A New Performance Evaluation Tool: The Experience of an Italian Agricultural Company

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This paper illustrates the application to a specific company of a new model for measuring and assessing performance for purposes of strategic planning and control. To this end, the paper develops a case study, with the aim to test its effectiveness. Topic of the investigation is an agricultural company owned by a not-for-profit public entity, in which farming is ancillary to the institutional activity of research and educational support. The proposed model uses a matrix called “value map”, developed and implemented within the organization through subsequent and different phases, which together describe the “Performance Evaluation Cycle (CVP)”.

Field of research: Strategic Management Accounting

JEL Codes: M1 and M4

1. Introduction

This paper illustrates the application to a specific company of a new model for measuring and assessing performance for purposes of strategic planning and control. To this end, the paper develops a case study, with the aim to test its effectiveness.

Topic of the investigation is an agricultural company owned by a not-for-profit public entity, in which farming is ancillary to the institutional activity of research and educational support. As a result of the changed economic climate, since 2008 its sole shareholder has gradually reduced its funding with future prospects that could tend zeroing of the financial contribution. As a consequence, in order to survive and continue to ensure the level of services currently offered to the public entity, the company has to face the necessity to review its strategic positioning in the market for the next years.

After the description of the case-study analyzed, we will present a brief literature review on performance measurement and evaluation systems. Then we will show the characteristics and the operation of the proposed model, and we will focus on its implementation to the case study and the consequent findings.

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The idea of the paper and the bibliographical researches are due to the common work of the authors. Sections 1, 2 and 3.1 are to be attributed to L. Biondi, section 1.1 is to be attributed to C. Gulluscio, sections 3.2, 3.2.1, 4 and 4.1 are to be attributed to A. Rossi while section 5 is to be attributed to L. D'Alessio.
1.1 Company Description

The case-study analyzed in this paper is a single-member limited liability company (Ltd), exclusive property of a non-economic public administration. Due to confidentiality reasons, we will simply refer to the “Company”.

The Company’s activities are mixed: it supports the authority it belongs to, efficiently preserving the culture installations, the didactic-scientific structures and all its possessions. Furthermore, the statute charges the Company with quality assurance for food and agro-forestry, exploitation of agricultural production (including livestock and its direct slaughter) and the connected industrial use; the development of hotel business, farm, conference and catering.

The Company, in addition to prevailing teaching and research activities, held, at the same time, a number of agricultural, industrial, commercial and tourist accommodation. Despite the vastness of its social goal, until a few years ago the ancillary activities were quite marginal and essentially focused on wine production. In recent years, the need to reduce public spending has led to a drastic reduction in funding dished out by the entity owner. This affected the Company that received less and less fund transfer while offering the same services to the consumers. Until 2007, the Company received a regular annual fund transfer, regardless of the volume and quality of the services provided. Since 2008, the transfers showed a decreasing trend, culminating, perhaps, with their complete elimination in the next years. The drastic reduction of the received funding and the permanent situation of economic-financial imbalance forced the Company to improve the production management, relying more on self-financing. In this context, the top management set a target to achieve at least a balanced economic and financial situation. If this goal is not achieved within the next few years, the agency owner may decide to cease the activity.

The value currently produced by the Company is to be found in the services provided to the owner authority. The drastic reduction in the transfers requires the Company to decide whether to attempt to survive or to put up with its termination.

The top management “believes” in the importance of this institution and feels strongly empowered in the attempt to ensure its lasting survival.

In order to survive and assure the quality of services that is currently provided, the Company needs to revise its strategic positioning for the next years. The new challenge is to:

- survive without the founding of the owner authority;
- continue to provide support services to teaching and research activities, continuously improving the quality;
- generate profits to be reinvested, ensuring the self-financing.

This is a difficult challenge: to consolidate its accounts in a short time while ensuring the provision of quality services. The change in the reference scenario has led to the need to revise production decisions. In this context, the Company has provided various measures to compensate the decrease of public funding, through costs reduction and income increase.
In reference to the latter, the top management decided to develop the ancillary activities, increasing the quality and quantity of the agricultural production.

