of six components of companies' intangibles, which are particularly relevant for designing the intangible-intensive profile of a company. These components introduce a system of coordinates in which the profile of a company should be set. This research assumes that even when companies have very specific features they can be still clustered in common designed frames. These frames are very important for the recognition of companies' profile.

For the purpose of this study, the target is to cluster more than 12,000 cases from more than 1,600 European companies by applying k-means technique. The study reveals three clusters, which are generated in similar groups, homogeneous within the group and very much heterogeneous to the other groups. The segmentation is based on the six coordinates introduced by the principal components elaborated on the previous stage of the analysis.

Table 5. Results of cluster k-means analysis

Company Profile		Principal component of Intangibles	Management Capability	Human resources Capability	Customer Loyalty	Networks Capability	Business processes Capability	Innovative Capability
Innovative profile	min	-7,52	-63,05	-3,01	-0,60	-1,48	-0,61	
	mean	-0,68	-0,09	0,21	1,16	-0,97	0,31	
	max	9,94	36,62	9,35	2,25	4,41	14,41	
Number of companies	2529							
Conservative profile	min	-2,30	-1,92	-1,95	-5,14	-0,48	-1,03	
	mean	1,30	0,18	0,41	-0,26	1,89	-0,32	
	max	2,91	28,71	11,05	2,24	9,86	19,88	
Number of companies	3001							
Moderate (low) profile	min	-3,85	-2,46	-2,43	-2,18	-1,48	-1,03	
	mean	-0,37	-0,05	-0,46	-0,88	-0,44	-0,03	
	max	1,91	20,63	6,71	0,79	2,09	5,44	
Number of companies	3302							
Total	min	-7,52	-63,05	-3,01	-5,14	-1,48	-1,03	
	mean	0,11	0,02	0,03	-0,08	0,20	-0,03	
	max	9,94	36,62	11,05	2,25	9,86	19,88	

Table 5 introduces the descriptive statistics of the cluster generated by k-means technique. By running a number of iterations, the study revealed that three clusters in the system of coordinates of six elements of intangibles are plausible. Each cluster consists of some 2500 to 3300 cases. The robustness check provides with the information that almost all

enterprises belong to the same cluster during the eight years of the observation. Only few of them have been moving from one cluster to another during the period. A radar diagrams of the generated clusters has been elaborated using the mean values (Fig. 3). This figure helps to visualize the comments and explanations below.

