



## Application of Balanced scorecard Model by the Algerian's Compagny

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**Abstract:** This study treats the Balanced Scorecard and his application as model of steering by algerian compagny. It about doing an empirical evaluation for to explain the relationship that exist between the differents dimensions of Balanced Scorecard, and to understand the perception of the leaders of algerian compagny of the performance. The first section is about the steering's concept and Balanced Scorecard model. The seconde section describes the type of search used, the presentation of variables of model and analysis of results obtained.

**Keywords:** Compagny steering; Balanced scorecard; Strategic map; Structurels Equations, Boostrap method.

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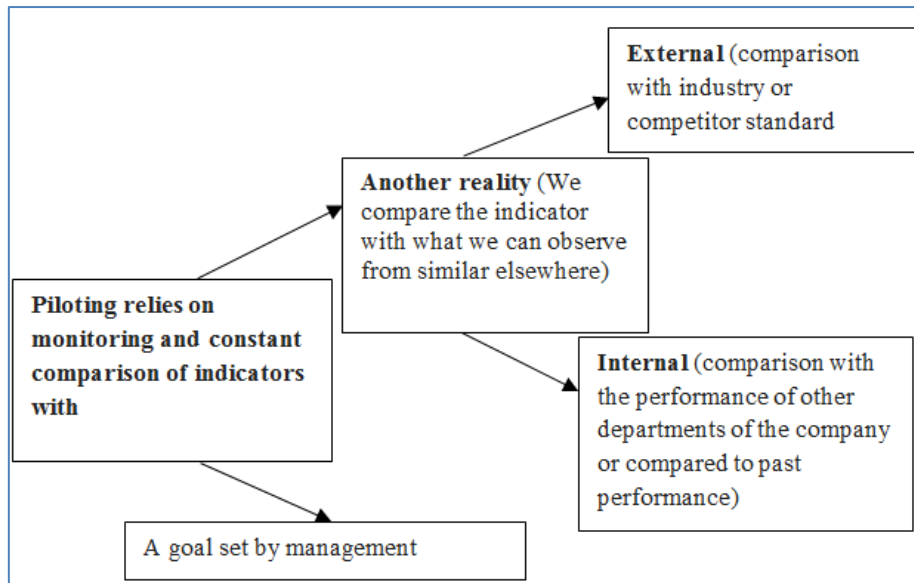
## INTRODUCTION

The management of the company's performance involves the monitoring of performance indicators and their constant comparison with standards. The control system will focus on monitoring expected results. However, when a manager notices the results, it is often too late to react. As a result, this type of control is not enough. Only the monitoring of the action plan will allow him to know quickly and understand precisely the failures and to act accordingly [1].

## SECTION 1: THEORETICAL FOUNDATION

### 1. Performance management

The company's performance is closely linked to the concept of strategic management, which consists, in practice, in providing the company's management with a limited number of various financial and non-financial indicators, in the short term and in the short term. In the long term, often grouped together as a dashboard, to help managers in their strategic decision-making. The role of the company's performance management is, therefore, to measure and monitor the evolution of the effectiveness of the process on the basis of qualitative or quantitative indicators and to define targeted corrective actions, in a preventive or curative manner. The following figure shows the different possible references.



**Fig-1: Graphical representation of the piloting**

Source: Barabel, Meier, "Manageot: best management practices" Dunod, Paris 2008.

**Logic of performance control**

Steering can obey different philosophies that respond to different strategic situations and cultures. The choice of a steering logic rests with the executive committee of the company. There are two possible logics that we will oppose schematically.

