

# Balanced Scorecard in SMEs – A Proposal for Small Gas Stations in Portugal

Ana Paula Monte, Christiane Fontenete

**Abstract**—As current business environment is demanding a constant adaptation of companies, the planning and strategic management should be an ongoing and natural process in all kind of organizations. The use of management and monitoring strategic performance tools such as the Balanced Scorecard (BSC) have been popular; even to Small and Medium-sized Enterprises. This paper aims to investigate whether the BSC is being used in monitoring the performance of small businesses, particularly in small fuel retailers companies, which are competing in co-branding; and if not, it aims to identify its strategic orientation in order to recommend a possible strategy map for those managers that are willing to adopt this model as an alternative to traditional ones for organizational performance evaluation, which often focus only on evaluation of the organizational financial performance.

**Keywords**—Balanced Scorecard, Performance Management and Evaluation, SMEs, Strategy Maps

## I. INTRODUCTION

FOR several decades performance measurement systems have been used as an information tool for evaluating internal departmental procedures and decision-making at the budgeting level [1]. Since it emerged, in the nineties of XX century, the Balanced Scorecard (hereinafter BSC) has raised several surveys and research on its applicability. This methodology is one of the most used as organizational performance monitoring process. It is a system for measuring and monitoring business performance, with a comprehensive field of vision, composed by short and long term and also financial and nonfinancial indicators as well as internal and external indicators that reflect the critical factors of an organization and its relationship with strategy [2]. There are lot of research about the implementation of performance measurement models for large corporations with complex management systems and hierarchical organization. However, the BSC as philosophy and model for organizational performance measurement and strategy management monitoring is very useful and adaptable to Small and Medium-sized Enterprises (SMEs). One can appoint several reasons for the success and advantages of implementation of BSC in SMEs but also some difficulties and barrier to not succeed.

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In this paper, it is intended to determine, through a survey by questionnaire, if the small and medium fuel retail companies, i.e. small gas stations, fuel dealers' brand GASPE, are using BSC or any system of performance measurement and evaluation that somehow comes close to this management tool and what perspectives its managers give more relevance. It is also aim of this research to identify the strategic direction of these companies, or if the various companies that are part of this research follow a uniform strategy or identify different categories. In addition, using these results, one intends to suggest a suitable strategic map to them.

This research seems to be unique as it is applied to SMEs that are competing under co-branding, that do not have to follow the same strategy and do not explicit use a formal performance management system but most of them consider it relevant. The majority of research published usually relies on surveys on sectors or is a case study on a single corporate. In the case presented here is a case study on small companies that uses the same brand marketing but do not have to follow strictly the same strategy and are not homogeneous. By this way is intention of the researchers to suggest to these managers strategy maps and a recommended BSC model that can orient them in the implementation of this tool, after some adaption to its own corporation (based on data collected in this survey).

The paper is organized as follows: starts by addressing the BSC, its perspectives, indicators and performance drivers. It follows a brief approach to the BSC as a tool for strategic monitoring, particularly in SMEs. Section 4 describes the methodology adopted, in particular the questionnaire, followed by the presentation and analysis of results of the survey, describing very briefly the proposed strategy maps. Finally, concludes with highlighting the main findings and some suggestions for future research.

## II. THE PERSPECTIVES, INDICATORS AND PERFORMANCE DRIVERS OF BALANCED SCORECARD

The BSC is a management tool for assessing organizational performance, built on the concept that companies, based on the definition of its mission and vision, should be evaluated in four major perspectives: financial, customer, internal processes and learning and growth. Each of these perspectives attempts to answer the following questions [2], [3]:

(a) To be succeeded financially how should we appear to our shareholders or partners? - *Financial perspective* - which intends to define and evaluate goals related to the satisfaction of key stakeholders of the company, namely its owners. Some of the general objectives used in this perspective are profitability and improving productivity, turnover growth (diversification and increase) and value creation;

(b) To achieve our vision how should we appear to our customers? - *customers/market perspective* - which targets should be set to meet customer needs in order to achieve the

financial objectives. Niven [4] states that managers should take advantage of the BSC in the first place and realize that the concerns of customers tend to fit into four categories: time, quality, performance, service and cost;

(c) To satisfy our shareholders and customers, what business processes must we excel at? - *Internal processes perspective* - which objectives should be achieved in order to have more efficient business processes. In this perspective, one identifies the critical processes that strives for excellence in order to meet financial targets and customers [2]; and

(d) To achieve our vision how will we sustain our ability to change and improve? - *Learning and Growth perspective* - which goals is expected to reach to motivate and prepare our human resources. This perspective defines intangible assets important to the strategy, because it assesses the skills and abilities of employees, the quality of information systems and their alignment with organizational objectives [2].

Kaplan and Norton [5] declare that their proposal of four perspectives is only one possible model, but it is not mandatory. Depending on the sector where the organization fits into and its strategy then it will be normal to adapt the standard model and add one or more perspectives. According to Voelker, Rakich and French [6], modify the traditional structure of the BSC does not change the model itself, but reflects the organizational strategy. Some authors advocate the use of more perspectives (e.g. [7], [8]), while others advocate the use of original ones (e.g. [9], [10], [11]).

As in recent years has been observed a growing awareness by organizations that generate environmental impacts for the preservation of the environment and consider this as a scarce, therefore environmental issue is no longer seen as just a cost and shall be regarded as a factor of competitiveness and efficiency [12]. The use of the BSC to evaluate the environmental performance of companies has been sustained by several authors (e.g. [13], [14], [15], [16], [17], [18], [19], [20], [21]). However there is no standardization in the structure of the traditional four perspectives already mentioned and environmental issues. So it has been suggested a variety of alternatives for structuring these five potential perspectives [22]:

(a) Maintain the traditional four perspectives (Financial, Customer, Internal Processes and Learning and Growth) and include environmental performance indicators distributed through these four perspectives ([5], [23], [24], [25], [26]);

(b) Empowering the environmental perspective by creating a fifth perspective ([5], [13], [17], [23], [24], [27]); and

