
BALANCED SCORECARD - INSTRUMENT OF STRATEGIC PLANNING

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Balanced Scorecard (BSC) is a system of management and an instrument of strategic planning, spread within business and industry, in state public institutions, as well as in non-profit institutions. BSC improves external and internal communication and also monitors the performance of an organization starting from its strategic objectives.

In the past, BSC played the part of performance measurement. Later on, the BSC concept evolved and fully became an instrument of strategic planning.

This article tries to achieve a translation of the concepts into official statistics, identifying concrete measures to be done and measured by an organization. It is useful for the execution of the organization strategy.

It is estimated that the new modern approach of strategic management, respectively BSC, allows the **national institutes of statistics** to clarify the vision and strategy and translated them into actions.

Concept of Balanced Scorecard

BSC has its origin in 1990. The specialist David N. Norton, director of Nolan Norton research institute, in collaboration with professor Robert S. Kaplan from Harvard Business School did a study on 12 famous companies such as: IBM, Du Pont and General Electric, this study refers to the ways and instruments used to measure *future performances*.

The study starting point and later the concept was the discontentment met within the firms regarding the possibilities to measure the performances, especially those with resonance in the future. Classical models demonstrated the weakness regarding the analysis of future business, lack of transparency on the firm strategy. The models mostly used static financial indicators in the detriment of *early indicators* meant to signal the development directions of business in the future, such as degree of employees' motivation or their qualifications.

BSC model of Norton and Kaplan represents in fact a global and complex instrument of management good for the materialization,

implementation and control of the firm strategies. The model has a strong *preventive character*, central element being a system of indicators meant to fundament the decisional process.

In practice, it resorts to the firm operational fundamental objectives and strategy, first of all being allocated for each field of analysis the strategic objectives plus the measurement possibilities and optimal levels, and are to be set up the concrete ways of implementing the strategy and compass the objectives.

BSC original alternative aims at the following fields: **financial, market/clients, internal process and development/perfection**. Each area of analysis has allocated indicators plus the relations definition. *Relations between indicators* are as important to be known as proper indicators.

BSC became meanwhile very important within the tools of strategic management of modern enterprises. A study from summer 2003 showed that about 80% of German companies had as disposal this instrument compared to 40% quoted at the stock market in 2001 which did the first steps in the implementation of a BSC.

Within the BSC, managers pay attention to *non-financial indicators* with evaluation role of satisfying the customers, employees, duration of processes and quality of results.

Respective indicators, called among the specialists **early indicators**, help and enable to anticipate the firm future financial performance, because only with a motivated team acting according to some efficient processes, oriented to the customer, on a market with satisfied customers, providing performing products carried out under economic efficiency conditions, sustainable development can be done under beneficial conditions.

Implementation of the system is possible only in relation to define the vision, strategic objectives and general strategy of the firm. Determination of partial and derived strategies, setting up the secondary and individual objectives as well as hierarchy and priority are necessary to accompany the implementation process.

A study on 275 managers from USA pointed that ability to carry out the strategy is much more important than the strategy quality. Implementation of the strategy is the most important factor in terms of management and organization. The discovery seems surprising because in the last two decades of the XXth century, theoreticians, consultants and journalists focused on the elaboration of the strategy generating an upper performance of the organization. At the beginning of the eighties, a survey on management consultants pointed out that under 10% of effectively formulated strategies were implemented successfully. In 1999, Fortune magazine – USA – interviewed an important

CEO which concluded that wrong idea was created that proper strategy was enough for the success.

Why organizations have difficulties in the well defined strategies implementation? An issue is that concerning strategies – unique and sustainable way by which organizations create value – that are changing, but instruments of their measurement are out of fashion.

Within an economy dominated by immovable goods, financial measures were adequate to register investments in accounting balance sheets. In today economy, in which immovable goods became major sources of competitive advantages, there are necessary some instruments describing goods based on knowledge and strategies creating value. Lacking such instruments, the organizations met difficulties in the administration of what we could describe or measure.

Majority of today organizations function by means of decentralized units much closer to the customer. Organizations recognize that competitive advantages come more from intangible knowledge, capabilities and relations created by employees than from investments in physical goods and access to capital. Implementation of the strategy needs that all the units and employees of the organization should be linked and aligned to the strategy. Implementation of the strategy should be a continuous and participative process. Organizations need feedback on the strategy. Success comes from doing that the strategy becomes the work of everybody any day.