The top management has recognized the need of a strong strategic reorientation of the organization. The described situation seemed to be a valid testing ground for a new model of performance measurement, evaluation and management. The model presented here is intended to support the management in this process of change.

2. Literature Review

In a context of financial crisis, such as the one currently experienced, the adoption of strategic planning and management control systems becomes more and more significant in every company for at least two reasons: firstly, these tools, in a dynamic and changeable environment, help the organizations to carefully consider their strategies and facilitate any possible review (Terzani, 1999); secondly, such systems improve the company’s ability to select and align strategies along with processes and, eventually, to optimize the allocation of resources (Anthony et al., 2006).

Therefore, both nationally and internationally, interest has grown towards performance measurement and evaluation systems which can describe the achievement of the strategy and, at the same time, to work as a kind of “tableau de bord” for companies (Neely, 2007). These models, initially born as reporting tools, have subsequently evolved into performance management tools, extending their use for purposes of company management (Ferraris Franceschi, 2010).

The choice of which measurement and evaluation system to adopt should be carried out by always taking into account the specific needs and characteristics of each organization. It will be the top management to decide whether to adopt one of the most common systems (e.g. Balanced Scorecard) or others and different ones, already implemented in national and international contexts (e.g. Common Assessment Framework), or even create new models able to balance strengths and weaknesses of existing frameworks in order to suit its requirements.

This paper illustrates the application of a new model for measuring and assessing performance for purposes of strategic planning and control to a specific public corporation through the development of a case study, with the aim to test its effectiveness.

3. The Methodology and Model

3.1 The Methodology

The proposed model uses a matrix called “value map”, developed and implemented within the organization through subsequent and different phases, which together describe the “Performance Evaluation Cycle (CVP)”. The main theoretical references of this work are the Balanced Scorecard (Kaplan and Norton, 1992) and the Performance Prism (Neely et al., 2002). Considering some characteristics of these studies, the model develops its own identity proposing a new approach focused on the concept of performance, intended by the authors as the value created by the company for its internal and external stakeholders. It takes a multidimensional aspect since several variables combine together to bring about its realization (human, information and organizational capital, economic and financial re-
sources, processes, research and development) and it is strongly related to the achievement of the strategies.

The research design is articulated on two levels:
- firstly, an external analysis based on official documents made available by the company (financial statements, annual reports, etc.);
- secondly, an internal analysis carried out in loco through semi-structured interviews with the governance bodies. Therefore, the research project is structured in different stages:

  - stage 1: the present context of the company has been analyzed through several investigations. The reference background of the company has been studied through the exam of the national and foreign market sector. Then, on the basis of official documents made available by the company, an analysis of the accounts has been conducted by examining the main economic-financial ratios for the three-years period 2008-2010 (profitability, financial reliability, sustainability). Finally, considering the AIDA data base, a benchmark with a sample of companies similar to the investigated one has been realized. Subsequently, it was considered to abandon the latter study because, although similar to the productive sector (ATECO code), turnover, staff and geographical location, the selected sample has been judged not comparable with the analyzed company due to its particular characteristics. For the sake of brevity, just few research phases will be presented;

  - stage 2: additional data have been collected through semi-structured interviews to the top-management at the corporate office. Subsequently, the drawing up of the value map was initiated; on the basis of the gathered information, the value map outlines the new corporate strategy and supports the monitoring of its implementation thanks to a consistent customization of the model. This phase will end up with the confirmation of the value map by the company.

These steps have been preceded by a phase (called “stage 0”) in which the research project has been presented to the company through an executive summary of the “CVP model” and the working hypothesis has been agreed. The development of the considerations described below was made possible through a continuous dialogue with the company. In this sense, it is believed that the scientific approach adopted could be esteemed as an action-research methodology (Lewin, 1946).

