

Chapter 2

The Balanced Scorecard for SMEs: A Circular Approach

Abstract. Scholarly literature offers methodologies for the implementation of a PMS that are based upon a top-down approach and that aim at translating strategy into action, with little consideration to the tendency of small enterprises not to give much importance to the formalisation of their strategic choices. In this chapter, the authors identify a circular methodology to implement a strategically aligned performance measurement system in SMEs. The proposed methodology is based on the Balanced Scorecard Model and features four main phases: (1) the analysis of current “individual dashboards” to actually show the performances that are kept under control; (2) the clarification of the key success factors (CSFs) underlying the measures under control; (3) the definition of the desired strategy map as a result of the comparison between CSFs that are currently under control and the desired strategy; (4) the translation of the desired strategy map into a dashboard of indicators necessary for the implementation of the strategy.

Keywords Circular approach • Performance measurement system implementation • Performance measurement system design • Strategy map

2.1 Implementing the Balanced Scorecard: Traditional Approaches

Implementing a Balanced Scorecard is, no doubt, a complex process that requires careful attention: determining the logical paths to follow in the system scheme and choosing how to involve the organisational actors may appreciably influence the success of the project.

In literature, as well as in practice, the methodology of reference for the implementation of the BSC is, for obvious reasons, the one that Kaplan and Norton developed (Kaplan and Norton 1996a; Niven 2002). Kaplan and Norton’s methodology

features two main characteristics: the *top-down approach* and the involvement of managers in *group sessions*. When we say “top-down approach” we refer to a process that establishes performance measures, starting from the identification and formalisation of the company’s *mission* and *vision*. The methodology, in fact, features an initial *executive workshop* with twofold goals: (1) to discuss and develop consensus over the statements pertaining to the mission and future vision of the enterprise; (2) to establish strategic objectives so to translate the business vision into operations for each of the BSC’s perspective. Next, the formation of four sub-groups (one per perspective), each with the task of translating critical success factors into performance measures, is recommended (see Fig. 2.1); Kaplan and Norton then envisaged two more *executive workshops* with the aim of discussing the results of each sub-group and defining the business BSC and the operational plan to be carried out.

It is interesting to note that such characteristics are also found in the implementation methodologies of performance measurement systems that do not adopt the Balanced Scorecard model like, for example, in the *Performance Prism* by Neely et al. (2002a), in the *Cambridge Performance Measurement (PM) Process* developed by Cambridge University (Bourne et al. 1996) and in the *Integrated Performance Measurement Systems (IPMS) Reference Model* of Strathclyde University by Bititci et al. 1997 (ref. Chap. 4).

The *Performance Prism* features a multiple top-down procedure: performance measures are selected through a top-down process (to be repeated for every stakeholder, that is for investors, customers, employees, suppliers and society in general) aiming at identifying the following: (1) expectations and contributions of the stakeholder under consideration; (2) strategies to satisfy the stakeholder; (3) necessary critical processes to realise the strategies; (4) necessary abilities to

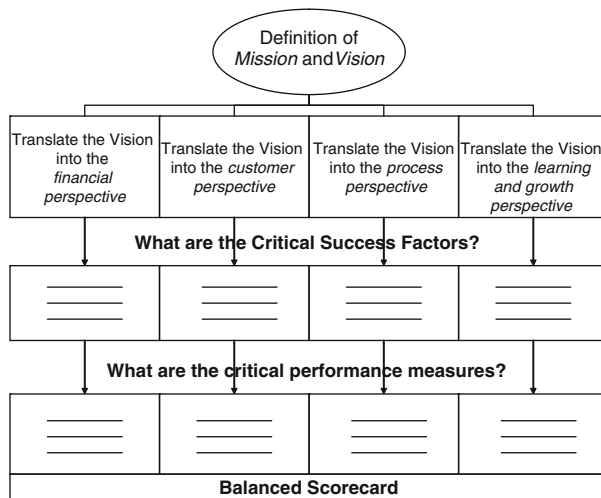


Fig. 2.1 The top-down approach (Kaplan and Norton 1993)

effectively and efficiently execute the processes. The *Cambridge PM Process* features the identification of strategic objectives for each product-customer group in which the company's offer might have segmented and the identification of performance measures for each of them, so that the level of achievement may be detected. The elaboration of the measurement system into the *IPMS* model of Strathclyde University is based upon the division of the organisation into four levels (business, business unit, core processes, support processes) and upon a top-down method where the objectives and the measures, identified at the company level in its entirety, fall down onto the lower levels – business unit, core processes and support processes.