BSC approach retains measures on actual and future financial performance, as well as predictive indicators.

Which are the measures proper for future performance? If financial indicators could not prevent the organizations go wrong, then what measures would help that activity develops positively. The response proved to be clear: *measurement of strategy!* All the objectives and measures on BSC – financial and non-financial ones – should derive from the organization vision and strategy. BSC became an instrument of the strategy administration – an instrument which faced 90% from failure rates.

Norton & Kaplan researches on the companies which registered success implementing the BSC pointed out a consistent model to carry out a strategic focus and alignment. Even if each organization implemented BSC in various ways, five common principles were noticed. Norton & Kaplan called them principles of *organization focused on strategy*.

Principles:

- Transposition of strategy in functional terms

Companies strategies with the BSC revealed capabilities and goods

hidden within the organization. BSC provides the framework for the strategy description and communication consistently. Strategy cannot be implemented if it cannot be described. As in the financial field, there are standard documents such as income statements and accounting balance sheets for the documentation of financial planning, while for the strategy description there is not an accepted general framework.

From the BSC introduction in 1992, in over 200 companies from USA, starting point was the answer to the question: “Which is the strategy?” On this base, a general framework was developed for the description and implementation of the strategy called “strategic map” which is a logical and comprehensive architecture for the strategy description. It assures the base to create the BSC representing the background for a new “system of strategic management”.

Strategic map and adequate BSC provide an instrument describing the way how the value from intangible goods is created. Strategic maps and BSC represent the measurement system for the administration of an economy based on knowledge.

Transposing the strategy into a logical architecture – strategic map – and BSC, organizations create a common and intelligible reference point for all the units and their employees.

- Alignment of organization to the strategy

Synergy is the most important objective to create the organization. An organization consists in numerous specialized sectors, units, departments, each of them having its own strategy. In order to obtain organizational performance which has to exceed the sum of its components, individual strategies should be united and integrated. Such connections generate synergy.

Organizations focused on strategy exceed the frontiers of communication and coordination among specialized units.

- To do the strategy become the work object of each employee

Strategy cannot be adopted only by top management. It is required active contribution of each employee from the organization.

Organizations focused on the strategy need that all the employees should understand the strategy and develop their daily activity in order that it contributes to the strategy success. It is a communication from the highest level to the lowest one.

BSC helps the communication and education of the organization regarding the strategy.

- To do the strategy a continuous process

In most of the organizations, the management process is built starting from the budget and operational plan. Most of organizations have no meetings with the strategy as central topic. Norton & Kaplan studies indicate that 85% of management teams monthly discuss under one hour about the strategy.

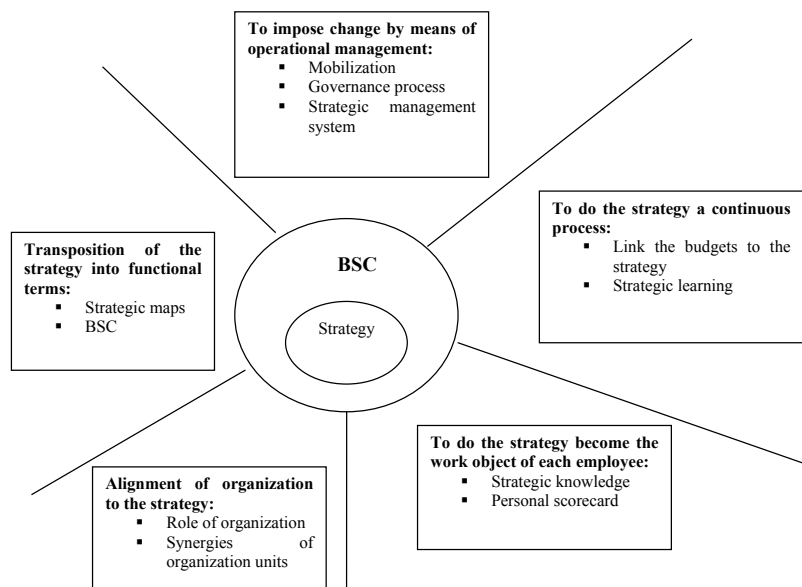
Successful companies introduce a process of strategy administration.

