Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

THE INFLUENCE OF FACTORS RELATED TO ORGANIZATIONAL STRATEGY AND THE ENVIRONMENT ON THE ADOPTION OF THE BALANCED SCORECARD IN PORTUGUESE COMPANIES

Robert Smith , School of Physics and Astronomy, Princeton University

Abstract

This article aims to identify and analyze a set of variables related to the strategy and organizational environment that can potentially influence the adoption of the Balanced Scorecard (BSC) in Portuguese companies of different sizes. To empirically test the formulated hypotheses , we have used the data obtained by applying a postal questionnaire to 549 Portuguese private organizations (small and medium-sized companies and large companies), with a total response rate of 28.2%. The results obtained indicate that the implementation of the CMI is independent of the economic activity/sector in which the organization operates. Furthermore, we have found that organizations that follow a defensive strategy attribute greater importance to the financial perspective or equivalent of the CMI . On the other hand, we have not obtained empirical evidence regarding the possible relationship between the implementation of the BSC, the type of strategy adopted by the organization, the phase/stage of the life cycle in which the organization is located and the intensity of competition in the environment. .

Keywords:

Balanced scorecard Management accounting Contingency theory Portugal

In this article we aim to identify and analyze a set of variables related to the organizational and environmental strategy that can potentially influence the adoption of the Balanced Scorecard (BSC) in Portuguese companies of different sizes . Hypotheses were tested using data obtained from a questionnaire sent to 549 privately-owned Portuguese organizations (small and medium enterprises and large companies), with an overall response rate of 28.2%. The results allow us to conclude that the BSC is independent of the activity/industry in which the organization operates. Furthermore, we have found that organizations that follow a defensive strategy attach greater importance to the BSC financial perspective or equivalent . On the other hand, we did not find empirical evidence regarding the possible relationship between the BSC, the type of strategy adopted by the organization, the phase/stage of the life cycle in which the organization is located, and the environmental intensity competition.

1. *Introduction*

The environment in which Management Accounting operates has changed a lot in recent years ,derived from changes in information technologies, markets, organizational structures and Management Accounting practices. The emphasis on value creation, increased competitive pressure, globalization, deregulation, and the emergence of a knowledge-based economy led organizations to adopt new management systems in the sense of obtaining competitive advantages. . In addition to the formulation and implementation of appropriate strategies that allow them to compete better in a more demanding business environment, organizations are also required to seek and adopt more control procedures. sophisticated and effective to ensure their effective functioning (Perera and Baker, 2007). Thus , in recent decades, new management control models and tools have been developed that combine financial and non-financial measures with the objective of improving the link between strategy and performance measurement , among which which highlights the Balanced Scorecard (BSC).

Several authors, among whom we can mention Hoque and James (2000) , Kasurinen (2002) , Chenhall (2003) , Speckbacher, Bischof and Pfeiffer (2003) , Hendricks, Menor and Wiedman (2004) , Bedford, Brown, Malmi and Sivabalan (2008) , Bisbe (2010) , Tapinos, Dyson and Meadows (2011) , Braam and Nijssen (2011) , Hendricks, Hora, Menor and Wiedman (2012) and Machado (2013) have highlighted the need to conduct empirical studies on the implementation of BSC in organizations and the determining factors of their success. For this reason , this article aims to identify and analyze a set of variables related to strategy and the organizational environment that can potentially influence the adoption of BSC in large and Portuguese small and medium - sized enterprises (SMEs) . To empirically verify the formulated hypotheses, the data obtained through the application of a questionnaire were used . postal tionary to 549 Portuguese private organizations . The results obtained indicate that the implementation of the CMI is independent of the economic activity/sector in which the organization operates . Furthermore, it was found that organizations that follow a defensive strategy attribute greater importance to the financial perspective or equivalent of the CMI. By On the other hand, no empirical evidence was obtained

regarding the possible relationship between the implementation of the BSC, the type of strategy adopted by the organization, the phase/stage of the life cycle in which the organization is located .

organization and the intensity of competition in the environment.

In accordance with the stated objective, the work is structured as follows : first, a theoretical framework related to the CMI is briefly presented . Next , the research hypotheses and the methodology used in this research are presented . With this basis, the results of the empirical study carried out and the main conclusions obtained are presented and discussed.

2. *The Balanced Scorecard*

Since the introduction of the CMI in 1992, there has been a growing interest in the design , application and use of this management system in different companies and organizations of different sizes and nature . At this time, the BSC was seen as a method that allowed the organization to systematically develop a comprehensive planning and control system and the integration of a set of financial and non-financial measures in 4 basic perspectives: financial, customers, internal processes and learning and growth (Kaplan and Norton, 1992, 1993). Years later , the authors verified that the organizations wanted to apply the BSC to solve the most important problem they had (how to implement new strategies?), abandoning the idea of the BSC only as a performance measurement and control system (Kaplan and Norton , 1996) . For the aforementioned authors, the CMI is more than a collection of financial and non-financial indicators and measures designed to measure the performance of an organization, emphasizing the scope of strategic objectives through performance indicators . ˜ or capable of representing the critical factors of the organization's success. In the words of the authors themselves, it is " a new instrument that integrates the measures derived from the strategy, using the financial information of past performance , and incorporating the values of future financial performance " (Kaplan and Norton, 1996 , p. 19). In this way, the CMI began to be seen as an instrument that allows the strategy to be executed, using measures that enable the translation of the organizational strategic vision into concrete actions carried out by all members of the organization .

According to Kaplan and Norton (2001) , the CMI is not a tool for strategy

formulation but for its execution, being considered as a multidimensional approach to describe, implement and manage the strategy at all organizational levels through linking , through a logical structure, of objectives, initiatives and measures to the organization's strategy. As these authors point out , the CMI provides a set of performance indicators considered crucial that reflect the balance between short- and long -term objectives , between financial and non-financial measures , between forecast and historical indicators and between internal and external action perspectives.

