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Organizational Performance Measurement and Evaluation Systems in Smes: The Case of the Transforming Industry in Portugal

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ORGANIZATIONAL PERFORMANCE MEASUREMENT AND EVALUATION SYSTEMS IN SMEs: THE CASE OF THE TRANSFORMING INDUSTRY IN PORTUGAL

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Abstract

The competitiveness of organizations depends, among other things, of their performance levels. For such, it is vitally important that they have a measurement and evaluation system that, from a set of indicators, provides them reliable information to reflect their goals and evaluate their performances.

The aims of this study are: (i) to identify the most discussed approaches in the literature to evaluate the organizational performance, and (ii) to carry out a diagnosis of *how* small and medium enterprises with economic activity in Portugal measure and operationalize the evaluation of their performance.

To meet the objectives of the study, we proceeded to the analysis of published studies in scientific journals and conducted twelve interviews in SMEs.

The results indicate that, in addition to the majority of the studied organizations not having a formal process of their strategy, they also do not measure their results in an integrated system that would allow them to make an evaluation according to their strategic goals.

Keywords: Organizational Performance; Measurement and Evaluation Systems of the Organizational Performance

Jel-Classification: L25; M10

1. Introduction

The economic environment we live in nowadays is increasingly characterized by its dynamism and globalization, setting up a competitive global environment constantly changing.

In this context of competitiveness and market developments, organizations must be more prepared to react to the challenges they have to face that threaten their survival. Thus, it is necessary that they take strategies and behaviours that benefit and revitalize their results, forcing them to measure their performance in order to contribute to its stability (Gabcanova, 2012).

The influence that organizational performance has been exercising in companies (Folan and Browne, 2005) has become an important and interesting component in the empirical research (Dess and Robinson, 1984; Garengo et al., 2005). To prove this interest, Neely (1999) estimated the publishing of 3,615 articles on this topic only for the period between 1994 and 1996.

This area of study has evolved with the development of models and methods for measuring and evaluation such as: The Performance Pyramid System (Lynch and Cross, 1991), The Balanced Scorecard (Kaplan and Norton, 1992, 1996) and The Performance Prism (Neely et al., 2002), among others.

These models aim to help organizations define, more adequately, not just a set of measurement indicators that reflect their goals and evaluate their performance (Kennerley and Neely, 2003), but also to facilitate managers the implementation of organizational strategy (Rodrigues, 2010), representing therefore an important role in supporting the management of small and medium enterprises (Garengo et al., 2005).

Now if the measurement results plays an important role in the management of organizational performance, by providing information on the effective and efficient way of how the organization manages its resources, then two central questions are imposed: *what* to measure and *how* to measure.

In this sense, an organizational performance measurement and evaluation system is one of the most important criteria for analyzing the growth of the organizations (OECD, 2001), their actions and their environments (Richard et al., 2009). However, few organizations seem to have systematic processes to ensure that their performance measurement systems reflect their environment and their strategies (Lynch and Cross, 1991; Kennerley and Neely, 2003).

This study focuses, specifically, on small and medium enterprises (SMEs) in the manufacturing sector activities in Portugal. A SME means a small or medium business that meets the criteria (Table 1) in accordance with Recommendation 2003/361/EC, of the European Commission of 6th May, and transposed into Portuguese law by Decree-Law Nº 372/2007 of 6th November.

Table 1
Criteria for the definition of the size of SMEs

Dimension	Nº of effective	Turnover or Balance sheet total	
Small	>10 e < 49	≤ 10 million euros	≤ 10 million euros
Medium	>50 e < 249	≤ 50 million euros	≤ 43 million euros

The manufacturing industry features, in general terms, as the activity that transforms, by any process, raw materials from other economic activities in new products. This is defined by the EUROSTAT as comprising the sectors 15 and 36 of NACE (Statistical Classification of Economic Activities in the European Community).

Taking as reference the data released by the National Statistics Institute (INE) of Portugal, in its annual report 2013 "Business Statistics and Industrial Production Statistics", the number of SMEs in Portugal with activity in the manufacturing activities sector (Table 2) totaled 11.589 units and represented 16.8% of all enterprises (non-financial) in Portugal. This is in line with the average SMEs in the same sector of activity in the European Union (17.4%) compared to 2011.

Table 2
Total of companies with 10-249 persons employed in the manufacturing sector activities in %

Year	Small	Medium	Total	EU 27	Portugal
2011	-----	-----	-----	17,4%	17,3%
2012	9.580	2.009	11.589	-----	16,8%

Source: PORDATA

In 2012, the manufacturing sector of activities in Portugal generated a turnover of more than 79 billion euros, being the SMEs in this sector responsible for 47.52% of this amount (Table 3).