The next phases, yet to be realized, will address: the selection of appropriate indicators to monitor, on the basis of the strategic targets identified by the map, the business performance; the measurement, collection and analysis of the data emerged from the indicators and the possible upgrade of the entire process.

3.2. The Model

Basically, the starting point of a model of performance measurement should not just be the adopted strategy, but the strategic objectives selected according to the organization’s key stakeholders and their expectations. In addition, a stakeholders-based system of performance management has the advantage that the stakeholder concept is intrinsically linked to the external environment. Therefore, the objectives and measures (or rather most of them, in fact, internal stakeholders - HR - are also considered in the model CVP) will be
more aligned with the environment and there will be a regular feedback strategy whereas, for instance, in the Balanced Scorecard, measures are endogenous and the link with the social environment is overlooked. Moreover, this approach facilitates the comparison with the ethical and social issues of Corporate Social Responsibility.

Using the terminology of the multidimensional approaches in the CVP model, the stakeholder’s strategic objectives that the organization aims to achieve are called “value area” (or result scorecard).

However, a good management system should not only clarify what results are expected by the organization, but also how the results are a function of the determinants (drivers). In this way, organizational strategies selected, interventions on the processes and/or organizational management decisions about intangibles and economic financial resources and assets are the drivers of these expected results and in the model called “value driver area”. In other words, after having defined the expected results for each category of stakeholders, it is necessary to decide how to achieve them, that is, select the objectives to be achieved in the areas of value driver.

In order to represent the links between the objectives of the value area and the objectives of the areas of value generation, the model uses a matrix called “value map”.

In the matrix are identified two value areas (Stakeholders and Human Resources) and four value driver areas (Strategies, Processes, Intangibles, Economics) whose meaning will be detailed later.

**Figure 1 – The Value Map**

<table>
<thead>
<tr>
<th>VALUE AREA</th>
<th>STAKEHOLDER₁</th>
<th>STAKEHOLDER₂</th>
<th>STAKEHOLDER₃</th>
<th>ST - HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAKEHOLDERS</td>
<td>Value objective/s</td>
<td>Value objective/s</td>
<td>Value objective/s</td>
<td>Value objective/s</td>
</tr>
<tr>
<td>STRATEGIES</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
</tr>
<tr>
<td>PROCESSES</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
</tr>
<tr>
<td>INTANGIBLES</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
</tr>
<tr>
<td>ECONOMICS</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
<td>Value driver objective/s</td>
</tr>
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</table>

In order to facilitate the selection of strategic objectives and decisions about how the organization intends to pursue them, specific questions were associated with each area. The answers are the basis for the proper identification of the objectives of each area.
In fact, selecting different objectives in these areas cause a different identification of the subsequent areas and, in the end, a different direction of performance over the medium-long term.

Below there are the main questions for each area:

Stakeholders (ST) - Who are the organization's key stakeholders? What are the wants and needs of the stakeholders and of the organization? Which are the strategic objectives selected by the organization?

Human Resources (HR-ST) - What are the wants and needs of human resources in the organization?

Strategies (STRA) - What strategies are in place to achieve these desires and needs?

Processes (PR) - What processes and/or changes in the processes are necessary to implement in order to achieve the strategies?

Intangibles (IN) - What human resources, information technology and organizational climate, the organization needs to implement the processes that will achieve the desired results?

Economics - How the organization intends to schedule resources, financial and capital available to implement strategies selected?

3.2.1. The Areas and the Relations of the Value Map

Below are described, in a very few words, the areas considered essential for the management of the organizational performance of any company.

Stakeholders Area:
The identification of strategic objectives in this area requires a careful analysis of the organization, the expectations of stakeholders, and the possible opportunities/threats associated with them. The identification of stakeholders is therefore not possible in general terms, but it is a process specific to each company. As a consequence, the strategic objectives that every organization seeks to achieve will be specific for each company.

According to the Performance Prism, the selection of variables in the strategic areas of results should be made by also taking into account the reciprocal relationship with stakeholders. Indeed, since for the customer is important the speed of delivery, then for the organization could be strategic the loyalty and the reliability in payments.