Today , the great challenge for any executive , in the sense of creating value for the organization , is to align an entire organization behind a common objective . Thus, the CMI is seen as a change management and strategic alignment tool, allowing to quickly and effectively (re)align the organization at all organizational levels (Kaplan and Norton, 2008, 2007a, 2007b).

The belief that the BSC represents one of the most important developments in Management Accounting and that it deserves rigorous investigation is widespread in the literature. For Bisbe (2010, p . 62) , « one of the important challenges that the CMI now faces is how to respond to the needs of companies in times as turbulent as the current ones . » . Thus, there are factors related to organizational strategy and the environment that impose important challenges on organizations and that can influence the adoption of new management tools that allow obtaining or maintaining competitive advantages. The BSC is considered in the literature as a tool that allows us to face these challenges, improving the performance of the organization.

Under the Contingency Theory it is argued that accounting management systems should be designed taking into account the specific strategy of each organization and the phase / stage of the life cycle in which the organization is located (Otley , 1980 ; Shields , 1998; Hoque and James, 2000). On the other On the other hand, competition from the environment and the sector of activity are important factors to the extent that they can pressure organizations towards change (Lawson , Stratton and Hatch , 2003a; Lawson, Stratton and Hatch, 2003b ; Chenhall , 2003; Hoque, 2005). These arguments have led to different authors to develop empirical research on possible factors that affect the use of the BSC , both in SMEs and large

companies . Regarding SMEs , Rompho (2011) carried out a case study to obtain empirical evidence on the factors that have taken an SME from Thailand to fail in the implementation of the BSC, pointing to the constant changes in the organizational strategy as the main reason to the extent that it makes it difficult to establish causal relationships between performance measures . Machado (2013) has verified, in a study carried out in 58 Portuguese industrial SMEs , that the level of knowledge

and use of the CMI is reduced. Conclusion similar to that obtained by Giannopoulos, Hotlt , Khansalar and Cleanthous (2013) in a study carried out in small companies in the United Kingdom and Cyprus . In relation to large companies, Hoque and James (2000) , in a study carried out in 66 Australian industrial companies, concluded that the BSC allows improving organizational performance . _ _ _ _ However, this relationship is not significantly dependent on the phase of the product life cycle or the competitive position in the market . However , they observed that the emphasis assigned to the use of financial measures is less in the in the case of companies with products that are at the beginning of their life cycle. In turn , Olson and Slater (2002) have sent a questionnaire to 1,000 managers of American industrial and service companies to evaluate the impact of the type of competitive strategy on the perspectives of the BSC, observing that the importance attributed to the different perspectives of the WCC varied depending on the type of strategy adopted . On the other hand, Speckbacher et al. (2003) carried out a study on a sample of 201 German, Austrian and Swiss companies to obtain empirical evidence regarding the use of the BSC in German - speaking countries and to identify possible factors that affect said use. Although the authors consider that the sector of activity in which the company operates may affect the design and efficiency of performance measurement systems , they have not obtained empirical evidence that statistically confirms _ _ _ _ _ _ _

said relationship.

More recently, Braam and Nijssen (2011) obtained empirical evidence , in a sample of Dutch companies that use the BSC, of the association between the implementation of the BSC and the existence of dynamic, competitive and turbulent

environments. On the other hand, Khani and Ahmadi (2012) observed, in the scope of a questionnaire sent to 62 large Iranian companies, that there is an association between the type of strategy of the organization and the use of the BSC. In particular, the results indicated a positive relationship between the use of an analyzing strategy and the application of the CMI and a negative relationship between the use of a defensive strategy and the application of the CMI. However, they did not obtain empirical evidence of the relationship between the adoption of a prospective strategy and the use of the CMI. In turn , Hendricks et al. (2012) have conducted a study in Canadian companies to examine the influence of a set of contingent variables on the adoption of the BSC. These authors also observed that there is an association between the type of the organization 's strategy and the implementation of the BSC, concluding that the adoption of the BSC is significantly associated with the use by the organizations of a prospective or analytical strategy (a conclusion similar to that obtained in the study by Jusoh (2010) carried out in 120 companies in Malaysia).

Despite the theoretical and practical consolidation of the CMI, little theoretical and empirical research has been carried out in Portugal regarding the factors related to organizational strategy and the environment that influence , favorably and / or negatively , its success . In light of the above, the main objective of this work has been to identify and analyze a set of contingent variables that can potentially influence the adoption of the BSC in Portuguese companies of different sizes . Specifically , the aim is to identify and analyze variables related to the strategy and the organizational environment: type of business strategy, phase/stage of the life cycle of the organization, sector of activity/type of industry and intensity of competition in the environment.

3. *Research hypotheses*

In this section, the empirical research hypotheses are presented, identifying possible determining factors of the implementation of the CMI in private organizations . Sayings factors are related, as mentioned previously , to the strategy and the organizational

environment.

3.1. business strategy

According to Contingency Theory , the company's strategic choice should dictate the nature and type of management control and performance evaluation system it uses . Thus, business strategy has been recognized in the literature as an important contingent factor that affects the selection , design and use of Management Accounting systems by organizations (Otley , 1980; Gupta and Govindarajan, 1984; Govindarajan and Gupta, 1985; Govindarajan, 1986; Simons, 1987; Fisher, 1995; Atkinson et al., 1997; Langfield-Smith, 1997; Gosselin, 1997; Chenhall and Langfield-Smith, 1998; Olson and Slater, 2002; Sohn, You, Lee and Lee, 2003; Chenhall, 2003; Hendricks et al., 2004; Simon, 2007; Jusoh, 2010; Gosselin, 2011; Speckbacher and Wentges, 2012; Hendricks et al., 2012; Cadez and Guilding, 2012).