Table 3
Activities sector turnover of the manufacturing industries in Portugal

Year	Manufacturing industrie	Sme	%
2012	79.018 mm	37.553 mm	47,52

Source: INE

This work aims to be a contribution to a better understanding of how these companies measure and evaluate their performance. This approach allows us to draw conclusions that are more detailed to this specific context.

Therefore, this study has three purposes: (i) to identify the most approaches discussed in the literature to evaluate the performance of organizations; (ii) to determine whether small and

medium sized companies in the manufacturing activities sector, in Portugal, measure their performance; and (iii) how these companies operationalize that measurement.

2. Organizational Performance

The organizational performance management is a term that emerged "to differentiate between management at the level of the individual and the corporation" (Bourne et al., 2003, p. 15). This type of management requires that procedures are placed in line with the evolution of their environment, in order to allow the development of the organization and its management system (Lebas and Euske, 2004).

As an approach to monitor and evaluate the performance in relation to the objectives and targets definition, organizational performance management encompasses methodologies, frameworks and indicators, which have the role (i) to assist organizations in formulating and evaluating the strategy, (ii) to motivate people and (iii) to communicate or to report the performance to stakeholders (Bourne et al, 2003; Kennerley and Neely, 2003; Marr, 2004; Frolick and Ariyachandra, 2006).

The organizational performance management must, therefore, be seen from two perspectives: (i) *management* and (ii) *measurement*. From a *management* point of view, a 'performance management system' consists of four main activities: (i) performance planning; (ii) measures to control performance; (iii) performance measurement; and (iv) performance reward; from a *measurement* point of view, a 'measurement system' provides a basis for an organization to assess how well its results are progressing towards predetermined objectives (Marr, 2004; Melchert and Winter, 2004; Frolick and Ariyachandra, 2006; Wheelen and Hunger, 2012).

As such, 'performance management' and 'performance measurement' are complemented in an iterative process, since management precedes and succeeds measurement (Lebas, 1995). The ultimate goal of performance measurement should be to 'learn' rather than 'control' (Davenport, 2006).

In this sense, *performance management* is used as a generic term referring to methodologies, metrics, processes and systems that monitor and manage the corporate performance, in order to continuously measure its own effectiveness and efficiency according to strategic, operational, human resources, information systems, marketing and financial perspectives (Melchert and Winter, 2004; Chvatalova and Koch, 2015).

As such, the objectives and indicators are then associated with operational metrics that lead to an effective implementation of the strategy across the entire organization, whereby an organization's performance management should be implemented if its strategic planning is

closely linked to the implementation operational (Melchert and Winter, 2004; Frolick and Ariyachandra, 2006; Zulkiffli, 2014).

However, the terms "performance" and "productivity" are still often mistaken with other terms, such as effectiveness, efficiency and profitability (Chew, 1988; Tangen, 2005), giving rise to a multiplicity of definitions that have been used to explain the concept of "organizational performance".

Given the complexity and difficulty of the meaning of the concept "performance", it is adopted the definition given by Neely et al. (2004) in which:

> *"the performance is the sum of all processes that will lead managers to taking appropriate actions in the present that will create a performing organization in the future (i.e., one that is effective and efficient). In other words, we define performance as doing today what will lead to measured value outcome tomorrow."* (p. 68).

Apart from the difficulty in defining the concept *organizational performance*, the central question remains what parameters, with direct impact on the efficiency measure and monitor, not only the organization as a whole but also in individual processes, such as production, logistics, sales and human resources (Kaganski et al., 2013).

But given the diversity of performance indicators for different objectives that structure the performance management, whether those responsible for planning, whether the implementers, are not always aware of the differences between the conceptual and empirical reasons of the function of these indicators. However, some authors relate that the use of performance indicators in organizations, when used to guide an organization to focus on their goals, constitute an element of vital importance (Tangen, 2004).

Despite the performance measures being used to determine whether organizations are complying with the objectives in accordance with the implementation of its strategy, there is no simple definition that can translate the power that performance measures, even well-defined and well communicated, can have in an organization (Niven, 2006).

Sinclair and Zairi (1996) mention the importance and necessity of measuring organizational performance to:

- support and enhance improvement;
- assist managers to adopt long-term perspectives;
- develop a more accurate communication;
- supporting organizations to allocate their resources in attractive improvement activities;
- a more effective and efficient operating system of planning and control or the performance system;

- individually motivate and encourage the adoption of a more appropriate organizational behavior; and
- support the initiatives of the management and in the change management.

Similarly, Waggoner et al. (1999) state that performance measurement has as a purpose: to control the performance by identifying the areas that need attention; increase the motivation of workers; improve internal communication; and strengthen the responsibility of all.