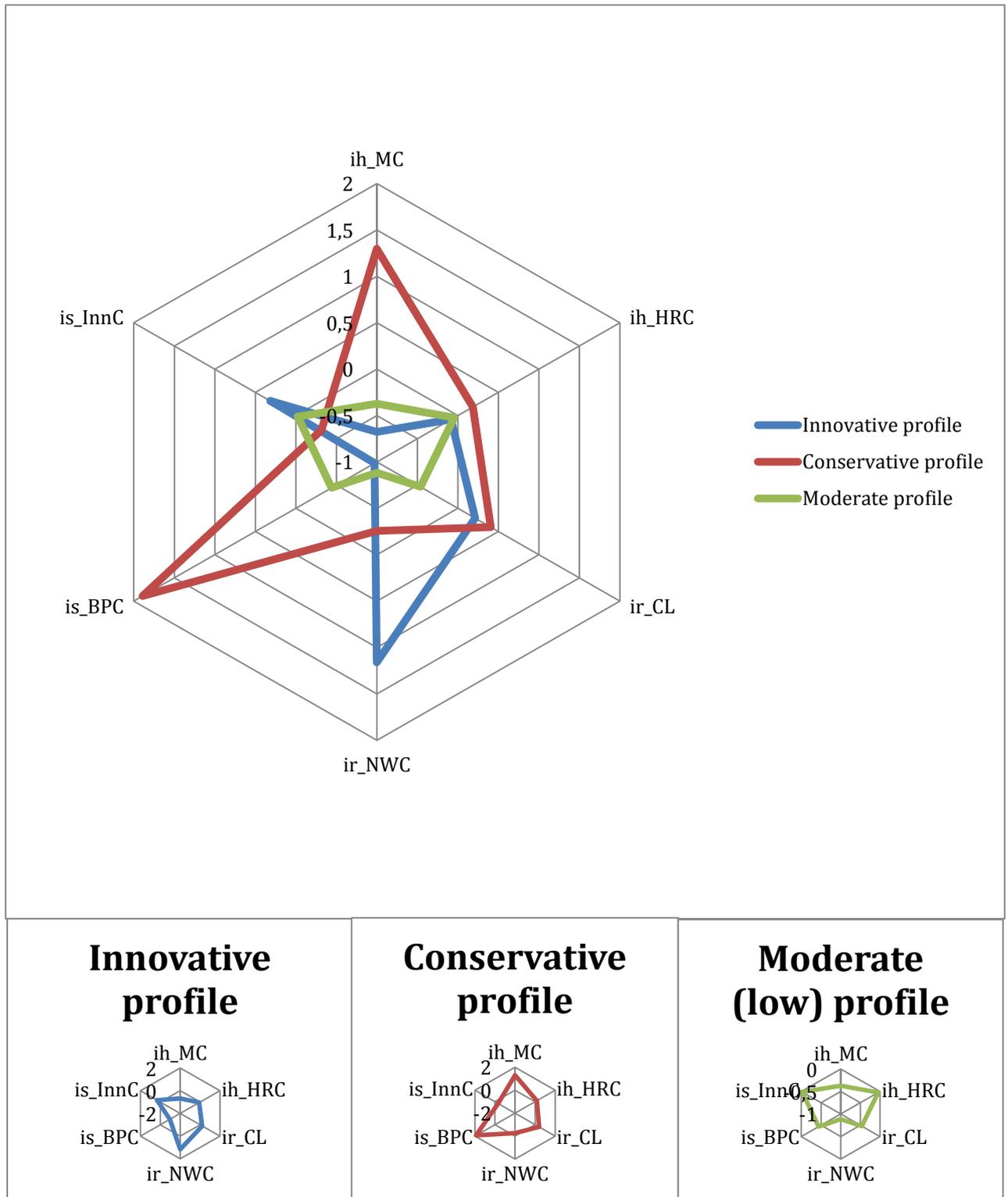


Figure 3. Radar diagram of three intangible-intensive clusters

ANOVA enables to establish that these clusters are significantly different from each other in every coordinate of intangibles. That might bring to the conclusion that distinguished profiles of companies have been found.

Some interesting facts appear looking at the results established in this study. These profiles elaborated on the empirical basis are very dissimilar among them according to the six components of intangibles introduced in this study: Management capability, Networking capability and Business processes capability. These profiles are less distinguished in terms of Human resources capability. Looking precisely at these results, it is observed that at least one component of each intangibles is predominant in the profiles revealed in the study.

It is notable that moderate (low) profile being between the rest in values of each coordinate of intangibles, finally it involves lower amount of intangibles. This study suggests to call this profile “moderate” or “low”. The others profiles are recognized in this study as intangible-intensive. The profile with the predominance of business process and management capabilities suggested to be called in this study conservative intangible-intensive profile (further, conservative profile). The profile with predominance of innovative and networking capabilities supposed to be called innovative intangible-intensive profile here (innovative profile).

The **Moderate (low) profile** does not have notable features in the coordinates of intangibles. The name of this profile goes from the medium characteristics in most the components of intangibles. The reduced value of the moderate profile regarding the relational capital, particularly in customer loyalty, indicates that these companies are not enough competitive in the conditions of knowledge economy. Keeping all the intangibles on a restrained level and not intensifying intangibles these enterprises are likely to lose their positions on the market. This kind of profile can correspond with those companies stuck-in-the-middle according to Porter but, in this case, in their strategy related to intangibles.

