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IMPROVING THE COMPANY PERFORMANCE BY IMPROVING  
ITS PERFORMANCE MANAGEMENT SYSTEM.  
SIX YEARS OF BALANCED SCORECARD USE.

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# IMPROVING COMPANY PERFORMANCE BY IMPROVING ITS PERFORMANCE MANAGEMENT SYSTEM. SIX YEARS OF BALANCED SCORECARD USE

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The Italian subsidiary of Sew Eurodrive adopted and implemented a performance management system based on the Balanced Scorecard in 2005. (Kaplan and Norton, 1992). Since then, the basic scorecard, developed at the beginning (Bocci and Mojoli, 2006), has evolved into a more powerful and effective tool providing a valid support to the business. This evolution was not without flaws and problems. The aim of the paper is to present a few issues raised in using the tool, the solutions adopted to solve them and the results of this evolution.

## BACKGROUND

Sew Eurodrive, a multinational company, is a global leading producer in drive engineering technology. Sew Eurodrive Italy (the company), is the Italian subsidiary. It has 5 regional branches with a total of 160 employees. Its Headquarters is located in Solaro near Milan. In 2011 it generated a revenue of about 91 million Euro. In 2005 Sew Eurodrive Italy adopted the Balanced Scorecard with the aim to build a reliable performance measurement system and the purpose of driving focus and alignment on the new strategy and the local change agenda throughout the organization from top to bottom. The implementation and the execution of the new strategy were considered the main priority as the sales organization

was used to think in term of products or short term activities rather than company strategy. The change agenda was fully achieved but, after a few years, the system needed to be updated to regain its effectiveness. Here some of the issues found and solutions implemented.

## ISSUES

The main issues found in the development and use of the corporate performance management system, based on the Balanced Scorecard, were:

- The poor link between Balanced Scorecard and the external context
- The need to make the Balanced Scorecard more robust and responsive
- The need to improve the incentive system and enhance the link between corporate and individual performance

### **The poor link between Balanced Scorecard and the external context**

This issue is due to an intrinsic characteristic of the tool. In fact the Balanced Scorecard is a tool to monitor and manage strategy execution from an internal point of view. It doesn't take into account external variables that are independent from the organization but may influence its performance. In such dynamic environment the need of a system that continuously monitors the external context in order to review priorities and goals is mandatory (Bititci et al., 2000). Balanced Scorecard creators, agree that *“even with a good map and scorecard, success from the strategy remains uncertain”* (Kaplan and Norton, 2008). There is the need to monitor and verify if the decisions taken were the right ones, but also if the analysis and assumptions underlying the strategy were the right ones and are still valid over time. If substantial changes occur in the competitive arena, in the macroeconomic environment, in the regulatory legislation, in the technological area, analysis and assumptions made months ago might become obsolete and require to be revised. Having timeless information about changes makes the difference and allows the company to better exploit its strengths.

### **The need to make the Balanced Scorecard more robust and responsive**

The capacity of data analysis and interpretation is affected by a poor design of the measurement system. Objectives and indicators require careful and accurate design. Making attention in defining the metric/formula of a measure *“is crucial because the way you structure the measure affects both the behaviours of individuals”* (Neely et al., 2002) and the decisions based on the gathered data. As a few indicators proved to be not as appropriated as expected and some of the rules by which results were evaluated proved to be not as robust as supposed, the original balanced scorecard needed to be refreshed (Neely et al., 2000). A revision process was launched to find issues and update the performance management system (Bourne et al., 2000). The most important issues that needed to be addressed included:

### Inappropriate objectives

The first step was to make an analysis of the Balanced Scorecard objectives. An objective like “*improve the quality of service by reducing the delivery time*” proved to be inconsistent. At the beginning the focus for improving customer service was on the reduction of delivery time. Thinking it was a primary factor that should have led to an increase in customer satisfaction, customer loyalty and revenue. Most customers are system integrators that purchase Sew Eurodrive products and install them on systems, equipments and machines they sell to their customers. The rationale behind was that system integrators are liable for contracts penalties if they are late and go over their time frame. So even if the average delivery time of Sew Eurodrive was one of the best of the industry, Sew Eurodrive attempted to further reduce it. The result was an increase in delivery costs with a little reduction of the time between the order and the shipment that did not bring any increase in customer satisfaction and revenue. Effort towards that objective proved to be not effective, because customers did not feel it as a priority. The company needed to rethink and redesign both the objective “*improve the quality of service by reducing the delivery time*” and the related indicator “*average delivery time*” to better fit customers requirements. Sometime improving what is already good, without thinking about the real needs of customers, does not always mean achieving a better performance.

