MANAGEMENT CONTROL SYSTEMS, ORGANIZATION AND IMPACT ON PERFORMACES: EVIDENCES FROM ITALY

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Abstract

The value creation is the primary goal of each organization and intellectual capital is certainly a key factor for long-term success. The intellectual capital variables have to be managed and measured within advanced management systems, in order to facilitate the communication and translation of strategy's tangible and intangible elements into operational terms. This study focuses on a sample of medium-sized Italian firms and is based on multiple sources of evidence: the in-depth study of internal documents and interviews with corporate managers holding key positions within the organization. The research aims at investigating if managers identified, measured and monitored intellectual capital variables within advanced management accounting systems, over a period of 5 years. Because the strategy and the organizational structure are highly interdependent, this study also focuses on evaluation and incentive systems implemented within selected companies. Then, it was decided to analyze whether the use of managerial and organizational tools influence firms' performances. This research contributes to extend existing literature on intellectual capital and management systems: the results revealed that companies able to manage and monitor intellectual capital within advanced management tools, as well as implement evaluation and incentive systems, achieved higher and more stable performances. The main limit of this study is strictly related to the choice of these variables: in fact, company's performances are influenced by a significant number of factors, endogenous and exogenous to the organization. Future researches can involve a greater number of companies and organizational variables, in order to validate or confute the actual findings.

Keywords: Intellectual Capital, Intangibles, Business Performance Models, Evaluation And Incentive Systems, Organization, Performances.
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1. INTRODUCTION

The value creation is the primarily aim of each organization as it represents the basis for the long-term success. This goal has become increasingly important over the years, also because economic crisis has accentuated the purchasing power loss and the decrease of companies' profitability; therefore, in order to survive and thrive and, at the same time, to better exploit market opportunities, companies need to formulate long-term objectives, necessary to define the guidelines and the common goals to pursue, as well as implement adequate tools which allow managers to focus on variables that can lead to the value creation. The constant changes, required by the competitive environment, impact on companies' aptitudes to create value. The continuous innovation, new technologies, the relevance of networks inside and outside companies are only some of the intangible variables that influence and determine the success of company's business. Today, the intangible assets are the main drivers of competitive advantage and the key factors for long-term success.

The strategy formulation (and implementation) is a fundamental process because it allows managers to identify the path to follow over the years; therefore, it becomes impossible to pursue a strategy, whatever it is, if intangibles resources are not properly aligned and mobilized on the basis of it. The real difficulty in implementing a strategy is not the description of tangible elements of a strategy, that are measurable by financial parameters (e.g., capital requirements for planned investments), but rather, the intangible factors such as knowledge management, which grows with human resources, experience, skills and capabilities; information technology that supports the enterprise and connects it with its customers and suppliers; and the organisational culture that encourages innovation, problem solving and continuous improvement (Argyris, 1993; Davenport and Glaser, 2002; Edvinsson and Malone, 1997; Kaplan and Norton, 2004; Nonaka, 1991; Nonaka and Takeuchi, 1995; Nonaka and Toyama; 2003; Nonaka et al., 2000; Sveiby, 1997). For these reasons, the success of the strategy strongly depends on the ability to properly manage the Intellectual Capital (IC) variables, characterized by the quality of relationships, structures and people (Segelod, 1998; Tayles et al, 2007). From this point of view, managers gained awareness on the importance of intangible resources as source of competitive advantage, and increasingly feel the need to capture, measure and monitor IC performances (Marr and Chatzkel, 2004).

The role of a management systems should therefore be that of instruments to translate the conceptual roles of the strategy's tangible and intangible elements into operational terms. The goal of these systems is to identify and highlight the tangible and intangible key factors that allow the strategy realization.