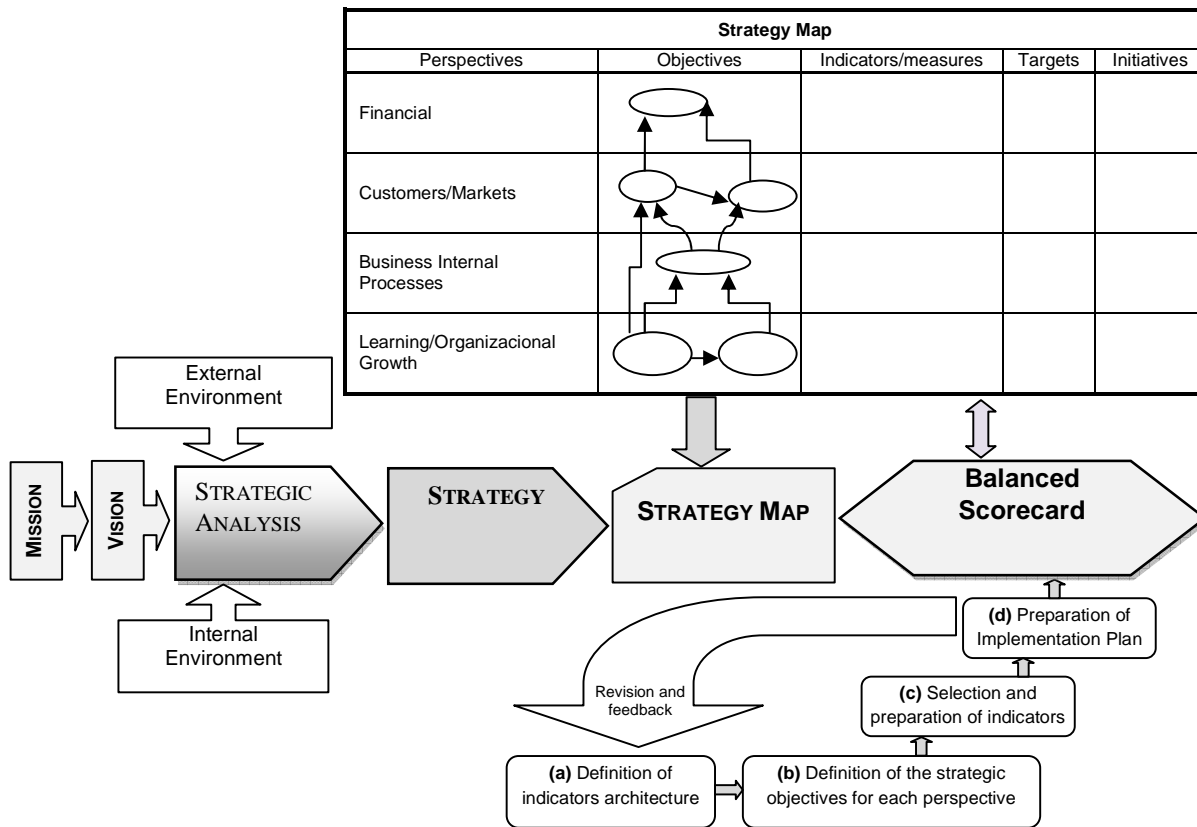
(c) Create a specific scorecard (Sustainability Balanced Scorecard) to a Strategic Business Unit ([17], [23], [28], [29], [30], [31]).

The consideration of the environmental perspective alone or distributed by the traditional four perspectives can be relevant in the fuel retail companies, since, although the primary function of the gas stations is to fuel the vehicle, at present they are not limited to this activity. The exchange of lubricating oils, vehicle washing, mechanical service, tire service and convenience stores are some of the other activities

carried out by gas stations [32]. All these activities involve several operations, which are generating potential environmental impacts that must be exercised in accordance with the rules and laws while minimizing the risks to the environment and ensuring the safety and health of the community in general, so it is relevant to monitor the environmental performance of the organization and monitoring of environmental indicators.

The BSC enables a balance between financial and nonfinancial measures, short, medium and long term indicators of outcomes (lagging indicators) and performance drivers (leading indicators), thus providing an overall assessment and adapted of organizational performance [33]. The lagging indicators (also referred to as status indicators, occurrence, or generic) are essential in order to evaluate and monitor the current state that is the results presented. The performance drivers (trend or strategic indicators) are intended to describe and monitor those inductors considered responsible for the future performance of each perspective [34] and are exclusive to one business unit [35]. According to Kaplan and Norton [36] any of the selected measures should be part of a chain of cause-effect relationships that result in improved financial performance. In this manner it is fundamental to articulate these cause-effect links on performance measures (financial and non-financial) and strategic objectives [37], [38]. The emphasis on building cause-effect relationships in BSC generates a dynamic reasoning, allowing that individuals in different sectors of the organization understand how the pieces fit together, how their role influences the role of other employees, and facilitate the definition of vectors performance and efforts correlated not only to measure the change, but also the feed them [5]. Ensuring the cause and effect relations the manager can establish measures that reflect the organizational strategy that lead to desired objectives [39].

The process of implementing the BSC in an organization should be developed from the strategic planning process and consistent with the mission and vision, as demonstrated in Fig. 1, and the construction of the BSC will be divided into four phases [5], [37]: (a) definition of the indicators architecture, in which is defined the business unit where will be applied the BSC; (b) consensus on the strategic objectives, which seeks consensus among the strategic objectives of each of their perspectives and its detailed description; (c) Selection and preparation of indicators, where they are defined for each strategic objective and its targets; and (d) preparation of the BSC Implementation Plan, wherein appears the final approval of the strategic objectives, indicators and action plans.



(Source: Prepared by the authors)  
 Fig. 1 Process of Implementing a BSC in an Organization

After defining the organization's strategy, one must prepare a strategy map that will enable to communicate and disseminate organization's mission, vision and strategic objectives to be achieved and the cause-effect relationships between them as well as the performance evaluation indicators (measures) and its targets in each of the perspectives that are generally considered in the BSC [40]. On the Web site of Prof. Alfonso Lopez from the University of Zaragoza, one may find examples of the most used indicators by perspective [41]. Note that this process must be continuous, i.e., after the implementation it should be periodically reviewed and adjusted in line with the strategic evolution of the organization [5].