Among the different typologies proposed in the literature to classify strategies, it has been decided to use the one proposed by Miles, Snow, Meyer and Coleman (1978) , since it is a classic typology that has had a great impact on strategic literature, demonstrating reliability. and validity, having been applied directly to the explanation of the behavior of a large number of organizations from different sectors of activity or taken as a reference for the explanation of internal management processes of various organizational resources (Cabello , García , Jiménez and Ruiz , 2000). For Miles et al. (1978) , organizations do not assume a passive role , but rather adjust to the characteristics of the environment by influencing each other.

Below are the main characteristics of each type of strategy included in the typology of Miles et al. (1978) .

Defensive strategy. Organizations that follow defensive strategies are characterized by a reduced range of products and/or services and low levels of product and market development. They operate within a limited product market and are characterized by high production volumes and aggressive competition in terms of prices, quality and customer service. They fundamentally try to defend their positions according to the criterion of operational efficiency (Miles et al., 1978). For Simons (1987) , the business units that Following a strategy of this type, they tend to pay more attention to financial measures and internal processes, since they seek to maximize internal efficiency and attribute little importance to marketing and the development of new products. Thus, for this author, these units are characterized by having formal structures and centralized and rigid accounting systems . Furthermore, when operating in a stable environment they tend to

predominantly use historical, financial and internal information (Simons, 1987; Boulianne and Rivard, 2001).

Prospective strategy . Organizations that continue to strategize

Prospective companies aggressively seek new market opportunities and explore new products through a permanent search for opportunities within their competitive framework. Consequently, they tend to work with a wide variety of products and in various market segments . As foresighters are innovators, they need to a greater extent non-financial information about events that may occur in the future (Simons, 1990). Thus, external, non-financial and future-oriented information is considered more important for organizations that follow a prospective strategy.

Analyzing strategy . Organizations that follow strategies

Analyzers occupy an intermediate position between the 2 previous positions , simultaneously seeking to minimize risk and maximize benefit . Thus , just as organizations with Forward-looking strategies are interested in the development of new products, while maintaining a relatively stable set of products and customers (Miles et al., 1978). As pointed out by Cabello et al . _ (2000, p. 366) , " they are a symbiosis of the 2 previous ones by acting in a defensive or prospective way depending on the business units where they are located and the appropriate balance of efficiency-innovation that they require . " These types of organizations operate routinely and efficiently through formal structures and processes , although at the same time they analyze new ideas from their competitors and, in many cases, adopt them quickly (Hendricks et al., 2004).

Reactive strategy . Organizations that follow strategies _

Reactive companies are not aggressive in taking risks , even in a stable market . As pointed out by Cabello et al . _ (2000, p. 366) , " these organizations react to the environment without trying to dominate it, so their behavior is unpredictable and unstable, and it is practically infeasible for them to establish systems and structures consistent with a given strategy . "

An essential aspect of the BSC is the articulation between performance measures and business strategy (Banker, Chang and Pizzini, 2004b). In this regard, Hendricks et

al. (2004) , Jusoh (2010) , Gosselin (2011) , Speckbacher and Wentges (2012) , Khani and Ahmadi (2012) and Hendricks et al. (2012) verified that the implementation of the CMI in a company is significantly associated with the type of strategy adopted by it. Abernethy and Guthrie (1994) , Chong and Chong (1997) , Boulianne and Rivard (2001) and Simon (2007) concluded that companies that follow forward-looking strategies use, in addition to traditional accounting information , external, non-financial and future-oriented information. Thus, organizations that follow a prospective or analytical strategy are more likely to adopt the BSC than other organizations. Consequently, it is expected that there is a positive relationship between this type of strategies and the degree to which the CMI is used by the companies that follow them . Thus , similar to the Previous studies , the following hypothesis has been defined in which this relationship is raised:

H1. The propensity to adopt the BSC is positively related to the organization 's choice of a prospective or analytical strategy . _

Regarding the relationship between the strategy adopted and the classic CMI perspectives, the review of the literature suggests that organizations that follow forward-looking strategies tend to place greater emphasis on customer and learning and growth perspectives and that, therefore , On the contrary, organizations that follow defensive strategies are likely to give more emphasis to the financial and internal process perspectives , attributing less importance to the customer and learning and growth perspectives (Conant , Mokwa and Varadarajan, 1990; Woodside, Sullivan and Trappey, 1999; Ko, Kincade and Brown, 2000; Sabherwal and Chan, 2001; Olson and Slater, 2002; Sohn et al., 2003; Jusoh, Ibrahim and Zainuddin, 2006; Jusoh, 2010; Gosselin, 2011). For their part, organizations that follow analysis strategies are in an intermediate situation, since they place more emphasis on financial and internal process perspectives than prospective ones and less emphasis than those that adopt defensive strategies (Sabherwal and Chan , 2001; Sohn et al., 2003). These arguments led to the formulation of the following hypotheses regarding the impact of the type of competitive strategy of the company on the importance attributed to the perspectives of the CMI:

a Defensive organizations seek to achieve competitive advantages through cost control , so they tend to emphasize financial measures more than prospective organizations (Gosselin , 2011) .

H2a. Organizations that follow a forward-looking strategy place greater importance on customer perspectives and CMI learning and growth perspectives.

H2b. Organizations that follow a defensive strategy attribute greater importance to the financial and internal process perspectives of the CMI.

H2c. Organizations that follow an analytical strategy attribute greater importance to the financial and internal process perspectives of the BSC than those that follow a prospective strategy and less than those that follow a defensive strategy.

3.2. Phase /stage of the organization 's life cycle

Related to the business strategy are the phases/stages of the life cycle in which the organization finds itself: growth, sustainment and collection or harvest. In the first phase (growth) the main objective of the company is to increase its market share. In the maintenance phase, the company focuses on protecting the market share achieved and maintaining its competitive position . Finally, in the collection phase the company tries to Make the most of cash flows and income.