Thus, the performance measurement can be defined as the process of quantifying the efficiency and effectiveness in action, considering the measurement as the process of quantification and the action that leads to performance (Neely, 1995, p. 80).

2.1 Performance measures

Given the extent to which the definition of performance is used, means that the term can be observed according to the different financial and non-financial types of objectives, which, in turn, are associated to a multiple number of indicators (Tangen, 2005; Neely, 2004; Richard et al., 2009; Popova and Sharpanskykh, 2010).

By definition, a *performance measure* is the numerical or quantitative indicator that shows how well each objective is being met (Sinclair and Zairi, 1996). However, performance measurement requires an extensive use of quantitative and qualitative data, with clear definitions and specific frequency for analysis, so the choice between them depends on the purpose of the measurement and, in many cases, the availability of the data (Grunberg, 2004; Slack et al., 2007; Popova and Sharpanskykh, 2010).

According to Ghalayini et al. (1997) and Tangen (2004), many researchers have already exposed before limitations of traditional performance measures based on costs. Some of these limitations are: (i) the exclusion of a strategic perspective; (ii) the lack of focus on success factors; and (iii) the poor consideration of stakeholders' needs and expectations.

Traditionally, the success of a company has been evaluated by the use of financial measures. Although financial measures can appear in several different forms, three of the most common ones can be explained as Profit Margins, Return On Assets (ROA) and Return On Equity (ROE) (Tangen, 2004).

Slack et al. (2007), for example, distinguishes five types of performance objectives that have on an operation system: cost, dependability, flexibility, quality and speed.

In a perspective of traditional productivity, numerous measures can be found in the literature, but usually two traditional types of index productivity measures are distinguished: partial productivity and total productivity (Tangen, 2004; Slack et al., 2007).

According to Ittner and Larcker (2003), increasing number of companies have been measuring performance areas that are not financial but could affect profitability, such as customer loyalty and employee satisfaction.

3. Measurement and Evaluation Systems of Organizational Performance

The performance measurement and evaluation systems appeared in profusion in the late 1980s and during the 1990s. Many of these systems and models have been designed to provide organizations with the means to implement their processes and improve their performance (Ghalayini et al. 1997; Neely et al., 2000; Kaplan and Norton, 1996; Pun and White, 2005).

As evidence, Lingle and Schiemann (1999, cited by Neely, 2004) stated that organizations using the Measurement and Evaluation Systems of Organizational Performance (MESOP) as the basis for its management, show better results than those that do not do so.

However, there are some obstacles that contribute to the complexity in designing a performance measurement system (Tangen, 2004):

- unclear terminology;
- high amount of existing measures to select;
- countless factors that affect productivity and the decision on what measures to use;
- high number of requirements that a performance system must meet.

But if to Otley (2004) the measurement systems have three different roles in organizations by providing a tool for financial management, information on the overall performance of the organization and a means of motivation and control, to Neely et al. (1997) these roles are meant to accomplish, to check and to challenge.

Thus, a MESOP can be defined as a set of metrics used to quantify the efficiency and effectiveness of the actions (Neely et al., 1995), since, by providing relevant information that facilitates the decision-making processes (Sinclair and Zairi, 1996), allow the implementation of organizational strategies (Bititci et al, 1998; Neely et al, 1995), playing a very important role in translating corporate strategy into results (Pun and White, 2005).

It is, therefore, a balanced and dynamic system capable of providing support to decision-making through the collection, compilation and analysis of information (Neely et al., 2002) assisting the management of uncertainty.

Therefore, the inclusion of processes for the review of the measures and objectives, enable not only the adaptation of a MESOP quickly to changes that are produced in internal and external contexts, but also systematically evaluate the organizational strategy in order to support a continuous improvement (Garengo et al., 2005).

In this sense, a MESOP must, therefore, be designed and implemented according to the organizational strategy, in order to connect the same with the function of the objectives (Kaplan and Norton, 1996) and the operational aspects (Lynch and Cross, 1991; Neely et al., 2002), providing an overview and a synthetic description of the organizational performance as a whole (Neely, 1999).

However, a suitable MESOP for one organization may not be to another (Kaganski et al., 2013), hence the importance of an organization to create its own organizational performance measurement system that meets its specific needs (Tangen, 2004), reflecting the contexts in which they live (Neely, 1999). To do this, organizations should select indicators that better reflect their goals and are critical factors and not from models used by large organizations (Jarvis et al., 2000).

Nevertheless, a MESOP based on accounting/financial indicators such as profit, turnover, sales volume, expenses, percentage of profit on sales or cost per unit, although they are easy to check and reading (Chiavenato, 2006), they are unable to provide relevant information for decision-making by managers (Rodrigues, 2010).

