

Strategic management of a Public Administration Unit Using Balanced Scorecard Method

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Abstract – The strategic planning, finalized in a Development Strategy (DS), is becoming an important tool of the strategic management of an Administrative Territorial Unit (ATU, commune, municipality and county). The performance management through the performance management systems (PMS) is becoming absolute necessary and the used tools are in an on-going process. Balanced Scorecard (BSC) is a strategic planning and management tool that align the internal activities of an administrative or economic entity to its vision and strategy, improve the internal and external communications and monitor the entity's performance. The objectives of this study are: (1) to develop a BSC model designed for the public administration, and (2) to show how to implement such a tool for a medium sized commune. Consequently, the research approach was developed in two phases. First, the identification of strategic objectives using Delphi technique, and second, the development of a tailored model for a commune, Dudeștii Noi located in the Timiș Country (West Region of Romania). Based on the proposed approach, the commune's strategic priorities (Infrastructure, Culture/Tourism/Leisure time, Environment and Social/Health/Education) and the strategic objectives were mapped and introduced in a strategy map using BSC. Lead indicators and lag indicators were defined. Finally, the research conclusions indicate some BSC model's possible developments for larger ATUs (municipalities, counties).

Keywords: Balanced Scorecard, public administration, development, implementation, case study, Dudeștii Noi

I. INTRODUCTION

The public administration authorities from Romania are in a large modernization process in order to attend the objectives of efficiency, effectiveness and

economy. Therefore, the strategic planning requires the existence of development strategies and a correct performance management. In the public sector, the main purpose is not to create *profit* but to create *value* for their communities [1], [2]. The citizens become clients, beneficiaries of strategy. In this context, the strategy's development and implementation become critical and complex processes and requires new methodologies.

Such a methodology is Balanced Scorecard (BSC), also known as an extension of “*dashboard*” concept. One of the main reason for introduction of BSC is “*the translation of corporate strategic priorities in directions and statements oriented on actions related to what must be done for strategy's execution*” [15].

Considering that in public administration the citizen's satisfaction is on the first place, the implementation of BSC requires to amend its original architecture. There are specific differences between *profit-oriented* organizations (industrial, business or financial enterprises) and the others that are *mission-oriented* (public administration authorities or NGOs). These differences act, in some circumstances, as barriers against the transfer of management techniques from the private to the public sector [1]. In Romanian public administration context, there is a scarcity of budgetary resources at communal level and, in the same time, a rising demand of services for citizens and community. The adoption of efficient strategies allowing the public administration's objectives fulfilment and the transparency of results, is becoming a strong priority [1]. The performance measurement acquiring a necessary leading role.

In this paper the authors propose the following items: to develop a BSC model designed for local public administration, to show a successful implementation for the Dudeștii Noi city hall (a medium sized commune in Timiș county, Romania), to propose new developments and implementations for larger ATUs.

The paper's content is structured as follow: Section II describes generally the BSC method and tool, adapted

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to public sector. As well, the role of KPIs (Key Performance Indicators and Key Result Indicators) in performance evaluation is emphasized. Section III describes the research methodology and design of the adopted BSC model. Section IV is dedicated to the case study research (the strategic management of Dudești Noi commune). Section V includes the conclusions of the presented research and future researches that have been associated with the development directions for the BSC method.

II. THE BSC METHOD AND TOOL

The Balance Scorecard (BSC, Figure 1) is a strategic planning and management system that is used extensively in business and industry, government, and nonprofit organizations to align business activities to the vision and strategy of the organization, to improve

internal and external communications and to monitor organization performance against strategic goals. BSC has evolved from a simple performance measurement frame to a full strategic planning and system. The BSC innovation is describes as follows [3]: *“The balanced scorecard retains traditional financial measures. However, financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation.”*