The moderate profile would be recognized by its stability and a low tendency to change. At the same time the use of networking capabilities approaches zero whereas other indicators are almost alike. This can result from the company’s unwillingness to create new values. It uses the new knowledge created by other companies.

Conservative profile presents strong structural capital in the part of business process. These enterprises seems to be intensive in quality management system, ERP and strategy operationalization. These companies are also characterized by the high quality of management and strong customer loyalty. At the same time this profile is not distinct by the innovative behavior and networks.

This profile is characterized by well-developed business processes. At the same time the indicators of using human resources, customer loyalty and networking capabilities are fairly high. This fact can be accounted for by high quality products or a well-organized advertising campaign. The innovative capabilities are used insufficiently.

Innovative profile is recognized by the high level of innovative activities and external networks the company should develop. Meanwhile the companies with innovative profile do not intensify structural capital in the part of business processes. This profile fosters the ability to keep customer loyalty. The networking capability element is well developed. It would mean that this type of companies has established an effective network of communication with its partners, employees, suppliers and customers. The companies with this profile would actively use the opportunities offered by information technologies, which allows them to react quickly to changes, to accumulate new experience and to convert it into new knowledge. All this would enhance their competitive advantages. This, in turn, would increase their capability to create and implement innovative ideas and technologies, and makes the companies more flexible.

At the same time, this profile is characterized by its low level of intensity in business processes and limited management qualification. This fact could result confusing but maybe in this kind of more innovative companies usually it is more important for managers and directors to be creative, original, risky, entrepreneur and flexible. These abilities are not related to elements of traditional qualification like experience, level of education or the other indicators used in this study. This profile is in the line of the first movers described by Maidique and Patch (1982).

Influence of intangibles in performance according the company's profile

The last stage to complete the empirical investigation in this study is to establish a causal relation between the intangibles portfolio of a company and its performance affected by the intangible-intensive profile. To carry out this estimation, two linear regressions including interaction effect of six elements of intangibles with innovative and conservative profiles have been estimated simultaneously. The three-stage least squares estimator was used to analyze the system of simultaneous equations. The moderate profile being considered in this study as non-intangible-intensive is taken for the base. So, all the results of estimations will be interpreted with regard to the moderate profile.

The econometric model was designed to test if companies with intangible-intensive profiles (in this study: conservative and innovative) can outperform companies with

moderate (low) profile by employing intangible resources. It should be noted here that purposely the study didn't just statistically compare the average values of EVA and MVA in different profiles. A moderation effect regression model has been elaborated. This analysis enables comparison of the conditional contribution of every intangible component of companies' resource portfolio to EVA and MVA. The model also controls for industry, country and year.