The hierarchy/ranking among perspectives, according to its degree of importance, will depend on the organizations' strategy and the nature of its business. It is natural that for profit companies put on top the financial perspective, since it contains long-term financial goals [2], serving as main target to objectives and measures of other perspectives [42]. In the case of non-profit organizations and public administration, the ranking of perspectives will be different; the financial perspective will be in the bottom and not the ultimate goal of the cause-effect relationships constructing. For example, in a public service (local government or public administration), the BSC should be built in order to maximize the usefulness and user (citizen) satisfaction without neglecting the concern with the rational use of financial resources [43].

### III. BALANCED SCORECARD AS A TOOL FOR STRATEGIC MONITORING IN SMES

As already mentioned, BSC is a tool for strategic control [44] that helps organizations in implementing the strategy into operational objectives, in order to guide both organizational performance and its behavior [45] that should be integrated into a strategic training process. For the success of the BSC adoption is essential that this is viewed by the organization as a strategic management system and not just financial management, as its main purpose is to measure organizational performance in a perspective of relationship with the strategy [2]. Although the majority of the literature (e.g. [3], [46], [47], [48]) indicates that are larger enterprises, in general, that better adopt this tool, due to its greater complexity and the fact that require more specialized and formalized management systems [48] and rely on sophisticated information and control systems that use multiple measures [3], this does not mean that the application of BSC to smaller organizations is ineffective and should not therefore be limited to its use in large companies.

The methodology of implementing the BSC in larger companies should be adapted to the characteristics of SMEs; in particular, it should be a faster and simpler procedure, since these organizations have less complex and less formalized management systems [43], [49]. Regardless of organizational size, BSC implementation' success depends on whether it can persuade employees to align their behaviors with the strategic objectives of the organization [49], [50] but also if the

organization' strategy is stable [51]. BSC can be a recommended tool for small businesses when they already have some sense of its organizational strategy [52]. It should be noted, therefore, the importance of raising awareness among SME managers the need to change the model in managing their businesses, which may involve the adoption of the BSC, which not only help them to understand past and present but also allow managers to make predictions [53], [54].

As BSC is a key factor in strategic planning, Russo and Martins [54] found, from a survey with 50 Portuguese SMEs, that companies that are relate to the international market have management models compatible with the BSC. According to these authors, this tool is not justified in companies of small size with little formal management processes and practices that have not strategic planning. Nevertheless, BSC reveals itself in small businesses as a simple and powerful tool for improving competitiveness and identifying new business opportunities [55]. However, the biggest obstacle in BSC implementation in SMEs is related to unclear definition of medium term objectives [56] or the sector demands an ongoing and flexible strategy of adaptation to the environment that not give time to prepare new BSCs [51].

Due to less complexity in SME's organizational structure, in the design of SMEs' strategy map one should distinguish the following "building blocks": (a) the strategic perception of the manager; (b) its own composition; (c) its development; and (d) the influence of SME's management peculiarities [55]. The performance evaluation systems are necessary to support SMEs in managing an increasing complexity [57]. All organizations, regardless of their size, give importance to essential aspects of strategic management, namely (a) the need for a clearly defined vision; (b) knowledge of the business area; (c) the ability to predict; and (d) flexibility [49].

The steps for the implementation of this tool are similar to those of larger organizations. However, the difference is the duration of the implementation process that would be lower in SMEs. Usually the phase of preparation of the strategy map and design of BSC model is faster. The implementation of the BSC in SME (a) requires a less degree of formalization, (b) becomes a more rapid and simple process and (c) does not require expensive procedures; managers and employees of smaller organizations can "see" better the set of strategic objectives and associated measures, thus becoming a powerful tool for this type of organizations.

However, the main factors hampering the use of performance evaluation systems in SMEs are [50] as follows: (a) the scarcity of human and financial resources; (b) lack of strategic planning; and (c) ignorance of the advantages of performance evaluation. Some the limitations pointed out in adopting the BSC for small size companies are the excessive importance given to sales and growth as well as the fact the feedback is received immediately. The successful implementation of BSC in either large companies or SMEs requires adjustments to the management processes used by companies.

Thus, the BSC may become the "cornerstone" of the management of an organization [2], [58]. The BSC can be used as an element of communication, dissemination and transmission of the strategy throughout the company, thus integrating all departments and human resources towards the achievement of strategic objectives of the organization [59], being crucial the engagement of all employees along with the collaboration of the management boards in the implementation of BSC.

#### IV. METHODOLOGY

This research intends to be a case study on small gas stations that are dealers of brand GASP operating mostly in the north region of Portugal. These companies are racing through Co-Branding, i.e. by sharing the fuel retail's brand, thus not only reduces costs in marketing, but also allows the image transfer and reputation's brand for its businesses, thus making the process faster and more effective marketing. For this research all these small gas stations were selected; thus, corresponds to the entire population of dealers of fuel retail's brand GASPE, which consists of 33 companies whose respondents belong to the management board of these organizations. Having been possible to obtain the cooperation of all the companies concerned, the survey focuses on the total population.

In sequence it was outlined the following research objectives: (a) investigate if these companies are using any formal organizational performance evaluation system (the BSC or other performance evaluation system); (b) identify the perspectives, objectives, measures and performance indicators being used and which managers gives more relevance; (c) identify the strategy in use of these companies (or its implied strategic orientation); (d) finally, aim to suggest a strategy map, based on previous results, that can be a orientation for those managers to implement a simple and effective BSC model for their company.

The research was then designed in two steps: (1) it was done a survey on these companies through an application of a questionnaire to managers/owners of gas stations that are dealers of brand GASP (thus obtaining a large amount of written information) to answer to the first three research objectives; (2) derived from results obtained in the first step it was designed a proposal of a strategy map that can be used by managers of these SMEs to design and implement a performance management system based on BSC model.

Given the first three objectives of this research, the following research hypotheses were defined:

H1: The BSC is used by companies for strategic monitoring.

H2: There is an association between the level of knowledge about the BSC and the motivation to implement it.

H3: The objectives and indicators used by companies are also considered most important.

To accomplish the fourth objective, Multiple Correspondence Analysis (MCA) was used to identify the implied strategy and then to recommend a proposal of strategy map and BSC model, according to the MCA results.