Shields (1998) , Hoque and James (2000) and Moores and Yuen (2001) investigated the relationship between the design and characteristics of Management Accounting systems and the different phases of the life cycle of companies . , observing a greater use of systems _ formal Management Accounting by companies that were in the early phases of growth and maturity . However , Hoque and James (2000) concluded that companies whose products were in the initial stages of their life cycle used CMI more, since they needed control systems . and information systems and used a greater diversity of measures . _ For this reason, although it is expected that the use of the CMI depends on the phase of the life cycle , the hypothesis does not establish the sign of said relationship.

H3. There is an association between the BSC and the phase/stage of the life cycle in which the organization is located.

3.3. Sector of activity/type of industry

According to the literature , the sector of activity/type of industry can influence the adoption and viability of Management Accounting practices (Ittner and Larcker, 1997; Langfield-Smith, 1997; Shields, 1998; Otley, 1999 ; Ittner and Larcker, 2001; Williams and Seaman, 2001; Chenhall, 2003; Speckbacher et al., 2003; Drury and Tayles, 2005; DeBusk and Crabtree, 2006).

The environment (and, within this , the sector of activity) has been a contingent variable widely used in the literature on Contingency Theory in Management Accounting (Aibar, 1997). On the other hand, from the perspective of Institutional Theory, certain industries face greater institutional pressures than others. In this sense, Zan and Frezatti (2007) consider that the sector of activity is a variable that can cause the institutionalization of contemporary Management Accounting practices ; while Drury and Tayles (2005) point out that companies tend to imitate others , especially in the same sector of activity .

Although the CMI had its origin in the industrial sector , it is possible to find in the literature examples of its application to the most varied sectors. For Lawson et al. (2003a, 2003b) , the implementation of the BSC varies with the type of industry, reflecting the need for each organization to adapt the BSC to its specificities. Thus , the question whether the sector

activity is a determining factor in the use of the BSC and, consequently , the following hypothesis has been proposed:

H4. The implementation of the CMI is independent of the sector of activity.

3.4. Intensity of environmental competition

Contingency Theory suggests that organizations must adapt to their environment to achieve good performance (Das , Handfield , Calantone & Ghosh, 2000). The relationship between the design and adoption of new Management Accounting systems and the characteristics of the environment in which the organization operates is pointed out by various authors , who consider that changes in the environment imply changes in the organization and, consequently, in Management Accounting practices (Khandwalla, 1972; Hofer, 1975; Govindarajan, 1984; Merchant, 1984; Ezzamel, 1990; Innes and Mitchell, 1990; Simons, 1990, 1991; Hemmer, 1996; Libby and Waterhouse, 1996; Langfield-Smith, 1997; Shields, 1997; Otley, 1999; Das et al., 2000; Williams and Seaman, 2001; Hoque, Mia and Alam, 2001; Chenhall, 2003; Banker, Chang, Janakiraman and Konstants, 2004a; Hoque, 2005; Braam and Nijssen, 2011).

Khandwalla (1972) was one of the first researchers to analyze the effect of the environment on management control practices , concluding that their sophistication is influenced by the degree of intensity of competition that the company faces . The results obtained by Govindarajan (1984) , Merchant (1984) , Ezzamel (1990) , Simons (1990, 1991) , Hemmer (1996) , Libby and Waterhouse (1996) and Hoque et al. (2001) confirmed those of Khandwalla (1972) by finding that a greater emphasis on multiple measures of performance is associated with organizations and business units that face intense market competition. These arguments have allowed us to define the following hypothesis, in which the competition of the environment is considered to be a determining factor in the use of the CMI:

H5. Portuguese organizations using the WCC operate in a more competitive environment.

4. *Methodology*

To carry out our empirical research, we have resorted to the positivist research paradigm, which is associated with the preference for the use of quantitative methods for the collection and analysis of data, with the aim of providing a basis for generalizations (Vieira, 2009) . . Thus , to collect the data , it was decided to carry out _ a postal survey by sending a questionnaire to a sample of private organizations operating in Portugal .

This research methodology is considered the most appropriate to achieve our research objective and to know the degree of implementation and development of the CMI in Portugal, by allowing access and management of a large amount of data with relatively low obtaining costs . Furthermore, this technique makes it possible to obtain easily quantifiable data and can cover a large number of respondents in different geographical locations who, due to the anonymity and confidentiality of the responses, can freely express their opinions (Hill and Hill, 2008).

The questionnaires were essentially made up of closed questions , grouped into blocks depending on the topic or issue to which they referred. The questions were mainly qualitative, mostly multiple-choice and dichotomous, with the application of nominal and ordinal scales to make it possible to code the responses (such as, for example, Likert -type scales). Although to a lesser extent, it is also They included some quantitative aspects and some open questions to identify the perception of the respondents regarding the CMI.

Table 1

Distribution of large companies according to the CAE - Rev. 3

CAE-Rev. 3	n	%
Agriculture, animal production , forestry and fishing	1	0.9
Extractive industries	1	0.9
Transforming industries	3. 4	31.

	8	
Electricity, gas, steam, hot and cold water and cold air	3	2.8
Collection, treatment and distribution of water, sanitation , waste management and decontamination	1	0.9
Construction	eleven	10.3
Wholesale and retail trade ; repair of automobiles and motorcycles _	37	34.6
Transport and storage	9	8.4
Information and communication activities _	4	3.7
Real estate activities	1	0.9
Administrative activities and support services _	3	2.8
Other service activities _	2	1.9
Total	107	100

To delimit the universe of analysis, the Portuguese territory was taken as the geographical area . In particular, the population under study was made up of large companies and SMEs, comprising a total of 549 organizations: the 388 largest Portuguese companies and 161 excellence-industry SMEs.

The large companies have been selected based on their sales volume, using the

database of the 500 largest and best Portuguese companies published in the special edition of Exame magazine (Exame, 2008). With regard to SMEs, taking into account the high number of SMEs in Portugal and their heterogeneity, those belonging to the industrial sector have been selected (sector with the most tradition in the use of Management Accounting systems) that were classified as excellent. -tes , in terms of performance economic-financial and management, in the last 2 years in whi said classification was made (2000 and 2001) .

