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Full Length Research Paper

The Effectiveness of the Balanced Scorecard on Strategy Management Processes: A Case Study in a Portuguese Industrial Company

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The Balanced Scorecard (BSC) has assumed a prominent role as a reference methodology for research purposes and as an internationally adopted corporate practice. However, it is difficult to assess the success of the BSC on financial performance. This study investigates the effectiveness of the BSC on the strategy management processes: translation of vision and strategy; communication and alignment of strategic objectives; planning, definition of milestones and alignmentwith initiatives; promotion of feedback and learning. The study adopts an exploratory and explanatory qualitative case study approach and focuses on a business unit of a large industrial company. The study describes a successful case of the adoption and use of the BSC methodology. The results demonstrate that the BSC improves strategy management processes and can be used to implement planned strategies and lead to the emergence of new initiatives and actions. The study identifies critical success factors that determine the effectiveness of the BSC on strategy management processes.

Keywords: balanced scorecard, strategy management processes, case study, Portugal.

INTRODUCTION

The use of non-financial metrics is not new. In the 1950's, *General Electric* used non-financial indicators to associate and balance short term and long term objectives (Anthony and Govindarajan, 1998); and in the 1930's, French companies used the *tableau de bord* to complement financial indicators with non-financial indicators (Bourguignon *et al.*, 2004). For some years, various studies and publications have drawn attention to

the insufficiency of financial indicators and the nedd for non-financial indicators (*e.g.*, Eccles, 1991; Johnson and Kaplan, 1987; Kaplan, 1983, 1984; Neely, 1999; Simons, 1995). The emergence and use of non-financial indicators had a more prominent role in the 1990's (Ittnerand Larcker, 1998a; Neely *et al.*, 2005). Since then, management consultants and researchers have developed performance management and measurement models that reinforce the relationship between financial and non-financial metrics. These models demand the identification of sustainable performance drivers, which are normally translated into non-financial indicators, but

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are related naturally with the financial performance of organizations. One of the principles underlying these performance measurement systems is that the improvement of quality, customers and employee satisfaction and innovation is not translated directly by classic financial indicators. Some authors argue that non-financial indicators provide a more informed view of the investments and performance in these intangible aspects. Therefore, they are better predictors of future financial performance (Eccles, 1991; Epstein and Manzoni, 1998; Kaplan and Norton, 2006). These intangibles provide a source of sustainable competitive advantage as they are resources held by the company that are not copied or mimicked easily (Marr et al., 2004; Peteraf, 1993).An additional characteristic of the performance measurement systems is the alignment of performance metrics to strategy. It is assumed that a good performance measurement system translates strategy and communicates it to the organization (Epstein and Manzoni, 1998; Kaplan and Norton, 1992, 1996a, 1996b, 1996c). Recently, the consultancy and research community has proposed some organizational performance measurement models that structure the dimensions of performance assessment. the organization of indicators, and their connection to strategy or stakeholders, among other aspects. The methodologies of Skandia Navigator, IC-Index Approach, Balanced Scorecard (BSC), Performance Prism, Tableau de Bord all provide examples of this. Many of those models highlight the need to manage and monitor the intangible assets and organizational capabilities because these assure the creation of sustainable and long-term competitive advantages (Marr et al., 2004; Kaplan and Norton, 2004). According to prescriptive literature, all of them support managers on the follow-up and control of strategy implementation. The theme of performance measurement has been recurrent in management literature and in research papers. But the BSC has assumed a leadership position both as a research reference (Marr and Schiuma, 2003; Neely, 2005) and as an internationally adopted corporate practice (Ax and Bjørnenak, 2005; Bourguignon et al., 2004; Ittner and Larcker, 1998a; Malmi, 2001; Rigby, 2001; Speckbacher et al., 2003). Despite the international proliferation of BSC, is not easy to evaluate the effectiveness of the BSC on financial performance (Papalexandriset al., 2004). One cannot assume that the adoption of the BSC automatically improves financial performance Nijssen, (Braam and 2004). The effectiveness and benefit derived from the implementation of the BSC depends on, and should be measured by, the effectiveness that it holds on management processes and on knowledge of the factors that create value for organizations (Papalexandris et al., 2004). Given the importance of the BSC on management control practices and the relevance it has

taken on corporate management processes, the objective of this study is to analyze the effectiveness of the BSC on the processes of strategy management. Thus, given the nature of the phenomenon investigated and the ontological and epistemological assumptions made, a qualitative and interpretative methodology was adopted, and the case study method was used. The researchers selected the case study method, performed in a retrospective way. The main research question posed in this study is: How the BSC helps this company in the processes of strategy management? The following section presents a literature review of the BSC and its relation to strategy management processes. Section 3 presents methodological aspects of the study. In Section 4, the results of the field work are analyzed. Section 5 concludes.