### Inappropriate indicators

Some indicators encouraged undesirable and dysfunctional behaviours (Neely et al., 2002). One of them was “*the win-rate*”. One of the challenges was to change sales force attitude to visit customers “on demand” in a new market-driven approach identifying the highest potential customers and developing strategies and actions in order to enter in new market segments.

In fact sales force had a passive sales approach, more technical than commercial. In the past, as quality and price of their product line were higher than quality and price offered by their main competitors, sales people preferred new customers to contact them first and then to exploit all their own competences to close the order. They were reluctant to contact prospects by themselves through a structured process to select and acquire new customers, instead of waiting until potential customers approach them. Progressively competitors improved the quality of their products and that sales model was no longer sustainable. It became imperative for the company to be more proactive in approaching new potential customers. This request was included in their BSC. In fact one of the BSC objectives was “*find new customers*”. The indicator selected to measure progress towards this objective was “*the win-rate*” calculated as the ratio between the total number of new customers and the total number of “first visits” to prospects. The target to achieve was expressed as a percentage. Unfortunately this indicator failed to drive the desirable behaviour and reinforced exactly the behaviour they wanted to change. Sales people could act and affect both the numerator (by increasing the number of new customers) and denominator (by decreasing the number of “first visits”) to get their target. As the chance of succeeding if potential customers approached them was higher than

the chance of succeeding if they visited for the first time potential customers that could be interested (or not) in their products. This problem challenged the value of performance indicators as motivation drivers and had to be solved quickly in order to get confidence back into the system.

### Objectives measured by two or more indicators

We analyzed objectives measured by two or more indicators in order to check if rules and criteria applied to evaluate to what extent these objectives have been achieved were consistent. At the beginning, the evaluation of progresses made in achieving targets was arranged indicator by indicator without considering any aggregation rule. Indicators were considered “portions” of objective, without declaring how every single portion affects the whole multidimensional nature of the objective to be measured. In the evaluation process, the company assessed whether the dimension of performance measured by a single indicator was achieved or not. Soon it became clear that this approach was unsustainable, because it did not give any information to decision makers about the achievement of an objective as a whole. They tried to fix it by finding and applying an aggregation rule. In fact all the objectives measured by two or more indicators are a sort of composite indicators. Using the OECD definition, “*a composite indicator is formed when individual indicators are compiled into a single index, on the basis of an underlying model of the multi-dimensional concept that is being measured*” (OECD, 2004) . Different aggregation rules were possible (Nardo et al., 2005). In order to simplify and unify the evaluation criteria all the objectives measured by two or more indicators, were considered as a weighted linear aggregation of individual indicators. This was a step forward compared with the first approach, but still not enough for a correct interpretation. Composite indicators might provide misleading or non-robust feedback if they are poorly constructed or misinterpreted (Saisana and Tarantola, 2002). Using a weighted linear aggregation method is fine for some objectives but misleading for others. Evidences emerged from the review showed the need to introduce further aggregation criteria to evaluate the extent to which an objective has been achieved.

### Data interpretation

“*Interpretation of data is one of the key stages in the process of using data to inform decision makers*” (Kennerley and Mason, 2008). Interpretation of performance data and results, by evaluating the achievement of single objectives, could be misleading if there is a strong interrelationship between objectives. Due to the cause-effect relationship between objectives over the four BSC perspectives, it is not unusual to run into a data interpretation problem. In the Balanced Scorecard a target is established for each indicator with the purpose of giving a quantitative representation of the desired performance in the dimensions measured by the indicators (Niven, 2002). The same methodology was used by the company in setting the desired levels of performance to achieve. It was not difficult for the company to gather data, what proved to be difficult was understanding and interpreting data in an integrated way. Finding rules underlying the relationships between two or more objectives helps decision makers to understand the possible interrelation between them and take more informed

decisions. Interrelations between objectives challenge standard rules applied to evaluate the achievement of a single objective. A few objectives may be intrinsically interrelated, then only an integrated interpretation of data will produce a correct evaluation of the achieved performance.