To ensure the validity of the questionnaires, a pilot test was carried out during the month of March 2009 through discussions and personal interviews with elements belonging to the population to be investigated, as well as academic experts in the field and with extensive experience in the design . e m˜ o and conducting research through postal surveys .

The data were collected between April 2009 and March 2010 and treated statistically using the SPSS program (*Statistical Package for the Social Sciences* , version 17). The response rate corresponds to 28.2% of the total population (155 responses). These questionnaires are distributed as follows among the different organizations surveyed: 107 large companies (response rate of 27.6 %) and 48 SMEs (29.8 % response rate).

5. *Results and discussion of results*

5.1. Descriptive analysis

In relation to the distribution by sectors of activity according to the sections of the Portuguese Classification of Economic Activities (CAE-Rev. 3), a great sectoral diversity is observed among the 107 large companies that have responded to the questionnaire (table 1). The highest percentage of responses corresponds to companies belonging to the sections « commerce wholesale and retail; repair of automobiles and motorcycles » (34.6%) and « processing industries » (31.8%). Next, although in a lower percentage, are the sections of
« construction » (10.3%) and « transport and storage » (8.4%).

Activities have also been classified according to the sector of economic activity:

primary sector (activities linked to nature , such as agriculture, forestry, fishing, hunting)

Table 2

Representativeness of large companies according to the sector of economic activity

Sector	Answers		Nanswers		Total	
	n	%	n	%	n	%
Primary	2	1.9	0	0	2	0.5
Secondary	44	41.1	138	49.1	182	46.9
Tertiary	61	57	143	50.9	204	52.6
Total	107	100	281	100	388	100

p = 0.083; and ^{2} = 4.967.

Table 3

Competitive strategy followed by companies _

Competitive strategy	Big	%	SMEs	%
Prospective	47	44.8	16	33.3

Defensive	17	16. 3 2		6.3
Analyzer	41	3 9	29	60. 4
Total	105	10 0	48	10 0

extractive industry), secondary sector (transformative industrial activities, construction and energy production) and tertiary sector (activities related to the provision of services: commerce, tourism, transport, telecommunications and financial activities). In this regard, although the sample includes large companies belonging to different economic activities, the most representative sector is the tertiary sector, with 61 companies (57%), followed by the secondary sector, with 44 companies (41.1%).

To check the representativeness, the Chi-square b adjustment test was used (table 2), which presented a non-significant statistic (p = 0.083), so the null hypothesis was not rejected. Thus, the sample can be considered to be representative of the population in terms of sector of economic activity.

With respect to SMEs, all the companies in the sample belong to the « processing industry » section of the CAE (industrial sector) and, consequently, are included in the sectorsecondary.

It is still possible to observe that almost all of the large companies (94.4%) and a large percentage of the SMEs (83.3%) that make up the sample under study have an organizational strategy (94.4%). and have a clearly defined organizational mission (89.7 and 81.3%, respectively). On the other hand, it is observed that large companies have a vision (88.8%) and clearly defined strategic objectives (93.5%) and carry out a strategic planning process (84.1%) . In a lower percentage, but still a significant number, SMEs have a clearly defined organizational vision and strategic objectives (both with 77.1%) and carry out a strategic planning process (66.7%).

Regarding the type of strategy of Miles et al. (1978) followed by the sample organizations (table 3) [c] , the most adopted strategy in large companies is the prospective

strategy (44.8%) . On the other hand, the strategy most adopted by SMEs has been the analysis strategy (60.4%). It should be noted that No company has mentioned that it follows a reactive strategy, and a large company belonging to the energy sector has indicated that it does not fit into any of the types of strategies presented, since its activities are configured as natural monopolies .

b The following null hypothesis (H0) has been defined: The proportion of economic activities follows a specific distribution, and the following alternative hypothesis (Ha): The proportion of economic activities does not follow a specific distribution .

c Respondents were presented with a brief description of the pro- strategies .

pective (value 1), defensive (value 2), analyzing (value 3) and reactive (value 4), and they were asked to indicate which description best fit their business units in recent years.

Table 4

Stage / phase of the business life cycle

Stage/phase	Big	%	SMEs	%
Growth	7	6.8	3	6.3
Sustenance	82	79.6	38	79.2
Harvest	14	13.6	7	14.6
Total	103	100	48	100

Table 5

Environment /market competition

Degree of competence	Big	%	SMEs	%
Non-competitive	7	6.5	0	0
Very uncompetitive _	4	3.7	1	2.1
Moderately competitive	26	24.3	12	25
Quite competitive	70	65.4	35	72.9
Total	107	100	48	100

Regarding the stage / phase of the life cycle in which the companies are , Table 4 shows that almost all of the companies analyzed are in the sustainability phase (79.6 % of the large ones) . _ _ _ companies and 79.2 % of SMEs), it is That is to say, these are essentially companies that are concerned with protecting their market share and maintaining their competitive position and that are established in the market.

Regarding the characteristics of the organizational environment of the organizations , the data obtained indicate that almost all organizations , whether large or SMEs , consider that they face a competitive environment / market (table 5) . . Only seven large companies have stated that the environment/market where they carry

out their activity is not competitive (4 of them belong to the tertiary sector and three to the secondary sector).

Regarding the intensity of competition, Table 6 shows that the respondents consider that there is competition in all the items presented in the questionnaire , highlighting , both in large companies and in SMEs, competition in prices, in terms of market share and in products/services (diversity and quality), on a graduated scale from 1 (nil) to 5 (very high).