The above-mentioned approaches were developed with large enterprises in mind. In scholarly literature, the issue of transferability to the small and medium enterprise context was only specifically tackled by Hudson's studies (ref. Hudson et al. 2001; Hudson-Smith and Smith 2007). Hudson stated that the main problem with applying the top-down approaches to SMEs is their "extent", that is the fact that the identification of the critical success factors and the key performance measures for the various perspectives happens at the same time, and the implementation of the operational system is launched after having clearly defined a complete and balanced set of measures. In order to avoid this problem, an implementation method defined as "incremental" is proposed. This method focuses upon "depth" instead of extent: the implementation process features the *sequential repetition* of the "*name, act, use, learn*" cycle for every strategic objective:

- *Name*: the main strategic objective to immediately focus upon is identified;
- *Act*: the performance measures connected with that strategic objective are identified, along with the improvement actions needed;
- *Use*: the measurement system is implemented and the improvement actions are activated;
- *Learn*: the target achievement is monitored and, at the same time, the adequacy of the selected measures is assessed.

Even with this approach, the basic logic is a top-down one; although Hudson clearly pointed out that the development processes of PMSs in small enterprises should be able to exalt informal strategies and overcome limited experiences and competencies in the formalisation of strategies (Hudson-Smith and Smith 2007), as a first step, the *name – act – use – learn* Bourne et al. 1996 cycle requires an actual rationalisation of the strategic vision.

It then appears evident that the top-down logic dominates – even where the design of a specific implementation approach for small-sized enterprises was attempted. In our opinion, it is exactly that logic that needs to be discussed, in consideration of the cultural and organisational specifics of SMEs (Bititci et al. 2006; Garengo and Bititci 2007; Garengo and Bernardi 2007). The distinctive element in the majority of small and medium enterprises is the overlapping of roles (entrepreneur, managers, family members) and such an "institutional overlapping" is often associated with an organisational and managerial structure with peculiar characteristics:

- Dominant role of entrepreneurs and simple structural configuration;
- Lack of formalised management systems and little “engineering” of processes, along with an abundance of vague roles;
- An entrepreneurial formula that is often not formally expressed, along with intuitive and informal strategic processes.

Top-down approaches offer a starting point in the establishment of the BSC (i.e. definition of the company’s mission and clarification of its objectives) that collides with such a cultural framework. The organisational and cultural peculiarities of small and medium enterprises call for a new approach in the implementation of the BSC; this approach shall tackle, in an explicit and systematic way, the little interest that SMEs have in rationalising their operational practices and strategic processes, and shall hence reverse the top-down logic.

2.2 A Circular Approach to the BSC

Figure 2.2 illustrates the four main steps of the implementation approach that we named “circular”: the starting point is not the abstract (and often generic) wording of “strategic visions”, but the actual operations of *each individual*, actually expressed by the performance measures that people use, on a regular basis, to manage their labour (Garengo et al. 2007a).

The first phase (step 1 and 2) is dedicated to *unveiling* what is currently kept under control; it is surprising to note how little the global vision of what is actually measured by the organisation’s various actors is diffused. It is important to point out that, in small enterprises, such a lack of vision is bigger than that of larger

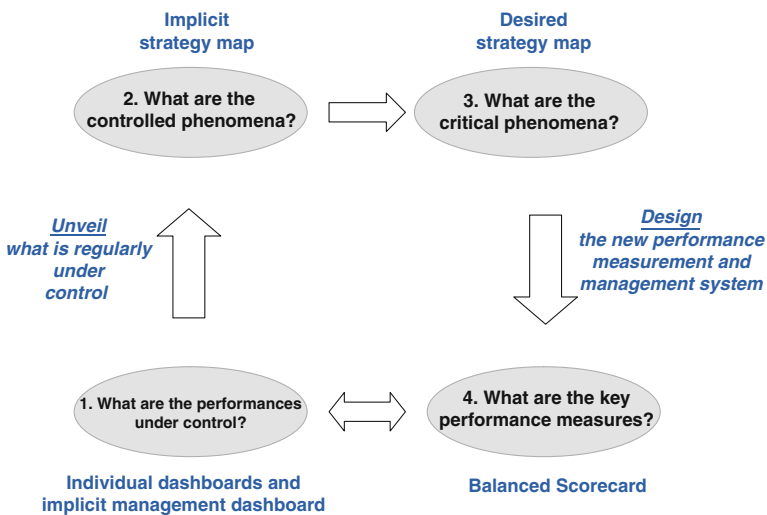


Fig. 2.2 A circular approach to the implementation of the BSC

enterprises, which are generally more formalised and therefore more aware of the status of their measurement system.