This research explores, in qualitative terms, if in a sample of Italian firms medium sized managers have recognized the potential of intellectual capital in implementing the strategy, and so if they have identified and managed key success factors that involve intangibles elements. In particular, this study focuses on the presence of the above mentioned key factors within advanced management accounting systems. Even if scholars affirm the importance of management accounting tools to manage and run an organization (for instance for product mix and investment decisions, employees and managers' evaluation, choices among alternative suppliers, negotiations with customers, etc.), these tools are not uniformly adopted by companies (Horovitz, 1979; Goold and Quinn, 1990). If management accounting systems are usually implemented in large firms, in small and medium organizations they are sometimes unapplied or unknown. For this reason, it is interesting to analyze the state of the art in medium-sized companies.

Because the strategy formulation and implementation process and the organizational structure are highly interdependent and must be complementary to ensure good performances under challenging conditions (Miller, 1987), it was also analyzed if selected companies adopted evaluation and incentive systems to guide personnel actions towards established goals.

In the end, a qualitative correlation among the above - described elements and the trend of companies' economic performances has been investigated. According to many authors (Mouritsen *et al*, 2001), financial measures could not be adequate, because they do not identify the causes of the firm's value creation.

The research is structured as follows. The next sections focus on the analysis of the literature, with particular reference to intellectual capital and management accounting systems, on the research method and research questions, on the results achieved.

Finally, the discussion and conclusions of the study are set out, along with the limitations of the research.

2. LITERATURE REVIEW

2.1. Intellectual capital (IC)

The term Intellectual Capital (IC) was first published by Galbraith in 1969 who stated that IC is not only a static intangible asset but an ideological process.

Klein and Prusak (1994) defined the IC as "packaged useful knowledge". It constitutes knowledge, lore, ideas and innovations (Sullivan, 2000). Many authors argued that IC is a combination of three variables: the human capital, the structural capital and the relational capital (Bontis, 1998; Edvinsson and Sullivan, 1996; Edvinsson and Malone, 1997; Lynn, 1998; Roos et al., 1997; Stewart, 1991, 1997).

Human intellectual capital captures the knowledge, professional skills, experience, and creativity of employees (Nelson and Winter, 1982).

The structural capital consists of innovation (intellectual assets) and process capital (organizational procedures and processes).

The intellectual capital can be structured and developed through information systems in order to turn individual know-how into group property (Nicolini, 1993). It is with structural capital that IC can be shared and measured within the organization (Bontis, 1998). Finally, the relational capital captures the knowledge of market channels, customer and supplier relationships, and governmental or industry networks (Tayles e*t al*, 2007).

Through the management of IC the human and relational capital are transformed into the structural capital of the organization (Lynn, 1998). Intellectual assets together with structural capital (technology, procedures, processes, etc.), tangible assets and relational capital can be managed to create profitable new products and services that, when commercialized, increases corporate value (Edvinsson and Malone, 1997; Roos et al., 1997; Webster et al., 2004).

IC is the possession of knowledge, experience, expertise, skill, good relationships, and technological capacities, which, when implemented, managed and shared, will give organizations competitive advantage (CIMA, 2001).

The IC definitions had an evolution, passing from pioneering studies to advanced ones (Veltri, 2008). Pioneering studies focus on IC categories and their contents, and measure the IC contribution to firm performance analyzing the difference between firm market value and book-keeping firm value. Advanced studies (DMSTI, 2003; Meritum, 2002) validate the three-way division of IC (human structural and relational capital) and define IC as a system of intangible resources that allow managers to identify the paths of value creation. In particular, these studies focus on: the interaction among IC variables as the main value creators; the key role of knowledge; the key role of management tools; the importance of knowledge strategy as starting point to identify IC performance indicators. Today the intangible assets are the main source of competitive advantage and, for that reason, they are the most significant drivers for the long-term value creation. As managers are more aware of the role played by intangibles in generating profitable business, it becomes essential that management accounting systems capture, measure and report IC value and performance (Marr and Chatzkel, 2004) also because external financial statements offer very limited information on intangibles (Wallman, 1995). It has been argued that accountants in such firms should adopt a more strategic management accounting approach and focus on the evaluation, appraisal, and measurement of IC to avoid neglecting the organization's most valuable resources (Tayles *et al.*, 2002).

