

The two-way relationship between the Balanced Scorecard and Management Control Systems in organizations

Lessons from a Case Study

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Abstract

This paper reports a case study conducted in *Quinta da Aveleda*, one of the three largest Portuguese wine companies. Our aim was to explore the relationship established between a newly implemented Balanced Scorecard (BSC) and the elements of the Management Control System (MCS) in the organization. Thus, two specific objectives were pursued. Firstly, to identify the influences (barriers, opportunities) of the existing MCS on the implementation of the BSC. Secondly, to identify the impacts the BSC implementation was able to exert on the configuration of the organization's MCS.

We found that the budgeting process, the planning system, the information infrastructure, and the organizational structure and culture were the elements of the previous MCS that influenced the BSC implementation process. Eventually, the BSC implementation led to important changes in the budgeting, planning, reporting systems and processes. In order to explain these findings, we briefly explored the main issues and factors accounting for the scope and nature of the BSC's impacts on *Quinta da Aveleda*. These issues and factors were the mobilized organizational resources, the implementation approach, the communication, and the organizational support.

Keywords: Balanced Scorecard implementation, management control systems.

1. INTRODUCTION

In recent years, the Balanced Scorecard (henceforth, BSC) proposed by Kaplan and Norton (1992) emerged as a hugely popular concept in academia and in practice (see for instance Ax and Bjørnenak, 2005; Cobbold and Lawrie, 2002b; Lipe and Salterio, 2002; Malmi, 2001; McAdam and O'Neill, 1999; Nørreklit, 2003; Olve et al., 2003; Radnor and Lovell, 2003a; Speckbacher et al., 2003). This success is reflected in the widespread interest and adoption of BSCs by organizations throughout the world (Cobbold and Lawrie, 2002a; Ittner and Larcker, 1998). However, there are also suggestions and some evidence pointing to significant obstacles and challenges facing the implementation and maintenance of a BSC (Martinsons et al., 1999; Sanger, 1998). Even in seemingly simple projects, a high variety of factors influence 'what the BSC becomes', and several failures have been reported (Ahn, 2001; McCunn, 1998). Despite these observations, relatively few detailed case studies have been conducted in specific organizations that are implementing or have implemented a BSC (Ahn, 2001; Cobbold and Lawrie, 2002a; Dabhilkar and Bengtsson, 2004; Ittner and Larcker, 1998).

This gap has been identified by authors calling for research on BSC implementation approaches/ways (Hoque and James, 2000; Kasurinen, 2002) and on organizational factors that contributed to the success (or otherwise) of particular implementations of the BSC (de Waal, 2003; Kasurinen, 2002). Hoque and James (2000), for instance, point out the need to explore limitations that companies face in the BSC adoption. Olve et al. (2003) (see also Gautreau and Kleiner, 2001) note the importance of preparing for potential problems before they emerge. This is in line with Ahn (2001), who notes that managers when considering the implementation of a BSC should analyse the limitations and possible benefits connected to their decision. Yet issues regarding the application in practice of the BSC concept seem relatively unexplored.

In more specific terms, Kaplan in an interview to De Waal (2003) calls for analyses of how management control systems explain the success or failure of BSC implementations. In Mooraj et al. (1999:487) terms:

"The adoption of the Balanced Scorecard will have a direct impact on the other management control systems of the organization and vice versa".

However, research on the relationship between the BSC and other management control systems is scarce.

This paper seeks to address these issues, by reporting a research project conducted in *Quinta da Aveleda*, one of the three largest Portuguese wine com-

panies in which a BSC was recently implemented. Two key motivations were pursued. Firstly, to contribute to the development of the BSC literature in general, by exploring in detail an application of the BSC to a specific 'real-life' setting. Secondly, to extend the still narrow BSC literature in the Portuguese context. Such an exercise seems relevant given that prior studies pointed out the relatively low popularity of the BSC in Portugal, especially when compared to other countries (Russo, 2003; Sousa, 2001). Indeed, in the study conducted by Sousa (2001), the author found evidence supporting that the two main reasons for the non-adoption of the BSC in Portuguese organizations were ¹: the difficulty in adapting the BSC to the organization and ² problems in the BSC implementation process. The present study aims to confront these findings with evidence from an additional setting, as well as to contribute to an awareness of the BSC concept and factors/impacts within the Portuguese context.