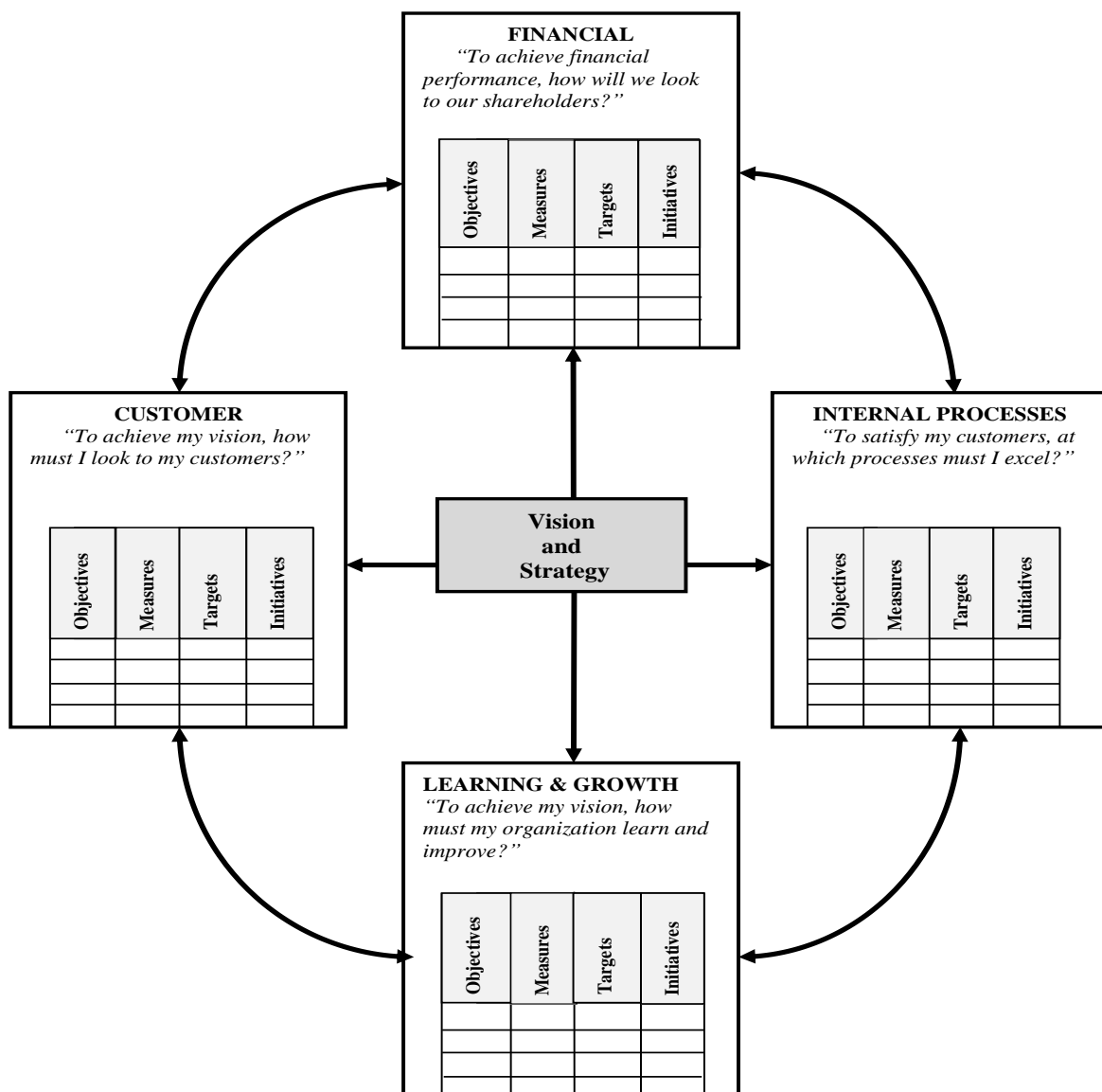


Figure 1. The four perspectives of the BSC model [5]

In the early version, Kaplan and Norton [3] propose a frame that permits the performance measurement of an

organization by analyzing this from four standpoints, called perspectives, and to develop metrics, collect data

and analyze it relative to each of these perspectives. These perspectives are (Figure 2):

- The “Financial Perspective”: it represents the long-term strategic objectives of the organization, by incorporating tangible outcomes of the strategy in traditional financial terms. This perspective examines whether the implementation and execution of company’s strategy are contributing to the bottom-line improvement of the company;
- The “Customer Perspective”: it defines the value proposition that the organization will apply to satisfy customers, that is to generate more sales to most profitable customer groups;
- The “Internal business processes Perspective”: it refers to the process of creating and delivering the

customer value proposition, by focusing on all activities required to reach excellence in efficiently providing the value expected by the customers;

- The “Learning and Growth Perspective”: this perspective focuses on the intangible assets of an organization, mainly in terms of the internal skills and capabilities required to support the internal processes of value creation. The Learning and Growth perspective covers jobs (human capital), systems (information capital), and climate (organization capital) of the enterprise. Kaplan and Norton [3] emphasizes upon the difference between “learning” and “training”. The “learning” is more complex than “training”.

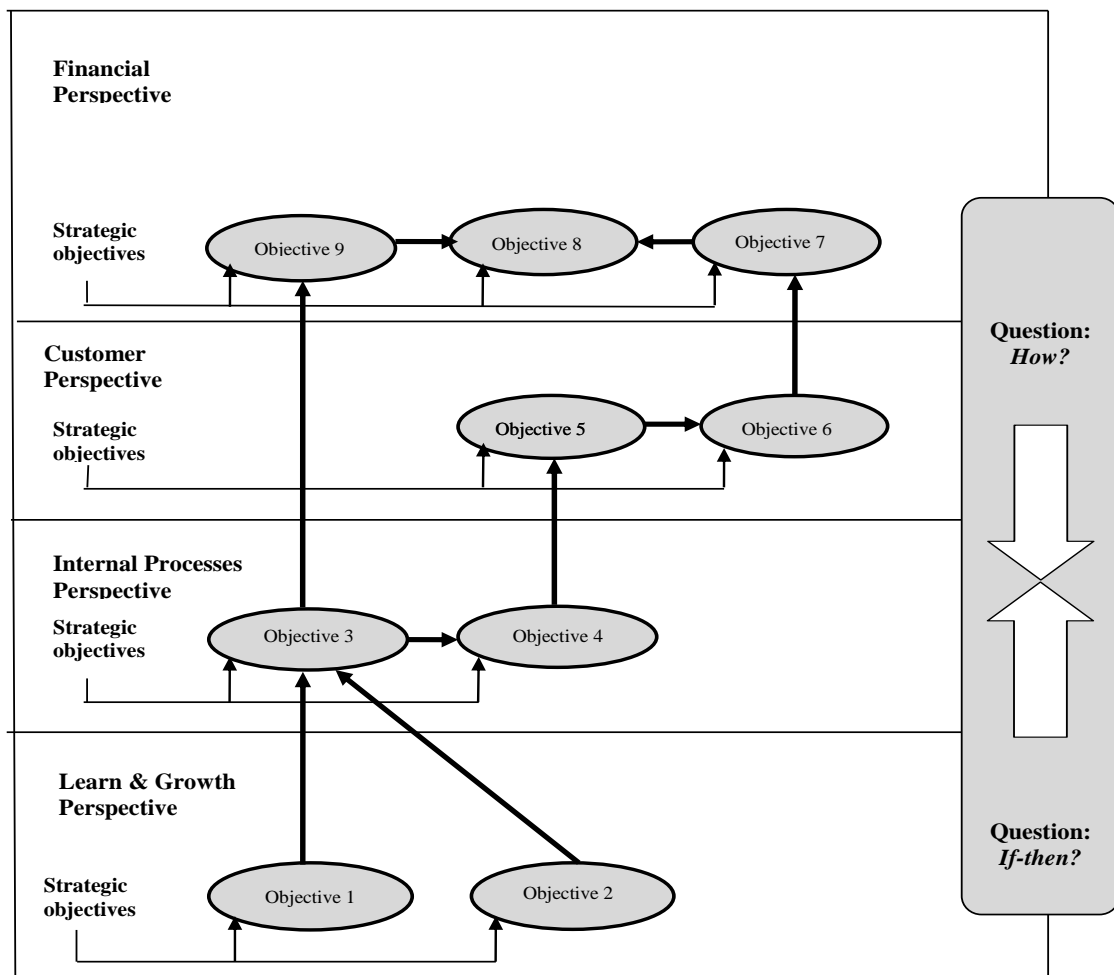


Figure 2. The strategy mapping (adapted from [6])

Each perspective is related to the other three, meaning that the performance obtained in one perspective may influence the performance obtained in the remaining. These relationships are schematically represented in the so called “strategy map”.