5.2. Use of the Balanced Scorecard _

Regarding the degree of use of the CMI by the Portuguese private organizations in our sample , it has been observed that , at a general level , the application of the CMI is lower in SMEs (3.7%, which corresponds to an SME) than in large companies (38.6%, which corresponds to 34 large companies). By On the other hand, 50 % of large companies (44 companies) and 74.1 % of SMEs (20 companies) indicated that they did not use or intend to use the CMI , and 2 large companies (2.3 %) and one SME (3.7%) indicated that they have already used the BSC but have abandoned it. donated. However, when we compare our results with those obtained in other previous studies carried out in Portugal (Sousa , 2001; Silva, 2003; Russo and Martins, 2005; Santos, 2006; Russo, 2009; Quesado and Rodrigues, 2009), notes that there has been a notable increase in the use of the CMI in recent years , motivated by a greater knowledge of this tool and concern for increasing efficiency and cost control . Furthermore, a significant number of organizations have indicated that they intend to implement the BSC in the future (9.1% of large companies [8 companies] and 18.5% of SMEs [5 companies]), and even some organizations have been _ñ winged that they were already taking the first steps in the process of its implementation.

Table 6

Competition intensity _

Competence in:	Big			SMEs		
	n	Half	Deviation	typical n	Half	Deviation typical
Prices	106	4.00	1,146	48	4.40	0.707
Products/services	106	3.54	1,079	48	3.83	0.996
Labor _ _	105	3.08	0.948	48	3.15	0.899
Obtaining inputs _	103	3.05	0.845	48	3.17	0.808
Promotion	104	3.25	1,138	48	3.40	1,005
Marketing and distribution channels _	104	3.25	1,155	48	3.52	0.922
Market share	105	3.77	1,094	48	3.94	0.836

Table 7

CMI implementation vs type of strategy _

Utilization	Strategy		
	Prospective	Defensive	Analyzer
Use or intend to use			
Cases	26	3	18
% strategy	fifty	21.4	38.3
Does not use			
Cases	26	eleven	29
% strategy	fifty	78.6	61.7

p = 0.131; and ^{2} = 4.066).

5.3. Bivariate analysis

This section aims to verify the hypotheses defined in accordance with the appropriate statistical criteria and procedures and present a discussion of the results obtained. Due to the small number of organizations using the CMI, and also because some of the organizations that indicated that they hoped to implement the CMI in the future indicated that they were already taking the first steps in the tool implementation process , data from organizations that use the CMI or expect to implement it in the future have been pooled .

Regarding the relationship between the type of strategy adopted by the organization

and the propensity to adopt the BSC (H1), contrary to what was suggested by different authors (Hendricks et al ., 2004; Jusoh , 2010; Gosselin, 2011 ; Speckbacher and Wentges, 2012; Khani and Ahmadi, 2012; Hendricks et al., 2012), there is no empirical evidence that statistically confirms this relationship , since the Chi-square test of independence presented a p of 0.131 (table 7).

However, if we carry out a purely descriptive analysis of the results obtained , it is possible to observe that, in our sample, the organizations that use the BSC the most have adopted a prospective strategy (50 %), and that those that indicated did not use this tool, they have mainly adopted a defensive strategy (78.6%).

Regarding the relationship between the type of strategy adopted by the organizations and the importance attributed to the CMI perspectives (H2a and H2b), through the Mann-Whitney test (tables 8 and 9) has verified that for both hypothesis there are no differences in statistical terms (p = 0.952

Table 8

Non- parametric Mann - Whitney test for prospective strategy

	Customer perspective or equivalent _	Perspective learning and growth or equivalent _
Mann - Whitney U	207,000	102,500
Wilcoxon W _	460,000	238,500

Z	– 0.060	– 1,337
Significance level (bilateral)	0.952	0.181

Table 9

Non- parametric Mann - Whitney test for defensive strategy

	Financial perspective or equivalent	Internal processes perspective or equivalent _
Mann - Whitney U	34,000	50,000
Wilcoxon W _	737,000	716,000
Z	– 1,988	– 1,145
Significance level (bilateral)	0.047	0.252

for the customer perspective or equivalent and p = 0.181 for the learning and growth perspective or equivalent, in the case of hypothesis H2a; and p = 0.252 for the internal processes perspective or equivalent, in the case of hypothesis H2b), except in relation to the financial perspective or equivalent in the case of hypothesis H2b (o

= 0.047). That is, it has been proven that organizations that follow a defensive strategy They attribute greater importance to the financial perspective or equivalent of the WCC. In our opinion, the results obtained in the remaining types of strategies adopted by the organizations can be explained by the fact that almost all of the organizations surveyed attributed a very high importance to all the perspectives of the CMI d , which has difficult to obtain statistically significant differences.

If we carry out a global and comparative analysis between all the organizations according to the type of strategy adopted and the degree of importance attributed to the different perspectives of the BSC (H2c), through the Kruskal-Wallis test (table 10) it is observed , once Furthermore , no differences are found in statistical terms (p = 0.132 for the financial perspective or equivalent; p = 0.156 for the customer perspective or equivalent; p = 0.115 for the internal processes perspective or equivalent, and p = 0.263 for the learning and growth perspective or equivalent). As we have noted previously , in our opinion these results may be due to the high importance attributed to all WCC perspectives by all the organizations surveyed, as well as the small number of organizations in the sample that They reported having adopted a defensive strategy.

To verify the association between the phase/stage of the life cycle in which the organization is located and the implementation of the BSC (H3), the Chi-square test of independence has been used (table 11). However , given that at first the assumptions for the application of said test (33.3% of the observations had an expected value less than 5) and taking into account the small number of companies in the sample that were in the growth phase/stage (8 cases), it has been decided to exclude said phase of the data used for the analysis.

Thus, the Chi-square test presented a non-significant statistic (p = 0.069), so the proposed research hypothesis is not confirmed. That is, there is no association between the d Which can be considered indicative of a high importance attributed to non-financial measures.