In line with Mooraj et al. (1999), our emphasis was put on the relationship established between the BSC and the Management Control System (MCS) of the case organization. Besides identifying the influence of the existing MCS on the introduction of the BSC, and the changes that came to be promoted by the latter on the former, we briefly explored the issues and factors that conditioned the scope and nature of the BSC's impact on the organization studied. Indeed, and although our focus is on those mutual influences between the MSC and the BSC, we felt that our analysis would be incomplete if we did not identify some processual implementation issues that help in explaining such influences.

Although the two key concepts under analysis – BSC and MCS – are widely known, they do not have a simple consensual definition. The following section reviews these concepts. In section 3 we briefly discuss the methodology used in the study. Section 4 describes the case study and its results. The final chapter outlines the key conclusions of the paper.

2. MANAGEMENT CONTROL SYSTEMS AND THE BALANCED SCORECARD

Although control processes are widely considered as one of the fundamental organizational activities (Beer, 1995; de Haas and Kleingeld, 1999; Otley and Berry, 1980), the definition of the term 'control' as a management function, or of 'management control systems', is problematic (Machin, 1983; Merchant and Van der Stede, 2003; Otley and Berry, 1980; Ouchi, 1979). Several frameworks to analyse MCSs have been proposed in the literature (e.g. Anthony, 1965; Dalton and Lawrence, 1971; Ferreira and Otley, 2004; Merchant and Van der Stede, 2003; Otley, 1999; Simons, 1990; 2000).

To simplify our investigation we decided to summarize the contributions of these frameworks. We adopted a broad concept of MCS, in accordance with some recent contributions (Ferreira and Otley, 2004; Merchant and Van der Stede, 2003; Simons, 1990, 2000). According to these more recent frameworks it can be said that a MCS essentially involves four elements: internal processes, organizational structure, organizational culture and self-control. By internal processes we mean the set of procedures, practices, and rules that exist in an organization and whose purpose is to contribute to the achievement of organizational objectives. Internal processes encompass action controls (e.g. software passwords), results controls (Merchant and Van der Stede, 2003), the planning process, the budgeting process (Simons, 1990), information systems (Ferreira and Otley, 2004; Otley, 1999; Simons, 1990), procedures used by the organization to assess whether the key objectives are being achieved or not (Ferreira and Otley, 2004; Otley, 1999), and so on. Organizational structure is considered an important area to understand the MCS functioning (Ferreira and Otley, 2004) and a factor that influences the management control process (Anthony et al., 2003). Organizational structure involves the hierarchical structure (the way the company is organized into divisions, departments and functions), the chain of command, and the interactions between the several elements of the organizational structure. Organizational culture can be seen as the control exerted by the group and the (often informal) norms and values (Dalton and Lawrence, 1971; Merchant and Van der Stede, 2003). Finally, self-control can be seen as the control exerted by the individual himself, given his own values and beliefs, or his perception of events (Dalton and Lawrence, 1971; Merchant and Van der Stede, 2003).

Also problematic is the definition of the BSC and the functions it performs within organizations. To some authors, the BSC is an important management tool (Epstein and Manzoni, 1998; Hendricks et al., 2004; Wachtel et al., 1999). Others are more specific: they regard the BSC as a tool for performance management (Radnor and Lovell, 2003b), a management control tool (Nørreklit, 2003) or a strategic control tool (Achterbergh et al., 2003, Andersen et al., 2004, Mooraj et al., 1999). Authors such as Cobbold and Lawrie (2002a) conceptualise the BSC as a strategic management tool. Another strand in the literature envisages the BSC as a system, rather than a tool. Under this perspective, the BSC has been defined as a performance measurement system (Gautreau and Kleiner, 2001; Walker, 1996), a performance management system (de Waal, 2003), a strategic performance management system (Zanini, 2003), or in general a management system (Dinesh and Palmer, 1998, Forsythe et al., 1999).