- To impose the change by means of operational management

It is important to underline that there are necessary more than processes and instruments to create the organization focused on strategy. The most important condition of success is active involvement of employees. Strategy needs changes from each side of the organization. Strategy needs team work to coordinate these changes.

A successful BSC starts from the recognition that it is not a metric process but a changing one. Initially, the focus is on *mobilization* in order to launch the process. As the organization is mobilized, the focus moves to *governance*, with approaches based on team work for the transition to a new model of performance. A new management system is presented – *Strategic management system* – which institutionalizes the new cultural values and new structures.

Principles of organization focused on strategy developed by Robert Kaplan and David Norton



Measurement system created is further focused because the measures chosen by the managers communicate the organization what is important. Thus, BSC is much more than a system of performance measurement and becomes a framework organizing the strategic management system.

In the development of the system of indicators corresponding to the business type, a first step is to set within each business unit the specific objectives plus optimal levels. Later on there are set up specific indicators for each objective and are called responsible for each objective and indicator respectively.

A famous writer on strategic topic, Henry Mintzberg, assures a synopsis about it: *“My researches and others demonstrate that the strategy elaboration is a complex process involving the most sophisticated, subtle and sometimes aware elements of human mind”*. It is difficult to define the strategy because it has some meanings for various persons and organizations. Some persons perceive the strategy as management plans at high level meant to lead the organization in the future. Others argue that strategy relies on specific and detailed actions taken into account to reach a certain purpose. For others, the strategy is equivalent to the best practices. Finally, some persons could consider the strategy as a model of actions consistency in time. _

Strategy is accompanied by a mission of values and a vision.

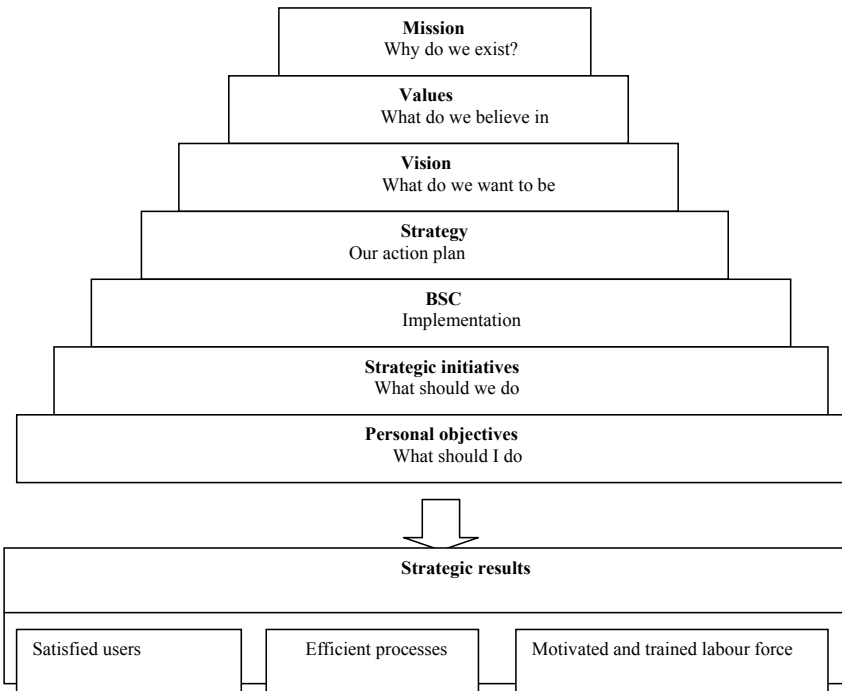
It is presented the link between mission, values, vision, strategy and BSC concept.

A strategic map for the BSC is a generic architecture to describe the strategy. The map helps the organizations to see the strategy integrated and systematically. Executants often describe this framework as instrument “for the best understanding of the strategy”. Moreover, strategic maps provide the background for the management system for the implementation of the strategy efficiently and quickly.

A strategic map for the BSC makes hypotheses of explicit strategy. Each BSC measure becomes included into a cause-effect chain which connects the results from the strategy with guidelines leading to strategic results. Strategic map describes the process from the transformation of intangible goods into tangible results aiming at the results related to the customers and financial ones. It provides the executants a framework for the strategy description and administration within an economy based on knowledge.