The questionnaire was based on parts of a questionnaire previously tested and applied to the commanders and leaders of the Portuguese police [60] but adapted to the present case study. It is composed mostly of closed questions, whose answer is assigned a Likert scale. The questionnaire is structured into three main parts, with the first one directed to the characterization of the respondent (job, age, gender, qualifications, seniority) and his business (location, number of employees, activities, and turnover). The second part is devoted to the measure and evaluation performance; intending to know if the company uses any sort of measures and evaluation performance system, it is asked about the use of measures/indicators to evaluate performance by the company in each of the BSC perspectives, as well as their level of use. It is also asked to the respondent to indicate the importance attributed to each of these perspectives to the company. In order to qualify the targets and indicators for each of the BSC perspectives, the respondent is asked to indicate three objectives for each perspective that considers the most used by company, and the indicators commonly used to achieve those objectives. Then it is enquired the degree of importance attached to several objectives, for each of the perspectives, as well as the most important indicators for the company to achieve those objectives. One should notice that objectives and indicators related to environmental issues were distributed by conventional BSC perspectives. The last part of the survey focuses on the knowledge and implementation of BSC these companies. It is intended to verify the respondent's level of knowledge about the BSC and the willingness from the personal and corporate standpoint for a possible implementation of BSC. On respondents that show some knowledge of this management tool, is asked the degree of their agreement with several statements about the BSC. Concerning the implementation of BSC, the respondent is questioned, given a number of different statements characterizing the BSC, its degree of applicability in the company and if this is been implemented. If so, shall also indicate the degree of implementation, how long is involved in the development of the BSC, its degree of use and its contribution to organizational success. Finally, all respondents are driven to answer questions about the factors that determine the success (for those who implemented the BSC) or hinder the implementation of BSC in their company.

After the adaptation of the questionnaire to this case, it was subjected to a pre-test. Data was collect in the period of second week of August 2010 till the end of September 2010.

## V. FINDINGS

### A. Analysis of Data Collected from the Survey

The 33 companies under survey are distributed by the districts of Bragança (57.5%), Vila Real (24.2%), Aveiro (9.1%), Porto (6.1%) and Castelo Branco (3.0 %), being mostly constituted by private limited corporations (45.5%) with fewer than 10 workers (93.9%) and 54.5% presenting a turnover of more than two million Euros in 2009. In relation to the respondents, 87.9% were male, 42.4% are over 50 years and 57.6% have no higher education but great experience.

From the analysis of data gathered from the questionnaires, it was found that none of the companies have implemented BSC model. Using the Binomial test (observed ratio = 100%, theoretical ratio = 50%, p-value <0.001) one concludes that the proportion of firms that have not implemented the BSC is significantly higher than the proportion of companies that have implemented it; thus, the research hypothesis H1 (presented in the previous section) is rejected. So, this result seems to indicate that none of the companies under survey have implemented a formal performance evaluation system.

Data on level of knowledge of BSC model revealed that the majority of respondents (69.7%) had no knowledge of this and only 12.1% have an average knowledge. This results can be explained by the fact that only minority of respondents hold an academic degree – have a college degree (27.3% of the respondents), when is known that the subject of BSC is taught in higher education. The personal willingness to adopt the BSC may also be related to the level of knowledge that the respondent has. Applying the Spearman test ( $\rho = 0.462$ ,  $df = 33$ ,  $p\text{-value} = 0.003$ ), one can see that there is significant correlation between the two variables. Thus, hypothesis H2 (there is an association between the level of knowledge about the BSC and the willingness to implement it) cannot be rejected. This means that a higher level of understanding of the BSC model seems to lead to a greater willingness for personal use and vice versa. Results also seems to indicate that a greater staff willingness to apply this management tool is associated with a greater willingness on the part of the company and vice versa, as the Spearman test presented a statistically significant correlation of 0.969 (with a significance level of 0.01).

As one the second objective of this research is to determine if companies use measures to assess organizational performance, related to third research hypotheses, one observes that all companies use some measures to evaluate the financial performance, followed by measures from the perspective of customers (75.8%), measures of the internal processes perspective (54.5%), and, finally, some measures of learning and growth perspective (48.5%). By the application of Cochran's Q test one may conclude that the level of use of the measures is significantly different (see Table 1).

TABLE I  
 USE OF PERFORMANCE EVALUATION MEASURES

Performance Measures	Use		Binomial Test
	Yes	No	p-value
Financial	33 (100%)	0 (0%)	<0,001 ***
Costumers	25 (75,8%)	8 (24,2%)	0,005 **
Internal Processes	18 (54,5%)	15 (45,5%)	0,728 ns
Learning and Growth	16 (48,5%)	17 (51,5%)	1,000 ns
Cochran's Q Test	$\chi^2 = 32,364$ ; $df=3$ ; $p<0,001***$		

Ns – not statistically significant; df – degrees of freedom; p – p-value

Regarding to companies that use measures of organizational performance, one verifies that the level of use was significantly different (by Friedman test), highlighting the financial indicators (3.61) and customers (3.00) (see Table II). Notice that the degree of use of such measures seems, at least, reasonable.

TABLE II  
DEGREE OF USE OF THE PERFORMANCE EVALUATION MEASURES

Performance Measures	Degree of Use					Mean rank
	Very Low	Low	Reasonable	High	Very High	
Financial	0,0%	0,0%	6,1%	33,3%	60,6%	3,61
Costumers	0,0%	0,0%	36,0%	44,0%	20,0%	3,00
Internal Processes	0,0%	11,1%	55,6%	33,3%	0,0%	1,79
Learning and Growth	6,3%	12,5%	62,5%	18,8%	6,3%	1,61
Friedman Test	$\chi^2 = 32,406; df=14; p<0,001***$					

df – degrees of freedom; p – p-value

TABLE IV  
COMPARISON OF THE DEGREE OF IMPORTANCE OF THE OBJECTIVES ACCORDING TO ITS USE

Assigned Importance/ Use of Objective	Use		Mann-Whitney Test
	No	Yes	
Reduce costs	15,11	20,77	Z=-2,042; p=0,041*
Increase the return on invested capital	12,32	19,34	Z=-2,204; p=0,028*
Increase customer satisfaction	11,75	19,28	Z=-3,077; p=0,002*
Expedite delivery of products / services	14,06	19,76	Z=-2,034; p=0,042*
Improve employee satisfaction	14,41	22,18	Z=-2,562; p=0,010*

\* Statistically significant at a 5% significance level

Performing a multiple correspondence analysis one extracts two factors explaining 46.8% of the total variance of the data. The results show that the respondents have some consistency when assessing the level of use of measures - some measures with high levels of use are associated with high levels in the other measures.