In this paper we regard the BSC as a tool that is integrated with other elements (internal processes, organizational structure, self-control and organizational culture) in the MCS of an organization.

3. METHODOLOGY

The case study method was chosen because of its advantages in the analysis of organizational phenomena within specific settings (Amaratunga and Baldry, 2001; Eisenhardt, 1989; Patton and Appelbaum, 2003). Its characteristics are particularly useful for the development of greater understanding of management systems in practice (Keating, 1995; Moon and Fitzgerald, 1996; Otley and Berry, 1998).

The choice of the case setting was based on the perceived quality and timing of the BSC implementation. The first informal contact with *Quinta da Aveleda* was made via e-mail in July 2004. Following this contact, a first pilot visit took place in August 2004. At this time the company's top managers confirmed that they accepted to collaborate with the research.

Data collection was conducted in June and July 2005. Empirical data was collected through semi-structured interviews. Unstructured interviews were not deployed in order to avoid the risk of subjectivity (Bilkhu-Thompson, 2003). Totally structured interviews were also not deployed, in order to avoid the risk of imposing predetermined responses when gathering data (Patton, 1980). Five interviews with an average length of 80 minutes were conducted. The interviewees were: the information and management control director, with whom we also had an informal conversation of 85 minutes; the information technology (IT) director; the quality director; the accounting director; and the production director. Four of the interviews were tape recorded and during the fifth one notes were taken during the interview. Prior to the interviews we sent the topics to be covered, via e-mail, to the interviewees. This was done in order to overcome the limitations of the human mind in answering 'surprising' questions (McKinnon, 1988). All the interviews were fully transcribed into text. Other sources of evidence, namely informal conversations and documental analysis, were used. The objective was to obtain a comprehensive depiction and a variety of perspectives on the phenomenon under examination (McKinnon, 1988), and to increase the validity of the research (Yin, 2003).

In order to find themes and patterns we used the method proposed by Scapens (2004), i.e. we went through all the word-processed transcripts and documents several times, highlighting the parts that seemed more relevant to the case study, given the key theoretical aspects resulting from our previous review of the literature.

Several tactics were employed in order to achieve quality in the research. Specifically, the tactics proposed by Yin (2003) were followed in order to meet the three

tests frequently used to assess the research quality, (i) construct validity, (ii) external validity and (iii) reliability. The fact that the case study patterns matched existing literature reinforces the case study internal validity (Yin, 2003). To increase the construct validity, multiple sources of evidence were used. Also, a preliminary case study report was sent to *Quinta da Aveleda* in order to confirm our interpretations and rectify possible errors. Only after the reception of the interviewees' commentaries and the inclusion of their suggestions did we produce the final report. To assure external validity, data collection took place only after a substantial literature review was conducted. In this way, theory and findings in the existing literature guided the data collection. To increase the reliability of the research, interviews were conducted according to pre-defined broad questions previously sent to interviewees.

4. THE CASE STUDY

4.1. The company

Quinta da Aveleda is one of the three top Portuguese wine companies. It produces and distributes wines and cognacs from several Portuguese regions. Although the company's foundation dates from 1947, the owners' family have committed themselves to the art of vine planting and wine making for more than three centuries.

Quinta da Aveleda was the first *Vinho Verde* ('Green Wine') producer and exporter firm¹. Currently, it is the largest *Vinho Verde* producer. It has 180 employees and total annual sales of about 25 million euros. The company possesses more than 150 hectares of vineyards and produces approximately 13 million bottles per year. *Quinta da Aveleda* exports about half of its annual production to 50 different countries, with the United States, the United Kingdom, France, Brazil and Scandinavia among its main markets.

The internal structure comprises six directions: oenology and agricultural; production; commercial and operational marketing; strategic marketing and innovation; information and management control; administrative and financial. Each direction includes one or more independent departments. There are also some autonomous departments (e.g. quality department; human resources department).