Human Resources Area:
The value created in reference to human resources is considered in a specific area of value or result. In fact, the staff is the key driver for implementing each strategic decision. If the expectations of staff (for example: competitive economic incentives, and training and career development prospects) are satisfied, the company is more likely to generate value over time and for all stakeholders.

Strategies Area:
After reflecting on the needs of key stakeholders, and selected strategic objectives in the perspectives of value, top management must decide how the organization intends to
achieve them. In this perspective, the strategy is configured as a first area of generation of the value, a reflection about the policies to achieve the objectives and indicate the manner in which the company intends to pursue them.

Processes Area:
The selected strategies are implemented through the articulation and specification of processes that must be aligned to the objectives to be achieved. Processes are cross to business functions and can be classified into broader categories; each category has the possibility of several ranges of underlying sub-processes. In this value area, the executive team needs to think about processes, interventions, and/or organizational changes that must be implemented to achieve strategies and translate them into goals.

Intangibles Area:
This area of value driver contains three essential components of intangible assets essential to implement each strategy: human capital, information capital and organizational capital. The main intangible elements to consider in each of these components are:

- Human capital: skills, talent and knowledge held by employees;
- Information Capital: databases, information systems, networks and IT infrastructure;
- Organization Capital: corporate culture, leadership, the alignment with the strategic objectives, the ability of employees to share knowledge.

With reference to human capital, in this driver area, managers must decide which behaviours, attitudes/culture (workforce mind-set and culture) and skills (workforce competencies) are important to achieve strategic objectives.

In this model, human capital is therefore considered in a dual role: as a key driver of value (area of value driver) and its level of satisfaction as an essential element to evaluate the success of each strategy (value area).

Economics Area:
Economics area is considered in its connotation as driver for the generation of value. In this perspective should not be considered financial results expected from the implementation of strategies that, if they are considered strategic for specific categories of stakeholders (i.e. for shareholders, an adequate return on equity), will be reflected in the area of value, but the organization’s decisions on the planning of resources available to implement the selected strategies.

With reference to the graphic representation of the map, the matrix structure has the advantage of facilitating the display of objectives and the logical link between the objectives and facilitating control over the overall consistency of the model as well as on unidirectional connections. In fact, the matrix allows different modes of analysis:

- Vertical: we analyze the consistency of the downward flow of the objectives of the expected value (from the priorities embedded in the mission and expectations of stakeholders to the methods used). The coherences represent the views of top management in a logical top-down framework.
- Horizontal: here, we check that the objectives of value for different stakeholders and the objectives of value driver areas do not conflict or contradict each other. Consistency means combining the views of top and middle management on various aspects of
management. In some cases, there may be relationships between the objectives of creating value of different areas (cross-sectional view). A value driver objective thus could influence the realization of another goal which is not vertically related. If this occurs, it should highlight the positive or negative effects and ensure the overall consistency in the model. In the event that the relationship is positive, this would represent a positive externality, and therefore a desirable phenomenon, if it is negative, the situation should be properly assessed and avoided.

In general, the architecture of the map, which reflects the strategy of an organization, facilitates verification of the overall consistency of the relations. At the end of the path of the value map representation, top management should have fully described the needs and expectations of stakeholders, linked and aligned to these strategies, processes, and intangible resources needed to achieve the objectives and then expected value for stakeholders.

4. The Findings

This paragraph describes the distinct phases, in temporal order, necessary for the filling and use of the Map. As mentioned before, these phases describe the “Performance Evaluation Cycle” or “PEC”.

4.1 The Phases of CVP Model

The CVP model was developed through different stages. These steps, illustrated in the following paragraphs, were preceded by a preparatory activity (which we indicate as “phase 0”) in which the research project was presented to the company through a summary document (executive summary) of the CVP and the project was scheduled with a Gantt.

Phase 1: Context Analysis

The context analysis is a cognitive process that every company should take to define its strategies and aims to:

- check constraints and opportunities offered by the environment;
- create a preliminary estimate of the potential interactions and synergies with stakeholders;
- test the strengths and weaknesses that characterize the organization.