**Financial logic**

According to this logic, management focuses on the financial results of each entity and is based on the principle of individual accountability and delegation. This logic is based on:

**The results**

The piloting does not interfere with the progress of the action, by principle of decentralization and autonomy and intervenes only on a priori objectives and results a posteriori. It is thus logic of commitment and control of the results with requirements of globality (important entities) and spacing in time. Organizing reporting on too

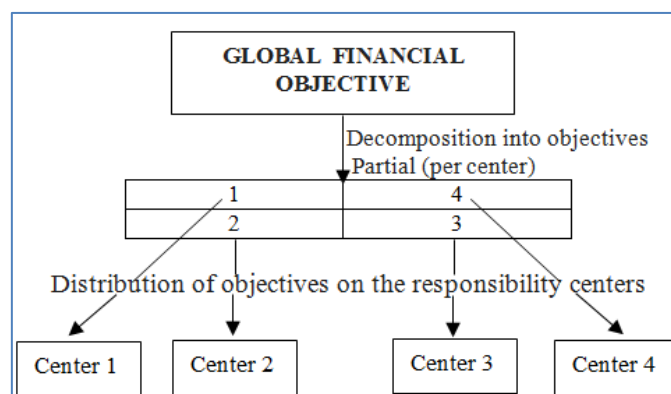
tight periodicities can undermine the autonomy of local managers. To lower the reporting too low would be contradictory with the will to make full responsibility for a result.

**Finances**

Since this management does not mix with the content of action, it does not enter into technical considerations about the content of the actions and uses the financial language located outside the particular techniques and processes.

**Empowerment**

Management acts indirectly on the concrete contents of the activity, by making managers responsible for achieving objectives (motivation of managers). The steering of the action itself is delegated to each manager who determines the tools and methods likely to ensure its success in the achievement of objectives.



**Fig-2: Financial steering logic**

Source: Lorino, P, "Methods and practices of performance". 3rd Editions of Organization, Paris, 2003

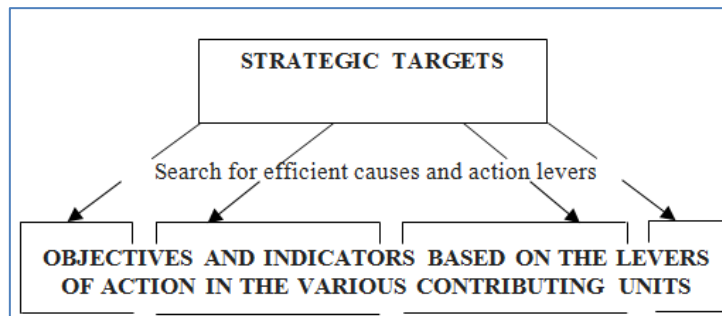
This steering logic is simple (once the reporting system is set up, steering becomes a well-oiled business), motivates and mobilizes managers (with autonomy), and clearly links local financial performance to overall financial performance of the company. However, it has disadvantages and risks:

- This logic tends to partition and divide the enterprise (each home-based), which can be a handicap if the business processes have a certain degree of integration and the performances of the various entities are interdependent from where the risk of impairing overall performance ;

- It does not provide any visibility on the real causes of performance, which may prevent higher levels of management from identifying the levers of progress that they must first seize in a given situation;
- It frequently has a bias towards the short term.

**Strategic-operational logic**

It is no longer a question of starting from a global financial objective to achieve analytical financial objectives, by disaggregation, but from strategic objectives to achieve local operational objectives through a cause-and-effect analysis.



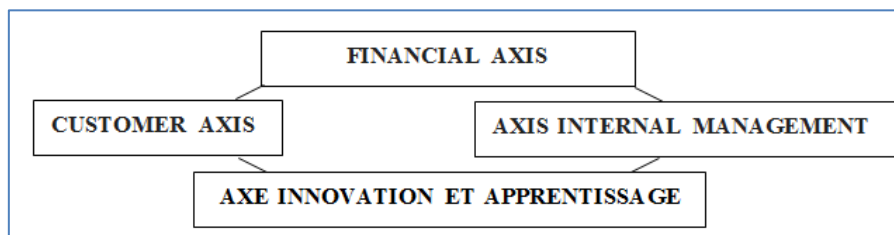
**Fig-3: Strategic and operational steering logic**  
Source: Lorino. P, 2003.

The strategic-operational logic is more complex and more delicate to use than the financial logic. It requires a fluid dialogue between strategic and operational management specialists. It is necessary as soon as the activity of the company presents a certain level of integration between the units and the functions (interdependencies, synergies) and a certain degree of complexity. In this case, the search for causes of performance can rarely be part of a single area of responsibility. It is therefore essential to build a collective diagnosis, frequently readjusted, to identify the relevant levers of action, coordinate the course of action and ensure the collective capitalization of the experience.

