

Managerial Tools to Promote Aspects of Sustainable Region Development

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Abstract: In recent years, the sustainable development of regions is widely discussed topic not only in the world and the European Union, but now also within the Czech Republic. Hence, the analyses of strategic documents and budgets that primarily allow create and implement regional policies leading to sustainability are performed. The main aim of the analysis of strategic documents is to evaluate the quality of the currently existing strategic plans with regard to the policies and principles of sustainable development. On the basis of results, the analysis of the relations between selected regional budgets and aspects of sustainability was carried out. Subsequently managerial tools that have the potential to eliminate revealed questionable points are proposed.

Key-Words: sustainable development, region, strategic management, budget, performance measurement, tools.

1 Introduction

The present public administration management systems are subject to changes in the whole world. Such changes occur especially due to decentralisation reforms in the individual systems, excessive bureaucracy, low efficiency of public administration and due to changing social values. Since the eighties of the last century, we have been experiencing various reform initiatives generally grouped under the umbrella term of "new public management" [13, 14] and inspired by management and marketing principles, which considerably influenced the public administration management systems throughout the world. Implementation of management methods, which are already successful in the private sector, strengthening participation of citizens in controlling public affairs and increased emphasis put on performance belong among the basic principles of such reforms [1,20]. Their application should lead to improving the quality of the respective public services and activities, the quality of the strategic planning process and the quality of life of citizens. That is why we can see ever increasing interest of academicians and public administration managers in the roles and benefits of management in public sphere [3].

Nevertheless studying the real consequences shows that reforms may be performed very slowly, not always bringing the expected benefits and often generating undesired results [19]. The differences between the intended and actual effects of reforms

often occurs as a result of the gap between formal implementation of a change and current development of such change and the gap between the expected and actually used managerial tools [26].

Sustainable development conception is connected with the changing values in the society. The term "sustainable development" appeared for the first time in the year 1980 and definition in the year 1991 [5]: "*Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". Currently the three main aspects of sustainability – economy, society and environment have been integrated into a new science of sustainability [21] and into "sustainomic concept" [24].

Despite explosion of interest in sustainability and social responsibility, effective implementation thereof faces serious impediments [23]. In this context, two reasons of such situation can be defined. For the first, many environmental and social management systems are not connected with the organisation strategy, and they only work at the operative level. For the second, they are often performed separately from the overall management system, by which the top and middle-level management manages and controls the organisation [2].

Strategic plan and budget may be considered as the primary tools of sustainable development of

regions. Strategic plan basically allows or facilitates the creation, implementation and evaluation of regional policies. At the same time is used by role players that are involved in achievement of strategic goals, to understand the identity of the region, a strategic position, target position and ways to achieve it. Therefore strategic planning could be considered as a continuous search for consensus between goals and resources in a constantly changing market opportunities [6].

It can be stated that there is no region in the current Czech regional self-governing system, which would not declare – at least partially – in its development documents the wish to respect the sustainable development principles. However, are the strategies leading to sustainable development really performed? The main goal of this article is to identify and evaluate the relations between the need of sustainable development of regions on one hand and the structure of their budgets on the other hand on the basis of analysis of strategic documents and budgets of the regions. The basic methods used in creating the article include analysis, comparison and synthesis of the collected information. To get more detailed picture of the issue, controlled interviews were held with the personnel responsible for strategic planning in Pardubice Region.

Maier and Tödting state that definition of a region should always correspond with the respective context and should derive from concrete question formulation [18]. On the basis of the said thesis, a region will be comprehended according to administrative definition, i.e. as a higher territorial self-governing unit (region). Presently, the territory of the Czech Republic is divided into 14 regions.

2 Analysis of the quality of processing the strategic documents of sustainable development of regions

The initial precondition for analysis of approaches to strategic planning is the fact that strategic planning is a continuous process, more specifically a continuous process with two meanings. For the first, it is a process of creation of the strategic document itself. For the second, it is a process, by which the region is orientated in the long term on achieving the set goals and fulfilling its mission. In the second context mentioned above, the success is closely connected with the strategic management quality, this means how the procedures and tools defined in the strategic plan reflect in the concrete activities.

