

A theoretical framework for investigating performance measurement systems in the Moroccan Small and Medium Sized Enterprises:

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Abstract— In Morocco, Small and Medium Sized Enterprises (SMEs) form the backbone of the private sector. They represent more than 95% of the Moroccan economy. However, most of them operate in a fierce competitive environment. This is why, it is important to optimize their business practices. The literature highlights the important role of performance measurement systems (PMS) in the development of the SMEs. However, PMS adoption in the Moroccan SMEs is a subject about which little is known due to the lack of research. This paper aims at presenting the theoretical framework for investigating PMS adoption in the Moroccan SMEs. To do this, a review of the literature on the performance measurement concept is presented. Then, the Moroccan Small and Medium Sized Enterprises are described. Finally, the theoretical framework of the study is identified and our choice is justified. Different classifications of PMS adoption in the Moroccan SME are suggested in the light of the typology presented by Garengo “Garengo’s classification”.

Keywords—performance measurement systems, Moroccan Small and Medium Enterprises, theoretical framework, Garengo’s classification

I. INTRODUCTION

A. General Context and overall purpose of the research

It is widely recognized that at all levels of development, Small and Medium Sized Enterprises (SMEs) have a significant role to play in the economic development. They make a vital contribution to the development process. The evidence suggests that SMEs are vitally important for

economic health, in both high-income and low-income economies, worldwide.

In Morocco, for example, Small and medium-sized enterprises (SMEs) form the backbone of the private sector. They play a crucial and critical role in the new economy. In fact, they represent more than 95 percent of the Moroccan economy; they generate 50 percent of employment, 50 percent of investments and 30 percent of export.

Taking into account these statistics, helping in promoting these enterprises would have a very positive impact on the Moroccan economy.

However, most of the Moroccan SMEs operate in a fierce competitive environment. Thus, it is important to optimize their business practices. In fact, the financial information is no more sufficient to satisfy the new definition of the performance measurement. It is because companies and markets in which they operate have become more complex (Kennerley and Neely 2002). Thus, other qualitative factors were added to the financial ones. These factors are the customer satisfaction, the capacity of the organization to innovate, the processes used by the company and the employee satisfaction among others.

Therefore, various performance measurement frameworks have been introduced after the late 1980s, like the Balanced Scorecard (Kaplan and Norton), the Performance Prism (Neely, Adams et al.), the EFQM Business Excellence Model; and the Integrated Performance Measurement, among others.

Adopting these performance measurement systems can bring numerous potential benefits to an organization. In other words, a balanced and integrated performance measurement system can be used to better reflect the organization's overall strategy.

However, most of these performance measurement frameworks were designed for large organizations.

To date, academic research in the area of PMS adoption in SME is lacking in the Moroccan context. Thus, the objective of this paper is to propose a classification of PMS adoption that can better reflect the use and the stage of evolution of PMS within Moroccan SMEs.

This article is a part of a Ph.D program. The outcomes of the doctoral research will try to fill the gap of lacking research in PMS in the Moroccan SME context by shedding light on the use of PMS within Moroccan SME sector. Besides, it will contribute to the limited empirical research examining the stage of PMS adoption in the Moroccan SME. Thus, it can be used by practitioners to diagnose and improve their PMS.

B. Research motivations and significance

The following paper will be inserted into the gap of the few studies on performance measurement systems adoption in the Moroccan small and medium sized companies. These few studies highlighted the lack of reference points for the researcher to develop understanding of the practises of performance measurement within the Moroccan SME context.

C. The objective and the research questions of the paper

The paper at hand is guided by a main research objective. In fact, it attempts to present a classification that can better assess the current profile of Small and Medium Sized Enterprises in Morocco with regard to practices of integrated performance measures.

The classification attempts to present different types of the extent to which Moroccan SME's executives are incorporating current integrated measures into their performance measurement practices. Overall, the research presented in this article attempts to shed some light on the following research questions:

What are the main dimensions that can be used in order to best classify the PMS used by the Moroccan SMEs?

What are the different profiles of Moroccan Small and Medium Sized Enterprises with regard to performance measurement practices?

D. The structure of the article

This article presents a review of the literature on the performance measurement and presents the theoretical framework on which our empirical research will be based.