Thus, for each of the four perspectives, an *objective* should be defined (the aim of the perspective measurement), the *measures* (performance indicators for the objectives), the *target values* for each measure (the value that the organization aims to reach) and

finally the *initiatives* (the actions that must be implemented to reach the above-mentioned target values).

A schematic representation of a general model for BSC is depicted in Figure 1. The objectives are evaluated by their performances, the measures contain *key performances indicators* (KPI) and *key results indicators* (KRI). These indicators, also known as *lead indicators* and *lag indicators*, are target values for

every measure. The initiatives are referring to the actions that must be done to achieve these values.

The Strategy Maps are communication tools used to tell a story of how value is created for the organization. They show a logical, step-by-step connection between strategic objectives in the form of a cause-and-effect chain.

In Figure 2, a theoretical example of a cause-and-effect between nine objectives located in different perspectives is shown.

Generally speaking, improving performance in the objectives found in the Learning & Growth perspective (the bottom row) enables the organization to improve its Internal Process Perspective Objectives (the next row up), which in turn enables the organization to create desirable results in the Customer and Financial perspectives (the top two rows).

By translating their strategy into the logical architecture of a strategy map and the BSC, organizations create a common and understandable point of reference for all organizational units and employees [8].

Organizations build strategy maps from the top down, starting with the destination and then charting the routes that lead there. Corporate executives first review

their mission statement, why their company believes in. From that information, they develop their strategic vision, what their company wants to become.

This vision creates a clear picture of the company's overall goal, which could be to become a top-quartile performer. The strategy identifies the path intended to reach that destination [8], [9].

There are significant differences between the BSC's perspectives for private organizations and public administration. Because the last is mission-oriented, past studies have proposed "mission perspective". In Table 1 are shown these differences.

Table 1. The different perspectives of BSC for private organizations and public administrations

Private organizations	Public administration
Focus on the financial perspective	Focus on the mission
	Citizen
Client	Internal processes
Internal processes	Learning and development
Learning and development	Financial

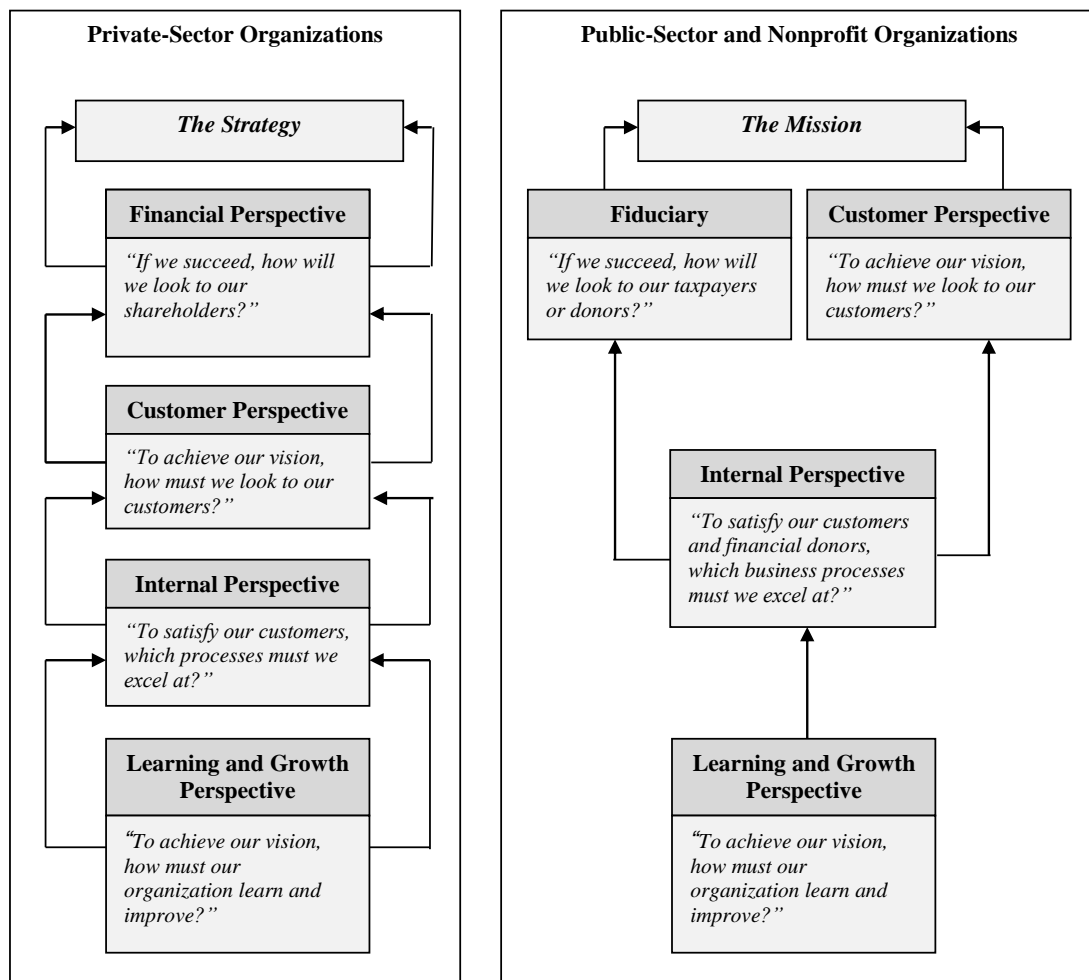


Figure 3. The transformation of Financial Perspective into Fiduciary Perspective (adapted from [8; 17])

In Figure 3 is shown how the “Financial Perspective” become “Fiduciary Perspective” in public administration. In [17] the authors analyze the relevance of the perspective labels and propose to relabel some of them considering the activities’ specificities from public administration.