Table 6 Results of the estimations of 3SLS

Name of the factor	Code	MVA	EVA
		Coef. (std.err)	Coef. (std.err)
Economic Value Added	EVAstc	1765.64*** (52.03)	
Management Capabilities in Moderate (low) profile	ih_MC	-370.80*** (110.03)	-107.70*** (37.01)
Effect of Management Capabilities for Conservative profile	inter_cons_ih_MC	977.90*** (187.57)	-196.24*** (63.09)
Effect of Management Capabilities for Innovative profile	inter_innov_ih_MC	809.20*** (190.90)	161.52** (64.22)
Human resource Capabilities in Moderate (low) profile	ih_HRC	69.29 (104.00)	-3.87 (35.00)
Effect of Human resource Capabilities for Conservative profile	inter_cons_ih_HRC	-24.14 (158.01)	-78.27 (53.17)
Effect of Human resource Capabilities for Innovative profile	inter_innov_ih_HRC	262.24* (137.23)	54.75 (46.18)
Customer Loyalty in Moderate (low) profile	ir_CL	797.37*** (109.29)	74.99** (36.78)
Effect of Customer Loyalty for Conservative profile	inter_cons_ir_CL	699.38*** (124.82)	-297.82*** (41.89)
Effect of Customer Loyalty for Innovative profile	inter_innov_ir_CL	1542.87*** (148.57)	133.98*** (49.97)
Networking Capabilities in Moderate (low) profile	ir_NWC	-384.17*** (140.50)	136.48*** (47.27)
Effect of Networking Capabilities for Conservative profile	inter_cons_ir_NWC	522.37*** (157.32)	-202.40*** (52.92)
Effect of Networking Capabilities for Innovative profile	inter_innov_ir_NWC	217.56 (234.86)	-219.66*** (79.02)
Business Processes Capabilities in Moderate (low) profile	is_BPC	853.91*** (174.27)	-125.98** (58.63)
Effect of Business Processes Capabilities for Conservative profile	inter_cons_is_BPC	-318.73 (237.28)	-375.76*** (79.75)
Effect of Business Processes Capabilities for Innovative profile	inter_innov_is_BPC	-1399.02*** (258.12)	-249.29*** (86.83)
Innovative Capabilities in Moderate (low) profile	is_InnC	1382.75*** (336.14)	-369.55*** (113.03)
Effect of Innovative Capabilities for Conservative profile	inter_cons_is_InnC	-209.85 (342.26)	286.70** (115.13)
Effect of Innovative Capabilities for Innovative profile	inter_innov_is_InnC	-1135.72*** (363.15)	-321.27*** (122.17)
Conservative profile	profile_conserv	-99.53 (359.81)	659.93*** (120.81)
Innovative profile	profile_innov	-306.31 (368.79)	-182.45 (124.11)
R-sq		38,5%	18,47%
Observations			8150

*** significance level < 0.01
** significance level < 0.05
* significance level < 0.10

By completing the last stage of the analysis, some empirical evidences about the role of intangible-intensive profile in companies outperforming (expressed in EVA) and value creation (expressed in MVA) have been found.

The system of regressions introduces the moderation affect of conservative and innovative profiles on companies' performance (EVA and MVA). The first regression revealed a significantly positive impact of EVA on MVA. This fact confirms theoretical model that EVA appears to be a key value driver. Still there are a number of significant value drivers apart from EVA. And our estimation introduces them taking into account moderation effect of companies' intangible-intensive profile.

The moderation effect of intangible-intensive profiles on EVA illustrates the increased or decreased influenced of these profiles on creation of competitive advantages for companies. Meanwhile the moderation effect in MVA-model introduces how these profiles are perceived by investors. If an increased moderation effect of any intangible-intensive profile is revealed it can be concluded that investors are likely to recognize intangible-intensive profile as a positive signal.

The results of the estimations show some facts related to different intangible elements that are going to be exposed hereafter. Management capabilities are considered negative factors both for EVA and MVA in the moderate (low) profile. However, they are conditionally more positive for companies with intangible-intensive profiles fro MVA. The total effect of this factor is positive for MVA. Meanwhile Management capabilities are unlikely to be a positive factor of EVA for conservative profile as seems to be overinvested for those companies.

Human resources capabilities don't appear to be a key driver of EVA and MVA for all profiles. Conditionally have positive impact only in innovative profile for creation competitive advantages (EVA).

Customer loyalty could be considered as a key value driver for all companies. Especially, those ones with innovative profile are positively recognized by investors. It is expected not to be paid back for companies with a conservative profile if they intense it. This can be asserted because this factor is significantly negative to EVA as a value indicator.

Regarding the networking capabilities, the total effect of this factor is negative for EVA and neutral for MVA. Nevertheless, the negative effect can be mainly associated with intangible-intensive profiles. Conservative profile which has a minimum level of this part of

the intangible portfolio has conditionally negative impact on EVA. The innovative profile which significantly intense this resource fails as well comparing to moderate profile. That might be explained as follows. Networks should not be over or underemployed. These extreme strategies lead to negative performance. That is a case when moderate policy is better off.

Business process capabilities are a negative driver for EVA and MVA. This phenomenon is particularly clear for companies with innovative profile, which should reallocate their resources in favor of flexibility and anticipatory behavior.