2.2. Management accounting and performance measurement systems

The strategy formulation is a key process that involves managers in defining and explicating the direction to follow over the years to create long-term

value. However, even if company's top managers formulate excellent long-term strategies they often have serious difficulties in implementing them, as the organisation struggles to translate strategic objectives into daily operations. So, after the formulation of a strategy, the real difficulty lies in implementing it and communicating it to the whole organisation (Brusa, 2007; Kaplan and Norton, 2006, 2008). As previously described, the real challenge is represented by the identification of the intangible elements that constitute the strategy, such as knowledge management, experience, skills and capabilities, information technology and the organisational features. These elements are essential to create value, but it is difficult to measure their contributions with traditional management control system methods (financial control), because their impact on profit and financial results is indirect rather than direct and operates along a chain of causal links that is more or less long and complex. The role of a managerial system should therefore be that of an instrument to implement strategy and translate the conceptual roles of the strategy's tangible and intangible elements into operational terms.

Over the years, business performance models have been increasingly improved in order to explicit the existing causal links among tangible and intangible key factors that allow the strategy implementation. Some of the most known and implemented management tools are the Tableau de Bord (Lauzel and Cibert, 1962), the Intangible Asset Monitor (Svebi, 1997), the Skandia Navigator (Edvinsson, 1997), the Value Chain Scoreboard (Lev, 2001) and the Balanced Scorecard with the related Strategy Map (Kaplan and Norton, 1996, 2001, 2004, 2006). These models, better than others, require managers to focus on intangible key elements and on non-financial key performance indicators, overcoming the limitations of performance systems based only on economic and financial variables. However, the Balanced Scorecard, better than the others, shows a strategic orientation and focuses on cause-and-effect relations among different critical success factors. Through the identification of a map for each strategy, top management should define a logical structure that highlights the expected results in the short and long term and the critical success factors necessary to achieve these results (Kaplan and Norton, 2001, 2004). After the map, the critical success factors have to be translated into a set of financial and non-financial balanced performance indicators that are causally interrelated. The company indicators are then discussed, translated and adapted within appropriate parameters, including the specific targets for each responsibility centre and taking into consideration the peculiarities of the organisational structure. The strategy is then pursued by employees operating at the various levels of the organisation on a day-by-day basis. This means that the balanced system of objectives and parameters must be communicated and translated into operational terms, identifying specific goals for all areas of the company. In addition, the overall company results and those of the responsibility centres should be consistently monitored with an appropriate evaluation system and rewarded in an incentive system (Kaplan and Norton, 2006, 2008).

In conclusion, strategic initiatives and related projects should be identified, their financial and human requirements should be specified, in order to achieve the target of each indicator, and then embedded into a company's annual budget. With the described process, strategy and structure can be aligned and so can generate benefits in terms of business growth, diffusion of knowledge, and value creation. The aliment strategy-structure enable to fill the gap between strategy formulation and strategy execution (Chandler, 1976; Kaplan and Norton, 2006; Porter, 1996).

3. THE RESEARCH METHOD

3.1. The aim and the research questions

The aim of this study is to analyze if a sample of Italian firms operating in different industries has recognized the strength of intellectual capital elements in implementing the strategy and uses organizational and, more generally, managerial tools to support managers in describing the intangible, and tangible, elements of the strategy. Companies were analyzed over a time horizon of five years, from 2011 to 2015.

The main research questions are described below:

- R.Q. 1: have selected companies implemented and used organizational and managerial tools to describe the intangible elements of the strategy? It was decided to investigate the presence of business performance models referable to the structure of Balanced Scorecard, Value Chain Scoreboard, Tableau de Bord, Skandia Navigators and Intangible Asset Monitor. In addition, have selected companies linked these tools to evaluation and incentive systems?

- R.Q. 2: have the above features had a positive effect on the economic performances of the last 5 years (2011-2015)?