If we build a consistent architecture for the strategy description, we should have a way to put it relatively to other management processes. Mission of the organization provides the starting point; it is defined why the organization exists and how a unit is proper into an organization plan of a corporation.

Translation of mission in the results
by Robert Kaplan and David Norton



Mission and values remain stable in time. Organization vision is a projection which clarifies organization direction and helps persons to understand why and how they should support the organization. Strategy is developed under unstable conditions imposed by real world.

Michael Porter describes the strategy background similar to the activities in which an organization chooses to excel: „in fact, all the differences among the companies in cost and price terms derive from hundreds of activities needed to create, produce, sale and deliver their products and services..... differences occur both from choosing the activities, and from the way they are carried out”.

Strategy involves the translation of an organization from its current position to that wanted but unsure. Several inter correlative hypotheses are formulated because the organization was not in this position. BSC allows that strategic hypotheses should be described as a set of cause-effect explicit relations and which can be tested. Strategic hypotheses need to identify the activities which are guidelines of wanted results. The key for the strategy implementation is that all the persons within an organization should understand

the hypotheses, align the results, test the hypotheses and adapt them as it is requested in real time.

BSC defines the set of objectives and activities, as well as guidelines which are to differentiate a company of its competitors and will create long term value for the customers and shareholders - results. The implementation process starts from upper level to lower one (financial perspective, customers perspective, internal perspective, innovation and learning perspective), defining the strategy from the viewpoint of shareholders and customers. The relation between guidelines and wanted relations represents hypotheses for the strategy definition.

A strategic map is developed from an upper level to lower one („*top-down*”). A well conceived BSC should describe the strategy.

BSC should not contain a collection of financial and non-financial indicators, organized in three or five perspectives. The best BSC reflects the organization strategy. A good test is that if the strategy could be understood only analyzing the BSC.

BSC, together with graph illustration by strategic maps, provide a logical and comprehensive manner of strategy description.

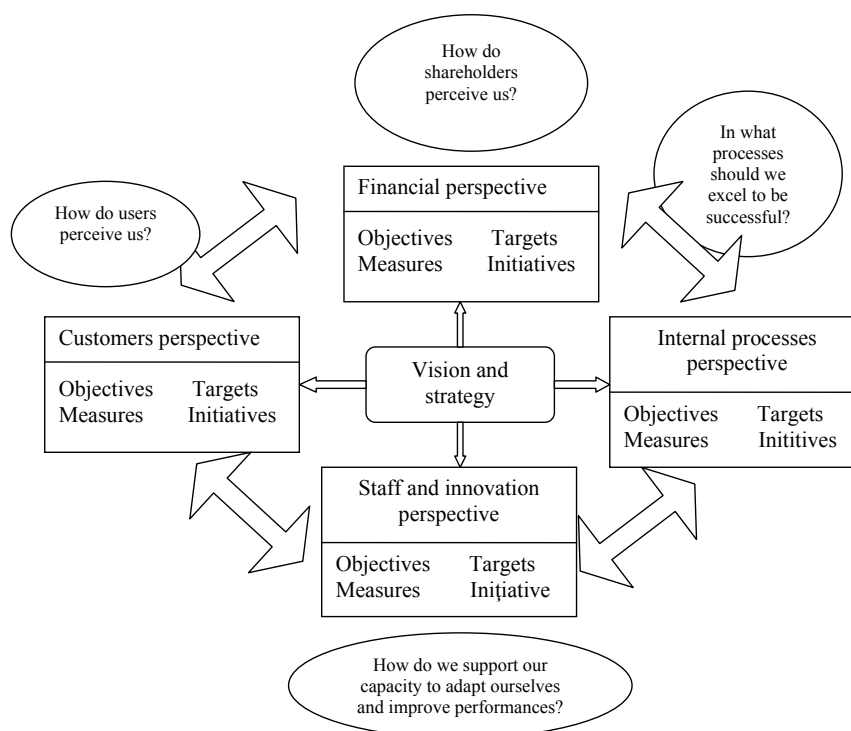
If the strategy can be described in a tidy manner, the possibility of a successful implementation increases. With a BSC reflecting the strategy, we have a certain background to project a management system creating the organization focused on strategy. We present the strategic map for the National Institute of Statistics (Annex).