The balanced scorecard and management strategy processes

Prescriptive vision of the balanced scorecard

The BSC is based on the systematization of a set of performance metrics. There are four different performance perspectives: financial, customer, internal processes, learning and growth. These four perspectives facilitate the balance between short-term and long-term, between desired results and performance drivers, and between objective indicators (normally of a financial nature) and more subjective but quantifiable indicators (Kaplan and Norton, 1996a).

The indicators selected to integrate BSC translate organizational objectives. Therefore, they are consistent with a determined strategy. The BSC focuses managers because, for a given strategy, it provides visibility on the positioning of the company in each of the perspectives. For each perspective it identifies what measures and indicators are critical for organizational performance.

Some authors argue that BSC overcomes deficiencies associated with classical performance evaluation systems that are supported by indicators of financial nature. For example, the BSC recognises the need to satisfy the objective of multiple *stakeholders:* investors, customers and employees (Ahn, 2001; Brown and McDonnell, 1995). Because of that, it combines financial and non-financial indicators. On the other hand, it responds to the manifesto of Eccles(1991) that the use of financial indicators is a part of a diversified set of performance measures.

As an instrument of strategic management, the BSC promotes the development of four management processes that, in an integrated way, contribute for the alignment between strategic long term objectives and short term actions (Kaplan andNorton, 1996a; 1996c). The BSC is also a tool of organizational alignment.

Corporations, especially large sized companies and economic groups, use the BSC to align several business units and areas of strategy support (Kaplan andNorton, 2006). The effectiveness of this methodology in executing strategy depends, on one hand, on the ability to clearly describe strategy into objectives and measures that are easily perceptible (strategy maps); and, on the other hand, on the ability to link strategy to management systems (scorecards). The final outcome should result in the effective alignment of all units, processes and organizational systems to corporate strategy (Kaplan andNorton, 2006: 259).

The BSC entails the description of strategy in a causal diagram that relates the objectives and initiatives among themselves, and with the organization or business unit strategy. Kaplan and Norton (2000, 2001a, 2004) named this diagram a strategy map. Using a manager friendly language, the strategy map describes and shows the objectives and performance drivers in each perspective of the BSC, and the existing cause and effect relationships between objectives and performance drivers. This relations frame the future direction of the organization or the business unit (Kaplan and Norton, 2000). The strategy map shows how the organization will convert initiatives and resources, including intangible assets, into tangible and strategy consistent results. For that reason, they present themselves as tools for communicating strategic objectives. They are also processes and systems that will back the implementation of strategy (Kaplan and Norton, 2000).

Strategic approach of the bsc

In 1992, Kaplan and Norton presented the BSC as a system of performance measurement with a paramount role on implementing strategy. Afterwards, they developed it into a strategic management system (Kaplan andNorton, 1996a, 96c, 2000, 2001b, 2001c). The authors of the BSC claimed that, after adopting this performance measurement system, organizations used the measurement system to monitor actions and past performance and to focus managers' mindseton the future. The indicators selected for the BSC communicate to everyone in organization, business units and managers, including messages on what is expected in the future (Kaplan and Norton, 2001a, 2001b).

In 1996, Kaplan and Norton (1996a, 1996c) argued that the BSC facilitated the good execution of four key management processes: (1) translation of vision and strategy; (2) communication and alignment of strategic objectives and measures; (3) planning, defining milestones and aligning strategic initiatives; (4) promoting feedback and learning. Together, these four processes contribute to connect the short term actions to long term objectives. Some other researchers have also

considered the BSC as a management system, capable of improving the management of strategy processes (Ahn, 2001; *Butler et al.*, 1997; Malmi, 2001; Mooraj*et al.*, 1999).