Therefore, a MESOP should be made: (i) by individual measures that quantify the efficiency and effectiveness of actions; (ii) by a set of measures which combine to evaluate the performance of the organization as a whole; and (iii) by a structure support that allows data to be obtained, collected, sorted, analyzed, interpreted and disseminated (Neely, 2004).

Thus, a MESOP should also consider as key elements the strategic alignment, its development, focus on stakeholders, financial and non-financial measures, dynamic adaptability, orientation to processes, depth/detail, scope, cause and effect relationships and clarity and simplicity (Garengo et al., 2005).

In this sense, the analysis of the performance of an organization should, therefore, be associated with an evaluation system that provides reliable information regarding the success of the strategy, considering that key performance indicators cannot be based solely on financial data, but also in metrics such as quality, customer satisfaction, innovation and market share (Drucker, 1995).

The most frequently mentioned models in the literature with significant impact on the design of performance measures are shown in Table 4.

Table 4
Measurement and Evaluation of Organizational Performance Models

Model	Authors, Year	Description
The Performance Measurement Matrix	Keegan et al., 1989	Based on two types of performance measures: those related to the results and that focus on the determinants of the results. This model includes four different classes of performance: financial, non-financial, internal and external.
Results and Determinants Framework	Fitzgerald et al., 1991	It classifies the measures in two basic types: those related to the results (eg: competitiveness, financial performance) and those related to the causes (eg: quality, use of resources, innovation).
The Performance Pyramid System	Lynch and Cross, 1991	This pyramid model with four levels associates the corporate strategy, the strategic business units and the operations, translating the objectives from the top down (based on customer priorities) and low measures up.
Balanced Scorecard	Kaplan and Norton, 1992	It is a strategic management tool to: (i) clarify and translate the vision and strategy; (ii) communicate and relate the strategic objectives and actions; (iii) plan, set goals and align strategic initiatives; (iv) improve strategic feedback and learning.
Integrated Performance Measurement Systems	Bititci et al., 1998	It is based on two external dimensions (financial performance and competitiveness) and five internal dimensions (costs, factors of production, activities, products and revenues).
European Foundation for Quality Management	EFQM, 1999	The EFQM Excellence Model is a non-prescriptive model based on nine criteria, five of them considered as factors (leadership, people, policy and strategy, partnerships and resources, processes) and four as a result (which are derived from the people, customers, society and performance).
The Performance Prism	Neely et al., 2002	This model consists of five integrated faces to identify the areas to be addressed by organizations: the satisfaction of stakeholders, strategies, processes, resources and stakeholder input.

In common, all these models have the concern of "what to measure" and "how to structure" a measurement and evaluation system of organizational performance (Hudson et al., 2001; Neely, 2004; Bourne et al., 2005; Nudurupati, 2011).

It should be taken into account that, according to the literature, the Balanced Scorecard model (BSC) is the most cited (Neely et al., 2000; Tangen, 2004).

The Performance Measurement Matrix (PMM)

The PMM model uses dimensions as the alignment of strategy, focus on the balance of interested parts (stakeholders), clarity and simplicity, and verticality and balance (Garengo et al., 2005). Being a comprehensive model, it allows, on the one hand, to check all possible measures of performance in an organization and, on the other hand, to identify omissions or where there is need for greater focus.

This model, by integrating the different business performance classes and combining the financial and non-financial perspectives with the internal and external perspectives (Neely et al.,

2000), helps the organization to define its strategic objectives and translate them into performance measures through a hierarchical and integrated approach. It enables you to trace paths of all possible measures of performance of an organization.

However, its simplicity has been criticized for failing to consider some perspectives and relationships that are more explicit in other models such as the BSC (Neely et al., 1995, Neely et al., 2000).

Results and Determinants Framework (RDF)

The RDF model is based on the premise that there are two basic types of performance measures in any organization: those relating to the results (competitiveness, financial performance) and those that focus on the determinants of the results (quality, flexibility, use of resources and innovation) (Bourne et al., 2000; Neely et al, 2000).

This model, apart from giving a specific detail of how the measures should be (Hudson et al., 2001), allows to distinguish between the results and their determinants (Bourne et al., 2000). However, by not including customers or human resources as performance dimensions it cannot give a truly balanced view of performance (Hudson et al., 2001).

The Performance Pyramid System (PPS)

The PPS model is a pyramid-shaped suggested model and divided into four levels, describing the measures that are part of the performance through the hierarchical structure of the organization (Bourne et al., 2000).

It is used as dimensions the alignment of strategy, strategic improvement, balance, orientation to the processes, depth, width, causal relationships, verticality and balance (Hudson et al., 2001; Rouse and Putterill, 2003).