BSC four perspectives

Performance objectives and indicators are grouped into four perspectives related by cause - effect type relations:

- **Financial perspective** (how do shareholders perceive us?)
- **Customers perspective** (how do users perceive us?)
- **Internal processes perspective** (in what processes should we excel to be successful?)
- **Staff and innovation perspective** (how do we support our capacity to adapt ourselves and improve our performances ?)

Balanced Scorecard Framework



BSC / Financial perspective: Norton and Kaplan do not neglect traditional necessity of financial data. Timely and accurate data regarding financing will always be a priority and managers will do the best to provide them.

BSC / Customers perspective: Recent management philosophy showed a higher importance to focus on the user and satisfy the customer in any organization. To develop the satisfaction metrics, customers should be analyzed in terms of customer category and type of processes providing a product or a service.

BSC / Processes perspective: refers to internal processes of the organization. Metrics based on this perspective allow the managers to know how is the organization well going and if products and services comply with the customers requirements (mission). This metrics should be carefully created by those who know about the processes very well. Two types of processes could be identified:

- a) processes oriented on the mission;
- b) support processes.

Processes oriented on the mission represent special functions of state authorities and many issues of unique type are found in these processes. Support processes are more repetitive and easy to be measured using generic metrics.

BSC / Staff and innovation perspective: Human resources represent the main resource. In actual climate, in which technology quickly progress, it is necessary that staff should be in continuous process of learning. Norton and Kaplan underline that learning is more than training; it includes mentors and tutors within the organization, as well as easy communication among employees because it helps to find the solution of a problem much easier when it is necessary. It also includes instruments such as Intranet.

BSC creation for the National Institute of Statistics

In Romania, to create the BSC for the National Institute of Statistics the starting point is the Strategy of developing the national statistical system for 2007 – 2013 period. Strategy mission and vision is the following:

Mission of the National Institute of Statistics is to meet the needs of information for all the categories of statistical data users, to a great extent, by collection, production and dissemination of relevant, accurate, credible statistical data provided in time, necessary to fundament the decisions on economic and social development of the country and to know the reality of Romanian society.

Vision of the National Institute of Statistics is to reach, in the next ten years, methodological and technical functional performances, recognized at internal and international level, situated at comparable level with the most advanced national institutes of statistics from the member states of the European Union.

To create the BSC for the National Institute of Statistics, major difficulty was when it could not be kept the BSC original architecture in which respective perspective was placed in the hierarchy top.

For the National Institute of Statistics, the order of perspectives is another one: users, internal processes, staff and innovation and financial.

System of indicators

User perspective

Objectives :

Enhance and strengthen the confidence in statistics of statistical data users

Indicators: Number of publications sold on paper support and CD

We consider the ratio between number of publications sold on paper support and CD by National Institute of Statistics in current period (Nr_1) and previous period (Nr_0).

$$\text{Increase in number of publications sold} = \frac{Nr_1}{Nr_0}$$

Number of data requests

We consider the ratio between number of data requests addressed to the National Institute of Statistics (both paid and free data) from current period (Nr_1) and previous period (Nr_0).

$$\text{Increase in number of data requests} = \frac{Nr_1}{Nr_0}$$

Number of database access (publication and data series)

We consider the ratio between number of access to databases (publications and data series) on National Institute of Statistics site (both paid and free) from current period (Nr_1) and previous period (Nr_0).

$$\text{Increase in the number of access to databases} = \frac{Nr_1}{Nr_0}$$

Number of analyses and studies carried out by National Institute of Statistics

We consider the ratio between number of analyses and studies carried out by National Institute of Statistics (both paid and free) from current period (Nr_1) and previous period (Nr_0). Increase in the number of analyses and

$$\text{studies} = \frac{Nr_1}{Nr_0}$$

Increase, at comparable level with the other European countries, the statistics quality, introduction and monitor of quality management in statistics

Relevance

Available statistics rate

It is calculated as ratio between number of values provided from a data series and total number for which data should be provided.

Available statistics rate = number of provided values / number of applicable fields

Accuracy

Variation coefficient It pursues to check the representativity of analyzed variable average, as well as comparison of data series homogeneity:

$$C_v = \frac{\sigma}{x} \cdot 100$$

Response rate is calculated within a survey as ratio between statistical units responding within a survey and number of statistical units from the sample of respective survey.