Translating vision and strategy

The BSC helps to translate and communicate vision and strategy based on relevant and clear facts. It promotes consensus across the organization and requires top management to communicate its vision through meaningful concepts and representations to those who are going to realize the vision (Kaplan & Norton, 1996a, 1996c, 2001c). The strategy map is the privileged tool to describe strategy in a way that is clear for all the organization (Kaplan andNorton, 2008b). Ahn (2001) showed that, in fact, the BSC helped to clarify and describe strategy of a business unit into clear elements easily understandable: "A clear strength of the Balanced Scorecard was that of being an easily understood concept" (Ahn, 2001: p. 457). Geuseret al. (2009) showed that the BSC helps to translate strategy at the operational level.

Communicating and aligning strategic objectives

A properly developed BSC comunicates strategy to all of the organization and aligns departmental and individual objectives to long term strategic objectives (Kaplan andNorton, 1996a, 1996c, 2006). The BSC indicates how an organization pursues the objective of the various stakeholders. To do so, and in order to assure the alignment of individual performance to organizational strategy, the construction of the BSC should be properly publicized and its users receive necessary training to use it; that departmental and individual objectives and indicators are defined and are aligned with strategic objectives; and the reward system is linked to the performance indicators of BSC (Kaplan and Norton, 1996a).

Of the four management processes supported by the BSC, this will probably be the one that has received most attention from the research community. A significant part of BSC research has focused on validating the BSC as a communication and organizational alignment tool. Some studies conclude that the BSC helps to communicate and implement strategy (Ahn, 2001; Epstein and Manzoni, 1998; Malinaand Selto, 2001; Mooraj et al., 1999; Wijnand Veen-Dirks, 2002). Other studies have shown that the BSC is not always the most adequate to tool to support managers in strategy implementation (Butler et al., 1997).

Planning, defining milestones and aligning initiatives

After strategy and performance drivers are clearly identified, the scorecard focus managers on the launch of necessary initiatives to achieve the results expectedfor each perspective. These initiatives result in actions that improve the efficiency or effectiveness of processes that are critical to the success of the strategy. This way, the BSC aligns managerial action to organizational strategy. After that, managers will have to define short term milestones for the BSC indicators. Milestones are the tangible expression of management judgment on when and how their initiatives will affect BSC indicators. The definition of milestones for financial and non financial indicators expands the budget process by incorporating in this process the financial component of strategic objectives (Kaplan and Norton, 1996a).

Research on the way to integrate the BSC with other management tools is scare (Ahn, 2001; Atkinson, 2006; Kaplan andNorton, 2001c; Moorajet al., 1999; Otley, 1999) and opinions diverge. Kaplan and Norton (1996a, 2001c) argued that a proper elaboration of the BSC compels integration between strategic planning and the budget process. Using the same reasoning of Kaplan and Norton, Ahn (2001) argues that the BSC should replace other mechnisms of management control, including the budget. In turn, Otley (2001) argues that the BSC has not completely replaced other control mechanisms. Heargues that one of the challenges in this area is to evaluate the way that the BSC may be combined with other control mechanisms.

Promoting feedback and learning

The three processes revealed earlier deal with the implementation of strategy. They do not respond to the threats and opportunities which are permanently confrontthe company by the external environment (Kaplan and Norton, 1996a). The fourth process–feedback and learning – promotes the development of a learning cycle that produces changes in the assumptions and theories that frame cause and effect relationships. This process is called by management literature double loop learning (Kaplan and Norton, 1996a; WijnandVeen-Dirks, 2002).

The BSC facilitates strategic learning by the organization and its environment (Kaplan and Norton, 2001a). According to Kaplan and Norton(1996a), the BSC entails three core elements to strategic learning:

strategy map, the - BSC clarifies. through the vision and strategy of the organization. BSC articulates operational actions with strategic through objectives, and effect cause relationships that build the strategic hypothesis;

- BSC provides strategic feedback.It gives structured and comprehensive information that allows for testing, validation and revision of the strategic hypothesis underlying the strategy map. The definition of milestones for long term objectives, integrated in the planning process, allows managers to follow the various objectives and the relationships between the changes registered on the performance drivers and the changes verified on the desired results:
- BSC facilitates the process of strategic revision given that the causal model among performance drivers and objectives allow managers to periodically evaluate the validity of the strategic hypothesis and the quality of its execution.

Mooraj*et al.*(1999) argue that the BSC contains elements of interactive management control (Simons, 2000). According to the authors, the BSC contributes to organizational learning because it provides managers with the possibility of testing and reviewing its strategic hypothesis described in the causal model. Wijn and Veen-Dirks (2002), supported in the work of Norreklit (2000), argued that the BSC cannot be used for strategic control because it is not capable of producing adequate feedback on the way that the strategy is being executed.