The strategic objectives (top level) are translated from the business vision through a top-down process, establishing an explicit link between the performance measures in the different hierarchical levels and strategic objectives (Ghalayini et al., 1997; Hudson et al., 2001).

This model has the advantage of clearly showing the difference between the measures that are of interest to external parts - customer satisfaction, quality and delivery - and the measures that are of interest to the internal parts - productivity, time cycle and waste (Neely, 2000). However, it does not specifically address neither the form of the measures nor the process to develop them (Hudson et al., 2001), it doesn't include the concept of continuous improvement and it doesn't provide a mechanism that identifies the key performance indicators (Tangen, 2004), which makes it difficult to operate (Neely, 2000).

Balanced Scorecard (BSC)

Being the most studied and perhaps the one with greater applicability, the BSC model is the most cited model in the literature with positive and/or negative references. It reinforces the measurement of the relationship with the strategy on four different perspectives - financial, customer, internal processes, learning and growth - from a set of measures that allows top managers to immediately get a comprehensive view of the business (Tangen, 2004).

Kaplan and Norton (1992) point out that the BSC, by minimizing overloaded information and limiting the number of used measures, it requires managers to focus on measures that are critical.

This model emphasizes the balance between financial and non-financial measures to achieve the strategic alignment (Hudson et al., 2001).

Kennerley and Neely (2002), for example, refer some shortcomings such as the lack of competitiveness dimension; inability to recognize the importance of aspects such as human resources and supplier performance; and no specification of performance dimensions that determine success.

Also according to the authors Ghalayini et al. (1997), the BSC as well as being a tool to monitor and control rather than an improvement tool, its main weakness is that this model is primarily designed to provide top managers a comprehensive view of performance excluding operational level.

Integrated Performance Measurement System (IPMS)

The IPMS model emphasizes two main aspects of performance measurement system: integrity and implementation. Integrity refers to the capacity of the performance measurement system to promote the integration of the various business areas, whereas the implementation relates to the execution of business objectives and policies over four levels: corporate, business units, business processes and activities (Bititci et al., 1998).

This model is based on seven key dimensions: two external used to monitor the organizational position in the competitive context (financial performance and competitiveness) and five internal used to monitor all the production process (costs, factors of production, activities, products and incomes).

However, the IPMS model was not a structured process in which the objectives are specified, as well as the development timelines and its implementation (Hudson et al., 2001; Pun and White, 2005).

European Foundation for Quality Management (EFQM)

It is a model that defines self-assessment as a regular, systematic and comprehensive review of the activities in order to give feedback on the organizational results.

The EFQM business model is based on a concept that consists in evaluating quality according to nine key criteria, which are weighted and divided into two categories, in order to be able to quantify the achieved level of quality and position in relation to other companies:

• Factors, which includes the criteria: leadership; personnel management; policy and strategy; partnerships and resources; processes;

• Results, which includes the criteria: staff satisfaction; customer satisfaction; integration into the community; operating results.

However, it is a model that presents difficulties to operationalize (Neely et al., 2000). In addition to not involving external evaluations or benchmarking process, it also does not show a clear way to measure performance in hierarchical levels, i.e., strategic, tactical and production level (Anand and Kodali, 2008).

The Performance Prism (PP)

The PP model starts with the needs and desires of stakeholders and not with the strategy (Bourne et al., 2003). Neely et al. (2002) argue that the common belief that performance measures should be strictly derived from strategy is incorrect, it should be the needs and desires of stakeholders to be considered first.

According to this model, there are five different perspectives (but related) of performance that are meant to answer the questions:

- satisfaction of stakeholders - who are our main stakeholders, what they want and need;
- strategies - what strategies we have put in place to satisfy the desires and needs of stakeholders;
- processes - what critical processes that need to operationalize and improve;
- resources - what are the resources that we need to operate and improve; and
- contribution of stakeholders -what contributions we should ask to our stakeholders to maintain and develop these resources.

As a strong point, this model questions the organizational strategy before the selection process of the measures to be taken. Thus, the PP model ensures that the choice of performance measures has a solid base (Tangen, 2004). Nevertheless, the model is not sufficiently proficuous about how performance measures will be implemented (Tangen, 2004).

In conclusion, it must be pointed out that this section only superficially discusses some of the existing conceptual models in the measurement area and performance evaluation.

4. Methodology

From the identification of the approaches discussed in the literature on the measurement systems and organizational performance evaluation, a critical analysis has been accomplished about the same conceptual and practical point of view according to the view of experts in the field. In this sense, we used a careful review of the literature, by considering studies published in scientific journals related to the topic that respond to the objective of the present study.