The context analysis can be broken down into: analysis of the external environment (general and specific) and internal.

Phase 1.1: Analysis of the external environment

The analysis of the general external environment variables concerns economic, social, technological and environmental details and, where relevant, taking into account the organizational peculiarities of each company.

During the starting phase of this work, it was necessary to study the Company and its environment. A national and international market research on the sector of reference was carried out.

The analysed Company produces some wines with a quality certification and allocates its production predominantly to the domestic market.
The analysis of the specific context of the administration, however, must be achieved through the examination of the major stakeholders of the organization, as well as their expectations and possible opportunities/threats associated with them. The key stakeholders are able to influence the achievement of business objectives with their multiple decisions (cost, investment, cooperation, regulation and control). There are also those who are interested in the activities of administration but, sometimes, without being able to influence the achievement of business objectives. One must also consider the presence of any potential stakeholders.

In this study, the key categories were grouped into two classes based on the activity of the firm: the university and business activities.

In the first group: students, lecturers, researchers. In the second: customers, suppliers, lenders. Among the affected stakeholders to the business we place the local community. Human resources are, as always in the model, considered in a separate category and analyzed separately in the analysis of internal context.

**Phase 1.2: Analysis of the internal context**

The analysis of the internal context means identifying the strengths and weaknesses of the organization. The analysis should include the internal context of the organization (for example the organization, identification of responsibilities, territorial structure, and the established staff), instrumental resources, human resources (i.e. knowledge, skills, attitudes, behaviours, turn-over and the dominant values of those working in the organization and particularly their needs and expectations), and the company's financial health. The concept of "financial health" refers to profitability analysis, that is, analysis of solid capital structure and financial analysis of sustainability of the business cycle. It is also useful an analysis for indexes that easily shows the situations of improvement or deterioration compared with previous years and comparable organizations (benchmarking).

For the analysis of this case, statutory and reclassified sheets were used for the ratio analysis and margins. As regards the time horizon, the analysis included the 2008-2010 period, although it would be desirable to have a greater historical depth (at least five years). Even if analysis of economic data, of balance sheet and ratio analysis were carried out for a correct understanding of the business, for the sake of briefness, the Authors don’t report it here.

**Phase 2: Drawing the Value Map**

On the basis of the data gathered in Phase 1, starts the compilation of the “value map”. The objective of this phase is to outline the new strategy. The development of the considerations described below has been possible using semi-structured interviews with the top management at the corporate headquarters and in general through a continuous dialogue with the company.

In this part of the paper, for reasons related to the difficulty in disclosure of data and information relevant to the organization, it is not possible to describe with greater details the case study. It was decided, therefore, to show schematically the logical steps and refer to the observational results where possible.

With the support of the logical path from the value map, the following steps have been completed:

**Phase 2.1: Selection of strategic objectives**
For each category of stakeholders have identified the needs and expectations of the organization and the expectations of the organization towards its stakeholders. The top management has translated them into strategic objectives (or strategic variables) considered critical success factors for the organization. The objectives are scheduled every three years.

**Phase 2.2: Identification of strategies**
For each strategic objective, senior managers, through a decision process that can be variously configured, decide about the modalities to implement the goals. Although the concept of strategy can be extended also to the reflection of all that guides the choice of targets, in this context it is limited to the mode of realization.

**Phase 2.3: Selection of interventions on the processes and intangible elements**
With the support of responsible administrative and operational we proceeded to classify the processes of the organization into macro-categories. In this way, on the basis of the processes plan carried out, interventions to implement the strategies were identified.

**Phase 2.4: Resources planning**
In this value driver area, the top management, in collaboration with the heads of the departments involved on processes and intangibles, define the rules to manage the available resources in order to achieve the shared strategic interventions. In this way, qualitative aspects of the strategy were explored according to the main areas and quantitative plans (investment plan, P&L, balance sheet and financial budget) should be aligned with the Economics area of the map.