Thus, a general recognized architecture for the BSC for public organization must take into account the relationship existing between communities and public organizations.

III. RESEARCH METODOLOGY

The aim of this paper is to report about the implementation of BSC method, on the basis of knowledge about strategic management, at the Dudeștii Noi commune. There were many reasons for selection this commune: the dynamic of the socio-economic development, the growth potential, the existence of a modern and motivated local administration. But the most important reason is the existence of an elaborated strategic plan of development, namely “*The development strategy of the Dudeștii Noi for 2014-2020 period*” and, too, of an Action Plan associated to the strategy’s implementation. These documents allow to build up a Strategy Map and to implement a performance evaluation system. All the necessary information for this study were extracted from the city hall website (www.primariadudestiinoi.ro) and from the interviews with mayor and local councilors.

The Dudeștii Noi commune is located in the Western Plain of the Banat – a region of Romania – at a distance of 13.5 km from Timișoara, the main municipality in region. The neighboring communes are Becicherecul Mic, Hodoni, Sânandrei and Săcălaz. Dudeștii Noi belongs to the “*Polul de Crestere Timișoara*” – an intercommunal development association of the Timișoara’s surrounding communes. It has 3310 inhabitants with a multiethnic composition: Romanians, Magyars, Germans, Serbians, Ukrainians, Roms. There are 12 commercial companies.

There are many methods to adopt development strategies and to evaluate their implementation’s performances. In Europe, many local administrations, in different countries, have successfully implemented strategies and performance evaluation systems using BSC method [1], [2]. Generally, to implement the BSC framework the following steps were undertaken [1]:

1. Definition of the local administration’s (mayor and local council) vision and mission;
2. Definition of the organizational level at which BSC should be implemented;
3. Determination of specific strategies that should be formulated and implemented to achieve this vision;
4. Creation of “Strategy Map” that offers a macro view of public administration’s strategy;
5. Determination, for each perspective, of the critical success factors (CSF) that contribute to the strategy’s development;

6. Selection and choice of key performance indicators (KPI) – lead and lag indicators;
7. Definition of KPIs and their target values for each perspective;
8. Representation of KPIs with their actual values in a sort of “executive dashboard” in the order to help the strategy’s responsible to supervise their actions and targets.
9. Development of the “executive dashboard”;
10. Implementation of the BSC model, monitoring and updating the results obtained over the time.

The Dudeștii Noi commune’s Development Strategy for 2014-2020 represents the basic instrument for the local administration’s actions to accomplish the proposed Vision for 2020. This strategy was drafted by the civil servants of the specialized compartments from the city hall in accordance with the Law’s no. 215/2001 provisions.

With reference to step 1 the declared Vision is: “*Harmonious and well-proportioned sustainable development of the Dudeștii Noi commune in all its sectors and functions in order to assure for citizens the best living conditions in a quality of environmental and cultural surroundings*”.

As for the second step – the definition of the organizational level at which the BSC has to be implemented - the introduction of this method has begun at the top-management and operational level.

As regarding the step 3 – the choice of the specific strategies to implement the Vision – a two-round Delphi method was adopted. This technique is a systematic, interactive forecasting method, which allows obtaining forecasts from an appropriate panel of experts [1], [14]. In the first round it was identified the strategic priorities and the KPIs. A multidisciplinary panel composed by the local council executives, the county council’s councilors with expertise and experts from ADETIM – Development Agency of Timiș County – was set up. The used KPIs are a combination between lead indicators and lag indicators. Regarding the performance measurement, the lead indicators represent predictive actions in comparison with lag indicators that represents an after-the-event measurement. When a BSC method is applied, the balance between the lead indicators and lag indicators is necessary in order to assure that the measured activities are these that offer correct results.

The couples lead indicators (IP) and lag indicators (IR) have different meanings in the four perspectives [1]. Thus, as for the indicators of the “Community Perspective”, they aim at ensuring that the strategy is implemented. As far as the “Internal processes Perspectives”, it identifies what are the processes they must excel at in order to get desired outcomes for community. The “Financial Perspectives” entails all the resources as either enables of organization’s success or constraints within which the organization must operate. The “Learning and Growth Perspective’s objectives are related to the drivers of performances in other perspectives and are generally “the intangible

infrastructure” that the organization use to pursue the objectives for internal processes [1].

The panel of experts has identified four strategic priorities and nineteen strategic objectives. The four priorities are:

1. Infrastructure;
2. Culture, leisure time and tourism;
3. Environment;
4. Social domain, health and education.

The priorities are described and an analysis of the functionality in order to be known by the local councilors and executives was made. The mapping of strategic objectives for the four priorities is shown in Figure 4. In Figure 5 the Strategy Map (step 4) is shown and in Table 2 the dynamic of the lag indicators is presented (steps 5, 6 and 7).