With the purpose of know the structure of BSC that best suits to business of small fuel dealers, was asked about the importance that each respondent attaches to each performance perspectives, regardless of the use of these in his firm. One finds that the order of the BSC perspectives chosen by respondents by degree of importance is, in first place, the financial perspective, then customer perspective, learning and growth perspective and, finally, the internal processes perspective (see table 3). It appears that all the perspectives are considered at least important, so all they should be considered in the structure of the BSC.

TABLE III  
DEGREE OF IMPORTANCE OF PERFORMANCE PERSPECTIVES

Indicators	Degree of importance		Mean Rank
	Mean	Std. Deviation	
Financial	4,97	0,17	3,47
Costumers	4,45	0,51	2,70
Internal Processes	3,91	0,68	1,82
Learning and Growth	3,94	1,03	2,02
Friedman Test	$\chi^2 = 45,335; df=3; p<0,001***$		

df – degrees of freedom; p – p-value

In order to enable the development of a strategy map for the surveyed firms, one asked to respondents, given a set of objectives and indicators appropriate to evaluate performance for each perspective, to indicate the three most commonly used in the organization and the importance attached to each of them. One finds that there are significant differences between the average degrees of importance attached to the objectives/indicators based on the use of objectives/indicators, applying the nonparametric Mann-Whitney test, since the assumption of normality is violated. The level of significance of the Mann-Whitney test is greater than 0.05 to 23 of 28 objectives, which means that the fact of the use or not of each objective is not related to the degree of importance of these, except for the objectives “reduce costs”, “increase the return on invested capital”, “increase customer satisfaction”, “expedite delivery of products/services” and “improve employee satisfaction” (see table 4).

With regard to indicators, one concludes that there is equality of means across all 37 indicators, except for the indicator "After-sales services" (Z = -2.212; p-value = 0.027). Consequently, for most of the indicators and objectives the third research hypothesis (H3) outlined in previous section is rejected.

Having as final objective, a proposal for a generic BSC model for companies in the survey and knowing that the set of performance measures that are the basis for this model should reflect the organizational strategy, it became necessary to identify possible strategic orientations to be followed by the organizations. Thus, the technique MCA was applied in order to analyze the relationship between the variables creating homogeneous groups.

Taking into account the objectives and performance indicators of which entrepreneurs/managers attributed greater importance, and based on the information contained in the eigenvalues of each items' contribution of in explaining the variability in data, one considers three dimensions that explain 60.3% of the data variation (see Table 5). On this table is also observed that the internal consistency (Cronbach's alpha) of the first dimension is 95.1%, 93.6% for the second and third 91.9%, which seems to indicate high internal consistency in three dimensions.

TABLE V  
STRATEGIC DIMENSIONS FROM RESULTING THE IMPORTANCE ATTACHED ON OBJECTIVES AND PERFORMANCE INDICATORS

Dimension	Cronbach's Alpha	Eigenvalue (total)	Variance Analysis	
			Inertia	% of Variance
1	0,951	15,833	0,244	24,359
2	0,936	12,824	0,197	19,729
3	0,919	10,510	0,162	16,169
Total		39,167	0,603	
Mean	0,938 <sup>a</sup>	13,056	0,201	20,086

<sup>a</sup> Mean Cronbach's Alpha is based on mean Eigenvalue.

Placing the assignment of items to respective dimension, through the information contained in the measures of discrimination, one obtains the following strategic directions (see Table 6):

- The *Dimension 1* is clearly related to the equity performance - shareholder capital invested in the company (Increase return on invested capital), including factors that

directly affect this performance indicator, as the cost structure (improve the cost structure) and the turnover (introduce new revenue sources). Therefore, is chosen to call this dimension as "Maximization of profitability".

- The *Dimension 2*, for which is chosen the designation of "Value added and relationships with customers", is related to the generation of value (value added for shareholders/owners) and the connection to customers (improve communication with the customer, improve after-sales service and customer satisfaction in general).

- The *Dimension 3* is directly related to sales growth (increase sales and turnover growth rate) and reducing costs (reduce costs), containing variables related to productivity and quality (average delivery time of product/service, employee productivity rate, comply with legislation, reduce non-compliances and product/service image and prestige). Thus, this dimension is called "Optimizing costs and improving productivity and quality".