Table 10

Kruskal - Wallis nonparametric test _

	Financial perspective or equivalent	Perspective or equivalent _	customers	Internal processes perspective or equivalent	Growth outlook	apprenticeship or equivalent _	and
Chi- square	4.049	3,715		4,331	2,669		
GL	2	2	2		2		
Significance	(two-sided)	0.156		0.115	0.263		
0.132							

Table 11

CMI implementation vs phase / stage of the company 's life cycle

Utilization	Phase/stage of the cycle of life			
	Sustenance			Harvest
Use or intend to use				
Cases	31	9		

% phase	35.2		6
			0
Does not use			
Cases	57	6	
% phase	64.8		4
			0

p = 0.069; and ^{2} = 3.311.

Table 12

Sector of activity vs implementation of the CMI

Utilization	Sector of activity		
	Secondary	Sector of activity	Tertiary
Use or intend to use			
Cases	24	23	
% sector	37.5	46.9	
Does not use			
Cases	40	26	
% sector	62.5	53.1	

p = 0.414; and ^{2} = 0.666.

implementation of the BSC and the phase/stage of the life cycle in which the

organization is. These results do not coincide with those obtained by Shields (1998) , Hoque and James (2000) and Moores and Yuen (2001) . However , they are compatible with the arguments of Nieto (2003) , who considers that the CMI is due implement regardless of the phase of the production cycle that the organization is in . _

However, it is important to emphasize that our results may be influenced by the fact that almost all of the organizations in the sample that use or intend to use the CMI and almost all of the organizations that do not use it are in the so- called maintenance phase.

Regarding the relationship between the CMI and the sector of activity (H4), the analysis has focused only on the secondary and tertiary sectors, since the primary sector only presented 2 cases (table 12) . The test statistic is not significant (p = 0.414), accepting the null hypothesis of independence between the variables. Thus, although descriptively there is a greater use lization of the WCC by the organizations belonging to the tertiary sector of the economy, the difference is not significant to generalize the results.

Taking into account that all SMEs belong to the secondary sector , it has been decided to redo the analysis only for large companies, which has confirmed with greater evidence the results obtained, that is, the use of the CMI is independent of the sector of activity . .

In this case, our result does not correspond to that obtained by Quesado and Rodrigues (2009) , who verified that large companies belonging to the secondary sector were the ones that used the CMI the most , nor with those of DeBusk and Crabtree, 2006 , who demonstrated that the sector The economic environment to which the organization belongs does influence its management practices, and those of Silva (2003) , who concluded that companies belonging to the most recent sectors (" companies of the new economy ") were those that presented a higher rate. of use of the higher CMI, due to the greater need for innovation in its processes. In summary, the proposed research hypothesis is confirmed, observing that the implementation of the CMI is independent of the health sector . activity to which the organization belongs.

To verify the hypothesis formulated regarding the relationship between the implementation of the BSC and the intensity of competition in the environment (H5),

the respondents were asked to characterize the competitive environment in which the organization operates, as well as that assessed the degree of competition that the organization faces in relation to a set of factors .

The Chi-square test of independence presented a non-significant statistic (p = 0.275), so the defined hypothesis is not confirmed (table 13). That is, we have not obtained empirical evidence regarding the association between the implementation of the BSC and the degree of competition in the environment in which the organization operates. In this regard, it is important to point out that this result may be a reflection of the fact that almost all of the organizations that use or intend to use the CMI and almost all of Organizations that indicated not using the BSC operate in an environment considered moderately or strongly competitive. These results do not coincide with those of Kennerly and Neely (2003) , Banker et al. (2004a) , Tapinos et al. (2011) and Braam and Nijssen (2011) , who obtained empirical evidence of the association between the implementation of the CMI and the existence of dynamic, competitive and turbulent environments.

We have also sought to define a new variable (which we call « competition ») representative of the degree of competition in the environment (its intensity) through the use of Factor Analysis of Principal Components (PFFA).

Table 13

Implementation of the CMI vs intensity of competition in the environment

Utilization	Environment characterization			
	Non-competitive	Bit competitive	Moderately competitive	Strongly competitive
Use or intend to use				
Cases	2	2	7	37
% environment	28.6	66.7	28	46.3
Does not use				
Cases	5	1	18	43
% environment	71.4	33.3	72	53.8

p = 0.275; and ^{2} = 3.876.

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

Table 14

KMO and Bartlett test _

Evidence	Values
KMO Adequacy Measure _ _	0.807
Bartlett 's test of sphericity	
Approx. Chi- square	489,546
G.L.	twenty-one
Significance	0.000

Table 15

AFCP Statistics _

Communalities		*Loadings*
Price competition _	0.461	0.679
Competition in products/services	0.614	0.783

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

Competition in labor force /hand of work	0.356	0.597
Competence in obtaining inputs _ _	0.417	0.646
Competition in terms of promotion professional	0.727	0.852
Competition in terms of marketing and distribution channels _	0.681	0.825
Competition in terms of quota market _	0.581	0.762

Eigenvalue = 3.838; %variation = 54,824.

As seen in Table 14 , the measure of adequacy of the factor analysis to the variables under study is good (KMO of 0.807). In turn , Bartlett's test of sphericity presented a significant statistic ($p < 0.05$), indicating that there is a significant correlation between the variables, which allows us to continue with the factor analysis .

In table 15 it can be seen that, in general, the values are not very high, so the variables do not have a very strong relationship with the retained factor . The variable « competition in labor force / manpower » is the one

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

that presents the lowest common variation. In turn, higher values have been recorded for the variables « competition in terms of career advancement » , « competition in terms of marketing and distribution channels » and « competition in products/services », reflecting a better relationship between these variables and the retained factor. Regarding the total variation explained, by the Kaiser criterion , we only retain one factor . The retained component only explains about 55% of the variation in the original variables, that is, 55% is represented in the « competition » variable .