The remainder of this paper is organized in three main sections. First, a review of the existent literature on the concept of performance measurement and the most famous frameworks that were developed for its measurement are presented. Besides, some main common points of integrated

PMS are highlighted. The paper also sheds light on the field of our investigation which is the Moroccan Small and Medium Sized Enterprises and the performance measurement in this context. Secondly, the third section of this paper presents the theoretical framework on which our empirical investigation

will be based. It is Garengo's (2005) typology, which is designed to analyze the stage of evolution of the PMS that is used in SMEs. Some PMS classification for the Moroccan SME will be presented. Finally, we conclude by presenting some of our future research opportunities. In fact, as this article represents a part of a Ph.D program, the conclusion presents the next step of our doctoral research. This step is the empirical investigation that will be based on our theoretical framework. We try to shed light on how we intend to conduct the empirical research of the doctoral program.

II. LITERATURE REVIEW:

A. Performance Measurement: "A multidimensional concept"

There are many definitions that were proposed in the literature attempting to define the concept of performance measurement. In fact, this concept has evolved from a static and traditional definition focusing only on financial measures to a multidimensional and holistic approach including both quantitative and qualitative measures.

Neely and al. said that "Performance Measurement is a topic often discussed but rarely defined". They went on to propose definitions of performance measurement, a performance measure and a performance measurement system. These were: "Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action." "A performance measure can be defined as a metric used to quantify the efficiency and/or effectiveness of action." "A performance measurement system can be defined as the set of metrics used to quantify both the efficiency and effectiveness of actions." Even though these definitions seem precise, but they do not convey what is now being called and labeled in the literature and in practice as 'performance measurement' (Bourne et al. 2003).

According to many studies that were developed, the concept of performance measurement changes from its accounting and static approach to a multidimensional and dynamic system that is able to represent the whole organization.

Today, there is one common definition of the performance measurement, as pointed out by a lot of authors (Kaplan and Norton, 1992, 1996), consisting on the fact that this concept incorporates the use of a multi-dimensional set of performance measures. The set of measures is multi-dimensional as it includes both financial and non-financial measures, it includes both internal and external measures of performance and it often includes both measures which quantify what has been achieved as well as measures which are used to help predict the future.

Therefore, the concept of performance measurement used in this paper and intended to be used in our doctoral research refers to the use of a multidimensional set of performance

measures for the planning and management of a business. Having identified what is meant by performance measurement concept, the next section reviews the literature on performance measurement frameworks developed in order to measure this multidimensionality of performance.

B. Performance Measurement Frameworks

Various holistic performance measurement frameworks have emerged after the late 1980s in order to overcome the weaknesses of traditional measurement systems. Their common point was the multi-dimensional approach which integrates both the financial and non-financial measures. The main objective of this part is to present the main performance measurement frameworks and theories that were developed through the literature. Each framework presented in this section is followed by its figure. These frameworks are presented as follow:

1) *The EFQM Excellence Model*: The EFQM is the organization which was formally established by 14 European companies in 1988. Its objective is to guide organizations who want to improve their performance. The EFQM Excellence Model is a non prescriptive framework to help guide an organization and improve its performance. It is based mainly on eight concepts of Excellence which are: Results Orientation, Customer Focus, Leadership and Constancy of Purpose, Management by Processes and Facts, People Development and Involvement, Continuous Learning, Innovation and Improvement, Partnership Development, and Corporate Social Responsibility as shown in the figure below:

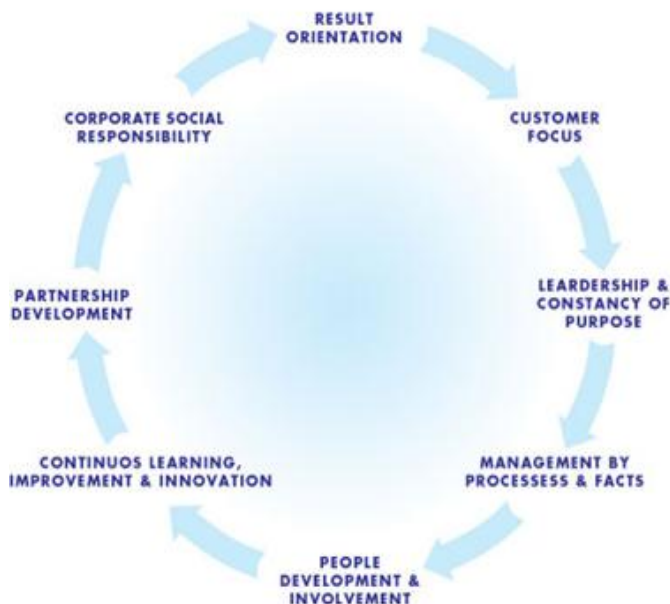


Fig. 1: EFQM Excellence model

2) *The performance measurement matrix*: The performance measurement matrix is a performance

measurement framework developed by Keegan et al. in 1989. This framework integrates cost and non cost performance measures. It also distinguishes between internal and external measures. These areas are outlined as follow:

- The internal non-cost measures include the Design cycle time, the per cent on time-delivery and the new products.
- The internal cost measures include the design cost, the material cost and the manufacturing cost.
- The external non-cost measures include the repeat buyers, the customer complaints and the market share.
- The external cost measures include the competitive cost position and the relative R&D expenditure.

Although this performance measurement framework proposed five distinct areas in order to measure the performance of an organization, it has a disadvantage. In fact, as pointed out by Neely et al. (2002), the performance measurement matrix didn't propose to analyze the links between the different performance measures.

	Non-cost	Cost
External	<ul style="list-style-type: none"> • Nos. repeat buyers • Nos. customer complaints • Market share 	<ul style="list-style-type: none"> • Competitive cost position • Relative R&D expenditure
Internal	<ul style="list-style-type: none"> • Design cycle time • Per cent on-time delivery • Nos. new products 	<ul style="list-style-type: none"> • Design cost • Material cost • Manufacturing cost

The Performance Measurement Matrix (Source: Keegan et al., 1989)

Fig. 2: The performance measurement matrix

3) *The results and determinants framework*: The results and determinants framework is developed by Fitzgerald et al. in 1991. It insists on making explicit links between different aspects of performance. In order to develop this framework, many case studies were conducted in the service sector businesses. Fitzgerald et al. identified six performance areas to be measured. They consist on the result factors which are financial performance and competitiveness and the determinants which are resource utilization, quality innovation and flexibility. The model is represented in the table below:

Results	Financial performance
	Competitiveness
Determinants	Quality
	Flexibility
	Resource utilization
	Innovation

The Results and Determinants Framework (Source: Fitzgerald *et al.*, 1991)

Fig. 3: The results and determinants framework

4) *The Balanced Scorecard*: The Balanced Scorecard (BSC) (Kaplan and Norton 1996) is the most well known performance measurement framework. Many people even believe it is the most important and widely used management theory. BSC suggests managers to view organization's performance from four perspectives.

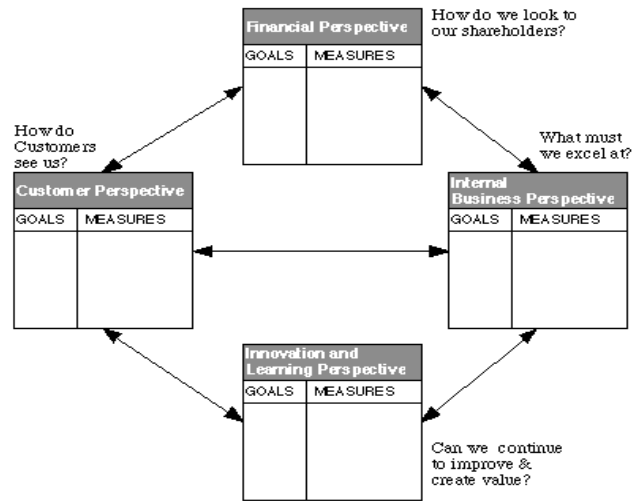
The first perspective is the Customer perspective. It allows managers to answer the following question: How do customers see us?

The second perspective is the internal perspective. It allows managers to answer the following question: What must we excel at?

The third perspective is the innovation and learning perspective. It allows managers to answer the following question: Can we continue to improve and create value?

Last but not least, the financial perspective which allows managers to answer the following question: How do we look to shareholders?