2.1 Methodology

The aim of such analysis is to evaluate the quality of the currently existing strategic documents with regard to the policies and principles of sustainable development and identify problematic spots. To achieve the said goal, the following analysis methodology has been defined:

- Determine approach to creating a strategic document with regard to engaging the key stakeholders;
- Define the method of the strategic planning process management;
- Identify the extent of focus of such documents on sustainable development;
- Evaluate diversity of tools usable for strategic and for the strategy implementation;
- Investigate existence of indicators relating to strategic goals of sustainable development and analyse, if they have the features of effective indicators;
- Concentrate on the method of monitoring the fulfilment of the sustainable development principles.

21 strategic documents were analysed and compared in total.¹

2.2 Key results of analysis and comparison

With regard to the substance of strategic planning, it can be stated that the analysed strategic documents meet the formal requirements for equivalent development documents, and they also comply with legislation.² Such documents define the strategic vision, objectives and measures, they have a complex character (they apply to all important spheres of the region's life) and they acquired political legitimacy (they were approved by the Region's Council). However if we focus on approach to creating development documents and the applied method of implementation, we can see substantial differences.

¹ Region Development Strategy (4) and Region Development Program (13) are the basic strategic documents of the regions in the Czech Republic. Only exceptionally the regions have the document of Region's Sustainable Development Strategy (2) elaborated as the main strategic document. Strategic Plan of the Capitol of Prague is a specific strategic document with the related Strategy Implementation Program.

² Act No. 129/2000 Coll. on regions and methodical manual of the Ministry for Regional Development concerning creating the region development programs regions.

In a half of the strategic documents, expert approach to creating them prevails. In such cases, project teams or working groups are set up, consisting of experts specialised in the fields required in the document. The extent of participation of the key stakeholders is closely related to the approach to processing the documents. This fact has been also confirmed by the performed analysis. The extent of engagement of stakeholders in the case of strategic documents, for which expert approach prevails, is lower or not taken into account at all. In such instances, both the professional and wide public was invited just to provide comments to the already created parts of the documentation, or public meetings were held. Engagement of the public in the decision-making process is therefore considered as rather declarative. In this context it is necessary to emphasize that cooperation only between the local experts and municipal elites (in particular political and economic ones) cannot provide a basis for development of the entire community.

The second half of strategic documents is created more by community method and is based on the principle of Local Agenda 21 and sustainability. When elaborating such documents, not only experts have been actively engaged in the process of creation of such documents, but also interest groups, unincorporated associations, business and public sphere and the wide public. The process set up in such a manner leads to gradual building of a partnership, the aim of which is continuous dialogue between all stakeholders who should take part in making decisions on the region's future development. Such documents have achieved higher degree of consensus, this means they reflect to maximum extent the common interests of the civil public.

From the viewpoint of the applied method and management of the strategic planning process, all documents may be referred to as a traditional strategic plan. None of them is compiled using the Logical Framework approach or the Balanced Scorecard strategic management system. Almost in all documents, the inductive approach tends to prevail, this means the efforts to identify problems and then the methods of problem solution. It is necessary to emphasize here that in the analytical part, only the SWOT analysis was applied, selected from many strategic analysis methods, being considered today often as a subjective tool.

The document analysis also revealed large differences in the degree of integration of the sustainable development conception (see Table No.

1). The same results occur also in other studie (e.g. [22]). Although the documents of all regions somehow reflect the needs of their harmonious development, they do not include priorities directly focused on support of "awareness and education" of sustainable development issue.

It can be characterised as very low in strategic documents of two regions, and medium in another three regions. The documents do not show sufficient and justified interconnection of all pillars of sustainable development, this means interconnection of the economic, social and environmental aspects. On the other hand, other regions strive to reflect their need of sustainable development in the documents and we can frequently find there priorities focused on support to sustainable development.

The largest differences in the quality of strategic documents can be identified in the implementation part. In more than a third of documents, no strategic indicators are defined, by which evaluation of the procedure of fulfilling the strategic goals and vision could be possible (value "no" and "only draft" in the Table No. 1). The second third of the documents only contains generally and vaguely defined indicators without analysing the current situation and the target situation (value "partially" in the Table No. 1). The remaining documents contain a system of indicators, which can be characterised as realistic, measurable, achievable in regards to data and vertically interconnected (value "yes" in the Table No. 1). Even in such cases the requirement to have at least one indicator evaluating the project activity defined, with the second indicator evaluating the region characteristics affected by the respective activities, is not fulfilled.