METHODOLOGY

This investigation adopts an explanatory and an exploratory qualitative case study method to analyze the effectiveness of BSC over the strategy management processes. The researchers chose the case study method because it provides a good understanding and content theorization of the processes and context in which the practices of management control take place (Adams *et al.*, 2006; Berry andOtley, 2004; Berry *et al.*, 2009).

Research was conducted in: a pilot study from January to June 2008; and the main study from July 2008 to June 2009. The study was conducted in one Business Unit (BU) of one of the largest Portuguese manufacturing groups that controls industrial and sales operations in 103 different countries. The BU wished to remain anonymous. It will be referred to as Alpha. The BUhas 400 employees, generating annual sales in excess of 80 million euros, with foreign markets accounting for more than 85% of total production.

For data collection, the researchers used semistructured interviews, direct observation and document collection. Data collection was made during a 18-month period, which allowed a deep knowledge to be gained of the culture and management methods used in Alpha. Detailed interview data were the main data sources (BédardandGendron, 2004; Mason, 2002), allowing us to obtain a detailed and holistic understanding of the experience, opinions, and attitudes of interviewees (Horton *et al.*, 2004; Mason, 2002; Patton, 1987). Interview scripts were used flexibly. They were adjusted as required as the researchers proceeded with the interviews (Yin, 2003).

The research study included a total of 28 semistructured interviews during 30 hours being the major part realized with senior executives. The researcher has not faced significant resistance to recording as managers are used to routine meetings being video and audio recorded. Apart from the interviews the researcher still interacted with additional 80 BU employees, of different hierarchical levels, by both mail and directly. Table 1 presents the interviews made.

After each interview, the researchers completed contact forms where some notes (such as date, themes discussed, interviewee's reactions and unanticipated themes discussed to be included in the following interviews) were registered (following the recommendations of Miles and Huberman. 1994: andScapens, 2004). As soon as possible, the researchers transcripted the interviews and made additional notes reaistered (following recommendations of Miles and Huberman, 1994; Moll et al., 2006; Scapens, 2004; Yin, 2003) and indexed some expressions and behaviours such as pauses. interruptions, tone, emphasis, concordance, discordance among others (Mason, 2002). Besides the audio record, the researchers made notes during the interview. These allowed conducting the interview and helping elaborate the contact forms. In situations in which the researchers were not authorized to audio record, exhaustive annotations were taken.

Since the pilot study started, the researchers have compiled some information on the group, on the business unit, the industry and corporate environment, through internet research and in several websites. Newspaper and magazine information was also retrieved on the group structure, its evolution and growth. This information provided the researchers with some knowledge on the group and BU structure, products, markets and activities to support the elaboration of interview scripts and to facilitate the communication between the researchers and the interviewees (following the recommendations of Patton, 1987). The empirical study led to the collection of many documents, including: management reports (financial and non-financial), annual reports, BSC reports, organizational charts, documents resulting from the annual strategy map, performance metrics and respective objectives, milestones, documents and power point files with internal and external presentations to communicate the strategy map, the BSC, and other. These elements helped to prepare the subsequent interviews and assure triangulation between the data collected from different sources. The researchers took advantage of the visits to the BU to observe management control practices

pertaining to the use of the BSC. The researchers made numerous visits to the facilities and industrial operations and witnessed several sessions and internal meetings in which the strategic management process was discussed.

In evidence collection phase, the researchers adopted the following procedures: first, they conducted the maximum number of interviews involving employees of the BU and corporate headquarters; second, the researchers resorted to data and method triangulation; third, they considered the importance of data and sources; fourth, they resorted to key informers to validate collected evidence and the interpretations that were formulated. Data was coded using key theoretical constructs (Miles and Huberman, 1994) looking for patterns and exceptions. In the analysis phase, the researchers replicated some of the results gathered, through the collection of additional data, and discussed the results obtained with key informers. The results were registered in a report, in narrative format, following a logic of theory construction (Yin, 2003).