The strengths of the Balanced Scorecard are numerous. First, it incorporates both financial and non-financial measures in one measurement system. Also, its objectives and measures are derived from the organization's vision and strategy. Another strength of this performance measurement framework is that its four perspectives are regarded as a chain of cause-and-effect. This is shown in the figure below:



Source: Kaplan and Norton (1992)

Fig. 4: Balanced Scorecard:

5) *The integrated dynamic performance measurement system*: This framework was proposed by Ghalayini *et al.* (1997) in order to address the weaknesses in other performance measurement frameworks.

This framework incorporates three major areas of a company. The first area is the management of the company. The second one is the process improvement team. And the third area is the

factory shop floor. These three areas are linked together. In fact, management is described as integrating all the general management departments. Then, the general and specific areas of success to be used within the system are identified. The process improvement teams are members of management and their aim is to improve the selected measures in order to improve the performance of the organization.

At the level of the factory shop company, the daily operations are collected and analyzed with respect of general and specific performance targets. This system is illustrated diagrammatically as follow:

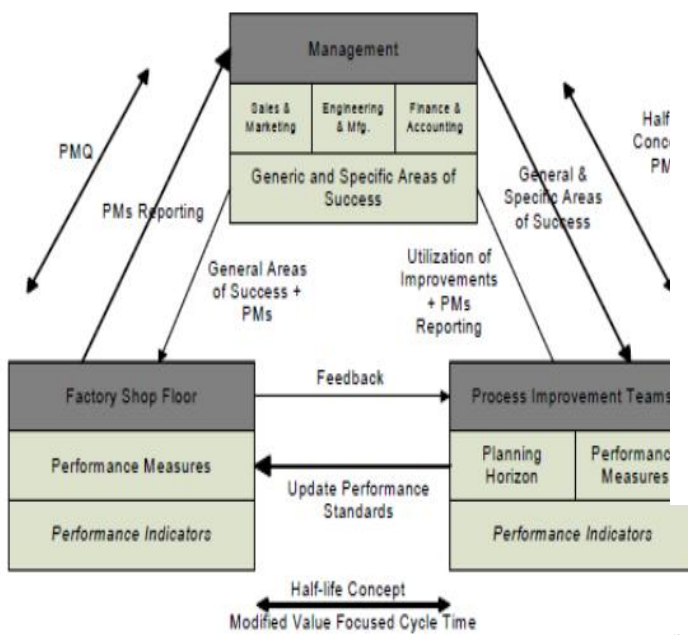
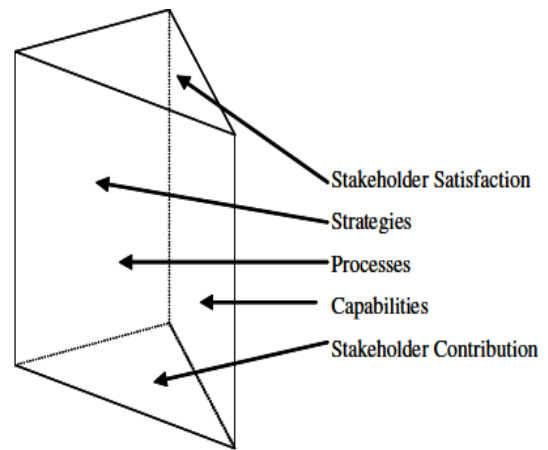


Fig. 5: The integrated dynamic performance measurement system

6) *The Performance Prism*: This framework was developed by Neely and Adam in 2001. It insists on the fact that performance measurement must integrate the wants and even the needs of the most important stakeholders interacting with the organization. In so doing, the organization can develop in the long term. It has also to align its strategies and processes in order to respond correctly to its stakeholders needs. Last but not least, even the stakeholders have to contribute to the organization as well as to expect something from them. The model is represented diagrammatically below:



Source: Neely, Adams et al. (2001)

Fig.6: The performance prism

7) *Main common points of all integrated PMS*: All the performance measurement frameworks stated above agree mostly on the following points:

- Internal and external performance determinants should be measured.
- Internal factors include innovation and learning perspective, customer perspective and internal business perspective. Whereas, the external factors include: environmental factors including the influences from customer's complaints, partners, competitors....
- Performance results should be measured in terms of both financial and non-financial indicators including customer satisfaction, and other factors.
- Internal and external, financial and non financial measures must be aligned with the strategy and the objectives of the organization.