Strategic objectives	Strategic priorities			
	Infrastructure	Culture, leisure time and tourism	Environment	Social domain, health and education
A –Development of tourism services for relaxation and leisure time				
B – Support of new social services foundation at local level				
C –Foundation of social enterprises for qualification and employment of young people				
D –Stimulation of local agriproducts capitalization				
E –Support of pomiculture network foundation and improvement of poor wooden areas				
F –Growth of educational services and increase the number of people involved in learning systems				
G –Development of local transportation in connection with Timisoara municipality				
H– Development of local infrastructure				
I – Urbanization of commune in a healthy environment				
J – Development of cultural offers.				
K - Obtaining financial resources				
L – Effective financing of objectives				
M - Preparation and implementation of investments				
N – Support for clubs and associations				
O –Improvement the quality management of the local authority and public services				
P –Updating the Inner Management and Control system				
Q –Increasing inter commune co-operation in Metropolitan Zone				
R –Support of innovations and new IT technologies utilization				
S–Development of public servants’ skills and knowledge				

Figure 4. The strategic objectives’ mapping as a function of priorities

There are many software applications for the BSC method’s implementation, from simple ones Excel-based or Microsoft Office Power Point, to more sophisticated applications based on Enterprise Resources Planning (ERP) platforms or Customer Relationship Management (CRM) that are developed under different operating systems. The most developed use Business Intelligence (BI) based engines.

As an example, the Microsoft Dynamics platform is developed under Microsoft Windows operating system. It is a software application line for ERP and CRM. In MS Dynamics ERP, a software application is

MS Dynamics AS 2009 (AX 5.0) where BSC is a module.

In this study there were used applications developed in Microsoft Excel 2007 and PowerPoint available in MS Office.

The Strategy Map, shown in Figure 6, was drawn in PowerPoint. The tables contained KPIs and the Dashboard were developed in MS Excel and shown in Figure 7. For a better visualization, a Dashboard’s window is shown in Figure 8. In literature [16] are presented the Excel utilization’s advantages for dashboards’ development and implementation in the

case of SMEs. It is the case of Dudeștii Noi, a medium sized commune.

The main advantages are:

- Less time for application's development;
- Low costs or non-existent licensing fees;
- An established, knowledgeable user data base;
- An easy accessible user training;

- Good extensibility that allows easy up-grading with additional features;

As regarding the scalability and data integrity issues, the solution might be using Excel as the analysis and presentation layer and storing all data in a relational database or OLAP cube, then linking in the Excel scorecards or dashboards [14].