Unveiling what the enterprise measures and controls is the first step toward the reconstruction of “individual dashboards” and the *implicit* management dashboard. Individual dashboards are the aggregation of the performance measures that are utilised by single individuals to assess the activities that they are responsible for; the implicit management dashboard is the sum of individual dashboards. The word *implicit* is an important qualification; the “reconstructed” dashboard is implicit because:

- It often is *invisible* to the management; performances are locally monitored and there is no overall vision of the performances being under control;
- It is not the outcome of a rational design process but an accumulation of monitoring needs that have arisen in each business function over the course of time.

The management dashboard is the basis for the subsequent identification of the *implicit* strategy map: the bottom idea is that, from the performances that are *actually* under control, we can try and figure out what the critical success factors, which (implicitly) hold up the currently pursued company strategy, are. The amount of information that the implicit strategy map can offer obviously depends upon the number of individual dashboards being used for its set-up; in view of this, during the first phase both the top and middle managers should be involved.

In order to set up an implicit strategy map, it is necessary to carefully examine each performance measure and to pair each one with the “phenomenon” that it measures – the underlying “critical success factor” (paragraph 1.3). This operation, which requires a great effort because it calls for critical thinking about the reasons behind the figures, enables the company to make sense of the management dashboard and to turn it into an *implicit strategy map*. The various “measured phenomena” may in fact be placed in the four classic perspectives of the BSC (and even connected with assumptions of cause-effect relationships): what emerges is a picture of the “critical success factors” that are currently kept under control and, hence, of the strategy that the enterprise implicitly supports.

Through the implicit strategy map, it is possible to proceed with the design of the BSC (step 3 and 4) using a *differential* approach; the future or “desired” strategy map is built from the implicit strategy map by eliminating and adding:

- Do the present critical success factors reflect the desired strategic orientation? Or are they “strategic” at all?
- Is there any critical success factor that is not present in the implicit map and should then be added?

In an organisational and cultural context, where finding sophisticated formalisations of the strategic vision and of the entrepreneurial formula is rare and where a habit and attitude toward conceptualisations has not developed yet, the differential approach to the establishment of the future strategy map is operatively and psychologically a winning one: it enables a company to overcome the classic “blank page syndrome”

and it makes the intellectual efforts to rationalize the strategic vision easier to face and overcome.

The desired strategy map is then the basis for the identification of the performance measures that will make up the BSC. With step 4 we go back to actual metrics: the approach has been defined as “circular” because the performance measures represent both the starting and arrival points.

The following paragraphs deal with further explorations of the four steps of the method describing some examples of implementations that took place in a few small and medium-sized enterprises with whom the authors cooperated.

2.3 Unveiling what is regularly under control

The first step of the initial phase features the reconstruction of the implicit management dashboard: what are the performances that are normally kept under control? In order to make the gathering of information effective, it is important to draw up a model for the analysis of the existing measurements; for example, a model for the collection of the following information:

- *Person*: who uses the measure;
- *Name*: the name of the measure (pick the one that the company uses, if applicable);
- *Formula*: how the measure is calculated;
- *Location*: the report/file where the measure is located;
- *Timeframe*: the time period that the measure refers to (month, year, 52-week year, stock measure, etc.)
- *Analysis dimension*: any segmentation keys of the measure that are being used (the measure is analysed by product line, by geographical area, etc.)
- *Frequency* of the measure analysis;
- *Benchmark*: any comparison present (for example with the history, with the budget, etc.)
- *Scope*: why is this measure being used? What is the phenomenon that we want to keep under observation?