A diagnosis has been made to a number of small and medium enterprises with economic activity in Portugal, in order to investigate how they measure and operationalize the evaluation of its performance through a structured interview.

For the accomplishment of the present study, we opted for an exploratory and descriptive perspective that would allow us to obtain a greater description about the object of study. The type of exploratory and descriptive study is carried out especially when the chosen theme is little explored and in which one tries to know the specific characteristics of a certain population. On the other hand, in qualitative and exploratory studies, the opinion of specialists on the subject(s) under investigation are more useful and valid for the purpose of the study (Vilelas, 2009).

Taking into account the complexity of the reality, the study is based on the questioning of managers about specific practices related to organizational performance management through interviews. In order to carry out the interviews, we have prepared a set of questions, which have been placed in an appropriate and natural way suitable to the circumstances.

The interview based on open questions and choice of items was based on a script consisting of four groups:

• a first group, composed of four questions, in order to assess whether organizations have a strategy, formalized and communicated by the organization;

• a second group, consisting of a set of eight questions to determine if and how these organizations undertake the measurement and evaluation of their performance;

• a third group, with three questions in order to assess whether the respondents have knowledge about measurement models covered in this study and identify whether any of them is used or, possibly, another model;

• a fourth group, with four questions, to collect data to make a characterization of the respondents and organizations.

From an invitation sent by email to 74 companies that responded to the two requirements of this study (SMEs and industry) and then personally contacted by telephone, only 13 agreed to be part of the study.

The survey was administered by personal interview, held at an agreed time and place. From this set, one was invalid because it was considered that the respondent demonstrated not having sufficient knowledge about the practices in his organization, and that the sample is composed of 12 organizations.

During the interviews, the answers were being marked in a support document as the questions were being posed.

Respondents were all individuals with management functions/management/direction, an essential requirement for obtaining the data.

A quantitative analysis of the responses has been made, reinforced by a qualitative content analysis of the same content, taking into account the type of respondent and the appropriate organizational context, increasing the responsiveness of the answer given by the respondent.

5. Analysis of Data Obtained and Discussion

5.1 General characteristics of the sample

All of the organizations surveyed are SMEs in manufacturing activities sector (Table 5), located in the district of Leiria (75%, *n* = 9), district of Lisbon (8.3%; *n* = 1), district of Viseu (8.3%, *n* = 1) and Santarém district (8.3%, *n* = 1). The number of employees varies between 17 and 200 and the billing values between 0.7 and 20 million euros, so that comprise the determining criteria for SME classification.

Table 5
Industry type, location, number of employees and volume of turnover (n = 12)

Organization	Industrial activity	Location (district)	Nº of employes	Vol. billing (million/€)
A	Food	Leiria	17	0,8
B	Molds	Leiria	200	20
C	Thermoplastics	Leiria	130	9
D	Woods	Viseu	89	12
E	Metallurgical	Leiria	33	2,7
F	Mortars	Leiria	27	2,1
G	Mortars	Leiria	41	1,3
H	Food	Leiria	32	0,7
I	Thermoplastics	Leiria	78	3,7
J	Prefabricated	Leiria	41	1,2
L	Carton packaging	Lisboa	68	3,2
M	Food	Santarém	24	2,9

The respondents are individuals who exercise administration, management or direction positions (Table 6), that 75% (*n* = 9) of these are partners or shareholders. The age varies between 28 and 63 years old and exert their respective positions between 1 and 27 years. Note that 50% (*n* = 6) of the respondents have higher education level training.

Table 6
Characterization of respondents

Age	Function	Nº years in function	Level of education
28	Managing Partner	3	Secondary school /level
42	Administrator/CFO	1	MBA
53	CEO	12	Phd
48	HR Director	24	Master
55	General Diretor	27	Secondary school / level
54	Managing Partner	12	Secondary school / level
38	Manager	9	Graduation
58	Managing Partner	18	Elementary, middle school /level
45	Administrador/Marketing	9	Graduation
63	Managing Partner	23	Elementary, middle school / level
58	CEO	14	Graduation
57	Managing Partner	23	Elementary, middle school / level

5.2 Analysis of responses

So that respondents could better understand all the questions, they were preceded by a context that would allow the respondent to interpret what was asked.

In order to assess whether organizations have a *formalized organizational strategy and communicated* by the organization, they were posed a set of four questions.

When asked about whether they had an idea (vision) of how their business would be in the next five years, 25% (*n* = 3) said they did not have any idea while and 75% (*n* = 9) answered affirmatively. Of these 75% (*n* = 9), to the question "who in your company is aware of this idea (vision)", 33% (*n* = 3) said only partners/shareholders, 33% (*n* = 3) partners/shareholders and employees of 1st line, 22% (*n* = 2) partners/shareholders and all employees and 11% (*n* = 1) said they did not share their vision with anyone else (Table 7).