Vision

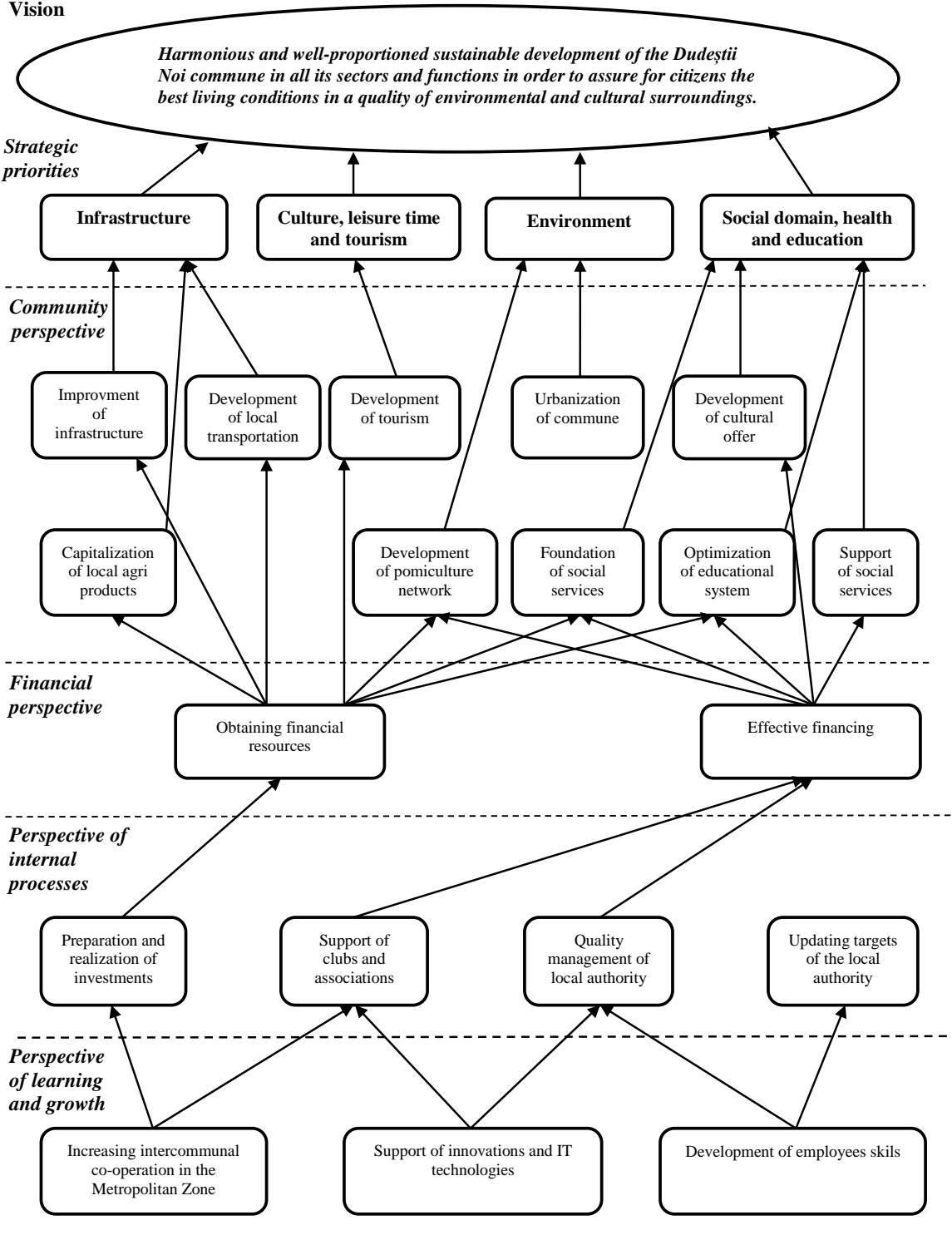


Figure 5. The Strategy Map of Dudeștii Noi commune

Table 2. The dynamic of the lag indicators

Reference month: August 2017		Strategic objectives		
	Objective	Lag indicator	Actual	Target
Community Perspective	C1 –Development of tourism services for relaxation and leisure time	• IRC11 - no. of created locations;	2	10
		• IRC12 - no. of capacity of housing;	17	250
		• IRC13 - no. of eating places;	2	15
		• IRC14 - no. of certified tour operators;	0	2
	C2 – Support of new social services foundation at local level	• IRC21 - no. of assisted elders;	0	50
		• IRC22 - no. of beneficiaries of social canteen;	0	100
		• IRC23 - share allocated from the local budget;	0.1%	2%
	C3 –Foundation of social enterprises for qualification and employment of young people	• IRC31 - no. of created microenterprises;	2	3
		• IRC32 - no. of qualified young people and employees;	2	5
	C4 –Stimulation of local agriproducts capitalization	• IRC41 - no. of places in the food market;	3	20
		• IRC42 - percentage of bio food;	90%	80%
		• IRC43 - no. of producers/providers associations;	2	3
	C5 –Support of fruits network foundation and improvement of poor wooden areas	• IRC51 - density of wooden areas;	0.8%	5%
		• IRC52 - no. of wooden hectares;	45	270
		• IRC53 - no. of specialists in the field;	0	3
		• IRC54 - no. of deposed projects;	1	1
		• IRC55 - no. of gained projects;	1	1
		• IRC56 - no. of terrain owners that are grants/facilities beneficiaries for establishment of wooden areas/orchards;	0	20
	C6 –Growth of educational services and increase the number of people involved in learning systems	• IRC61 - no. of citizens completing primary, secondary and tertiary education;	2,450	2,500
		• IRC62 - no. of post-secondary courses;	0	0
• IRC63 - no. of projects from European funds dedicated to school;		2	2	
• IRC64 - no. of resident teachers;		10	20	
• IRC65 - school drop-out rate;		1%	0	
C7 –Development of local transportation in connection with Timisoara municipality	• IRC71 - no. of bus stations;	3	3	
	• IRC72 - no. of passengers;	200	500	
	• IRC73 - no. of trips to/from Timisoara;	6	10	
C8 – Development of local infrastructure	• IRC81 - length of drinking water distribution network [km];	25	35	
	• IRC82 - length of rain water drainage network [km];	20	25	
	• IRC83 - no. of utilities connected houses;	720	900	
	• IRC84 - length of public roads [km];	70	70	
	• IRC85 - no. of new or reconstructed housing units;	250	500	
	• IRC86 - no. of specialists that are beneficiaries of housing units;	0	10	
C9 – Urbanization of commune in a healthy environment	• IRC91 - volume of sorted waste per year [tone];	69	90	
	• IRC92 - air pollution level;	0	0	
C10 – Development of cultural offers.	• IRC101 - no. of identified cultural objectives;	3	5	
	• IRC102 - no. of existing choral and other artistic assemblies;	4	5	
	• IRC103 - no. of deposed financing projects;	15	15	
	• IRC104 - no. of cultural projects;	5	5	
	• IRC105 - no. of cultural activities;	27	27	
Financial Perspective	F1 - Obtaining financial resources	• IRF11 - volume of external financial resources [M Euro];	2	21
		• IRF12 - no. of grants;	5	7
		• IRF13 - no. of attracted investment;	2	3
F2 – Effective financing of objectives	• IRF21 - commune's level of indebtedness [M Euro];	0	10	
	• IRF22 - budgetary reserve [M Euro];	4	1	
	• IRF23 - level of collection of budgetary debts [%];	75	100	
Internal Perspective	I1 - Preparation and implementation of investments	• IRI11 – no. of created business incubators;	0	0
		• IRI12 - usability;	0	0
		• IRI13 - no. of new created investment;	3	5
		• IRI14 - value of new created investment [M Euro];	30	100
		• IRI15 - coverage of investments;	50	60
	I2 – Support for clubs and associations	• IRI21 - no. of new created clubs and associations;	2	5
• IRI22 - percentage of allocated budget for associations;	0.10%	0.50%		

Learning & Growth Perspective		• IRI23 - no. of participants;	50	100	
		• IRI24 - share allocated from the local budget;	0	0.10%	
	I3 –Improvement the quality management of the local authority and public services		• IRI31 - no. of annual audiences;	200	200
			• IRI32 - no. of annual internal audits;	3	3
			• IRI33 - no. of solved complaints;	22	22
			• IRI34 - no. of new offered facilities;	2	2
	I4 –Updating the Inner Management and Control system		• IRI41 - no. of procedures in use;	92	92
			• IRI42 - degree of the Strategic Plan upgrading;	90%	100%
	L1 –Increasing inter commune co-operation in Metropolitan Zone		• ILI11 - no. of projects elaborated in partnership with neighboring communes;	5	7
			• ILI12 - no. of mentions in mass-media;	3	5
	L2 –Support of innovations and new IT technologies utilization		• ILI21 - no. of new methods and technologies used in public administration;	2	5
			• ILI22 - no. of specific IT applications in use;	8	10
			• ILI23 - no. of installed IT applications;	14	18
L3 –Development of public servants’ skills and knowledge		• ILI31 - no. of refresher trainings;	39	42	
		• ILI32 – no. of certifications granted;	39	42	