The analysis model will obviously have to be customised, according to specific business situations. Table 2.1 shows a section of the analysis performed by the company AB Analitica on its measures. AB Analitica was founded in 1990 by a group of people with extensive scientific and commercial experience; it is a small-sized enterprise specialising in the development and sale of diagnostic systems for professional use (breath tests, in-vitro diagnostic medical devices, research products, and molecular biology and fertility tests). It is involved in advanced molecular biology diagnostics in the following sectors: microbiology, virology, onco-hematology, and genetics. AB Analitica’s key competencies are related to diagnostics with molecular biology technologies for both the qualitative and quantitative determination of nucleic acids, the development of biobanking

Table 2.1 An excerpt of the implicit dashboard reconstruction in AB Analitica

Measure's name	Calculations	Comments	Target "What is my goal?"	Position	Whoever analyses the measure
Percentage of accepted proc. tenders	# accepted tenders/# proposed tenders		30% Accepted	Reg. proc. tenders monitoring	Top mgmt
Percentage of accepted offers	# accepted offers/# proposed offers		30% Accepted	Reg. offers monitoring	Top mgmt, MCS
Productions that had to be re-done due to non conformity	# productions re-done due to non-conf./# non-conf. productions	Important info for work load assessment (missing)	<75%	Reg. product non-conf.	Top mgmt, prod. C
Successfully closed projects	# successfully closed projects/# closed projects over the year		>75%	yy_mm_dd_R&D	Top mgmt, quality mgr
Punctually closed projects	# projects closed by planned deadline/# projects closed over the year	Punctuality is over-estimated due to changed dates that AB Analitica is not responsible for. Presently, it is not interesting to evaluate the entity of the overall delay in months	50%	yy_mm_dd_R&D	Top mgmt, quality mgr
WEBSERVICE tests	# WEBSERVICE tests, current year – previous year/# WEBSERVICE tests previous year		>5%	Management	Top mgmt, prod. mgr
# commercialised UBT pieces	# commercialised UBT pieces by period of current year – same period of previous year/# comm. UBT pieces previous year, same period		>15%	UBT reports	Top mgmt, prod. mgr
Stock management	# products subject to stock controls		To be defined	Reg. stock of breath tests	Stock mgr

(continued)

Table 2.1 (continued)

Measure's name	Calculations	Comments	Target "What is my goal?"	Position	Whoever analyses the measure
Evaluation of suppliers' N.C.	# and % over total non-conf. supplies by supplier (divided by serious, moderate, repeated, document-related, delay, conforming) and between the two categories of strategic and leverage suppliers		To be defined	Reg. non-conformities	Top mgmt, quality mgr
Cost of non-conforming productions	Sum of reactant costs and workforce (calculated on production costs as far as kits and hourly cost) over turnover per line		<1%	Reg. non-conf. product, production costs and turnover reports	Top mgmt, prod. C.

management systems, and in vivo/in vitro diagnostics with breath test technology and the use of stable isotopes.

The second step consists of giving meaning to the measures by pairing each one with the “phenomenon” that it measures, that is with its underlying “critical success factor”; the set of phenomena under control will form the implicit strategy map. Table 2.2 illustrates the work that AB Analitica carried out. Along with the identification of critical success factors, the measures were classified according to three categories of importance (ABC) and this was the first step toward the critical observation necessary to reconstruct the management dashboard.

Later on, the critical success factors were classified and placed in the four perspectives of the BSC in order to show the implicit strategy map (Fig. 2.3).

2.4 Designing the Performance Measurement and Management System

The implicit strategy map is the starting point for the design of the BSC by means of a *differential* approach; the future or “desired” strategy map is built starting from the implicit strategy map:

- Do the present critical success factors reflect the desired strategic orientation? Or are they “strategic” at all? Is there any critical success factor that is not present in the implicit map and should then be added?
- Are the critical factors, present in the implicit map and “confirmed” in the desired map, adequately translated by the existing indicators? In other words: do the existing measures actually detect the phenomenon that the organisation wishes to control?

From an operational viewpoint, it is useful, in our opinion, to work by single perspective using a different sequence from the traditional approach that Kaplan and Norton recommended. The latter usually prefer a top-down logic (that is: starting from the financial perspective and arriving at the human resources perspective). We have, in fact, empirically discovered the advantage of adopting the sequence that Fig. 2.4 illustrates, where there also are the “triggering questions” that may be proposed to promote and encourage discussions. In our opinion, the customer perspective is a good starting point because it facilitates strategic observations: the fact of focusing upon a “value proposition” makes the topic of business strategy extremely operational and concrete, and provides the right foundations for the selection of processes and critical performance areas. Furthermore, the identification of critical financial indicators takes place after the critical success factors in the value proposition and the functioning of internal processes have been clarified. Lastly, there is the human resources perspective; it is the last one because its development must begin with clarifications of the critical factors in the other three perspectives.