TABLE VI  
STRATEGIC DIMENSIONS DUE TO THE IMPORTANCE OF INDICATORS AND OBJECTIVES

BSC Perspective	Maximizing Profitability		Value added and customer relationship		Optimizing costs and improving productivity and quality	
	Objectives	Indicators	Objectives	Indicators	Objectives	Indicators
Financial	<ul style="list-style-type: none"> <li>- Increase the invested capital return</li> <li>- Improve the costs structure</li> <li>- Introduce new revenue sources</li> </ul>	<ul style="list-style-type: none"> <li>- Return to shareholders/owner</li> <li>- Turnover</li> </ul>	<ul style="list-style-type: none"> <li>- value added for shareholders/owner</li> <li>- Increase gross margin business</li> </ul>	<ul style="list-style-type: none"> <li>- Value added</li> </ul>	<ul style="list-style-type: none"> <li>- Increase Sales</li> <li>- Reduce Costs</li> </ul>	<ul style="list-style-type: none"> <li>- Turnover growth rate</li> <li>- Gross margin</li> <li>- Expenses and costs</li> </ul>
Costumers	<ul style="list-style-type: none"> <li>- Capture new customers</li> <li>- Increase customer satisfaction</li> <li>- Improve product/service</li> <li>- Increase range of products/services</li> </ul>	<ul style="list-style-type: none"> <li>-Variety of products/services offered</li> </ul>	<ul style="list-style-type: none"> <li>- Improve communication with costumers</li> <li>- Improve the company image</li> <li>- Improve after-sales services</li> </ul>	<ul style="list-style-type: none"> <li>- Average delivery time of products</li> <li>- Index of capture customer</li> <li>- Index of customer satisfaction</li> </ul>		<ul style="list-style-type: none"> <li>- Image and reputation of the product/service</li> <li>- Complaints answered / total complaints</li> <li>- Average delivery time of product/service</li> </ul>
Internal Processes	<ul style="list-style-type: none"> <li>- Increase the response capacity</li> <li>- Keep the Information Systems oriented to business specificity</li> <li>-Improving Environmental management</li> </ul>	<ul style="list-style-type: none"> <li>- Cash collections and Credit Policy</li> <li>- Degree of innovation</li> <li>- Inventories' average</li> <li>- Processes' Quality</li> <li>- Number of non-compliances recorded a year</li> <li>- Index of environmental management</li> </ul>	<ul style="list-style-type: none"> <li>- Expedite delivery of products/services</li> <li>- Reduce environmental impact of products</li> </ul>	<ul style="list-style-type: none"> <li>- Index of customer retention</li> <li>- Number of complaints about some aspect of environmental</li> <li>- Product/service Quality</li> <li>- After-sales services</li> <li>- Productivity index</li> <li>- Parameters required by environmental legislation</li> <li>-% of inert waste sent to the environment</li> </ul>	<ul style="list-style-type: none"> <li>- Comply with legislation</li> <li>- Reduce the non-compliances</li> <li>- Improve the risk analysis processes of credit and cash collections</li> </ul>	<ul style="list-style-type: none"> <li>- Customer Relationship</li> <li>- Good looks of the gas station</li> <li>- After-sales services</li> <li>- Level of use of Information Systems</li> </ul>
Learning and Growth	<ul style="list-style-type: none"> <li>-Improve the work environment</li> <li>-Increase the employee productivity</li> </ul>	<ul style="list-style-type: none"> <li>- Number of hours of training for employees</li> <li>-% of women in the total number of employees</li> <li>- Number of suggestions per employee that add value for the company</li> </ul>	<ul style="list-style-type: none"> <li>- Improve the employees performance</li> <li>- Increase employees knowledge and skills</li> </ul>	<ul style="list-style-type: none"> <li>- Employees' retention rate</li> <li>- Number of qualified staff</li> </ul>	<ul style="list-style-type: none"> <li>- Improve employee satisfaction</li> <li>- Adopt new technologies that stimulate and help to Improve processes</li> </ul>	<ul style="list-style-type: none"> <li>- Index of employee productivity</li> <li>- Index of employee satisfaction</li> </ul>

Afterwards was also applied the MCA technique to identify possible strategic orientations used by organizations from the use of objectives and performance indicators set out by the respondents. This procedure aims a possible comparison between the dimensions obtained for the importance and

dimensions obtained for the use. It also considered three dimensions for use which explain only 32.30% of the total variance. This does not affect the subsequent analysis, since it is preferable to have three dimensions for comparison with the dimensions of importance at the expense of an increase in the

explained variance that would result in a higher number of dimensions.

Done the assignment of items to the respective dimensions, through information contained in the measures of discrimination, one obtains three strategic directions that follows (see Table 7):

- The *Dimension 1*, which is called "*Value-added, maximizing profitability and quality*", is related to the performance of equity invested in the company (Increase return on invested capital), including factors that directly affect this performance indicator, such as costs (reduce costs) and sales (introduce new sources of revenue and increase sales). There are also factors related to the generation of value (value added for shareholders/owners) and quality (reduce environmental impact of products, reduce non-compliance, product quality and process quality).

- The *Dimension 2* is related to quality (improve environmental management, improve the processes of cash collection and credit risk analysis and percentage of inert waste sent to the environment) and the welfare of employees (employee satisfaction index, number of training hours, number of suggestions per employee). Therefore one decides to designate this dimension as "*Quality and employee satisfaction*".

- The *Dimension 3*, which is called "*Cost optimization, productivity improvement and customer satisfaction*", is directly linked to sales growth (increase gross margin business) and decreased costs (improve the cost structure), containing variables related to productivity (improve employee performance, employee productivity index). On this strategic guidance there is a great concern with the customer (increase satisfaction, capture new customers, increase variety of products /services).

TABLE VII  
STRATEGIC DIMENSIONS DUE TO THE UTILIZATION OF INDICATORS AND OBJECTIVES

BSC Perspective	<i>Value-added, maximizing profitability and quality</i>		<i>Quality and employee satisfaction</i>		<i>Cost optimization, productivity improvement and customer satisfaction</i>	
	Objectives	Indicators	Objectives	Indicators	Objectives	Indicators
Financial	- Increase sales - Reduce costs - Create value for shareholder/owner - Increase invested capital return - Introduce new revenue sources	- Turnover - Return to shareholder/owner - Value-added - % Growth in turnover	-	-	- Improve cost structure - Increase gross margin	- Gross margin - Expenses and costs
Costumers	- Improve after-sales services - Improve communication with customers - Improve product/service	- Product Quality - Customer Relationship	-	- Index of customer retention - Complaints answered/total complaints - After-sales services	- Increase the customer satisfaction - Capture new customers - Improve the company image - Increase variety of products/services	- Index of customer satisfaction - Index of customer capture - Image and reputation of the product/service - variety of product/service
Internal Processes	- Comply with legislation - Increase the response capacity - Reduce environmental impact of products - Reduce the non-compliances	- Productivity index - Quality processes - Parameters required by environmental legislation - Number of nonconformities recorded a year	- Expedite delivery of products/services - Improve environmental management - Improve processes of credit risk analysis and cash collections	- Cash collections and Credit Policy - Average delivery time of products - After-sales services - Average inventory turnover - % of inert waste sent to the environment	- Keep information system oriented to business specificity	- Degree of innovation - Degree of use of Information Systems - Index of environmental management
Learning and Growth	- Improve the work environment - Improve employee satisfaction	- % Retention of employees - Number of qualified staff	-	- Index of employee satisfaction - Number of hours of training for employees - Number of suggestions per employee	- Improve the employees performance - Increase employee's knowledge and skills - Increase employee productivity - Adoption of new technologies that stimulate and help to improve processes	- Index of employee productivity



By the analysis of this findings, it appears that the variables that led to the strategic directions in table VI are dispersed in the table 7, giving rise to different orientations. One can highlight some differences: in dimension 1 can be identified a higher concentration of the variables of dimension 1 and 2 obtained from the importance, the dimension 2 gives emphasis on the welfare of employees in the organization, and the dimension 3 has a greater customer focus. The MCA results support the rejection research hypothesis H1 (existence of uniformity in the use of performance measures in different perspectives).