RESULTS

Effectiveness of the bsc on the description of strategy

For Kaplan and Norton, (1996a, 1996c), the strategy map represents organization strategy in a precise way, through concepts and representations that are meaningful to those that are going to implement strategy. Representations translate the consensus view of the company's top management. This research showed that the BSC improves the strategic planning process, in the sense that:

The strategy map clarifies and describes the vision and strategy of the BU

In the initial stage of the strategic planning cycle, more specifically the strategy maps of the BSC, help business unit executive managers to structure their strategic thinking and translate strategy. The structure and conception process of the strategy map help in discussing the strategy because it provides visibility and quantification to the vision of the business unit and how it will compete in the marketplace. Additionally, the structure of the strategy map (based on strategic guidelines) presents advantages to the BU. Strategic guidelines allow the BU to define its competitive strategy on three foundations of strategy, with a medium to long term time frame. The strategy foundations can be translated into objectives with short term impact. These might be adapted, changed or updated resulting from the

Table 1. Schedule of Interviews

| S/N | POSITION | DATE | DURATION (h) | METHOD OF RECORDING |
|-----|--|------------------|--------------|------------------------|
| 1 | Group Manager, Organizational Development & Management Control | 1 October 2008 | 2 | Notes |
| 2 | Financial Director | 3 February 2009 | 1,5 | Transcription |
| 3 | BusinessDevelopment Director | 16 February 2009 | 1 | Transcription |
| 4 | Production Manager 1 | 20 February 2009 | 0,75 | Transcription |
| 5 | Quality&ProductDevelopment Director | 20 February 2009 | 0,75 | Transcription |
| 6 | EngineeringApplications, Manager 1 | 20 February 2009 | 0,5 | Transcription |
| 7 | InformationSystems Management, Manager | 4 March 2009 | 2 | Transcription |
| 8 | General Director Assistant | 4 March 2009 | 2 | Transcription |
| 9 | Sales Manager 1 | 4 March 2009 | 0,5 | Transcription |
| 10 | Operations Director | 13 March 2009 | 1 | Transcription |
| 11 | Infrastructure& Technologies Manager | 13 March 2009 | 2 | Transcription |
| 12 | Production Manager 2 | 13 March 2009 | 1 | Transcription |
| 13 | EngineeringApplications, Manager 2 | 19 March 2009 | 0,75 | Transcription |
| 14 | KeyAccount | 19 March 2009 | 0,75 | Transcription |
| 15 | Marketing Manager | 25 March 2009 | 0,5 | Transcription |
| 16 | Sales Manager 2 | 25 March 2009 | 0,5 | Transcription |
| 17 | Sales Director | 25 March 2009 | 1,5 | Transcription |
| 18 | HumanResources Director | 1 April 2009 | 1,25 | Transcription |
| 19 | Quality, Safety&Environment Director | 1 April 2009 | 0,75 | Transcription |
| 20 | Accounting Manager | 1 April 2009 | 0,5 | Transcription |
| 21 | General Director | 6 April 2009 | 1,5 | Transcription |
| 22 | Treasury Manager | 6 April 2009 | 0,5 | Notes |
| 23 | Logistics Manager | 6 April 2009 | 1 | Transcription |
| 24 | Financial Director | 22 April 2009 | 2 | Transcription |
| 25 | Production Manager 3 | 22 April 2009 | 1,5 | Transcription |
| 26 | General Foreman 1 | 22 April 2009 | 1 | Notes |
| 27 | General Foreman 2 | 22 April 2009 | 1 | Notes |
| 28 | General Foreman 3 | 22 April 2009 | 1 | Notes |

progress of strategy execution and threats and opportunities posed by the marketplace.

The ultimate objective of the BU has been expressed, in the strategy map, in terms of value created for the shareholders and as the main guideline for the definition of strategy and the conception of the strategy map. On other words, in Alpha BU, the BSC has not been used to promote the objective of the several stakeholder groups in the same way, as is sometimes suggested by the literature (seefor example, Otley, 1999). This does not mean that the BU ignored the interest of stakeholders, other than shareholders'. To the contrary: the perspective of infra-structure (denomination used by the BU for the learning and growth perspective) has reinforced the importance of the employee group for the Organization performance. Moreover, the perspective of processes has been used to reinforce the need to better serve markets and clients. However, the role of the employees and clients is to create value for the shareholder. Evidence showed that this vision and underlying strategies are clear for the BU management team.

The strategy map promotes consensus around strategy

At the level of the Executive Board, the findings showed a common understanding on strategy for the BU. The management team consensus around strategy essentially depended on the way the process of discussing strategy and building the strategy map is developed. It was not exclusively a matter of the technical characteristics derived from the BSC method. The consensus levers around strategy among the management team members have been identified as:

- Coherence, consistence and integration of the various concepts used during the discussion of strategy;
- Clarity and capacity of materializing concepts;
- Involvement and participation of the chief executive and executive directors in the discussion and revision of strategy;
- Synthesis of effort during the conception phase of the strategy map, especially regarding the quantity of objectives and initiatives defined.