Table 2.2 From implicit dashboard to implicit strategy map (AB Analitica)

Measure's name	Importance A, B, C	Critical success factor	Calculations	Comments	Target "What is my' goal?"	Measure's scope "What do I want to control?"	Position	Whoever analyses the measure
% of accepted proc. tenders	A	Effectiveness of proc. tender preparation process	# accepted tenders/ # proposed tenders		30% Accepted	Assess the penetration of proc. tender draw up	Reg. proc. tenders monitoring	Top mgmt, MCS
% of accepted offers	A	Effectiveness of offer preparation process	# accepted offers/# proposed offers		30% Accepted	Assess the penetration of offer draw up	Reg. offers monitoring	Top mgmt, MCS
Productions re-done due to non conformity	A	Production efficiency	# productions re-done due to non-conf./# non-conf. productions	Important info for work load assessment (missing)	<75%	Assess the # of re- done productions with respect to work load	Reg. product non- conf.	Top mgmt, prod. C
Successfully finished projects	A	Effectiveness of research activities	# successfully closed projects/# closed projects over the year		>75%	Assess the effectiveness of research activities in progress	yy_mm_dd_R&D	Top mgmt, quality mgr
Punctually finished projects	C	Punctually closed projects	# projects closed by planned deadline/# projects closed over the year	Punctuality is over-estimated due to changed dates that AB Analitica is not responsible for. Presently, it is not interesting to evaluate the entity of overall delay in months	50%	The aim is to keep the precision and punctuality of projects' closing under control; this indicator focuses upon punctuality, not on extent of delay	yy_mm_dd_R&D	Top mgmt, quality mgr

WEBSERVICE tests	B	Extent of service tests	# WEBSERVICE tests, current year – previous year/# WEBSERVICE tests previous year	>5%	Assess the progress of WEB SERVICE	Management	Top mgmt, prod. mgr
# commercialised UBT pieces	A	Extent of UBT commercialisation	# commercialised UBT pieces by period of current year – same period of previous year/# comm. UBT pieces previous year, same period	>15%	Assess UBT sales volume	UBT reports	Top mgmt, Prod. mgr
Stock management	C	Quality of stock management	# products subject to stock controls	To be defined	Start keeping material supplies in the warehouse under control	Reg. stock of breath tests	Stock mgr
Cost of non-conforming productions	A	Costs of non-quality in production	# and % over total non-conf. supplies by supplier (divided by serious, moderate, repeated, document-related, delay, conforming) and between the two categories of strategic and leverage suppliers	To be defined	Non-quality costs in production with respect to turnover, to be analysed per production line	Reg. non-conformities	Top mgmt, quality mgr