4.2. The implementation of the BSC in *Quinta da Aveleda*

The main objective of the implementation of the BSC in *Quinta da Aveleda* was fairly standard: to attain an alignment of the company's operations with its strategy. As stated by one interviewee:

“We had some difficulty in making [the] strategic monitoring and simultaneously aligning all the areas”.

With the BSC the company also aimed to implement a strategic and all-embracing MCS. The third objective was to make the most of past investments in IT.

The idea to implement the BSC emerged in 1999-2001 in the areas of management control and information systems. These two areas, which were autonomous at the time, were the initial promoters of the BSC project and conducted the initial investigation prior to its implementation. The decision to adopt the BSC was made by top management in 2002.

In the *Quinta da Aveleda*’s BSC development process two phases can be identified:

- 2002-2004 – BSC implementation process, in a top-down logic. In this stage the BSC was developed with the main objective of creating an all-embracing MCS. Important changes occurred in the MCS during this period. Firstly, the organization began to focus on objectives, goal definition, variance analysis, and action plans according to the new goals. Secondly, a communication strategy was pursued. It involved quarterly management and quality meetings (from January 2003 onwards), and the availability of the BSC information in the internal portal². Although the year 2002 is regarded as the official starting date of the BSC as a management tool, only in 2003/2004 did the complete integration of planning, budgeting, and quality in the BSC take place.
- After 2004 – strategic planning analysis. In this stage the chief objective was the implementation of a strategic MCS. At stake was a greater concern with the strategic positioning of the company and its products. One of the major organizational changes was the creation, in November 2004, of an executive commission including board members and directors. This commission meets fortnightly and aims to increase the communication and sharing of information throughout the company.

The BSC design began with a reflection on the mission of the organization. This was done in general assemblies involving the capital holders and top-management. In this initial period the support of capital holders was crucial, given that *Quinta da Aveleda* is a private company. The strategy was formalised on the basis of the mission. The definition of the mission and strategy was not as consensual as initially predicted.

After the strategy has been formulated, objectives by strategic theme and perspective were determined, the strategic map was outlined and indicators defined. Not all indicators have the same periodicity. Due to their own characteristics, some are updated on an 'on-line' basis, while others are monthly, half-yearly or even annually. The perception of this issue was not immediate in the early stages of the BSC implementation.

After the selection of indicators, the company defined ways to measure processes. In the first year of BSC adoption, the decision was made not to define quantified objectives, i.e., goals. In the second year it was easier to define goals, given that actual data from the first year was already available. *Quinta da Aveleda* did not feel the need to cascade the overall BSC into teams and individual scorecards, a fact that – albeit inconsistent with common recommendations in the literature (Kaplan and Norton, 1996; McAdam and O'Neill, 1999; Tsang, 1998) – was justified by the company's relatively few hierarchical levels.

In general, however, common recommendations regarding good practices of implementation were pursued. For instance, given the integrative character of the BSC, there was a concern in involving all areas of the organization in the BSC implementation. Furthermore, considerable resources (financial resources and time) were allocated to the project (Olve et al., 2003; Wisniewski and Ólafsson, 2004) and to other investments which proved relevant to the BSC (e.g. investments in information technologies and systems). Moreover, communication was carefully promoted, through presentations of the system and the creation and careful management of information regarding the project (Butler et al., 1997; Letza, 1996; Martinsons et al., 1999). The BSC implementation was also accompanied by several training actions provided by external entities. Finally, there was top management support (McCunn, 1998; Papalexandris et al., 2005; Parker, 2000; Roest, 1997; Shields, 1995; Wisniewski and Ólafsson, 2004) and active involvement of key employees.

Probably because of these aspects, the implementation of the BSC in *Quinta da Aveleda* was widely perceived as a success. However, and as stated by Papalexandris et al. (2005), the success of a BSC project is not ensured even if the main steps and good practices usually prescribed for the implementation of these projects are undergone. Several aspects that characterise any organization, such as its processes, structure, people and technology, must be considered during the BSC implementation, and have an impact on it. These aspects were evident in the case study reported in this paper: rather than simply *changing the organization*, the BSC was *assimilated into the organization*. It certainly triggered and promoted some changes in the configuration of the MCS, but in the process it was also influenced by,

and adapted to, the MCS. In the next sections we explore this mutual relationship between the MSC and the BSC in *Quinta da Aveleda*.