Effectiveness of the BSC on the Communication of Strategy and BU Alignment

On the effectiveness of the use of BSC methodology in the communication of strategy this research showed that:

The strategy map communicates strategy to the organization

We obtained results consistent with the study of Ahn (2001): that the logical structure of the strategy map and the link it establishes between actions and strategic objectives allows managers, beyond first line structures,

to understand the BU objectives and to recognize their contribution to the execution of strategy. Managers define actions and organize resources and activities to achieve objectives. They believe that, by meeting their objectives, they contribute to the strategy of the BU and, consequently, improve organization performance. This outcome confirms the conclusions of other studies that have showed that BSC method supports the implementation of strategy (Ahn, 2001; Lipe and Salterio, 2002; Malina and Selto, 2001; Wijn and Veen-Dirks, 2002).

The study showed also that, within the scope of the BSC method, this is perhaps the most visible process inside the BU.

The effectiveness of communication differs, between responsibility areas, hierarchical levels and people

Notwithstanding the importance of to the alignment component and the effort to reinforce the communication of organization strategy, this research showed that knowledge and sharing of strategy differ:

- There was evidence that employees involved in the performance management system have superior knowledge of the BU strategy and a more global vision of the contribution of each responsibility area to the strategic challenge;
- The responsibility areas more directly involved in the business have greater knowledge of the strategy map and its content;
- The administrative areas and employees that are not integrated in the performance management system have limited knowledge of the BU strategy and are mainly focused on the local objectives or guidelines.

Effectiveness of the BSC on Alignment of Responsibility Areas and People

This is possibly the phase of the strategy management cycle for which research has provided less contribution. In fact, research on the form and effectiveness of how objectives and initiatives unfolded at the operational level is scarce (Ahn, 2001; Decoene and Bruggeman, 2006).

In Alpha BU, the decentralization processes started in the initial planning phase with the identification of responsibility areas to be involved in the execution of initiatives and strategic objectives. It was then the responsibility of a first line director to involve teams in the process of operational planning, unfold objectives and global initiatives into objectives, activities or priority actions.

Managers believe that the BSC aligns and focuses operational areas: Evidence showed that the perception

of managers is that the objective unfolding process assures the alignment and focuses the organizational structure. The assumption is that the objective and actions identified for the individual level are aligned and affect strategic objectives.

Employees know and understand objectives: The strategy decentralization process is the responsibility of front-line managers. This process develops differently in each of the functional areas, depending on the nature of the functions and its proximity to strategic objectives, nature of objectives, dimension of the teams, and leadership profiles. However, independently of the form of how the process materializes, evidence showed that a majority of decentralized managers know and understand their objectives, even if these are not integrated into the performance management system.

The dissatisfaction of managers, in relation with performance management system, may jeopardize the effectiveness of the BSC: Until recently, the performance management system assumed that if the BU did not achieve a minimum global performance threshold this would imply that the employees would not receive a bonus, even if they had accomplished their individual objectives. Evidence showed that this policy caused some dissatisfaction on the managers, jeopardizing the effectiveness of the BSC method in the organizational aligning.

Effectiveness of the BSC on Monitoring, Learning and Feedback for the Strategy Revision

Management literature suggests that the BSC facilitates strategic learning in the organization and its environment (Kaplan and Norton, 2001a, 2008a, 2008b; Olve*et al.*, 1999). These authors argue that the *double cycle learning* supports the evolution or revision of the strategy, or even the emergence of new strategies. With respect to the effectiveness of the use of the BSC on monitoring, strategic learning and feedback for the purpose of strategy revision, the case study showed the following:

Difficulty of access to information troubles the monitoring process, especially of decentralized objectives: One of the shortcomings associated to the use of BSC arose from the difficulty managers had in monitoring the progress of their own objectives. The BU does not have a specific information system focused on reporting the information that results from the strategic scorecard or individual objectives. Monitoring of indicators depends on a structure area that, within specific time frames, gathers information, determines the value of the several indicators, and discloses the information.

The second line of structure (which had larger dependency on management control information)

showed some disappointment with the late disclosure of information (or even its non-disclosure). The evidence suggests this shortcoming jeopardizes the effectiveness of BSC, especially regarding: managers' accountability; alignment and focus effort through time; learning and the adoption of corrective action.