On the basis of such fact, it is not possible to follow objectively performing the strategic goals of sustainable development, effectiveness of implementation of partial measures and the level of synergic effect of the supported activities in two thirds of documents. Moreover, no method of update is specified for a third of documents, or the first update is made as late as after four years. Therefore it can be stated in general that from the viewpoint of implementation part, the strategic documents considerably differ one from another and in many cases, they represent strategic managerial tools of insufficient quality.

Problematic spots resulting from the performed analysis and comparison can be summed up into two groups – factual group and procedural group. The factual problems include in particular any imperfectness occurred in creating a plan.

Table 1: The results of evaluation of the basic strategic documents of the regions in the Czech republic

Region	Strategic documents	Level of orientation on the sustainable development conception	Participation of stakeholders	Existence of Indicators
Prague	Strategic plan of Prague city	medium	higher	no
	The program implementation of the strategy concept of Prague city			yes
Central Bohemian Region	Development Programme of Central Bohemian Region	higher	higher	only draft
South Bohemian Region	Development Programme of South Bohemian Region	higher	medium	no
Plzeň Region	Development Programme of Plzeň Region	higher	-	no
Karlovy Vary Region	Development Programme of Karlovy Vary Region	lower	medium	no
Ústní nad Labem Region	Sustainable Development Strategy of Ústní nad Labem Region	higher	higher	only draft
	Development Programme of Ústní nad Labem Region			yes
Liberec Region	Sustainable Development Strategy of Liberec Region	higher	higher	yes
	Development Programme of Liberec Region			partially
Hradec Králové Region	Development Strategy of Hradec Králové Region	higher	higher	only draft
	Development Programme of Hradec Králové Region			only draft
Pardubice Region	Development Programme of Pardubice Region	medium	lower	only draft
Vysočina Region	Development Programme of Vysočina Region	higher	lower	no
South Moravian Region	Development Strategy of South Moravian Region	higher	higher	no
	Development Programme of South Moravian Region			partially
Zlín Region	Development Strategy of Zlín Region	higher	medium	no
	Development Programme of Zlín Region			partially
Olomouc Region	Development Programme of Olomouc Region	lower	lower	no
Moravian Silesian Region	Development Strategy of Moravian Silesian Region	medium	medium	yes
	Development Programme of Moravian Silesian Region			no

Resource: The authors

The re-verification of all objectives, whether they really have the character of objectives and not activities, should be performed. It is also inevitable to define a system of indicators and review if they are really objectively verifiable and identifiable.

The procedural problems are connected with the respective proposal of management, organisation and enforcement of strategic management. This sphere is frequently not processed at all in the documents and becomes the weakest element. Especially creation of a system is in question, which would connect the entire system of strategic and action planning of the region with the strategic project management.

3 Analysis of the relations between region budget and aspects of sustainability

The analysis aim is to evaluate the structure of budgets of the selected Czech Republic regions in the context of sustainable development conception implemented with variable intensity in the regional strategies.

Two statements represent the research hypothesis:

1. Budgets of the regions, which more emphasises sustainable development in strategies, allocate their expenses more evenly with regard to the basic pillars of the sustainable development.
2. There is a significant relation between the quality level of the fundamental spheres of sustainable development and expenses allocated in such spheres.

Correlation analysis was the basic analytical method applied (for the reason of very small data file, the Spearman correlation coefficient was used). All calculated costs were taken from the period 2009 - 2010. These data was cleaned from expenses spend in public administration, because the analysis was focused only to expenses directly focused on some of the pillars of sustainable development. Subsequently, the averages of the expenses for each region were calculated.

3.1 Methodology

The following text defines the input data and the procedure applied to collect data, which were used to achieve the analysis objective. For the reason of analysing truthfulness of the Hypothesis No. 2, it was necessary to research each region from the viewpoint of quality levels of the sustainable development aspects. Sustainable development we can thought of as the needs of the regions, which can be understood as the consequence of legging some regions behind others. There was a premise that the lower the quality of the partial sphere of sustainable development, the higher the region's need to allocate expenses in such a direction.