Regarding the correlation between each variable and the component *(loadings)* , it is observed that all the variables are positively correlated, that is, the greater the competition in prices, in products/services, in labor force/hand of work, in obtaining inputs, in terms of professional promotion, in terms of marketing and distribution channels and in market share , the greater the degree of competition that the organization faces . Based on the above , it is verified that the AFCP provides It provides a good measure of the competence of organizations, creating a new variable (" competition ") made up of the scores *of* these components. Furthermore, the internal coherence expressed through the Cronbach 's alpha of the factor is very high (0.861) .

In order to verify the proposed research hypothesis, the t test was used (table 16), which presented a non-significant value (p = 0.494), allowing the defined hypothesis to be rejected . That is , there is no association between the level of competition faced by the organization and the implementation of the BSC . This result It is in line with the vision of Ballvé (2006) , who maintains that the CMI can facilitate the

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

implementation of organizational strategy in stable contexts . Furthermore, Bisbe (2010 : 62) understands that in « very changing environments, the CMI can present flexibility problems , both when incorporating changes

Table 16

Competencia a que se enfrenta la organización vs implementación del CMI

Utilización		Competencia			
	n	Media	Desviación típica	Test t	Significación
Utiliza o pretende utilizar	47	3,51	0,715	0,686	0,494
No utiliza	67	3,41	0,801		

Tabla 17

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

Resultado de las hipótesis de investigación

Hipótesis	Variable de investigación	Resultado
H1	Estrategia	No confirmada
H2a		No confirmada
H2b		Confirmada (perspectiva financiera)
H2c		No confirmada
H3	Ciclo de vida	No confirmada
H4	Sector	Confirmada
H5	Competencia	No confirmada

derived from reorientations in the strategic direction as well as when helping to detect the need for said reorientations » . In table 17 we present a summary of the results obtained.

nests in the proposed hypotheses .

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

6. *Conclusions*

The CMI evolved from a system for measuring the performance and actions of the company towards a strategic management system, which in addition to measuring the performance of a past event , drives performance in the future , enabling a more proactive to set objectives, communicate the strategy to employees, execute the strategy and learn and adapt it to changes in the organization's surrounding environment (Kaplan and Norton, 2008, 2007a, 2007b).

Although the implementation of the BSC is a fact in different countries , we find many few references and empirical research regarding its application in SMEs and large Portuguese companies. In line with what was noted, an attempt was made to evaluate a set of possible factors related to the strategy and the organizational environment that determine its use.

In the general characterization of the organizational environment , it is concluded that the organizations analyzed consider that they operate in an environment in which the intensity of competition is quite high . From reading the data , it has also been confirmed that almost all of the organizations in the sample have _ a clearly defined mission, vision and objectives and carry out a strategic planning process . However , more than 20 years have passed since the presentation of the CMI by Kaplan and Norton (1992) , and despite having received strong promotion from academics and _ _ _ consulting and software companies , we have confirmed that this tool is still little used in Portugal.

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

At the level of verification of the research hypotheses, the results obtained have allowed us to conclude that the implementation of the CMI is independent of the economic activity/sector in which the organization operates. Furthermore, the results corroborate that organizations that follow a defensive strategy attribute greater importance to the financial perspective or equivalent of the CMI. On the other hand, we have not obtained empirical evidence regarding the possible relationship between the implementation of the BSC, the type of strategy adopted by the organization, the phase/stage of the life cycle in which the organization is located and the intensity of competition. of the environment.

The main contribution of this work is to make an empirical contribution to research focused on the usefulness of the CMI inorganizations, which may be interesting for managers who are considering its implementation for adequate business management. Thus, some variables referred to in the literature as determining factors of the use of management tools were proposed and contrasted . This effort toIdentifying and measuring the variables represents, in itself , an advance in the area of research that concerns us and aims to increase theknowledge about the importance of considering these variables in business management. Furthermore, we are unaware of other studies that have analyzed these variables in this type of sample, whichcan serve as guidance to other countries that share similarities.with the companies in this study.

We highlight the result obtained in this study regarding to the type of strategy and competition variables, since there are few studies that have

not obtained empirical evidence of their influence.cia as determinants of the use of the CMI. Thus , this work advances the discussion of the topic and presents an innovative approach in the extent to which in the literature review phase no bibliographic elements were found on the determining factors in the adoption of the CMI in Portugal.

In short, with this research we intend to have contributed in some way to clarifying which are the contingent factors that can affect the implementation of the BSC in both private and public organizations, as well as for theincreased success in its implementation and use in these organizations.

This research is subject to some limitations that, at the same time, open possibilities for future extensions of our work. The first lies in its context of analysis, which is limited to private Portuguese organizations, and the second, to the small size of the sample, which makes analysis and comparison difficult . generalization of the results obtained for the universe of the study and limits the explanatory capacity of the statistical tests . Furthermore, the fact that the selection criteria for the SMEs surveyed is based on a classification carried out in 2000-2001It constitutes a limitation of the study, since there was no other closer criterion at the time of the survey. On the other hand, the chosen research methodology presents some disadvantages compared to other collection methods.of data, such as, for example, the impossibility of guaranteeing that the instructions or the meaning of the questions and the response modalities are correctly followed and understood, that the questionnaire is completed in its entirety, the low response rates associated to this research method, the impossibilityThe ability to verify, in some cases , whether the person who

answered the questionnaire was really the one to whom the questionnaire had been directed, etc. (Hill and Hill, 2008). We also recognize that there are many other variables that may influence the adoption of the BSC in companies and that have not been considered in our research, since the purpose has been to observe the behavior of variables related to the organizational strategy and the around.

Given the limitations presented, it is recommended to carry out creation of new research that allows the inclusion of new variables, other organizations and geographical locations, as well as the performance of longitudinal work and case studies that allow comparing cases of success and failure in the implementation of the CMI, delving into the causes that motivated success and have led to failure or abandonment of the WCC.

Conflict of interest

The authors declare that they have no conflict of interest.

Technology Journal of Management , Accounting and Economics (TECH)
ISSN: 2311-3995

Vol. 3 No. 1 (2015)

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