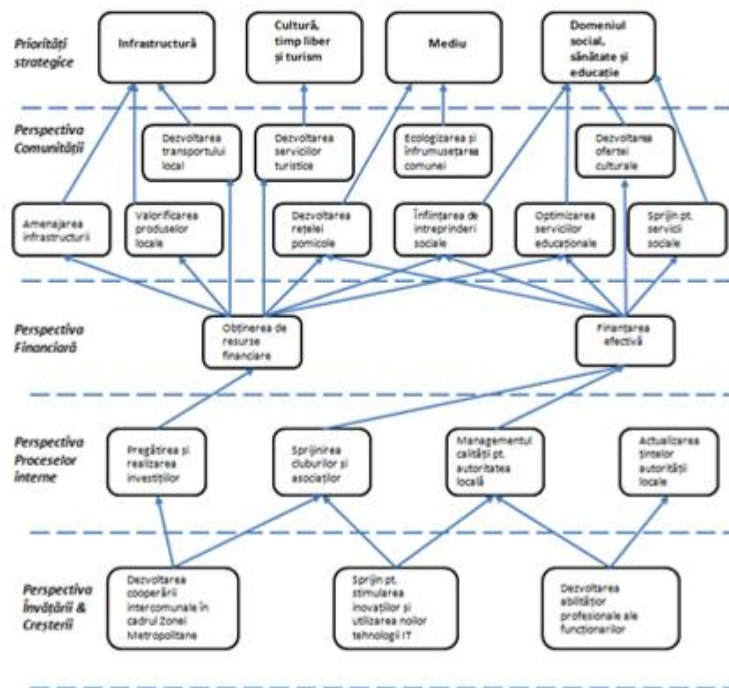


Figure 6. The Strategy Map screen shot (details are given in Figure 5)

The use of BSC allows a continuous monitoring and performance evaluation during the Strategic Plan's execution. It permits to the identification of the efficiency level in city hall's internal processes management. BSC helps to the declared mission's identification in all the four perspectives, the actions that must be done – including the KPIs – to accomplish the implementation. Because the public services, compared with the private companies, needs a high degree of consensus between the local authority and the citizens, some strategy objectives with the actions aligning is absolute necessary. By summarizing, it is possible to identify the following main results from our study.

The first one, by using the BSC model a strategic performance management mechanism was developed, thus allowing to report on the basis of strategic measures. On the basis of the planned targets, expressed through measures, the local government administrators highlighted the results concerning the strategic objectives. Then the local councilors, including the mayor, were able to take correct decisions. The second finding is that the dashboard may be incorporated in an integrated IT system at the County Council level. Finally, this study is a pilot one that may be extended to others local administration in the county.

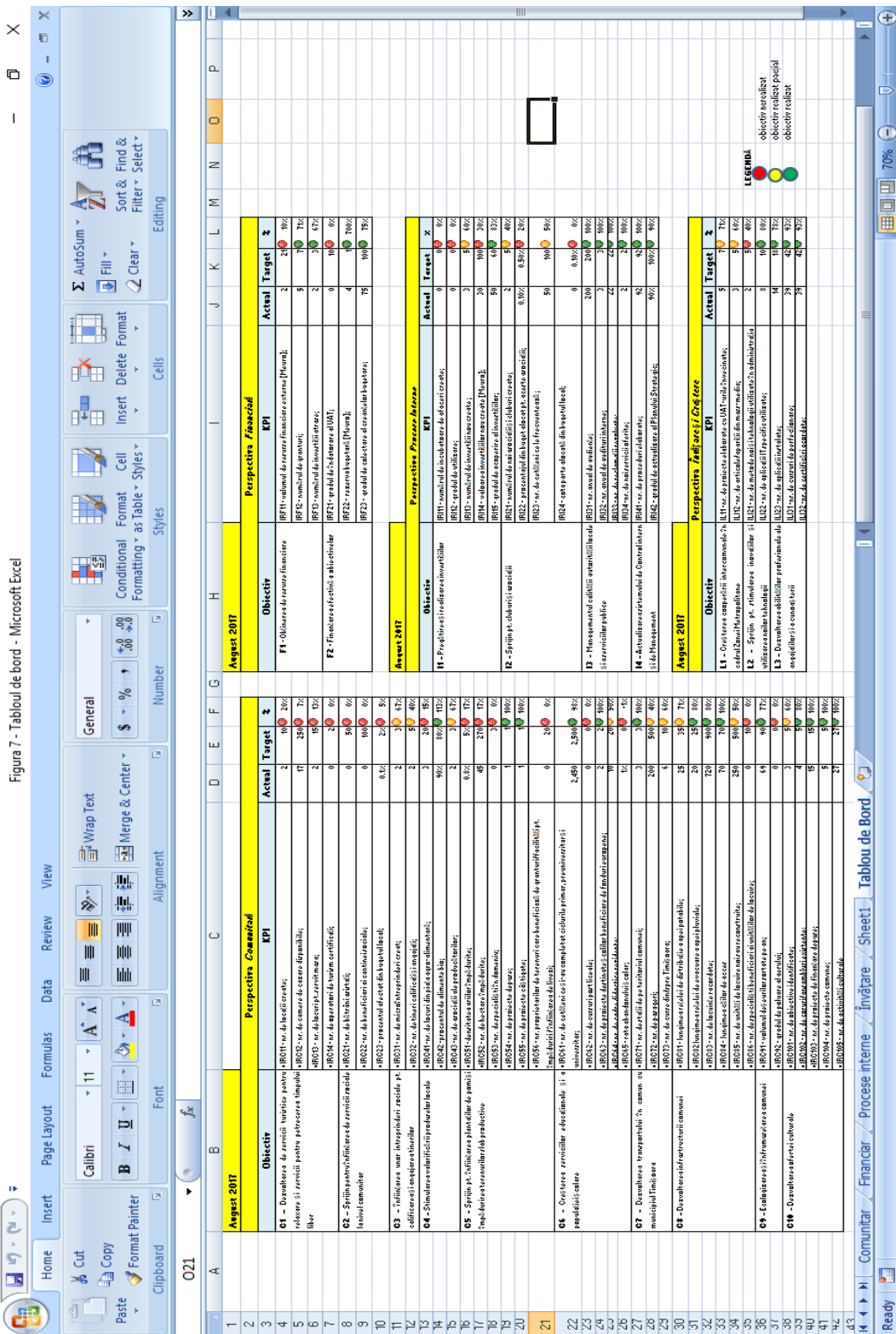


Figure 7. The dashboard (screen shot, authors own development)