The main goal of this explorative research is to evaluate, in qualitative terms, if in the selected firms medium sized managers identified and managed intangible resources during the strategy implementation process. In particular, it was investigated the presence of this category of critical success factor within management systems.

The management tools researched are those that help managers to translate the strategy into operational terms and, above all, identify and monitor intellectual capital elements. These tools, such as business performance models and evaluation and incentive systems, are fundamental to drive decisional process and actions, ranging from short to medium and long period objectives. In fact, the above mentioned tools, when properly used and implemented, help managers to communicate strategic intentions as well as motivate and empower personnel towards specific goals.

In the end, the purpose is to investigate if Italian firms that have formulated key success factors and used managerial tools, including IC variables, achieved higher profitability performances, over the observation period. So, we looked for a qualitative correlation among the above - described elements and economic performances. Performances were measured through the analysis of ROE (Return on Equity) and ROA (Return on Assets) indicators because they highlight the organization's ability to

create shareholders value and deploy its assets profitably. The shareholder value creation is a key driver for long-term success and strictly depends on results obtained through the IC management. In addition, according to Mouritsen et al. (2001), if the aim of the researcher is to highlight the firm value process creation, financial values could not be adequate measures, because they don't identify the causes of the firm's value. At last, many authors considered these indicators adequate in researches that involve the strategy and management accounting (Fryxell and Barton, 1990).

3.2. The method and the sample

The explorative research is based on empirical analysis of a sample of Italian organizations. The selection started during the year 2011, using Aida data bank, and has recently completed. This data bank allowed us to make a choice based on sector, business area, firm size, corporate governance and shareholders. Enterprises selected are medium - sized (sales revenues between 10 and 50 million Euros, and employees between 50 and 249 units), have the registered office in Italy and operate in different industries. Furthermore, the selection focused only on manufacturing companies (banks, insurance companies, trade firms, services companies, and public organizations were excluded) because management systems have been adopted, from the very beginning, by these companies. Eight main businesses of activity have been identified: clothing and textiles; food and beverage; publishing and graphics; chemistry; building; electronic and information systems; wood and furniture, mechanics and metallurgy.

As a first step, it was decided to contact the investor relations directors to explain them the aims of our work, to identify the most appropriate respondents at each company and to obtain their contact information. Subsequently, a letter of introduction that contained an explanation of the research and a brief explorative questionnaire was sent to the potential respondents.

At the end of the selection process eighty companies, equally distributed among the different sectors of activity (10 for each business of activity), were identified.

The research has been conducted through an empirical analysis based on multiple sources of evidence: the in-depth study of internal documents and interviews with corporate managers holding key positions within the organization. Selected subjects have important place in hierarchical structure, because it was decided to consider only professionals with a wide vision of corporate activities and processes.

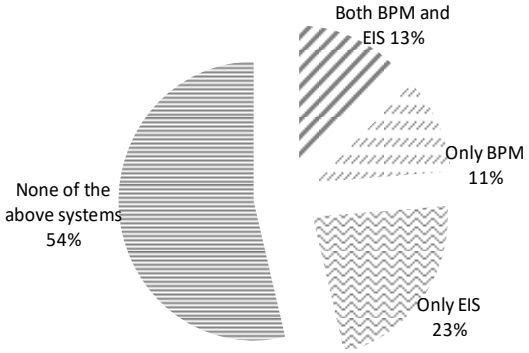
The interviews were semi-structured to be kept within the main question area, but still open the possibility to get the interviewees own ideas and feelings. The interviews included also some questions to verify the good quality of answers. All data collected with interviews have been compared with those of business documents and elaborated using a specially designed software. After the interviews and the internal document analysis, a draft of results was sent to those interviewed for their comments and to ensure that the technical details were interpreted correctly.

Concluding, it was decided to use this method because a quantitative approach might not be sufficient to acquire information concerning the strategy, the structure, and, above all, the effective use of organizational and managerial systems.