4.3. The impact of the previous MCS on the BSC

This section presents the influences that *Quinta da Aveleda* prior internal processes, organizational structure, and organizational culture exerted on the BSC.

4.3.1. Internal processes

As discussed above, the ‘internal processes’ element of a MCS includes control systems such as budgets, plans or performance evaluation indicators, as well as information infrastructures and systems or quality systems.

Prior to the BSC implementation the only formal element within the MCS was the budget. Its functioning can be described as a typical ‘textbook’ one. After the sales forecast by the commercial and marketing direction, financial statements were produced on the basis of standards and historical information. This employment of historical information created difficulties to the BSC implementation. As an interviewee pointed out:

“One... challenge is the change (...) towards one culture of objectives and goals. For a company that traditionally relies on historical values, that expects to grow 2, 3, 4, 5%, above the previous year, it is not easy to think goals on a ‘clean sheet’ basis.”

Furthermore, the budget was made following a functional logic. This fact created an important challenge to the BSC implementation: it was necessary to change from a functional management logic to an integrated management logic with a strategic perspective and oriented by shared objectives and goals.

Planning used to be conducted on an informal, short-term and fragmented basis. *Quinta da Aveleda* did not possess a formalized and communicated plan. Directors directly discussed, on an ad hoc basis, the necessary investments for their area with the board.

“The persons were used to think within a very short term and to think their plans subconsciously or informally.”

This statement reflects that the informal, short-term and fragmented character of planning was well established in the organization. This created some difficulties in the transition to the planning principles implied in the BSC,

which involve formal planning, a medium/long term vision and a global view of the organization.

The potential of available information systems in *Quinta da Aveleda* had expanded through time. Until 1998 the potential of these systems was limited. However, considerable investments made in IT in 1998 enhanced the processes of collection and analysis of information. This contributed to the growth of the number of indicators used in the company. In practice each person/department had its own indicators, whilst there was no guarantee of alignment with the company's overall objectives.

The good quality of the IT infrastructure was very important to the BSC implementation. Investments in IT had allowed for the restructuring of management accounting. Specifically, collection of on-time detailed information about product costs was made possible in the years after 1998. This information is crucial to compute some BSC indicators. Furthermore, and as mentioned by one interviewee:

"It does not make sense to have a BSC methodology without having a sophisticated profitability analysis system."

Finally, that quality allowed a focus on the development of the management system itself, rather than on the technical aspects related to the BSC.

Besides being anchored on previous investments in IT, the BSC implementation in *Quinta da Aveleda* also made the most of previous investments in terms of processes. Specifically, the fact that *Quinta da Aveleda* was certified by ISO 9001:2000 meant that the quality indicators and goals within the BSC had already been defined by demand of the norm. One consequence of this was that employees were already familiarised with existing measures and so the adaptation to and understanding of the BSC were smoother.

4.3.2. Organizational structure

The relatively low number of hierarchical levels had a facilitative effect on the BSC implementation process. It allowed easy access to information on the company and its people and facilitated communication.

Another relevant aspect of *Quinta da Aveleda's* organizational structure was the joining, under one single direction, of the management control and information systems areas. This joining took place when the BSC implementation process was ongoing, but for reasons strange to the project itself. The join-

ing of the two areas under a single direction allowed an integral access to information and a high intervention capability, by management control, on the 'informatics' aspects of the information system. This contributed to a well succeeded BSC implementation in *Quinta da Aveleda*. As stated by a manager:

".... the fact that information systems is together with management control allows for integral access to information, at 100%, in a transparent way (...). [This constitutes] a very strong contribution to the implementation of the BSC.... "

4.3.3. Organizational culture

Before the BSC implementation *Quinta da Aveleda's* culture was characterized by openness and informality. In a sense, and accordingly to the 'Competing Values Framework' (Cameron and Quinn, 1999; Quinn and Kimberly, 1984; Quinn and Rohrbaugh, 1981, 1983), we detected a clan culture. Although this is a type of culture that *Quinta da Aveleda's* management tries to maintain, this aspect significantly conditioned the BSC implementation process.