The following figure summarizes the main common points stated above of the most known integrated Performance Measurement systems:

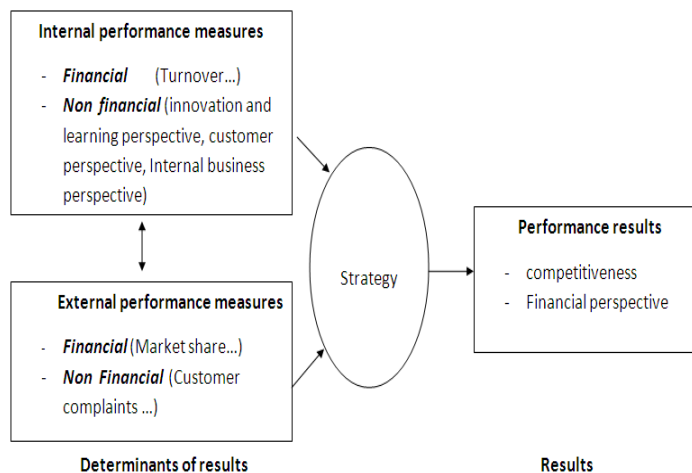


Fig. 7: Main common points of integrated PMS

C. The performance measurement in the SME context in general with particular focus on the Moroccan SME context

1) *Performance measurement in the SME context:* Besides the various publications and research on performance measurement in the literature, there is a lack of research about performance measurement in the small and medium Sized enterprises context compared to large organizations, even less in SMEs in a developing country like Morocco. In fact, The SMEs sometimes do not use any performance measurement model or they use models in an incorrect and incomplete way according to available studies. They don't even consider the specific needs of SMEs (CIMA 1993; Tenhunen et al. 2001).

Besides, some studies conducted by Rantanen and Holtari (2000), for example, highlight the fact that SMEs do not usually implement integrated PMSs because of their lack of awareness of their existence.

There is a distinct lack of published research on the characteristics of PMS in the Moroccan SME context. This evidence highlights the need to better understand SME characteristics, in order to point out their needs and develop consequently tailored solutions.

The next part aims at presenting the Moroccan SME as our research sample for investigating PMS characteristics.

2) *Performance measurement in the Moroccan SME:* Before shedding light on the situation of performance measurement in the Moroccan SME context, we present in the first part the definition of SMEs that will be adopted in the doctoral research. In fact, the definition of SME varies from country to country. In our doctoral research, all companies come from Morocco. This is why, the definition that will be adopted for a Moroccan SME is the one suggested by The Charter of the SMEs in Morocco. It defines a Small and medium sized enterprise as follow:

A SME is a company with fewer than 200 people as effective employee. It has a turnover of less than 5 million Dirhams in

creation phase, 20 million Dirhams for the growth phase and 50 million Dirhams in the phase of maturity. And finally, it has a total balance sheet of less than 30 million Dirhams.

As pointed out by lots of researchers, SMEs are still not aware of the importance of performance measurement as a way to optimize business practices. In the Moroccan context, little research has been done in order to assess performance measurement and to investigate how managers and SME's owners measure performance. Our study will aim at investigating the adoption of performance measurement systems in the Moroccan context. In other words, we try to answer the following question: **What are the different classifications that can better assess the practise of performance measurement in the Moroccan SME context?**

The following part presents the theoretical framework used for our research in order to answer the research question stated above.

III. THE THEORETICAL FRAMEWORK FOR ASSESSING PMS INVESTIGATION IN THE MOROCCAN SME

Various studies propose to analyze PMS models but most of them do not take into account the company size. We chose, as mentioned above, to study the Moroccan SME as a field of investigation. The main problem is that general frameworks that aim at studying PMS in this category of enterprises are not suggested in the literature.

In order to define a framework for analyzing and investigating PMS adoption in the Moroccan SME context, it is necessary to study the following research question: what are the main dimensions that can best classify the PMSs used by the Moroccan SMEs?