**Balanced Scorecard Piloting Model**

In order to drive a company's performance, it is necessary to interpret results, establish measurement systems, plan operations and make

sound decisions to achieve the objectives set. The Balanced Scorecard model is a model of proactive piloting of one or more activities, helping to reduce the risk-taking inherent in any decision by structuring information. It incorporates financial and non-financial dimensions in which neither of these two dimensions was favored over the other [2]. It allows the measurement of commercial performance in terms of value creation for customers which are an intermediate performance inseparable from the financial performance of a firm. Two other dimensions are followed to measure the company's ability to achieve its objectives, namely internal processes and organizational learning. The former are the determinants of current performance and the latter are the determinants of the future performance of the firm. The following figure illustrates the different axes of the Balanced Scorecard:



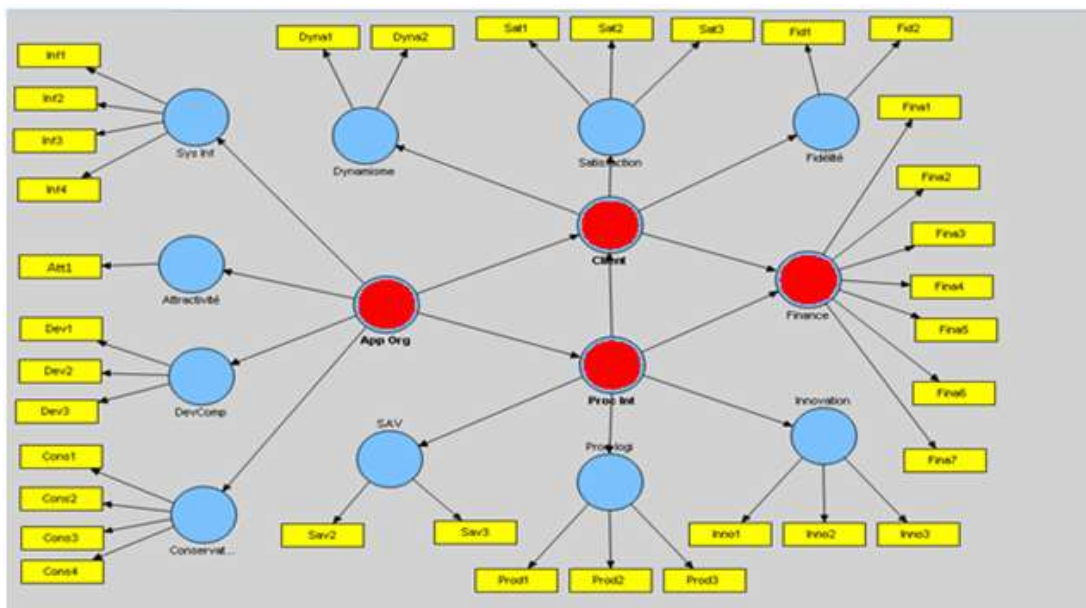
**Fig-4: Axes of Balanced Scorecard**  
Source: Kaplan R, Norton D, [3].

The Balanced Scorecard is a fairly balanced performance measurement system. First, on a time-axis basis, financial indicators tend to have more data from the past, whereas internal process and client indicators are more referenced to the present, and organizational learning is explicitly looking to the future. Also, it is balanced with respect to the stakeholders of the organization. The financial and customer dimensions are mainly aimed at external actors, whereas the internal processes and learning dimensions are intended for the internal actors of the company.

## SECTION 2: EMPIRICAL RESEARCH

### 1. Approach to empirical research

This research is of a confirmatory nature, using the structural equation method as a data analysis method, to validate the conceptual framework. The purpose of this method is to statistically treat hypothetical multiple causal relationships performed on a sample of 37 firms. Structural equation models are developed to test the linear effects between a set of non-observable variables (latent variables). A structural equation model is traditionally composed of two parts: the measurement model (external) and the structural model (internal). The following figure shows the research model of this study:



**Fig-5: Modèle conceptuel de mesure de la performance**

The statistical processing software used in this study is SMART PLS 2 for data analysis and structural modeling using the PLS approach. It serves both confirmatory factor analyzes (measurement model) and the test of the different relationships between explanatory and explanatory variables and intermediate (structural model).