A simple example makes it clear. The company wanted to increase the number of pre-sales projects generated to make customized offers to a segment of customers. Of course, the company wanted to improve the business generation too. Let us analyze three different scenarios.

Objective	Indicator	Value 2010	Target 2011	Actual value 1	Actual value 2	Actual values 3
Pre-sales projects converted in order	N. of pre-sales projects converted in order	43	50	52	56	48
Increase the number of pre-sales projects	N. of pre-sales projects	80	100	102	96	107

The first scenario, “Actual value 1”, shows that the company achieved both targets. The second scenario “Actual value 2” shows that the company achieved just the first target. The third, “Actual value 3”, shows that the company achieved just the second target. Applying the standard rules the best performance was achieved in the first case. Using an integrated interpretation the best performance was achieved in the second case, even if one of the two target was not achieved.

### **The need to improve the incentive system and enhance the link between corporate and individual performance**

Performance is achieved through people, so individual behaviours and actions must be aligned with the strategic intents of the company (Kaplan and Norton, 2006) Unfortunately the incentive system of the subsidiary neither was connected to Balanced Scorecard nor reinforced people motivation. It needed to be changed to better exploit extrinsic motivation without compromising intrinsic motivation. (Osterloh and Frey 2002)

## **SOLUTIONS**

In order to solve these issues, make the performance management system more robust, and get better results, the company implemented the solutions described below:

### **The poor link between Balanced Scorecard and the external context**

After the crisis of 2009, when the revenue dropped 32% from previous year, focusing on the external context within which the organization is set, rather than just being concerned with internal activities (Otley, 1999), became a priority. Corporate Balanced Scorecard was integrated with a dashboard of external indicators to better monitor and understand the external environment, set up different scenarios and simulate how they would play out if implemented (scenario analysis) . The dashboard provides information about external factors that may influence the effects of strategic and operative decisions. Exploiting this information

the company changed its strategic approach to the market and focused its efforts on the competition using its financial strength to grab a larger share of the existing demand. The performance review meeting held quarterly has become the occasion for reviewing also assumptions and decisions.

### **The need to make the Balanced Scorecard more robust and responsive**

First we solved the issue related with inappropriate objectives. Then we reviewed the set of BSC indicators. Applying the ten tests (Neely et al., 2002) we deeply analyzed measures, their formulas and their links to objectives. Finally we established a few principles to guide data interpretation and make it more effective.

#### **Inappropriate objectives**

A focus group was held with key customers to get their perception and experience about the delivery issue and identify and explore proposals and solutions. Two requirements emerged as the most significant ones and changed completely the delivery perspective of the company:

- Delivering every shipment within the promised delivery time
- Making available, at an extra fee, a special order to ship cycle to serve customers that need products urgently ('special order')

So the company focused on improving the order processing by making sales forecasts more accurate and the production chain more efficient and effective. Besides the company organized an extra production line to serve customers in a hurry, without compromising the main production schedule. The company covered the extra costs of the new production line by charging an extra fee for that service. As far as the performance management system, the objective "*improving the quality of service by reducing the delivery time*" has been changed to the following "*improving the quality of service by excelling in meeting customers delivery requirements*".

In order to measure the progress in achieving this objective, two indicators were identified:

- "*The ratio between the number of shipments within the promised delivery time and the total number of shipments*".
- "*The ratio between the number of 'special orders' processed and shipped and the total number of 'special order' requests*"

#### **Inappropriate indicators**

The "ten tests" suggested in "The Performance Prism" (Neely et al., 2002) is a methodological framework to validate indicators. We used it to validate all the Balanced Scorecard measures. The validation process was an informal assessment process. Neither weights were assigned to each test nor weighted scores were assigned to each indicator. By the way, the validation allowed to revise the set and make it more effective. Particularly as far as "*the win-rate*", it did not pass the "gaming test" (Neely et al., 2002). It was clear that the

measure encouraged undesirable behaviours. In order to compensate its negative effects we added one more indicator: “*number of first visits to potential customers*”.