Evaluation of the sustainable development quality aspects was based on research by Viturka [27] and from the data provided by the Czech Statistical Office.

Due to large extent of works performed in identification of relations of the regional budget items to the respective spheres of activity, only selected regions were researched (namely Olomouc Region, Karlovy Vary Region, Pardubice Region, Moravian-Silesian Region, Ústí nad Labem Region and Liberec Region). The selected regions represent various levels of implementation of the sustainable development conception in their strategic documents (see Chapter 2, the level is indicated by numbers 1, 2 and 3 in Figure No. 1, "3" representing the best quality of implementation).

The following sub-chapters provide brief summary of items assigned to the individual development pillars. Data for quantification of the region's needs are also defined there.

3.1.1 Environmental pillar

Study [27] included three pillars of sustainable development. Part of Viturka's study was focused to evaluating the quality of the environment in different regions of the Czech Republic. They used series of indicators (CO_x and NO_x emission, total

waste production etc.). The results of this study were used to determine the index of poor quality of environment in the regions surveyed.

As a part of analysis of budget structure of the researched regions, expenses orientated on improvement of environment were classified in this sphere (they included for example removal of the region's ecological burden, investment in environmental training or subsidies to use of alternative energy resources).

3.1.2 Economic pillar

The level of economic development of regions was defined on the basis of methodologically very extensive evaluation of quality of business environment according to the study [27]. These results were used to determine the index of poor quality of economic pillar in the regions analysed.

The region's expenses spent in the sphere of economic development support included expenses focused on strengthening the region's economic situation (in particular it included region's expenses to support small and middle-sized business, requalification courses or investment in traffic infrastructure).

3.1.3 Social pillar

The social development level was defined as an average of the following indicators covering two basic elements of regional budgets – educational system and healthcare:

- Quality level of labour force in regions [27];
- Number of doctors in hospitals per 10,000 inhabitants (Czech Statistical Office); and
- Number of beds in hospitals per 1,000 inhabitants (Czech Statistical Office).

The indicator of labour force quality includes quality of the achieved education of the region's population, which represents to a large extent the quality of educational system, support to which by the regional budgets represents in many cases the largest volume of expenses in the social sphere. The analysis of these indicators were used to determine the index of poor quality of social pillar in the regions surveyed.

The region's expenses spent in the sphere of social development support included expenses for example focused on education, healthcare and culture.

3.1.4 Balanced budget

The sustainable development conception may be conceived as an effort to achieve purposeful development of not only separated elements of regional development, but also their mutual interconnection. Such interconnection should be taken into account not only in the region's strategy, but also subsequently in compiling the region's budget, which should have a balanced structure in regards to the basic spheres of regional development.

Uncoordinated and fitful monitoring of the budget balance would certainly lead to interruption of many necessary activities financed by the public administration of the regions. On the other hand we however think that one-sidedly orientated budget with one part predominantly devoted just to one aspect of sustainable development is an extreme as well as the formerly mentioned case.

For such reason, we implemented an indicator called "Degree of Budget Balance" to be used in our analysis for determination of imaginary distance from a situation, when the budget allocates expenses in three equal volumes to three spheres of sustainable development. The distance from the situation of precisely balanced budget is too rough, but nevertheless useful measurement. It was classified into 5 categories (value 5 implies the highest level of balanced budget). Future research could be oriented on more sophisticated indicator [e.g. 7].

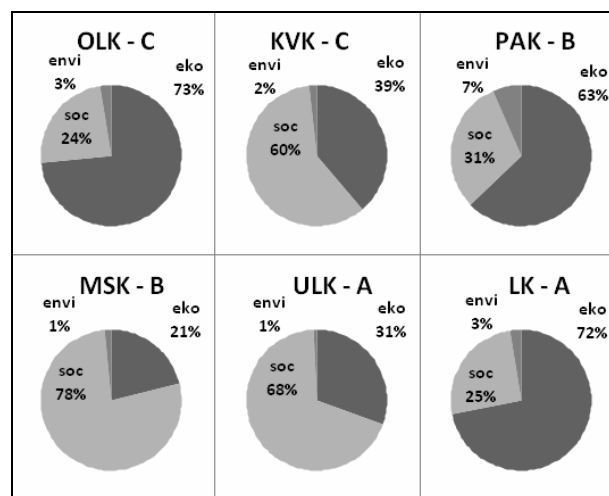
3.2 Key results of the analysis of selected budgets

Figure No. 1 shows the shares of expenses in the structure of regional budgets. It is obvious that the widest variability appears in expenses supporting economic and social development. On the contrary, the lowest variability is in expenses spent in the sphere of environmental pillar of sustainable development.