Given these results, one proposes a generic strategy map for each of the strategic directions identified. It intends to enable organizations to communicate its strategy to its target audience. In the strategy maps building shown in Fig. 2 to Fig. 4, one starts from the organizational vision, that is, from top to bottom, as mentioned in the literature review. For each perspective is defined a cause-effect relation between objectives outlined for each perspective.

The financial objectives are the ultimate objectives, thus are located at the top. Therefore, one begins the construction of relations and dependencies of other perspectives' objectives, having as last goal to achieve financial objectives. For example, analyzing the strategic map suggested for organizations focused on maximizing profitability (Fig. 2) can identify the following flow of cause and effect: the improvement of working environment leads to increased employee productivity (learning and growth perspective) and responsiveness (internal process perspective), linked to

increased customer satisfaction (customer perspective), which induces the introduction of new sources of revenue and increased return on invested capital (financial perspective).

Analyzing the strategic map recommended for organizations focused on value added and relationship with customers (Fig. 3), one of the streams of cause-effect suggested is, for example, increase of employees' knowledge and skills leads to improvement of their performance (learning and growth perspective), which results in reduce environment impact of products (internal process perspective), leading to improved corporate image and customer satisfaction (customer perspective), which can lead to an increase in gross margin business and to value-added for shareholders/owners (financial perspective).

A flow of cause-effect relationships proposed in the strategic map suitable for companies focused on optimizing costs and improving productivity and quality (Fig. 4) is, for example, the adoption of new technologies that help stimulate and improve processes (learning and growth perspective) results in improved procedures for credit risk analysis and cash collections (internal process perspective), which leads to improve the company's image (customer perspective) leading to increase sales (financial perspective).

Based on these strategy maps it was developed a proposal of BSC model for each strategic dimension that is not present in this paper but can be requested to authors.

**VISION:** Being recognized as a benchmark company in the retail fuel and services ensuring increased profitability resulting from the full satisfaction of our customers.  
**MISSION:** Sell fuel of quality offering additional services to meet the needs of our customers.

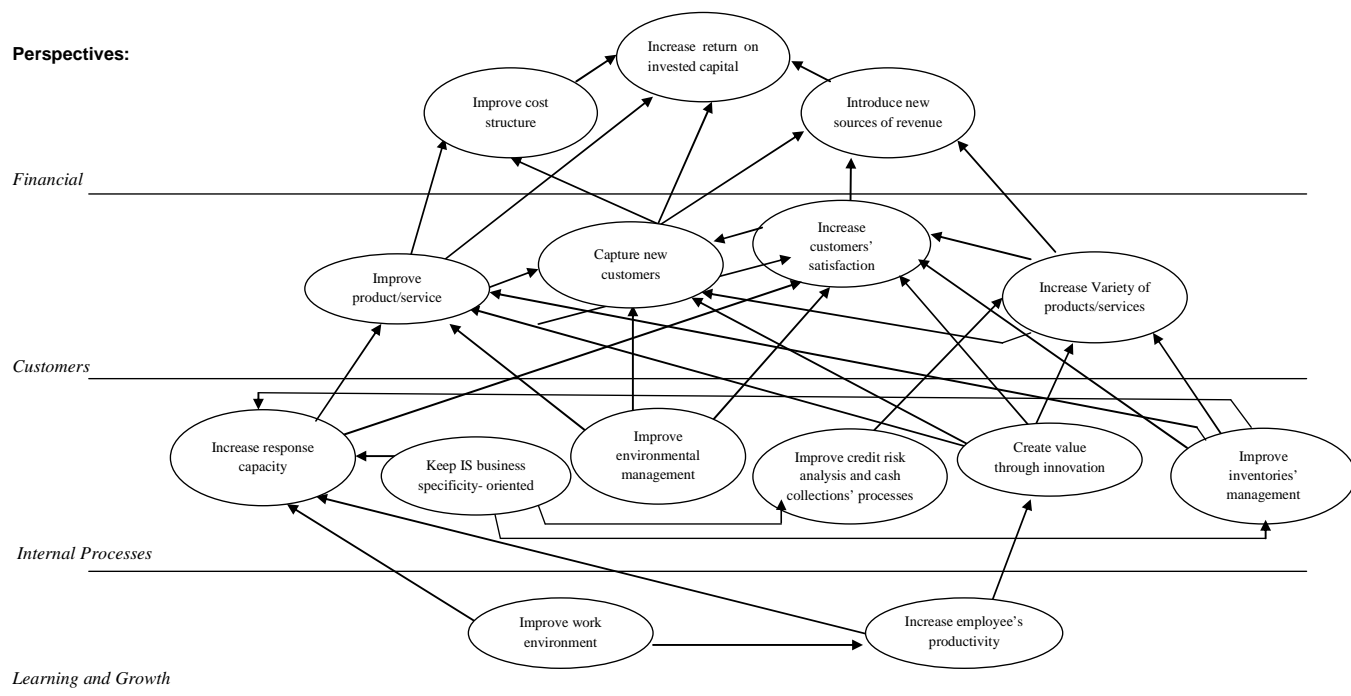


Fig. 2 Proposal for a generic strategy map for SMEs, resellers of fuel GASPE brand, focused on maximizing profitability

**VISION:** Being recognized as a benchmark company in the retail fuel and services focusing on value creation through good relationships with our customers.  
**MISSION:** Sell fuel of quality offering additional services enhancing the good relationship with our customers.