Quinta da Aveleda implemented the BSC relying on both formal (e.g. formal meetings, formal reports) and informal means (e.g. informal conversations). Initially, the promoters tried not to emphasise formal means mainly for two reasons. Firstly, to enable people to get used and gradually adhere to the BSC. Secondly, to take advantage of informal information flows. In a second stage, a higher degree of formalisation was attempted, through the creation of formal meetings: quarterly management and quality meetings, and executive commission meetings.

The organizational culture facilitated people's involvement in the informal stages of the implementation process, but it also led to some resistance to change - due to the existence of informal information channels. As one interviewee pointed out:

"...the informal communication channel was very important (...) in the company. This culture, that is, almost a family (...) greatly influenced the BSC implementation. (...) In some aspects it influenced positively and in others negatively. [On the positive side] it was easier in a first stage (...) to involve the people, [and to understand] what people think, what they do not think. [On the negative side], resistance to change is greater, people have been here for a long time, (...) they are used to have their own informal channels, they are used to define themselves what information they need."

4.4. The influence of the BSC on the MCS

In this section we present the other face of the ‘two-way relationship’ between the BSC and the MCS in *Quinta da Aveleda*: that is, we explore and analyse the most significant influences the BSC came to exert on the MCS.

4.4.1. Internal processes

The establishment of connections between the budgeting process and the BSC was, contrary to initial expectations, very simple. Although the budget still incorporates historical data, it is prepared and analysed with a more prospective attitude. Nowadays the budget is basically the monetary translation of the BSC and a supporting tool for the planning process and the BSC. As an example of this supporting character, budgetary maps are now more contributions based (e.g. gross margin, operational margin or net margin of products/customers/markets).

Budget and planning are in accordance to the BSC. Currently, after the executive commission communicates its strategic orientations and objectives each year, the commercial direction communicates the sales forecasts in a formal meeting and all the departments prepare their formal action plans. The annual budget is developed on the basis of these plans.

Due to the BSC, the planning is no longer of a short-term character. Before the BSC implementation, for instance, expensive improvement actions were analysed more carefully than inexpensive ones. However, it is now clear that inexpensive actions may also have a significant impact on key aspects of the operationalization of the company’s strategy. Accordingly, their analysis is conducted with considerable care.

With the BSC implementation, formal control moments were created: the executive commission meeting and the quarterly management and quality meeting. These meetings transformed performance monitoring into a formal, periodic, and planned process, which is done by all areas of the company involving people from several hierarchical levels. Prior to the BSC, the monitoring of the budget (the only existing formal instrument) was conducted by the board of administration and the planning and management control direction, irregularly and adopting a quantitative logic. The other departments only intervened when asked to.

In terms of information systems, the introduction of the BSC led to a more widespread access to information and to practices of information sharing. Departments are more autonomous because they do not need to ask the IT department for information. Previously, although high quantity of data was available, it

was not organized according to information needs. The internal portal site also led to better visibility on the performance of the whole organization, and on the contribution of the various departments and areas to this performance.

On the other hand, the BSC puts increased demands in terms of configuration of the information system. It is often not enough to know that some indicator has a global value of 'x%'. More detailed and disaggregated information may be required by users. This demands considerable flexibility: the information must be available on-line at various levels of detail. Before the BSC implementation, the IT department used to design detailed maps or reports only after specific requests. Also, the definition of new indicators led to the need of collecting data which was not previously collected. The lack of regularity and insufficient reliability which characterized the recording of some necessary information created some challenges. This situation was especially felt in the beginning of the BSC implementation but also when a new indicator is introduced. To overcome this barrier, training has been and is being provided.