### Objectives measured by two or more indicators

If there is more than one indicator per objective, criteria to evaluate the achievement of an objective may be different: treating an objective as a sort of performance index, or a composite indicator, is not always the best solution to provide an integrated measure of the extent to which it is achieved. We identified three mechanisms that could be adopted depending on the nature of the objective:

- 1) treating the objective as a sort of performance index or composite indicator (**weighted combination**)
- 2) defining for each indicator a target and a tolerance interval and, therefore, acting on the basis of a traffic lights combination (**logical combination**)
- 3) Assigning to each indicator a weighted portion of the objective (**sum of portions**)

Here is a brief explanation about how they work.

#### 1) Weighted combination

The weighted linear aggregation requires to assign a weight to each measure and normalize measures (having different scales, units and polarities) to a common performance scale, i.e. 0-100. (Nardo et al., 2005) (Brown, 2000)

$$OBJ = \sum_{i=1}^N W_i \times M_i$$

Target is assigned to the overall objective.

#### 2) Logical combination

For each indicator we define a target and a tolerance interval and use a colour to assess performance achieved compared to the expected one. If the achieved performance is equal to or higher than the target we are on track (green), if the achieved performance is in the tolerance interval we need to improve (amber), if the achieved performance is below the tolerance we are in trouble (red). Then we establish a rule to evaluate the whole performance related to an objective measured with multiple indicators. An example is shown in the table:

INDICATORS	OBJECTIVE
If all the measures are “green”	then the objective is “green”
If one of the measures in “red”	then the objective is “red”
If one of the measure is “amber” and none is “red”	then the objective is “amber”

### 3) Sum of portions

Is a sort of weighted aggregation, associated with an “all or nothing” rule. Every indicator is weighted. An indicator contributes to the overall performance only if the performance it measures is equal to or higher than the target. An example is shown in the table.

	INDICATOR	WEIGHT	TARGET	ACTUAL	CONTRIBUTION	% OF THE OVERALL PERFORMANCE ACHIEVED
OBJECTIVE A	A1	35%	100	100	35%	75%
	A2	25%	100	86	0	
	A3	40%	100	104	40%	

### Data interpretation

After the analysis it was clear to avoid any automatism in evaluating and interpreting results. Three principles were adopted to make data interpretation more robust and effective:

#### 1) Simulation

In setting targets it is crucial to check if rules selected to compare the achieved performance against the expected one are robust. Making some simulations and analysis helps to understand the effectiveness of a rule.

#### 2) Open-mindedness

In evaluating and interpreting results it is crucial to avoid any automatism. What is important is the overall performance and the ability to read and interpret results in an integrated way. If the rule identified during the planning process proves to be inappropriate for a correct interpretation, do not use it.

#### 3) Validation

Link incentives to objectives only if the rule to evaluate their achievement is tested on the field and proves to be consistent.

## **The need to improve the incentive system and enhance the link between corporate and individual performance**

The executive team made a deep analysis to find a better way to reward people in the company. The new incentive system was designed to ensure a reasonable balance between extrinsic and intrinsic motivation and promote collaboration instead of internal competition.

A formal performance appraisal process was introduced to provide a “cascading” performance review for executives and middle level managers and a new appraisal form was

developed to better describe the expected performance and make the assessment process simpler and fairer.

## RESULTS AND CONCLUSIONS

Updating a performance management system is not an easy task. A deep and accurate analysis of issues allowed to find their causes and helped in providing appropriate solutions.

The refresh made the performance management system more robust and effective.

It is not possible to demonstrate a correlation between the update of the performance management system and the results achieved having refreshed it. However, after solving these main issues, the performance of the company jumped up, despite the flat growth of Italy, new people were hired and the revenue increased 25% in 2010 and 32% in 2011.

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Maurizio Mojoli born in Milan achieved an University degree at Politecnico University of Milano in Nuclear Engineering and is a chartered engineer in Italy. After several job experiences since more than 10 years is Managing Director of Sew Eurodrive Italy. Sew Eurodrive is a worldwide leader for motion transmission. Recently Maurizio has been appointed as South Europe Manager . His managerial skills are focused on formulating strategies, managing for results and empowering complex organizations.