Response rate = number of statistical units that responded / number of statistical units from the sample

Imputation rate. Imputation represents the process used to determine and assign values replacing the missing ones or invalid ones. Imputation rate refers to only one variable and should be calculated for key variables of statistical product. It is a measure of imputed values contribution to final estimate.

Imputation rate = number of imputed registrations for variable X / total number of registrations

Average number of revisions. A key variable (X) is issued (k) times each year (or another period specific in time) and a predefined time duration indicating the period between reference period and publication date. The first publication provides an initial estimation while others are revisions.

For given reference period, we have for (k) various values $\{X_1, X_2, \dots, X_i, \dots, X_k\}$ of the same available variable (X).

Revision errors (measured as follows): $R(i) = X_i - X_k$

and revision error in percent is expressed by the relation:

$$r(i) = \frac{X_i - X_k}{X_k}$$

For a specific year, a possibility to calculate average number of revisions is to use the following mean:

$$\text{Average number of revisions} = \frac{1}{k-1} \sum_{i=1}^{k-1} |r(i)|$$

Punctuality and opportunity

Punctuality of programmed time for effective publication

Punctuality of programmed time for effective publication = Effective publication date – Publication programmed date

Time interval between reference period and first results date

Time interval between reference period and first results data = preliminary results communication date – data reference date

Time interval between reference period and final results date

Time interval between reference period and final results date = final results communication date – data reference date

Internal processes perspective

Objectives: *Enhance and strengthen the confidence in statistics of information suppliers*

Indicators:

Response rate of information suppliers = number of suppliers who responded / total number of suppliers. It is calculated for each survey.

Reunion within a coherent and coordinated framework of services and statistical activities from the structure of public institutions by creation, operationalisation and consolidation of the National Statistical System

Response rate by web portal = number of statistical units which responded by web portal / number of statistical units from the survey sample by which data are collected by means of web portal

Response rate by CAPI = number of statistical units which responded by CAPI / number of statistical units from the survey sample by which data are collected by CAPI method

Response rate by Internet = number of statistical units which responded by Internet/ number of statistical units from the survey sample by which data are collected by Internet

***Full integration of Romanian statistics in
European Statistical System (ESS)***

Number of surveys according to ESS requirements = Number of surveys implemented within National Statistical System according to ESS requirements / Total number of surveys according to community acquis

Enlargement of statistical survey programs coverage and adapting the survey programs to actual and perspective requirements of statistical data users

Indicators

Number of statistical surveys. Increase in number of statistical surveys is calculated as ratio between number of statistical surveys implemented during one period and number of surveys implemented in previous period.

Staff and innovation perspective

Objectives: *Strengthen the technological infrastructure.*

Number of compatible information applications. It is calculated how much increased the number of compatible informative applications with those used by other statistical offices within National Statistical System.

Increase in number of compatible information applications = Number of compatible information applications / Total number of information applications used within National Statistical System

Enlargement of database system coverage

It can be calculated how much increased the coverage of database system by the following report:

Enlargement of database system coverage = Number of statistical fields object of a database / Total number of statistical fields

Organization and development of human resources

Weight of young generation in total employees = (Number of employees aged 18 – 35 within the National Institute of Statistics)/(total number of employees)*100

Average work period of an employee within the National Institute of Statistics is calculated taking into

$$\text{account activity assuring the staff stability} = \frac{\sum_{i=1}^n t_i}{n}$$

where: t_i - time spent by employee i in INS;
 n – total number of INS staff.

$$\text{Number of courses per employee} = \frac{\sum_{i=1}^n k_i}{n}$$

where: k_i - total number of courses attended by employee i

Financial perspective

Objectives : Increase in INS financing from grants

Increase in value of grants. It is considered the ratio between total value of grants attracted by the National Institute of Statistics from current

$$\text{period } (Valoare_1) \text{ and previous period } (Valoare_0) = \frac{Valoare_1}{Valoare_0}$$

Conclusion

BSC is a certainly a modern approach which is already implemented in several national statistical institutes of EU member states (Hungary, Latvia, Finland etc.). In the future, the National Institute of Statistics from Romania proposes to practice a modern and strategic management, using the most adequate instruments.

System of indicators could constitute the base of a system of indicators for National Institute of Statistics BSC. Some indicators need additional calculations because they are quantified for each survey.

Selective bibliography:

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- <http://www.balancedscorecard.org> – *Balanced Scorecard Basics*

National Institute of Statistics Strategic Map