Managers use formal and informal mechanisms to monitor and learn: Executive managers are involved regularly in the discussion of BU strategy and, simultaneously, are required to inform on the progress of objectives and the strategic initiatives in which they participate. Research has shown that first-line managers evaluate and discuss, regularly, strategic themes and that they are knowledgeable of the level of execution of the strategy of the BU. At this level of structure, information flows more or less regularly, and monitoring, discussion and corrective action, on the strategy map and strategic scorecard, are made formally at Executive Board meetings.

Research also exposed that the remaining levels of management have less access to information generated to monitor the scorecard, and little involvement in the discussion of the strategic themes. For that reason, first line managers use informal controls to:

- Define the objective of subordinates;
- Transmit regular information on the progress of strategic objectives to subordinates;
- Monitor the progress of the objectives of subordinates;
- Promote discussion and team work and lead to the emergence of corrective measures;
- Keep alert to identify new opportunities;
- Intervene and participate in decisions of subordinates.

This study showed that the use of BSC in the BU incorporates formal and informal aspects, in special, in the definition and monitoring of objectives of decentralized teams (see results of Collier study, 2005).

Managers recognize coherence among perspectives and among strategic objectives, but not necessarily cause-and-effect relationships: Kaplan and Norton (1996c) assume that there are cause-and-effect relationships among the strategic objectives. This is a crucial assumption given that it allows the monitoring of non-financial objectives to be used to predict future financial performance. In the BU, managers recognize that there are inter relationships and expected impact among the various components of the BSC, but not necessarily linear or direct relationships of cause-andeffect (see criticism to BSC by Ittner and Larcker, 1998b, 2005; Norreklit, 2000, 2003; Norreklit and Mitchell, 2007). Managers still refer that other factors (namely, exogenous ones)have, in the past, impacted the BU financial results. However that does not undermine the consistency of the components of the strategy map or the strategic hypothesis assumed in the phase of

revising and defining strategy.

The results were consistent with the empirical study of Jazayeri and Scapens (2008). BU managers understand that there are inter relationships among the strategic objectives (and the respective indicators); between the objective and the strategic guidelines; and between the four perspectives of performance. But they recognize that these inter relationships are not necessarily causeand-effect relationships. Additionally, they recognize there are temporal gaps between an action and the expected effect derived from that action. This means that coherence among the objectives must exist, in each perspective, between objectives and guidelines, and among the various perspectives. This coherence is paramount to assure the integration and consistency of the various components of the BSC. For the managers of the BU, the notion of coherence is more relevant than the cause-and-effect relationships. Evidence showed that, since its adoption, managers have reinforced the notion of coherence, as they learned how objectives (and indicators), guidelines and perspectives relate among themselves.

Further, evidence showed that, even when expected relations between the indicators that are part of the strategic scorecard do not take place, the logical relationships between objectives, guidelines and perspectives motivate the dialogue and support the process (formal and informal) of monitoring of strategy.

The feedback for strategy revision results from the knowledge and interpretation of the way the execution of former strategies took place: The holding triggers annually the process of strategy revision of each one of its BUs, providing indicating the challenge and strategic guidelines for a 3-year time frame. Nowadays, strategic planning is more focused on adapting or revising former strategy, than actually formulate a new strategy. Evidence gathered from the executive managers showed that the strategy revision process is peaceful: the guidelines tend to be maintained and so are the macro objectives. What end up being revised are the initiatives, milestones (objectives and initiatives) and priority actions. Annual revision (with a 3 year vision) gradually introduces progressive and continued adaptations. This naturally leads to non-radical changes.

There was no clear separation between the revision and description of strategy. The process of strategy revision, discussion and underlying reflection takes place on the framework of the strategy map. This leads to a very close relation between the revision of strategy and the strategy map. This suggests that the BSC helps to structure strategic thinking and to translate strategy and to revise former strategies. This means that the BSC and, in special, the coherence and underlying logic to the relations (or inter relations) between the various components of the strategy map promote strategic learning and facilitate strategy revision.