Innovative capabilities have on average negative impact on EVA. Nevertheless they are positively associated with the investment attractiveness. But even considering innovation capabilities as a strategic value driver the conditional negative impact of it in innovative profile should be noted.

Conclusion and further research

Using PCA six components of IC have been revealed in line with the results obtained by Molodchik et al (2014) using structural equation modeling. Two of these components are related to HC. The first one gather information from three indicators related to the Management Capability of the company. The second one represent the Human resources capability. RC is composed by elements that represent Customer loyalty and the Networking capability of the company. Finally, the SC included two elements: Business process capability and Innovative capability.

These six components of the firm's intangibles have been used to cluster the companies obtaining different profiles. Two of those profiles present more intensity in the values of some of the identified components of IC. Analyzing them and considering the profiles considered in the literature, it is interesting that, from the particular perspective of intangibles, the results are in line what some of the most common profiles or strategic positions. So, what in this paper has been called as Innovative profile is similar to what is called "first mover" or "first-to-market" by Maidique and Patch (1982) or the "prospectors" by Miles et al. (1978) and even it can be identified in a "differeciation" strategy according to Porter (1985). The second profile, more intensive in business processes, managerial capabilities, can be closer to the Maidique and Patch's (1982) "low-cost producer" (LCP) with a Porter's (1985) cost leadership strategy. There is a third cluster of companies that does not have extreme values related to the intangible components. In this profile, called moderate in the present paper, there is not a clear strategy of intensification of resources in any of the

intangible components. In that sense, those companies are stuck-in the middle. Without a strong bet in any idiosyncratic asset, a run-of-the-mill performance, using the terminology of Osborne and Cowen (2002) can be expected for this companies. The proposed profiles - namely Innovative, Conservative and Moderate- fit well in the general theory of strategic typology or strategic positions.

Considering the non-intangible-intensive (moderate) profile as the base, the study come to prove that intensive profiles (conservative and innovative) outperform companies with moderate (low) profile by employing intangible resources. So, companies that intrinsically or explicitly define their strategic related to the use of intangibles are going to be better off than those firms that design their strategy trying to be moderately and equally good in each one of the intangibles components. In that sense, this paper comes to remark that some intensiveness in the employment of intangibles will be recommendable.

The effect of the different intangible elements in the competitive advantage or in the attractiveness for investors has been checked. Some conclusions can be drawn. First, management capabilities are more positive for companies with intangible-intensive profiles, especially for the innovative one. Second, human resources capabilities conditionally have positive impact only in innovative profile for creation competitive advantages. Third, those companies with innovative profile and intensive in customer loyalty are especially recognized by investors positively. Ford, networking should not be over or underemployed. These extreme strategies lead to negative performance. That is a case when moderate policy is better off. Fifth, business process capabilities are a negative driver for competitive advantage and attractiveness for investors. That could mean that the companies which pay much attention to the standardization of their activities can fail economically and loose investment attractiveness. This phenomenon is particularly clear for companies with innovative profile, which should reallocate their resources in favor of flexibility and anticipatory behavior. Six, innovative capabilities have on average negative impact on competitive advantage. Nevertheless they are positively associated with the attractiveness for investors. But even considering innovation capabilities as a strategic value driver the conditional negative impact of it in innovative profile should be noted. This result is in line with the theory of U-shaped relation between innovations and companies' performance (Aghion et al, 2002). There are a lot of evidences that innovations bring positive results unless they are not overinvestment. This paper comes to prove the same theory.

Managers can use all this information in order to first define a clear strategy for their companies and later to have an idea on what intangibles should invest in order to create

competitive advantage or create value. However, at this point some question arise. What would be the cost of implementing a different strategy in my company? Will those costs higher than the benefit obtained with the intangible intensive strategy? This will be a further step to develop the present research. Moreover, a specific analysis of the distribution of performance inside each profile would help to understand better the profile of the high-performance companies in each cluster. It can be expected that some common features could appear among them.

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