Figure No. 2 shows relation between degree of budget balance (X axis) and the degree of formulation of the sustainable development conception in the strategic documents of the regions (Y axis).

It is obvious from the chart that even without statistic testing of significance we can come to the conclusion that the research Hypothesis No. 1 cannot be confirmed.

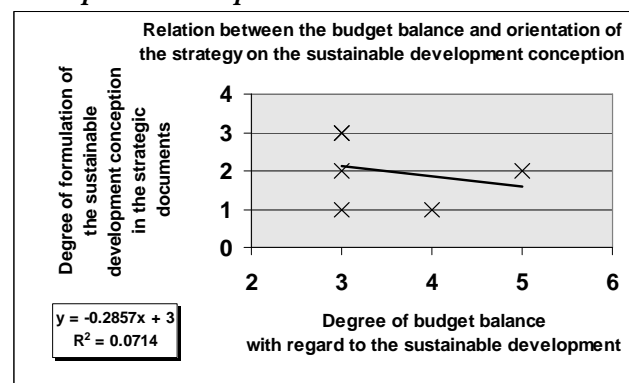
Figure 1: Structure of average regional budget expenses in the years 2009 and 2010 (without expenses at public administration)



Resource: The authors

The significance test ($\alpha = 0.05$) results for coefficient β of the regression line confirmed this presumption. Therefore it can be stated that the growing degree of implementation of sustainable development in strategic documents does not correspond with the growing degree of the budget structure balance.

Figure 2: Relation between the budget balance and orientation of the strategy on the sustainable development conception

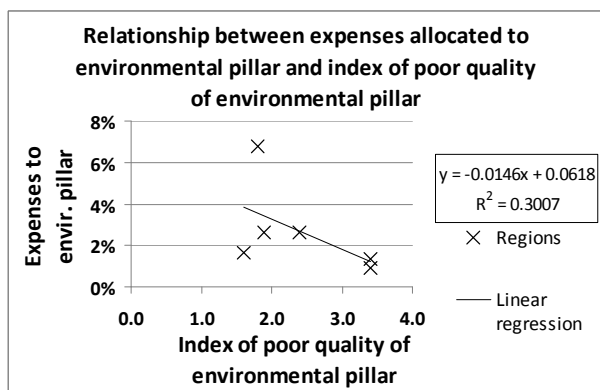


Resource: The authors

The result of analysis of relation between the quality of the individual aspects of sustainable development and the structure of expenses of regions turned out to be surprising. Statistic significance tests of correlation coefficient ($\alpha = 0.05$) did not prove existence of relation between the extent of needs of the regions and amount of spent budget funds. Therefore it can be stated that the relation presumed by Hypothesis No. 2 was not confirmed by such a small sample of regions. At the same time it is possible to think that the mechanisms influencing the amount of expenses in the individual

spheres are not so trivial as would be required by validity of the Hypothesis No. 2.

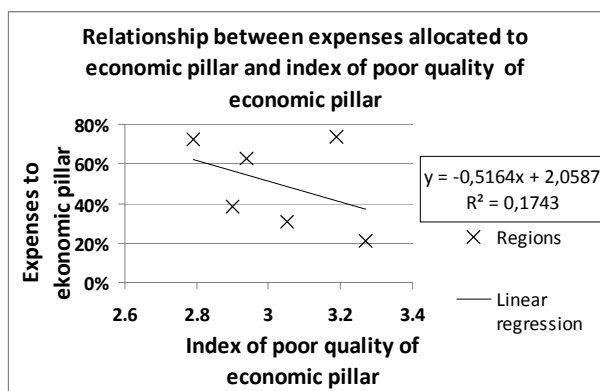
Figure 3: Relation between expenses allocated to environmental pillar (in % of expenses focused on all pillars) and index of poor quality of environmental pillar.