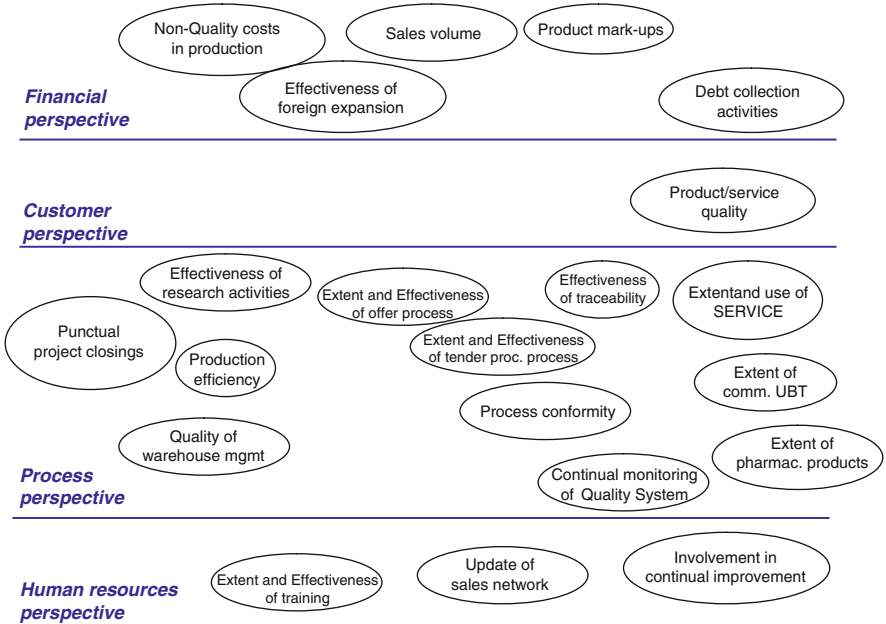


Fig. 2.3 AB Analytica’s implicit strategy map

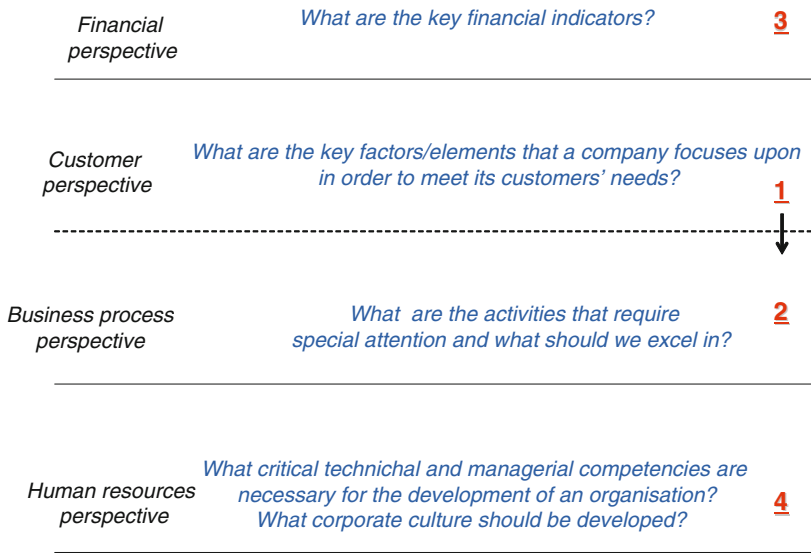


Fig. 2.4 Developing the desired strategy map: the adopted sequence and “triggering questions”

In AB Analytica, the implicit strategy map showed the lack of supervision on a few important phenomena (the perception of customer satisfaction, the quality of newer products, the quality of supplies and the effectiveness of instrument calibration services) and the inadequate coverage of some phenomena in terms of precision

measurements; furthermore, two factors were eliminated because they were not considered as important. Figure 2.5 illustrates the initial re-elaboration of the strategy map: the black dots inside each critical factor represent the number of indicators pertaining to that factor (in the implicit map, the critical factors–indicators correspondence was one to one); then, new phenomena to be monitored and new indicators to be developed were identified.

The re-design of the dashboard led to the development of 12 new indicators over a total of 36.

An important activity in the BSC design phase is the critical review of the existing measures and of those that the organisation wishes to keep. Too much emphasis is often put on the “innovative” dimension of the BSC implementation (meaning the creation and elimination of performance measures) to the detriment of the patient revision labour of the existing measures; this last effort though is not at all less important. It is dangerous trying to understand and “control” a phenomenon with an indicator that, after careful analysis, shows an incomplete connection with the phenomenon (the chosen indicator/indicators does/do not fully capture the underlying phenomenon) or a contaminated one (the adopted measures also capture other phenomena and, as a result, “contaminate” information). As a matter of fact, it is not rare for an organisation to regularly use some measures without understanding the calculation method, the measure’s reliability and its correct interpretation.