**Phase 2.5: Verification of the relationships between the organization's strategic objectives**
The sum of each stakeholder map is the map of the total value of the organization and in this phase it is necessary to check and ensure its overall coherence.

With reference to the case, the following steps remain to be done:

**Phase 3: Selecting Indicators**
At this stage the main KPIs are defined on the basis of the strategic objectives of the map. For each value and value driver area it needs to select quantitative indicators considered important for the measurement and evaluation of performance, and therefore knowledge of the value created.

**Phase 4: Planning and Starting**
At this stage, the organization should plan for collecting data, organizing the measurement system, configure the data processing and distribution.

To successfully start the measurement system it is very important to overcome cultural barriers and invest in the training process. In this sense, it could be useful to allocate the responsibilities of the performance management process and using the business performance analysts to focus the issues identified as critical, share opinions, experiences and encourage cross-comparison.

**Phase 5: Implementation**
During this phase, the system of measurement is started and used to assess the progress of the performance. For example in the case examined, periodic monitoring meetings could be organized. The guiding principle of the meeting is just the value map, which reflects the focal points of which the top management had decided to focus attention. The matrix analysis can be carried out through two direc-
tions, vertical, i.e. the performance for stakeholder category and its drivers, horizontal, i.e. the performance of each area.

**Phase 6: Update/Refresh**

The measurement system must be periodically updated, and the organisation must make sure that the measures are relevant to the needs of stakeholders. At this stage, basically it is necessary to check the maturity of the measurement system.

**5. Summary and Conclusions**

The new model here proposed should be tested within public administrations because it is deemed able to support the new governance that is oriented to transparency and control. In this field of research, it is required an integration between strategic and economic-financial planning that brings to the measures and evaluations of the one-year and multi-year balance of authorization, along with the individual and organizational performance management and evaluation that, according also to the Law n. 196/2009, would be able to develop reports and description of the value for the managerial decision-making and for community information.

Although testing is not yet completed and thus it is not yet possible to judge the validity of the proposed system, the critical analysis of the empirical results (derived from the implementation of the first stages) has allowed the authors to review and refine the theoretical framework, highlighting its potentials and rooms for improvement.

At the end of the testing period, the company will be provided by an informative tool with internal and external worthiness (to be used not only with the purpose of evaluation and monitoring of the typical performance management, but also with purposes of accountability and communication of strategies and performance to internal and external stakeholders) that can highlight and manage, through a series of integrated indicators, the different areas of performance identified as a function of the strategic goals.

More generally, it is hoped that this study contributes to the broader debate on the evolution of performance management tools in various organizational areas (public and private) and various levels of decision making, in order to benefit the whole system.

It is also believed that the current research may have important implications for application especially in the Italian context, in view of the recent Brunetta Reform that has required, inside each public entity, the implementation of a suitable measurement and evaluation performance system in order to enhance the professional skills of each employee and their organization (individual and organizational performance) as well as improving qualitative and economic standards of services offered to the community.

**References**

Aa.Vv. 2007, Definire le politiche e monitorare i risultati, Rubbettino, Soveria Mannelli.
Azzone, G and Dente, B 1999, Valutare per governare, Etas, Milano.
Brown, MG 1996, Keeping Score: Using the Right Metrics to Drive World-Class Performance, Quality Recourses, New York.
Brusa, L 2000, Sistemi manageriali di programmazione e controllo, Giuffrè, Milano.
Centre for Business Performance 2008, Cranfield School of Management, Performance Measurement and Management Literature Review.
Ferraris Franceschi, R (ed.) 2010, Sistemi di pianificazione e controllo, Giappichelli, Torino.
Freeman, RE 1984, Strategic Management: A Stakeholder Approach, Pitman, Boston, MA.
Scoenfeld, HM 1991, "Companies Managerial Accounting and Control in Multinational Companies: state of artstand unresolved issues," In: Soresen PE New Perspective in Management Accounting, Aarhus School of Business.