### Variables of the model

This study seeks to know the importance of the performance management models of Algerian companies. The Balanced Scorecard model has a financial dimension (variable to explain), and non-financial dimensions (explanatory variables). These dimensions are represented by a set of latent variables measured by manifest variables (items or measurement indicators), presented in the following table:

**Table-1: The items of the pilot measurement variables of the Performance**

Performance dimensions	Latent variables (determinants)	Manifest variables (Indicators)
<b>Finances</b>		Return on investment
		Net earnings growth
		Sales growth
		Profitability on sales
		Economic profitability
		Cash Flow
		Productivity
<b>Customers</b>	Commercial dynamism (2)	Number of prospects visited
		Number of quotes issued
	Customer satisfaction (3)	Number of sales
		Delivery delay
		Number of complaints
	Loyalty (2)	Number of customer service
		Number of lost customers
<b>Internal processes</b>	Innovation process (3)	Innovation cost
		Number of new product sales
		Number of patents
	Operational Process (Production Management Process), (3)	Production time (reactivity)
		Production cost
		Volume of production
	After-sales service (quality control process), (3)	Number of defective products
		Service call response time
		Cost of answering after sales calls
<b>Organizational learning</b>	Attract skills (1)	Number of High Potential recruits
	Develop skills (3)	Number of days of annual training
		Number of successful projects
		Number of abandoned projects
	Maintain skills (satisfaction and motivation of employees), (4)	Turnover rate (employee satisfaction rate)
		Number of years in the company
		Absenteeism
		Number of accidents
	Information system (databases, tools and network needed to promote the strategy), (4)	Availability of information (standby)
		Communication capabilities
		Participation in fairs, fairs
		Number of missing or late information

We considered that some indicators that could be commonly perceived as more popular and therefore more important than others since they were more frequently used in the economic press and more widely understood by managers [4].

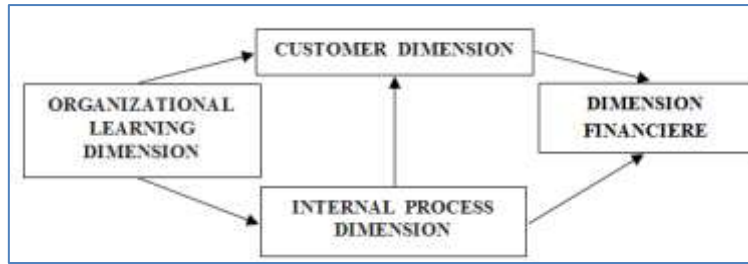
The purpose of this research was to identify perceived cause-effect relationships between non-financial indicators and financial indicators. To this end, respondents were asked to express their degree of agreement on an adapted list of the work of Ittner and Larcker [5].

### Presentation and analysis of the results

As previously noted, the performance measurement model, Balanced Scorecard includes four dimensions namely, financial dimension, clientele, internal processes and organizational learning. In contrast to the financial dimension, the other dimensions include non-financial indicators. The following figure, based on the literature, illustrates the hypotheses of the links that exist between the different dimensions of the Balanced Scorecard.

[1].