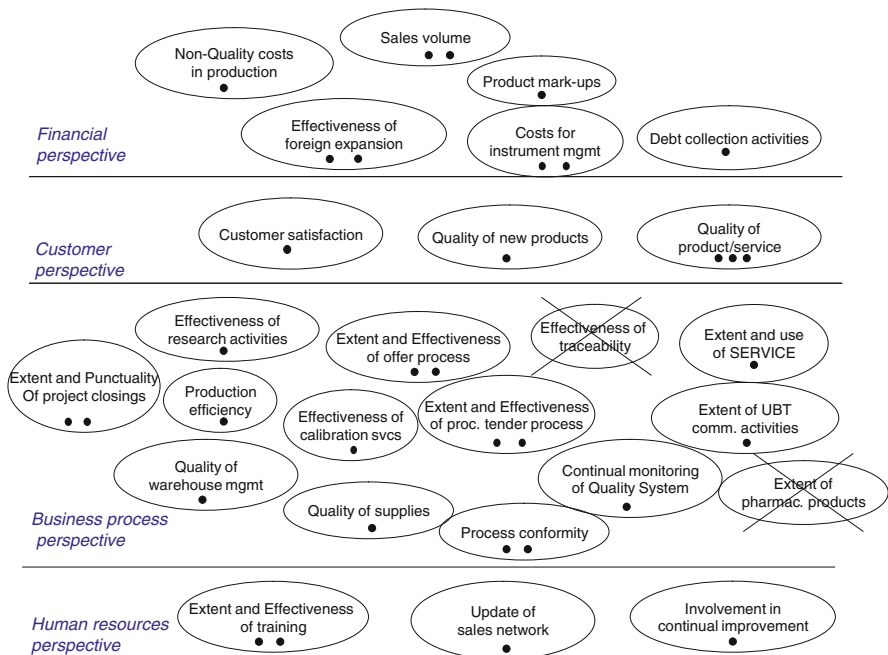


Fig. 2.5 The revised implicit strategy map in AB Analitica

In this perspective, we deem it important to carefully structure the design of measures and to develop a “dictionary” (Fig. 2.6 shows a scorecard featuring one of the measures developed by the company Uniflair, ref. Chap. 7).

Along with the development of the dictionary, an operational system to manage the indicators needs to be designed, showing how often the measures will be observed and the level of responsibilities for the indicators. The BSC needs to become a “live” tool to be operatively used in decision-making processes: it is hence necessary to plan performance review meetings (to take place every so often, as needed: once a monthly or every 3 months). As stated in the previous chapter, such meetings must not focus upon the presentation of performance data, but upon the discussion of the causes that determined the current performance trend, any anomaly and any future action.

An interesting example of critical review of existing indicators and draw-up of a dictionary is provided by the company Sauro, which is a leader in the creation and production of automatic connecting devices, such as terminal blocks and connectors for electronic PCBs with functional defect zero. Sauro offers a wide range of products deriving from its automation engineering, including modular connectors – male and female – terminal blocks pitch 2.54 mm, multiple terminal blocks of 2, 3 or 4 layers and a complete range of products for all wire sections. The products are

Name of Measure: LEAD TIME OF RECEIVING ORDERS	
CALCULATION Difference average "Date of First Confirmation sent" and "Date of Order Processing". Histogram	TARGET XXX
SCOPE (phenomenon to be controlled) Efficiency / Speed of sales staff in defining the details that the final order features In case the "Date of First Confirmation sent" is prior to the "Date of Order Processing", the difference will equal to zero (for example, when there was a subsequent entry)	PERSON RESPONSIBLE XXX
TEMPORAL DIMENSION (timeframe the measure refers to: month, progressive, etc.) Media mobile (12 months), Progressive, Monthly	ANALYSIS DIMENSION Per product Line (CDZ, SIS) and family, and ITALY / ABROAD
NOTES No calculations for the Pavimento line. Calculation done within first 15 days of next month. Elaboration of Management Control. It would be interesting to also verify percentages of re-sent order confirmations (in the 2006-2007 period, it happened 30% of the times)	LOCATION Jump Web (UNIDAT_UOAOCD00)
<input checked="" type="checkbox"/> AVAILABLE <input type="checkbox"/> AVAILABLE WITH ADDITIONS BY _____ <input type="checkbox"/> TO BE PRODUCED BY _____	

Fig. 2.6 The indicators' dictionary

100% functionally tested before being manufactured. The Integrated Quality System in Environment safety has allowed SAURO to be amongst the few companies to have the three certifications ISO 9001, ISO 14001 and BS OHSAS 18001:2007 (Health and Safety) and all the most prestigious marks (VDE, UL, CSA, IMQ, ESS, etc.).

During the reconstruction of its existing measures, Sauro deemed it necessary to “tidy up” its performance measurement system. The reconstruction of individual dashboards did in fact show that the measures were often redundant with contradictory results, even for the same phenomena; every middle manager had a series of “personal” and “personalised” indicators from different and non-homogeneous sources. Along with the performance measures that each middle manager used, the company also had a very high number of other indicators, which were annually presented during the company’s final balance and annual management review. Such indicators, though, featured a mostly descriptive aspect and had little impact on corporate decision-making processes.