A literature review, made by Garengo et al. (2005) is chosen as our theoretical framework because of three main reasons. The first reason is that this classification was proposed especially for the SME sector. In fact, the literature has not yet developed a model explicitly targeted for such companies for investigating PMS adoption. The second reason is that this framework was used to conduct empirical work by Garengo (2009). It was also adopted by some researchers who were interested in investigating the practices of PMS in SME in other countries (Brazil for example). The last reason is that there are various typologies of PMS in the literature, but Garengo's typology can be considered as a valid classification as it aims to classify the type of PMS used according to general characteristics of performance measurement used by the SME without taking into consideration the type of PMS adopted.

According to this classification framework, there are too dimensions to be considered while trying to classify the PMS in a SME context. The first dimension is the PMS scope. In other words, this dimension consists on answering the following question: What type of indicators does the SME measure? According to Garengo, there are mainly five

propositions of PMS scope within a SME. In our classification of PMS adoption in the Moroccan SME context, and

according to Garengo's classification, five propositions of PMS scope within the Moroccan SME are presented as follow:

. Traditional systems: These are systems that only focus on the financial performance (traditionally called 'management control systems').

. Dual systems: These are systems based on the assessment of both financial performances and the performances of one other company function that is considered to be a key function for the competitiveness of a company.

. Partially balanced systems: These systems are focused on both financial performances and the performances of other functions that are considered to be key functions for the competitiveness of the company.

. Balanced systems: In these systems many of the measurements involved are non-financial and/or qualitative. Besides, these systems focus on financial aspects and all other relevant perspectives.

. Diagnostic systems: These systems add to the balanced system mechanisms supporting causal effect analysis between results and their determinants for supporting improvement activities.

The second dimension proposed by Garengo is the PMS characteristics. According to Garengo's classification, three main PMS typologies were defined:

. Basic systems: These systems are not able to react to changes in the internal and external contexts. Besides, the form and the frequency of data collection are not defined clearly and they do not consider the needs of the company.

. Advanced systems: These systems are able to react to the internal changes; the way and frequency with which data is gathered are defined considering company needs, but the way and frequency are not formally communicated to the PMS users.

. Excellent systems: They are able to perceive changes in the internal and external contexts; the form and the frequency of the data collection are defined considering the specific needs of the organization; the method and the frequency are formally communicated to the users of PMS.

Using the constructs mentioned above and their levels of development, the theoretical framework of the classification of PMS adoption within the Moroccan SME as presented in the following figure was defined. The first group of constructs (MOROCCAN SME PMS SCOPE) is placed on the vertical axis, the second group of constructs (MOROCCAN SME PMS CHARACTERISTICS) on the horizontal one.

		MOROCCAN SME PMS CHARACTERISTICS		
		Basic PMS	Advanced PMS	Excellent PMS
MOROCCAN SME PMS SUBJECTS	Traditional PMS			
	Dual PMS			
	Partially balanced PMS			
	Balanced PMS			
	Diagnostic PMS			

Fig. 8: Theoretical framework of the classification of PMS adoption in the Moroccan SME based on Garengo's (2005) classification

IV. CONCLUSIONS AND FUTURE PERSPECTIVES:

In this article, the study represents the first step in the process of investigating PMS in the Moroccan SME. A framework for classifying PMS development in the Moroccan SME was proposed in this article in the light of Garengo's classification.

This article is a part of a Ph.D program that aims to understand how performance is measured in the Moroccan SME context and to check the stage of PMS in these enterprises. In other words, our doctoral research project will try to answer the following research questions: What are the characteristics of PMS in the Moroccan SME and what are the PMS subjects in the Moroccan SME? And how the Moroccan SMEs measure their performance based on the theoretical framework we proposed in this article?

In order to answer our research questions, a qualitative research will be adopted. This research is appropriate in the sense that the aim of our investigation is to obtain a holistic and integrated understanding of how Moroccan SMEs measure their performance. Given the nature of the research questions and objectives, in depth semi-structured interviews will be selected as our research method. For that purpose, the dimensions of the framework proposed in this article will be transformed into observable and measurable elements.

The objective of the empirical part of our research would be to present the PMS characteristics in the Moroccan SME context and how the Moroccan SMEs measure their performance. This will enable the practitioners to diagnose and improve their PMS.

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