4. RESULTS

This section focuses on the results of comparative interviews and documental analysis referred to the research questions previously described. As far as the RQ1 is concerned, it was investigated if companies, during the period 2011-2015, implemented and used organizational and managerial tools to describe the intangible elements of the strategy. In particular, it was verified the effective use of advanced Business Performance Models (BPM) able to identify and measure the intangible, and tangible, elements of a strategy. It was also analyzed if companies have implemented and used Evaluation and Incentive Systems (EIS), such as M.B.O. or bonus plans, to drive and motivate personnel towards strategic goals. The following graph shows the diffusion of managerial and organizational systems within the sample.

Figure 1. Diffusion and use of managerial and organizational systems during the period 2011-2015



BPM: Business Performance Models
EIS: Evaluation and Incentive Systems

As shown in Figure 1, only the 13% of the sample uses both business performance models and evaluation and incentive systems, while the 54% of selected companies hasn't implemented the above mentioned managerial and organizational tools. The 11% only uses advanced performance model, while the 23% implemented evaluation and incentive systems without a direct connection to strategic goals. Analyzing internal documents and reports, it emerges that companies only implemented the Balanced Scorecard (58%) and the Tableau de Bord (42%); the other investigated tools are not widespread within selected companies.

Organizations with only EIS (23%) haven't formalized and implemented business performance models; the majority of this group (56%) linked evaluation and incentive systems to the annual budget of different responsibility centers, while the remaining part linked these systems only to company's sales trend or economic indicators.

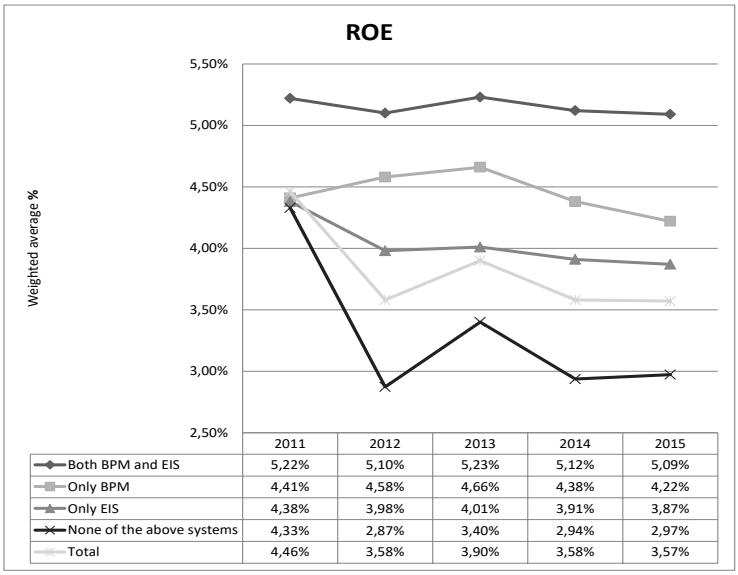
In addition, it was decided to analyze the critical success factors referred to IC elements in companies that formalize and use business performance models to support the strategy realization. The majority of these organizations (68%) planned to invest in human resources through hiring, education and valorization programs, aimed at attracting the best talent and strengthen the system of knowledge. A significant number of companies identified critical success factors based on investments in advanced information technology systems to: support the communication and information flows (47%); increase the market relationships, particularly referring to the supply chain and/or customers (53%); improve process management activities through the data timeliness and monitoring phases (31%). The 42% of companies invests in R&D to increase the company's intellectual property. Then, the 88% of companies with BPM plans to make significant organizational changes, in order to increase the efficiency and the effectiveness of performances (e.g. rethink the organizational structure or the strategic processes characteristics, improve the coordination, the empowerment, etc.). It must underline that companies that don't use the selected organizational and managerial tools (54%) don't formalize strategic intentions within other specific documents/reports nor communicate them to different levels of the organization; however, the 49% draw up the annual budget. Companies that draw up the budget, without strategic planning tools, don't formulate nor communicate long-term goals, showing a short-term vision. One of the managers interviewed said: "*The crisis forced us to disinvest from activities that don't generate a direct benefit on company's performances: the strategic planning and control are one of those*".