To “give meaning” to the set of identified indicators, a number of workshops then took place with the main middle managers (Purchasing, Production, Planning and Sales; a decision was made to focus on the phenomena regarding the Supply Chain management). The goal was to identify the critical success factors underlying the measures being used and, at the same time, to highlight the phenomena that were thought of as critical and important but that were not backed up by the current measures. The use of a structured approach was essential to define the indicators through the model that Fig. 2.7 illustrates.

<u>Perspective:</u> INTERNAL PROCESSES	<u>CSFs: overall effectiveness of automated assembly dept.</u>
Indicator name: KPI_11_T=O.E.E. Automated Assembly	
Formula: O.E.E. = Availability x Performance x Quality Availability = net productive time / theoretical plannable time for the company to produce Performance = (effective production/expected production) over net production time Quality = (sellable products/total products)	
Indicator’s meaning: Measures the efficiency and effectiveness of the equipment/machinery present in the automated assembly. The Net Production Time is the time the machine is available for The Gross Production Time is the time the machine is available for	
Timeframe: 3 months	

Fig. 2.7 Sauro’s indicators

As we are writing these notes, Sauro has identified 22 critical indicators that are at a different level of conceptual development. Drawing up the dictionary of indicators has actually enabled the company to highlight the gaps in their design; in this perspective, the company decided to use colours (from green to red) to formalise the different status of each performance according to the completeness and clarity of the indicator card, according to the level of reliability of the input data and to the level of automation in the processing of information.

References

- Bititci US, Carrie AS, McDevitt L (1997) Integrated performance measurement systems: a development guide. *Int J Oper Prod Manage* 17:522–534
- Bititci U, Mendibil K, Nudurupati S, Garengo P, Turner T (2006) Dynamics of performance measurement and organizational culture. *Int J Oper Prod Manage* 26:1325–1350
- Bourne MCS, Bicheno J, Hamblin D, Wilcox M, Neely AD (1996) Getting the measure of your business: developing and testing performance measurement systems in manufacturing companies. In: Management Accounting Research Group Conference, October 1996, Aston, Birmingham, UK
- Garengo P, Bernardi G (2007) Organizational capability in SMEs: performance measurement as a key system in supporting company development. *Int J Prod Perform Manage* 56:518–532
- Garengo P, Bititci U (2007) Towards a contingency approach to performance measurement: an empirical study in Scottish SMEs. *Int J Oper Prod Manage* 27:802–825
- Garengo P, Biazzo S, Bernardi G (2007) Designing and implementing a performance measurement system in SMEs: a bottom-up approach. In: Proceedings of the EUROMA international conference managing operations in expanding Europe, Ankara, 17–20 June 2007
- Garengo P, Nudurupati S, Bititci U (2007a) Understanding the relationship between PMS and MIS in SMEs: the key role of organizational development. *Comput Ind* 58:677–686
- Hudson M, Lean J, Smart A (2001) Improving control through effective performance measurement in SMEs. *Prod Plann Control* 12:804–813
- Hudson-Smith M, Smith D (2007) Implementing strategically aligned performance measurement in small firms. *Int J Prod Econ* 106:393–408
- Kaplan R, Norton D (1993) Putting the balanced scorecard to work. *Harv Bus Rev* 71:134–147
- Kaplan R, Norton D (1996a) The balanced scorecard: translating strategy into action. Harvard Business School Press, Boston
- Kaplan R, Norton D (1996b) Using the balanced scorecard as a strategic management system. *Harv Bus Rev* 74:75–85
- Neely A, Adams C, Kennerley M (2002a) The performance prism: the scorecard for measuring and managing stakeholder relationship. Prentice Hall, London
- Neely A, Bourne M, Mills J, Platts K, Richards R (2002b) Getting the measure of your business. Cambridge University Press, Cambridge
- Niven PR (2002) Balanced scorecard step-by-step: maximizing performance and maintaining results. Wiley, New York

Performance Measurement with the Balanced
Scorecard

A Practical Approach to Implementation within SMEs

Biazzo, S.; Garengo, P.

2012, X, 133 p. 59 illus., Softcover

ISBN: 978-3-642-24760-6