4.4.2. Organizational structure

It was clear that the integrated logic of the system forced some informal changes in the 'functional mindset' that used to prevail in the organization: shared objectives and goals emerged, and visibilities were created, which led managers to look beyond their own functional area. In this sense, one can talk about a change, at least at the level of informal structures.

4.4.3. Organizational culture

It is of course difficult to associate cultural changes in organizations to a factor such as the implementation of a new management tool. Firstly, culture is not an easily definable concept. Here, we suggest that it becomes visible through the principles orienting everyday interactions and practices. Secondly, its change is likely to be slow and subtle. Thirdly, it is likely to be the consequence of a multiplicity of factors that interact in complex manner.

However, and to some extent, the BSC adoption and the regular formal meetings it triggered seem to have contributed to a noticeable move of *Quinta da Aveleda's* familiar culture towards a more formal one. For example, the monitoring of the BSC, action plans, and the budget is now conducted in formal ways, which constitutes a rupture towards the previously prevailing informality. Another change lies in the growing concern with innovation. At least in part, this change can be linked to the nature of the BSC as an instrument capable of promoting continuous improvement. As stated by one interviewee:

“The BSC obliges to greater efforts in terms of innovation, in terms of rigour and in terms of discipline in work, in the investments, in the expenses.”

The high level of information sharing and the clarification and communication of objectives, goals and action plans also conducted to a change of the principles underlying interactions and practices. All areas now have a much more direct monitoring over their own action plan and over BSC indicators related to their area. The BSC demands and stimulates greater self-control by employees because it implies a higher degree of responsibility. As pointed out by one interviewee:

“All these BSC tables allow us to observe, to know whether we are accomplishing or not, and to have a medium and long term vision.”

5. DISCUSSION

Quinta da Aveleda's case sheds light on the proposition of authors such as Radnor and Lovell (2003a), who point out that an organization's existing internal processes can influence the BSC implementation process, and its prospects for success or failure. An important insight of the case study described in the precedent sections concerns the relationship established between the BSC and previous planning and control systems. *Quinta da Aveleda's* previous situation was characterised by the existence of a very traditional budgeting system and by an informal type of planning, something that is probably common to many organizations. This could be, and indeed was, a challenge to the BSC: use of historical data and informality in planning are counter to the principles of the BSC. An important conclusion is that these aspects should be carefully considered and managed in BSC implementation processes: features that at first glance could be regarded as minor details (e.g. the way the budget and plans are currently prepared, the present use of indicators, the traditional ways of doing and communicating plans) can be very relevant.

Interestingly, and despite the fact that the BSC collided with prior systems and principles, we did not observe a situation of total resistance (prior systems and principles being kept, and the BSC being challenged) or total change (prior systems and principles being overthrown by the BSC). Rather, we observed a situation of 'adaptation' or integration of the BSC into the existing management structure, and *vice versa*: for instance, the budget was integrated in rather smooth fashion into the BSC process and, albeit some of its traditional characteristics were kept (e.g. use of some historical data), other characteristics of the budget and the way it is seen and used were changed, in order for that adaptation to be possible. The integration of the BSC within the existing control system may increase its long-term viability in the company, if one takes the arguments of

Olve et al. (1999). Also, and in a sense, these observations are consistent with literature suggesting that the BSC is normally used in order to place strategy at the center of the budgeting process (Goodspeed, 2003; Zanini, 2003). It is more arguable that this means that the budget tends to lose its place as the central formal control instrument (Barsky and Bremser, 1999).

Quinta da Aveleda's case also indicates that organizations considering the implementation of the BSC should evaluate the existing information systems and be aware of the information needs the BSC implementation originates (Epstein and Manzoni, 1998; McCunn, 1998). These are important issues in shaping 'what the BSC becomes'. Besides their facilitative effect on the implementation itself, the existence of systems whose logic is somehow identical to the BSC's logic may improve the quality of the BSC and of its usage: for instance, the fact that some indicators had been already produced because of the quality certification meant that their acceptance and understanding by those involved was greatly improved.