Table 2. Effectiveness of Balanced Scorecard over Strategy Management Processes: BU Alpha

| Strategy Management Processes | Level of BSC effectiveness of use | Critical Factors | |
|---|---|---|--|
| Strategy Description | The strategy map clarifies and describes the vision and strategy into tangible elements easily understood by the management teams | Experience/maturity of executive management team in using the methodology | |
| | Strategy maps promote consensus, on strategy with the executive management team. | Integrating objectives and initiatives in reduced number | |
| | | Clear and objective concepts; simple language | |
| | | Coherence of concepts and component strategy map | |
| | | Involvement of top management and senior executive management | |
| | | Discussedand consensualstrategy | |
| | | Strategy Office as a facilitator. | |
| Communication of Strategy and BU Alignment | The strategy map has a crucial role in communicating strategic objectives and, therefore, organizational alignment | Involvement of top management in communication and alignment | |
| | The effectiveness of communication differs, betweenresponsibility areas, hierarchical levels and people. | Strategy Office as a catalyst | |
| | | Simplicity of language and concept present in the strategy map | |
| | | Population included in the performance measurement system. | |
| Alignment of Responsibility Areas and People | BU managers believe that the BSC assures the alignment and focus of people, and due to that helps to implement BU strategy | Top manager involvement and sponsoring; | |
| | Employees know and understand their objectives | Ability of executive managers to communicate and decentralize objectives at the operational level; involvement level of operational teams in identifying objectives and operational actions | |
| | Dissatisfaction of managers concerning the performance measurement system may jeopardize the effectiveness of BSC on the alignment of individuals. | Population included in the performance measurement system | |
| | | Satisfaction / dissatisfaction relatively to the performance measurement system. | |
| Monitoring, Learning and Feedback for Strategy Revision | Difficulties on accessing the information troubles the monitoring process, specially, the decentralized objectives | Easyaccess to information | |
| | Managers use formal and informal mechanisms to monitor and learn | Involvement of executive managers in monitoring of results of its responsibility areas together with its teams | |
| | Managers recognize coherence between perspectives and strategic objectives but not necessarily relationships of case-and-effect | Use of informal mechanisms to strategic control | |
| | Feedback for strategy revision results from the knowledge and interpretation of the way former strategies have been executed and the validation of the coherence level between objectives, initiatives, guidelines and perspectives. | Management control role as facilitator | |

Source: Researchers from compiled evidence

The results suggest that the BSC facilitates strategic learning by the organization. The feedback for strategy revision results from the knowledge and interpretation of how the execution of former strategies and the coherence validation between objectives, initiatives, guidelines and perspectives. This results are consistent with those of Mooraj et al. (1999) who concluded that the BSC contributes to organizational learning because it provides managers with the possibility of testing and reviewing its strategic hypothesis described by the causal model.

Table 2 presents the main aspects of the effectiveness of the use of BSC in the Alpha BU, in each of the strategy management processes. The critical factors

determining the effectiveness of the use of the BSC are also systematized.

CONCLUSION

The paper has analyzed the effectiveness of the BSC over strategy management processes in a Portuguese BU of an industrial company. Results showed that, in BU Alpha, the BSC improves the execution of strategy management processes, particularly with regard to clarification and strategy description, communication of strategy to the BU, organizational alignment, and monitoring of objectives and strategic learning.

The effective use of the BSC, by the BU Alpha, showed that the BSC is used to implement planned strategy and to support the revision and change of strategy and promote the formation of emergent strategies. Managers use the components of the BSC (and the inter-relations between components) and knowledge of the way the execution of former strategies takes place (strategic learning effect) to promote strategic dialogue and interaction. Information gathered and knowledge accumulated support the process of formulation / revision of future strategies and the formation of emerging strategies.

The key contribution of this research is the recognition that the implementation of the BSC, on its own, does not assure its success. The benefits over financial performance are not automatic and are difficult to measure. Practitioners using the BSC should be aware that the method may result in benefits for the organization, but that these depend on the way the BSC is implemented. This research has identified a set of factors that may determine the success on the use of the BSC.

Some limitations of this research should be noted. Reliance on a unique case study has prevented comparison of results with other studies in companies in the same industry or different industries. Consequently, the results presented cannot be generalized (Ryan et al., 2002; Yin, 2003). This opens room to replicate the study on other organizations that use management control practices.

These limitations also suggest some opportunities for additional research. Further similar studies can be conducted to replicate the findings of this and other studies. Because there are still some gaps between the reward system and the BSC, more detailed studies on this subject are recommended. Studies should be supported bypsychology, namely on the motivations of individuals. Finally, studies of the form by which each of the hierarchical levels perceive and use the BSC would be useful.

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