Table 7
Question #2 - Who in your organization is aware of this idea (vision)? (n = 9)

	%	*n*
Only the partners / shareholders	33%	3
Partners / shareholders and employees 1st line	33%	3
Partners / shareholders and all employees	22%	2
No one	11%	1

Even for these organizations (75%, *n* = 9), only 33% (*n* = 3) have stated their vision (statement, goals and planning) described and formalized in an internal document.

On this issue in particular, in qualitative terms, it was noticeable to verify the difficulty of most respondents in explaining the vision they had for their organization and discomfort in substantiating a justification for the absence or the formalization of strategy or knowledge by the majority of its employees.

This means that, if a MESOP must be designed and implemented in accordance with the organization strategy, the results indicate that most organizations, apart from not having a formal process of its strategy, the sharing of their strategic intent is very low.

In order to verify *if* and *how* the surveyed organizations undertake the measurement and evaluation of their performance, it was requested to respondents to indicate which key indicators (kpy's) they use to analyse their organization results (Table 8) according to the functional areas: financial, production, marketing/sales, human resources and other (to be mentioned by respondents). Note that in "other", only one organization indicated R&D.

Table 8
key indicators reported by respondents

Financial		Production		Mkt/Sales		Human Resources		Others (I&D)	
Ebitda	4	Qty produced	10	Sales amount	10	Costs	1	Index return	1
Profit margin	7	Qty rejected	7	Ratio business/customer	2	Cost no quality	1	Índex non conformity	1
Sales/business volume	6	Volume of orders	1	Ratio orders/customer	1	Nº of complaints	1		
Net income	2	Quality	1	Ratio profitability/ customer	2	Labor efficiency	1		
Net profitability	1	Efficiency consumption/ raw material	1	Nº of awarded projects	1	Índex training	1		
Capital employed	1	Consumption efficiency/ energy	1	Nº of new customers	3	Índex qualification	1		
Operating profitability	1	Production efficiency	1	Monthly sales volume	1	Absenteeism	5		
Liquidity	1	Quality rate	1	Ratio sales/ seller	4	Turnover índex	4		

Profit sales	1	Ratio product/hour	2	Ratio product sales/family	1	Level of satisfaction	1
Charging timelines	2	Stop times	1	Nº of customers	1	Ratio training hours/employee	1
Costs	4	Ratio production/ employee	1	Ratio sales/ customer	1		
Ratio labor/sales	1						
Ratio cost/sales	1						
Profit	1						

Regarding the financial functional area, the "Profit margin" and "Sales/business volume" are the most mentioned indicators, while in the production functional area organizations use more indicators "Quantity produced" and "Rejected quantity."

In the functional area Marketing/sales, "sales volume" is the key indicator most used whereas in the functional area Human Resources are the key indicators "Absenteeism" and "Turnover".

Although the literature highlights the importance of using a measurement and performance evaluation system in an organization, and according to the results, there are few organizations that have systematic processes for obtaining elements that allow them to evaluate the results in accordance with their strategic objectives.

The number of key indicators that respondents report using in their organizations varies between three and fifteen (Table 9).

Table 9
Key indicators used

Organization	Financials	Production	Markt/sales	Human Resources	Others	Total
A	3	2	1	0	0	6
B	4	3	3	0	0	10
C	3	4	3	4	0	14
D	2	2	3	4	2	13
E	1	1	1	0	0	3
F	1	1	1	0	0	3
G	2	3	1	2	0	8
H	2	2	2	0	0	6
I	4	2	3	2	0	13
J	3	2	2	1	0	8
L	5	3	4	4	0	16
M	3	2	3	0	0	8

It should be noted, first, that 50% (n = 6) of respondents said they did not use any key indicator in the area of human resources and, secondly, that organizations using the larger number of indicators are those using the BSC (C organizations, D and L) or a specific model (organizations B and I).

The results are obtained with a monthly frequency (66.6%; *n* = 8) or quarterly (33.3%; *n* = 4), and subsequently analyzed and discussed with the partners/shareholders (25%; *n* = 3), with the 1st line of employees (50%, *n* = 6) or all employees (16.6%; *n* = 2). This analysis and discussion of the results influence the decision-making leading to possible corrections on the processes (91.6%; *n* = 11).

In this set of questions, with the exception of organizations that use a system to measure the results, respondents (*n* = 7) showed some difficulty with answering, having so resorted to other members of the organization to help them to identify the key indicators they use, which shows that there is no formalized system for these organizations.