Resource: The authors

Figure No. 3 shows relation between expenses allocated to environmental pillar (in % of expenses focused on all pillars) and index of poor quality of environmental pillar. Coefficient of the determination for regression line is 0.3007. The coefficient of determination would be greater if the data was not depend on the value of the Pardubice Region. Pardubice region in comparison with other regions has a higher percentage of expenses focused on the environment and also not so bad situation in that sphere (index of poor quality of this region has value 1.8).

Figure 4: Relation between expenses allocated to economic pillar (in % of expenses focused on all pillars) and index of poor quality of economic pillar.

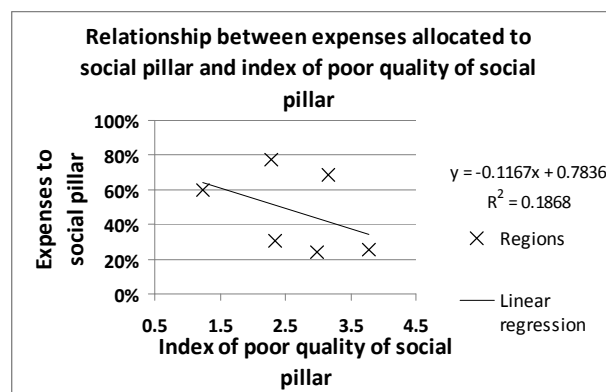


Resource: The authors

The same situation is on the figure No. 4 that shows relation between expenses allocated to economic pillar (in % of expenses focused on all pillars) and index of poor quality of that pillar. Coefficient of the determination for regression line is only 0.1743.

We can say, that the coefficient of determination would be greater if the data was not depend on the value of the Olomouc Region. This region has a relatively large percentage of expenditure (73% of all expenses to pillars of sustainable development) focused on support the economy, but achieves a lower quality of economic environment (index of poor quality has value 3.19).

Figure 5: Relation between expenses allocated to social pillar (in % of all expenses to all pillars) and index of poor quality of social pillar.



Resource: The authors

Figure No. 5 shows relationship between expenses allocated to social pillar (in % of expenses focused on all pillars) and index of poor quality of social pillar. Coefficient of the determination for regression line is 0.1868. The graph shows that the relationship between expense and index of poor quality is not linear. The same result is confirmed by the Spearman correlation coefficient.

3.3 Limitation of the analysis and discussion of results

The main limitation of the analysis is that budgets have been analyzed only for 6 regions. Further research expects to expand this analysis to the remaining regions of the Czech Republic, which were not included in the analysis due to the large amounts of data. Larger sample would certainly contributed to the removal of uncertainty associated with the results of this analysis.

Another limitation of the analysis is problematic methodology for classification of expenses in different areas of sustainable development. Current methodology abstracted from spillover effects of spending between the pillars of sustainable development. The basic problem is that the process of regional budgets are created according to competency of department. A better method is the creation of the regional budgets by using one of the

more advanced approaches (such as performance budgeting).

Other limitations came from the assessment methodology used index of poor quality areas of sustainable development. In the analysis we used a complex indicators of quality of sustainable development in economic and environmental pillars. The quality of the regional social pillar was assessed only on the basis of 3 indicators (quality of labor power, number of doctors and beds to the population of the region). Only one of them (quality of labor power) is adequately complex. Future research will focus on finding suitable indicators for evaluation of quality of social development [see 10, 9].

The results obtained in terms of statistics are not sufficiently conclusive. Among the variables isn't a statistically significant relationship. On the other hand, if we still try to interpret the relations found, then it is possible to consider that the size of expenses on the area of sustainable development is directly proportional to the quality of these areas (it means non-directly proportional relationship to the poor quality of sustainable development). Despite that uncertain results is possible to consider that the quality of regional development is directly dependent on the relative size of expenditures in that field.

4 Tools supporting sustainable development

On the basis of previous analysis and within the context of current literature the managerial tools that have the potential to eliminate the above-mentioned problematic spots are proposed.