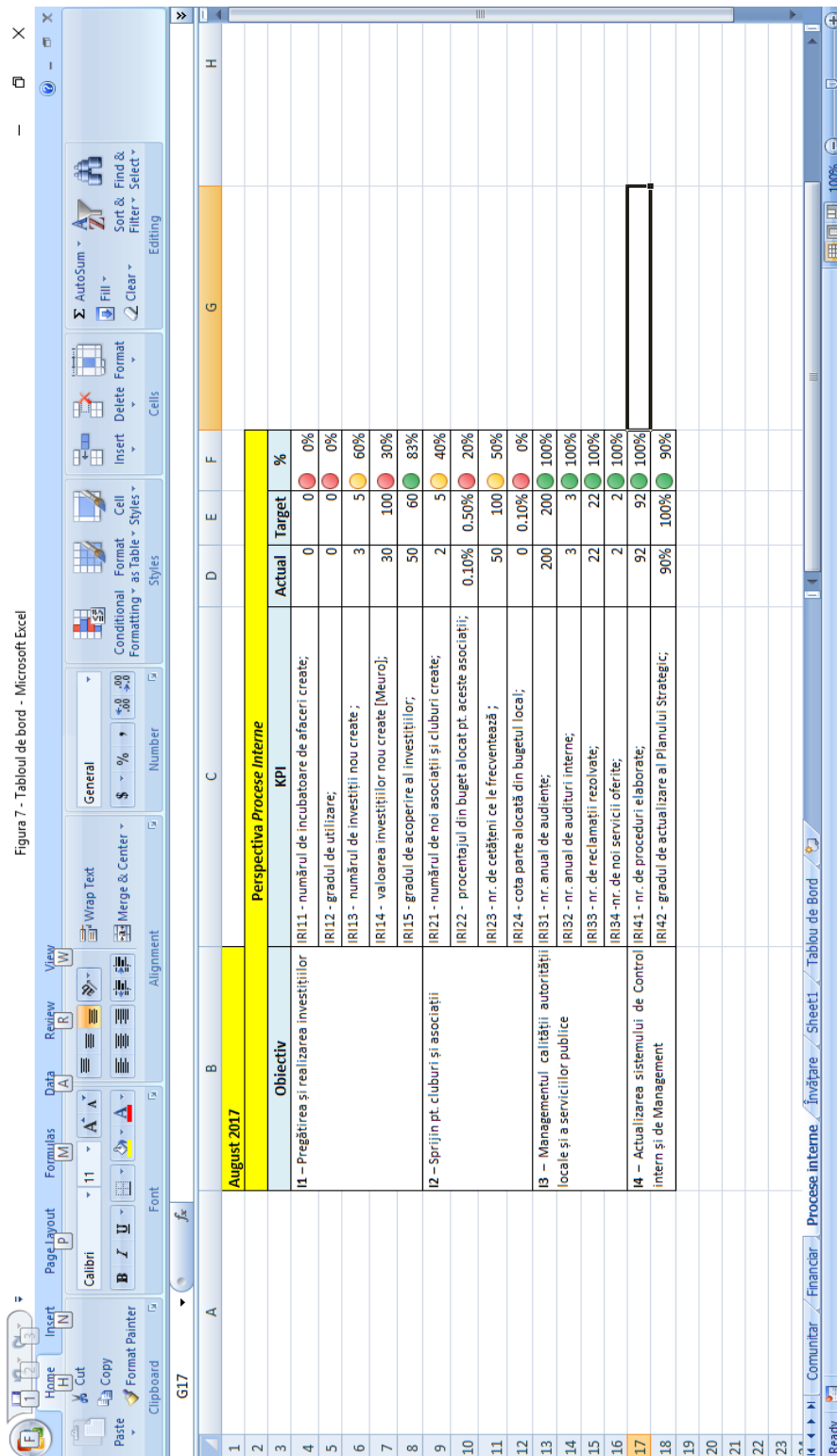


Figure 8. A window in the dashboard (screen shot, authors own development)

IV. CONCLUSIONS AND FUTURE RESEARCH

The main purpose of this paper is to present the development and implementation of the BSC model within a local public administration, namely in the case of Dudeștii Noi, a medium-sized commune located in the West region of Romania. It was stressed upon the fact that BSC is a framework expressing an organization's strategy as a set of measurable goals from different perspectives. It is shown that classic financial measurement made posteriori, if these are accompanied by the operational measurements made during the strategy's evolution, can improve and growth the performances. While literature offers numerous studies about theory as well as application of BSC in private organizations, still little attention has been paid to BSC application in the public ones [1]. For this reason, in order to identify KPIs – lead indicators and lag indicators – it was mandatory to develop questionnaires that were analyzed and discussed with an appropriate panel of experts in accordance with Delphi method. As a result, it was obtained an exhaustive and accepted list of KPIs. The majority of KPIs is in the Community Perspective.

The implementation of the BSC model was a difficult process due to the fact that the participants' majority have had no knowledge in the field. One of the main benefits highlighted by this study refers to the fact that the implementation team's cohesion leads to a better understanding of the true nature of this experiment: the BSC is seen as a performance measurement system, but also as a strategic measurement system.

As concerning the IT application developed on a Microsoft platform, using instruments from Microsoft Office, it functions acceptable for small-sized administrative structures, but become inefficient larger structure. The databases that provide information to the dashboard must belong to the OLAP category, which offers multiple facilities for search, analysis/synthesis of multiple data and report.

The purchasing of such IT systems can be expansive but after their utilization the ratio cost vs benefice is favorable to the user. Consequently, for larger local administrations – municipalities, county councils – such a choice will be a recommendable option.

Finally, we consider that the implementation of such performance analysis systems but in the same time, strategic managements systems, should be a main priority for the modernization process of the Romanian public administration.

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