Another important element of the MCS relates to the company's organizational structure. In *Quinta da Aveleda*, it was evident that – for this system to be enacted – a pure functional logic of thought must be overthrown. Also insightful was the observation that the existing organizational structure had an important effect on the quality of the implemented BSC: in an early stage of *Quinta da Aveleda's* BSC implementation, the management control and information systems departments (the key promoters of the project) were merged. Although this fact was not directly linked to the BSC implementation project, it contributed to its success, since it allowed integral access to information and a high intervention capability on informatics aspects of the new information system. Thus, and in general, the case suggests that organizations embarking in a BSC implementation process should be aware of the current (formal and informal) organizational structure, assess its accordance with a project with the nature and scope of a BSC project, and – if possible – adapt the organizational structure in order to achieve the best fit with the project.

Each organization has its own culture, that dominates (or should dominate) managerial thinking about strategy, structure, and systems (Schein, 1986). It has been shown in the literature that organizational culture is an important aspect in BSC's implementations. Implementing a BSC which contradicts the culture of the organization may create confusion and put the existing formal and informal systems at risk (Letza, 1996; Mooraj et al., 1999). Thus, change agents should pay attention to the culture of the organization when embarking on a BSC implementation process. In *Quinta da Aveleda*, the familiar, open, and informal character of the culture had to be considered for the BSC to be acceptable to managers. The specific character

of *Quinta da Aveleda*'s culture was well thought-out in the implementation of the BSC. In the early stages of the project, managers avoided excessive formalism: the BSC was aligned with the characteristics of the organization's culture (Letza, 1996; Markus and Pfeffer, 1983). This allowed for a gradual adaptation to the BSC, and facilitated the (informal) access to insights or information required for the BSC development. Only after these early stages did managers start to introduce a higher degree of formalisation that is typical of most BSC implementations.

6. CONCLUSION

The adoption of a BSC in *Quinta da Aveleda* was characterized by a two-way relationship between this system and the MCS of the organization. On the one hand the previous MSC influenced the way the BSC was implemented. Aspects such as the traits of prevailing control and planning systems, existing information systems and technologies, the organizational structure and the culture of the organization were relevant aspects in explaining 'what the system became in the organization'.

However, in the process, the MCS were also (re)shaped: that is, the introduction of the BSC also influenced the MCS, not only because a new tool was introduced, but also because changes took place in other elements within them: whilst being kept, the budget's content and use were reshaped and integrated within the BSC process; formal control and planning procedures gradually replaced informal ones; a subtle change emerged in the informal organizational structure; and some cultural principles underlying interactions and practices were modified, the BSC having a perceptible role in this modification.

Obviously, the findings from this study are not without limitations. The findings of this paper lack generalizability, since they are based on a single case study (Otley and Berry, 1998). Notwithstanding this problem, the general coincidence of the case study's results with existing literature on the subject increases confidence in the findings (Patton and Appelbaum, 2003). A second limitation is connected with the timing of the empirical study: the field study was conducted only in 2005, three years after the beginning of the BSC implementation. However, given that one of our objectives was to assess the impact of the BSC on the MCS of the organization, we had to extend our study to subsequent periods. Given that – for logistical reasons – we could not conduct a longitudinal study of 4/5 years, the best solution was – in our view – to choose a company that had implemented the BSC about 3 years before the study, and rely on memories of actors and on documents in order to reconstitute events at the time of the implementation.

These limitations also suggest some opportunities for additional research. Namely, further similar studies can be conducted in order to replicate the findings of this and other studies. Also, because *Quinta da Aveleda* did not yet implemented a rewards system linked to the BSC, a further study could pay special attention to the role of the rewards system in the BSC implementation process. Finally, and due to the fact that BSC projects are not all successful it would be fruitful that future research investigated cases of perceived non-success. Indeed, the very issue of what constitutes a successful or non-successful implementation of a BSC is an issue that merits further attention.

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¹ Vinho Verde is a type of wine characteristic of the Demarcated Region where the company is located.

² The quarterly management and quality meeting is a meeting of the executive commission with intermediate leaderships.