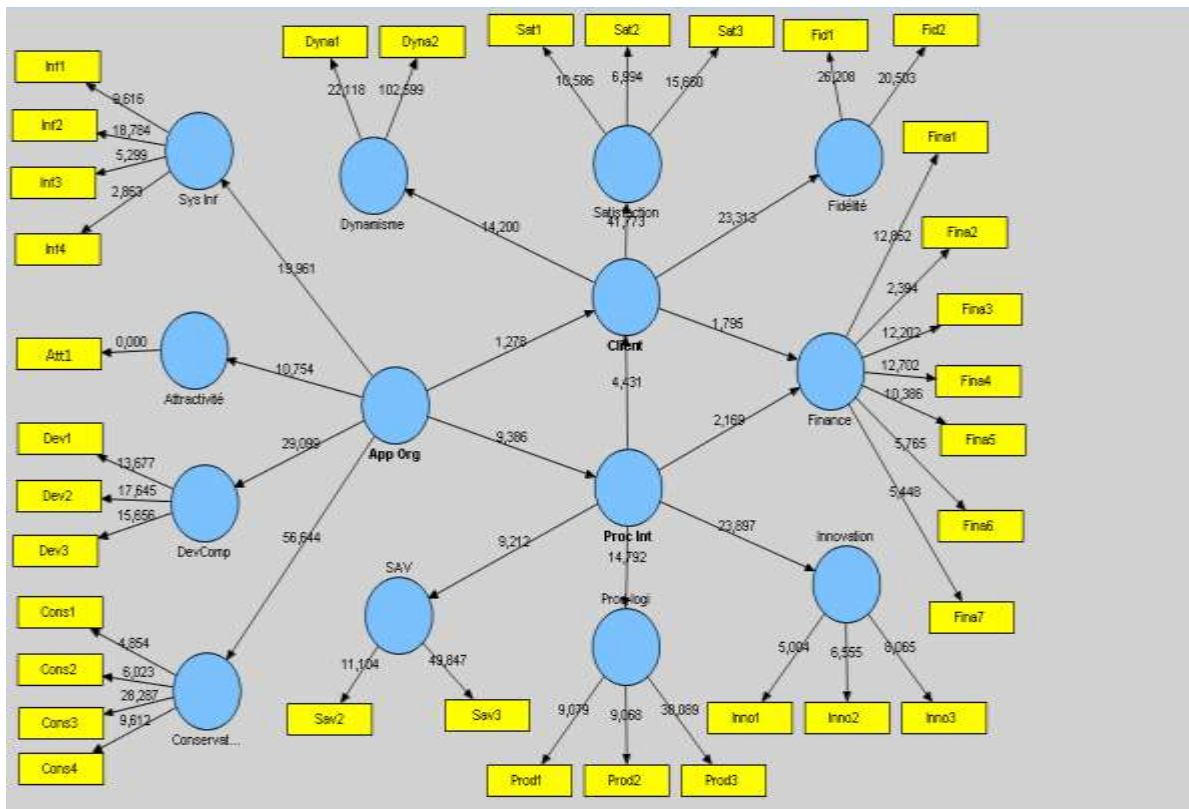
<sup>1</sup> Arrows illustrate supposed causal relationships between dimensions



**Fig-6: Links between the different dimensions of Balanced Scorcard**

To test the hypotheses relating to the links between the different dimensions illustrated in the figure above, an application of the bootstrap method

is necessary, which is presented in the following figure:



**Fig-7: Measurement and structural model after the application of the bootstrap method**

The Bootstrap gives the Student's t value associated with each relationship between the different dimensions. This value is used to know if the coefficient of each relation is significantly different from zero (the relation is assumed to be significant since Student's t is greater than (1.96).) The figure above shows that there are some links between the different dimensions of the Balanced Scorecard model, we can confirm that:

- There are links between financial and non-financial indicators;
- There are links between the different non-financial indicators of the model.

However, the relationships between the different dimensions are not all significant. Indeed, the figure above shows that there is a significant

relationship between the organizational learning dimension and the internal process dimension. There is also a significant relationship between the internal processes dimension and the customer and financial dimensions. But there is a lack of a significant relationship between the organizational learning dimension and the customer dimension. And almost significant between customer and financial dimensions. The study showed that Algerian companies, in the sample, focus on internal processes on customers, on the other hand, their know-how on the evolution of the market. Business leaders have a vision based on costs.

**CONCLUSION**

The study which concerned an explanatory analysis, dealt with the types of links existing

between the different dimensions of the Balanced Scorecard model. With the use of the structural equations method, the PLS approach and the application of the Bootstrap method on the studied sample, it has proved to be interesting information. Indeed, this analysis has made known the perception of business leaders on the role of the performance measurement system. Rare are the business leaders who consider it as a steering tool. This vision is supported by their privilege of financial indicators.

Another contribution of the practical research unveiled the vision and strategy of the leaders of the Algerian companies, based mainly on the costs, privileging the internal processes on the evolution of the market.

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