In addition, from interviews it emerged that a great number of organizations that haven't adopted management tools (32%), in order to survive during this period of recession, are implementing a disinvestment policy (and will continue to do so unless there is a market recovery), reducing the number of personnel working within the organization.

Moving to the second research question, it was examined if companies that have effectively adopted the selected managerial and organizational tools are better performers than the others which show a passive attitude, waiting for changes in external environment. As described before, economic performances were analyzed considering the ROA and the ROE indicators. The following figures exhibit, for each indicator, the average values, calculated through the weighted average formula, so as to normalize the size of different groups previously identified (both BPM and EIS, only BPM, only EIS, none of the above systems). The outliers have been eliminated to reduce the variance caused by the peculiarity of each industry.

Finally, to guarantee the clarity of presentation, it was decided to expose the values referring to the whole sample, not highlighting the results basing on different business of activities.

Figure 2. Average of ROE-years 2011-2015



	2011	2012	2013	2014	2015
Both BPM and EIS	5,22%	5,10%	5,23%	5,12%	5,09%
Only BPM	4,41%	4,58%	4,66%	4,38%	4,22%
Only EIS	4,38%	3,98%	4,01%	3,91%	3,87%
None of the above systems	4,33%	2,87%	3,40%	2,94%	2,97%
Total	4,46%	3,58%	3,90%	3,58%	3,57%

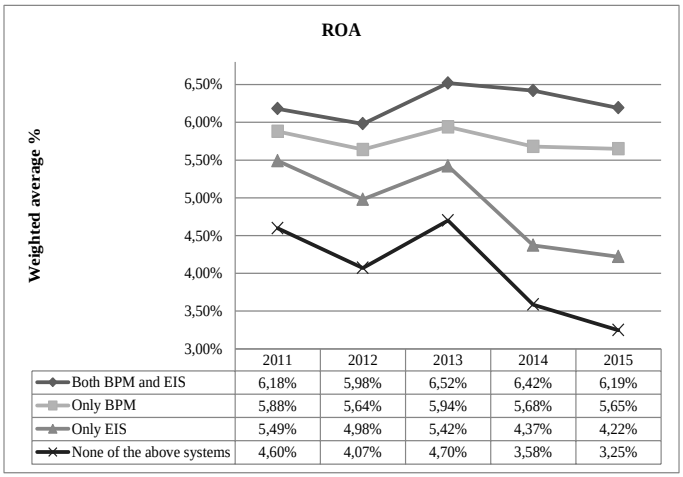
The results show a qualitative correlation among implementation systems and economical performances. Analyzing the weighted average of ROE indicator it emerges that:

- companies that implemented both BPM and EIS achieved higher performances than other organizations during the analyzed period;
- companies that only have BPM show, for the years 2011-2015, a ROE greater than that of companies with only EIS. In general, the indicator registered more limited fluctuations in companies with BPM, despite the period of recession;
- organizations without BPM and EIS show the lowest performances and the highest fluctuation.

The previous statements are also confirmed by the results achieved within the various businesses of activity. It is interesting to note that companies with BPM or EIS registered, in the year 2011, values of ROE similar to those without the described management tools. However, over the following years, the gap among different groups of companies has significantly increased.

As far as the ROA indicator is concerned, the average values are shown in the next figure.

Figure 3. Average of ROA-years 2011-2015



	2011	2012	2013	2014	2015
Both BPM and EIS	6,18%	5,98%	6,52%	6,42%	6,19%
Only BPM	5,88%	5,64%	5,94%	5,68%	5,65%
Only EIS	5,49%	4,98%	5,42%	4,37%	4,22%
None of the above systems	4,60%	4,07%	4,70%	3,58%	3,25%

Analyzing the trend of ROA during the period 2011-2015 it emerges that, also in this case, the highest performances have been achieved by companies that use both BPM and EIS.