- *Analysis of stakeholders* – to be successful, the sustainable development strategy must not be in discrepancy with the interests of the key stakeholders. Their wishes, expectations and aims, that's just what is important to know, because in most cases they will decide whether the implementation of the intended strategy will be successful or not [17]. If it is used prior to defining mission statements or strategic visions, then stakeholder analysis might be composed of the following steps [15]: 1. identification of stakeholders; 2. identification of how stakeholders influence the organization; 3. identification of what the organization needs from each stakeholder; 4. identification of the criteria used by the stakeholders in evaluating the organization; and 5. ranking of stakeholders in a rough order of importance. In analysing the

expectations of stakeholders, the standard methods and techniques of questioning are applied, such methods and techniques to include interview or questionnaire survey.

- *Communication strategy* - unfortunately, the management as a discipline generally still focuses more on logistical issues (eg. market needs, distribution, growth, products) than human subjects. One of the fundamental aspects of communication strategy is analysis of stakeholders. The communication strategy should determine the optimal procedures on which the region will communicate with key stakeholders to address the regional problems. At a practical level, the communication strategy provides support to the creation and subsequent communication of the objectives specified in the strategic document. Communication has to be seen as a full-value and vital component of strategic management.
- *Sustainability Performance Measurement and Management* – first is necessary to stress that performance measurement and performance management are not the same notions. Performance measurement is the basic component of any process of change management. The key idea of performance measurement is: organisation defines its envisaged performance and outlines how this performance could be measured by formulating performance indicators. This process will show whether the envisaged performance was accomplished and what the cost of it was. Thus the firmly set performance indicators may help the regional self-government reveal if the respective strategies leading to sustainability are performed efficiently and effectively. Defining the performance indicators itself is instructive, because – as the analysis of strategic document showed – the public institutions often have no absolutely clear goals or such goals may even be wrongly defined. After that performance management, in broad terms, could be characterized as strategic approach to management, which equips managers, employees and stakeholders at different levels with instruments and techniques. These tools and techniques are utilized by role players to regularly plan, continuously monitor, and periodically measure and review performance of the organization in terms of set indicators and targets for efficiency, effectiveness and impact [8]. The sustainability performance management can be identified as multi-dimensional

management, precisely thanks to orientation to three main pillars of sustainable development

- *Strategic management system - Balanced Scorecard* - Balanced Scorecard (hereafter BSC) is widely spread and accepted method. The main benefit of the BSC model lies in establishing a framework in which the culture and direction of an organization can be translated into strategies that are actionable, specific and measurable [25]. According to the authors of concept, BSC framework is a template, not a straitjacket. [16]. Therefore the concept remains open for change and integrating further relevant environmental and social aspects. Several scholars have already indicated the opportunity to develop Sustainability BSC [11,4]. Simultaneously we can discover the particular examples of integration of sustainability into the BSC. For example Fidge et al. presented three different potential ways of integrating Sustainability into the Balanced Scorecard [12]: 1. the sustainability is reflected in the traditional four BSC perspectives; 2. new perspective focused on sustainability is added; 3. specific scorecard related to environmental and social aspects based on the existing BSC system is developed. Hence, the BSC can be seen as a promising starting-point or possible implementation tool for incorporation of environmental and social aspects into the strategic management.
- *Benchmarking* - latest survey of Bain & Co. have shown that benchmarking is the most used management tool of Fortune 1000 companies. This trend affects also the public sphere. If an organization knows its strengths, recognizes its weaknesses, and understands how the surrounding external world performs, then it can identify those practices that require modifications [7]. The analysis of best practices that are the main component of benchmarking provides the greatest opportunity for strategic, operational, and financial improvement. Implementation of benchmarking needs to be considered just from using the "tool" for carrying out an individual project, but more importantly from a wider perspective, that of developing a continuous approach to learning and the prevention of complacency through a mindset of Plan – Do-Check-Act [28].

5 Conclusion

The performed analysis, comparison and evaluation reveal the weaknesses and questionable points of the current approaches to strategic planning and budgeting in the context of sustainable regional development. These problematic points need to be eliminated to enhance the quality of sustainable development strategies and their interconnection with budgets. The proposed tools can be used not only to strengthen the linkage between the economic, social, and environmental aspects of society but also to improve the performance of organizations, to enhance control and accountability mechanisms, give form to the budget process, and to motivate staff.

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