It also appears that the number of used indicators is very low in all functional areas, being the area of human resources the one that has a very small number. Plus, half of the organizations reported that they are not using any indicator in this area, which indicates a devaluation in the field of people management. This means that SMEs tend to have poor strategic planning and do not fully understand what their critical success factors are.

In order to assess whether the respondents have knowledge of organizational performance measurement models, it was provided a list of models according to Table 10.

Table 10
Measurement systems list and evaluation of organizational performance

Models
The Performance Measurement Matrix
Results and Determinants Framework
The Performance Pyramid System
Balanced Scorecard
Cambridge Performance Measurements Systems
Integrated Performance Measurement Systems
Business Excellence Model
The Performance Prism
Other(s)

In addition to the models listed, respondents did not report any other model. The responses (Table 11) indicate that 42% (*n* = 5) of respondents are unaware of all the models and the Balanced Scorecard model is all the best known (58.3%; *n* = 7).

Table 11
Models identified by respondents

Organization	PMM	RDF	PPS	BSC	CPMS	IPMS	BEM	PP	Others(s)	"Yes"
A	No	No	No	No	No	No	No	No	No	0
B	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	No	8
C	No	No	No	**Yes**	No	No	No	**Yes**	No	2
D	**Yes**	**Yes**	**Yes**	**Yes**	No	No	**Yes**	No	No	5
E	No	No	No	**Yes**	No	No	No	No	No	1
F	No	No	No	No	No	No	No	No	No	0
G	No	No	No	**Yes**	No	No	No	No	No	1
H	No	No	No	No	No	No	No	No	No	0
I	No	No	No	**Yes**	No	No	**Yes**	No	No	2
J	No	No	No	No	No	No	No	No	No	0
L	No	No	No	**Yes**	No	No	No	No	No	1
M	No	No	No	No	No	No	No	No	No	0
	2	2	2	7	1	1	3	2	0	

To assess the degree of the respondents' knowledge for each of the models (on a scale of 1 to 5), it is verified that only the Balanced Scorecard is the one with the highest values for those who utilize (organizations C, D and L). All the others refer they only have a residual knowledge of some models (eg: I heard, I read in a magazine).

On the use of some of the models presented or any another, 58% (*n* = 7) of the respondents said they do not use any model, whereas 25% *(n* = 3) use the Balanced Scorecard model and 16.6% (*n* = 2) use their own model (Table 12).

Table 12
Models used by respondents

Organization	Model
A	None
B	Own
C	BSC
D	BSC
E	None
F	None
G	None
H	None
I	Own
J	None
L	BSC
M	None

The results on this point indicate that, in addition to having a significant lack of knowledge on the theory of performance measurement area by the managers, there is a devaluation for the measurement and evaluation of the organization's performance.

6. Conclusions

Using a literature review, this study described, in one hand, some of the performance measurement characteristics influencing performance management and, in other hand, the most frequently mentioned models in the literature with significant impact on the design of performance measures.

With the central question of this study on *what* to measure and *how* to measure, a diagnostic study has been made in twelve SMEs with industrial activity in Portugal.

Besides the theory underline the importance of performance management in SMEs for supporting the development of managerial systems, our research showed that very few companies carry out performance management.

This conclusion can be explained by the facts that (i) there is a significant gap between theory and practice, (ii) SMEs are characterized by poor strategic planning, (ii) their decision making processes are not formalized, and (iii) most of SMEs' performance measurement approach is informal, not planned and not based on a predefined model.

Finally, the lack of explicit strategies and methodologies to support the control process by management promotes both a short-term orientation and a reactive approach to managing the corporate activities. This is extremely problematic because the development of a strategic

performance measurement is necessarily long-term and explicitly requires that the resulting measures should be strategically focused.

The low response rate of the survey, the reduced number of data obtained and the insufficient knowledge of the interviewed about the performance measurement and evaluation limit the range and depth of the theme exploration and precludes the generalization of the findings.

On the other way, the indicators to measure and evaluate the performance are used without a clear comprehension about what and how to measure and, consequently, what to improve and therefore an opportunity to comprehend how the results limit the optimization of the most important facts related to competitiveness and success.

But the global organizational performance evaluation as a whole and its practical implementation, is a field of studies that is poorly investigated in Portugal. There is no study about how SMEs from the transforming industry activities sector in Portugal measure and evaluate their performance, which does not allow the comparison with other similar studies even from other countries.

This study contributes to a major comprehension about the advantages of using a system of organizational performance measurement and evaluation of the SMEs as a factor of incrementing its competitiveness.

The authors believe that this paper is relevant to academics and SMEs managers because it supports the existence of a gap between the theory of performance measurement and its degree of implementation.

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