Companies with BPM achieved the lowest level of ROA in 2012, however, over the following years, managers were able to increase and stabilize the results. Companies without BPM show significant fluctuations, reaching the lowest level of ROA during the years 2014-2015; at last, as shown for the ROE, the group without managerial and organizational tools registered the highest variation, compared to the initial value of the year 2011, and the lowest performances.

5. DISCUSSION AND CONCLUSIONS

This research contributes to extend existing literature on strategy implementation and communication tools, particularly referring to intellectual capital variables, as well as management systems that support the alignment of the organization towards established goals. In particular, the study confirms the conclusion of many authors who affirm the importance of intangible resources to support the strategy execution. The description of the strategy through its tangible and intangible elements should be formalized within conceptual models that highlight the critical success factors and identify the related key performance indicators.

As previously described, the research questions aim at investigating if selected firms have built and used managerial tools to describe the intangible elements of the strategy and then have implemented and used evaluation and incentive systems to drive and motivate personnel actions towards strategic goals (RQ 1). Then, it was decided to analyze the presence of a qualitative correlation between the use of IC advanced measurement systems and company's performances (RQ 2).

As it emerged during the analysis of the results, business performance models that describe the strategy through the identification of intellectual capital variables and intangible key success factors are not particularly widespread in Italian companies. In addition, only few companies have aligned the organization to company's strategic goals, implementing personnel evaluation and incentive systems. However, it must be underlined that in large companies, where usually these tools are more widespread, the results may be partially different.

Managerial and organizational systems, as widely described in literature, offer a valid support to management in: identifying the tangible and intangible critical success factors and the related indicators; preparing and disseminating guidelines for the whole structure; monitoring the actual results in terms of performance, both of the firm and of the various organizational units; supporting top and operational managers in analyzing the causes of possible deviations and in proposing corrective actions and updates. The explorative study also validates the results of a research conducted on family businesses (Truant, 2014).

As it emerged analyzing the sample, companies that implemented managerial tools as well as evaluation and incentive systems achieved higher and more stable performances, despite the economic crisis that affected organization during these last

years; the greatest benefits have been achieved by companies that integrated these two models. The only use of evaluation and incentive systems is not sufficient to ensure satisfactory and stable performances. In fact, these companies show economic results lower than those with only business performance models.

The findings reveal the importance of strategic planning tools: evaluation and incentive systems could be not sufficient if not aligned to medium and long terms goals because they are not able to prove their real potential, remaining tied to short-term logics.

As far as the ROE is concerned, it is interesting to note that at the beginning of the period in question (year 2011) the outcomes of the various groups were similar and aligned. Since 2012, the gap has significantly increased, as well as the variability of performances.

The explanation may be as follows: during the periods of economic stability or expansion, organizational and management tools are certainly important, nevertheless companies can reach adequate performances driven by the favorable economic environment. Instead, it is during the period of economic turbulence that these tools become indispensable because they represent the compass that help managers and employees to address actions towards the established goals. The power of business performance models is strengthened by the presence of evaluation and incentives systems that motivate and guide the daily actions of personnel towards medium and long term goals.

In conclusion, this study aims to focus the attention on the importance of managing, measuring and monitoring intellectual capital variables within business models focused to long-term value creation. The relevance of these systems has been analyzed through companies' performance indicators. The main limit of this study is constituted by the generalizability of results, strictly related to the sample size and to the choice of variables that impact on performances: in fact, company's performances are influenced by a significant number of variables, endogenous and exogenous to the organization. In this research only some of the endogenous variables that impact on performances have been analyzed: the management tools, focused on intangible resources and intellectual capital, as well as evaluation and incentive systems that enable the alignment of the organizational structure to long term goals. The value created by intangibles (and IC) can also be measured considering other performance indicators, so future researches can involve a greater number of companies and organizational variables or can include other performances indicators, in order to validate or confute the actual results.

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