**Perspectives:**

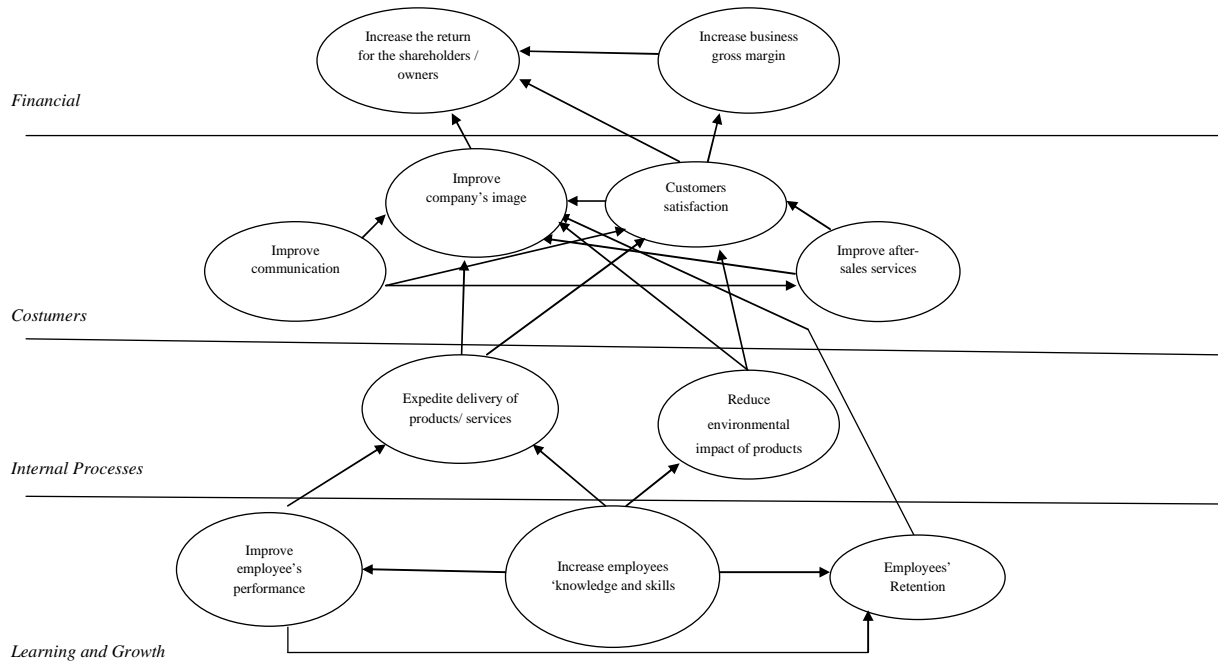


Fig. 3 Proposal for a generic strategy map for SMEs, resellers of fuel GASPE brand, focused on value added and relationships with customers

**VISION:** Being recognized as a benchmark company in the retail fuel and services focusing on quality and productivity of our work and personal development while ensuring a continuous cost optimization.  
**MISSION:** Sell Fuel of quality offering additional services and get optimize the cost structure excepting the quality and productivity of our work.

**Perspectives:**

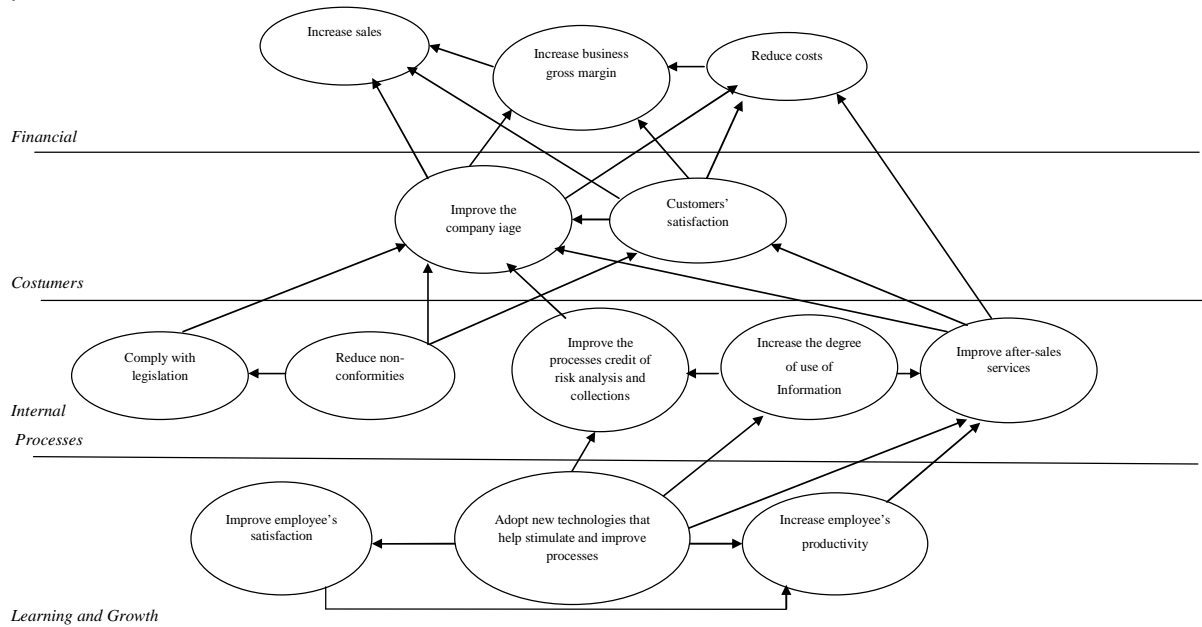


Fig. 4 Proposal for a generic strategy map for SMEs, resellers of fuel GASPE brand, focused on optimizing costs and improving productivity and quality

## V.CONCLUSION

In synthesis, one observed that the companies under survey do not use BSC as management tool to monitor the organization's strategy, which is partly due to the characteristics presented by the companies and their managers, including the low level of education and consequently the lack of knowledge about this methodology. But the fact that the main elements of this tool are already implemented in the business and it seems to exist personal and institutional willingness for implementing BSC, which can make its implementation feasible. One also verified that the importance attributed to objectives and indicators to be included on the BSC is not the same, which apparently shows that these companies do not follow a uniform strategy, i.e. the fact that unites them - the brand GASPE - do not implies that they have to follow the same strategic guidance.

A possible future research would confirm these results by applying cluster analysis of variables relating these items: the importance given to the objectives and indicators to be included on the BSC, in order to check whether there are distinct groups of responses and thus confirm the existence of different strategic directions. It would also be interesting to replicate this research in the corporation owner's of GASPE trademark, with the aim of ascertain whether there are similarities in the results on this company and those that use its brand. Another line of research could be to replicate this methodology to other brands' fuel dealers, in order to find similarities and differences with this survey.

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