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TABLE OF CONTENTS

Beata Belina, Adam Mazurkiewicz, Tomasz Giesko, Wojciech Karsznia

Tracking and predicting solution development in R&D projects using a complex assessment method 7

Marcin Gębarowski, Dariusz Siemieniako

Mystery visitor as a research method of trade show performance 15

Jacek Sierak

The impact of public management on the effectiveness of public finances at the local level 25

Jaroslav Dvorak

Institutional and policy arrangements for evaluation of the European Union structural funds in Lithuania .. 35

Primož Pevcin

Organizational transformation in subnational governments: selected technical evidence on the existence of learning 50

Bogdan Nogalski, Andrzej J. Kozłowski, Iwona Z. Czaplicka-Kozłowska, Marta Bonczar

Finance management in independent public health care centres – diagnosis attempt..... 55

Romualdas Ginevičius, Šarūnas Bruzgė, Vanda-Birutė Ginevičienė

State subsidies and their impact on business 62

TRACKING AND PREDICTING SOLUTION DEVELOPMENT IN R&D PROJECTS USING A COMPLEX ASSESSMENT METHOD



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ABSTRACT

One of the key issues in the management of R&D projects is tracking the process of their implementation, and the PR of the development of created solutions. The information about the current progress of the project and the identification of risks in different spheres of its implementation provides the possibility to take appropriate corrective actions on a continuing basis. This article presents a systemic approach and a practical application of a complex assessment of the maturity level of implementation and commercial potential in tracking and predicting the development of innovative technological solutions developed through R&D projects. It presents prediction capabilities for the development of technological solutions based on the analysis of evaluations using the example of tracking research projects conducted within the framework of the Strategic Programme, „Innovative Systems of Technical Support for Sustainable Development”. The article proposes directions for further research, which, in the process of predicting the development of solutions, factors in various aspects occurring at the design stage, preparation for the implementation, and commercialization.

KEY WORDS

R&D project, tracking of a R&D project, implementation maturity assessment, commercial potential assessment

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INTRODUCTION

The main purpose of R&D projects in the area of advanced technologies is to develop innovative solutions in the form of products or process technologies, intended for implementation and commercialization. The pursuit of maximum application efficiency of the solutions developed within the framework of the projects stems primarily from the constantly increasing market competitiveness. The implementation of innovative R&D projects is usually accompanied by high risk in the technological, economic, and organisational areas. A major source of risk in the process of designing technology solutions is the uncertainty in relation to the development of the concept, the development of the model, and the development and verification of the prototype in real working conditions. Uncertainty in the design of new solutions

necessitates, among others, the development of alternative solutions and an analytical search for optimal solutions using multicriterial methods and identification and risk analysis methods.

Seeking to obtain innovative solutions at the highest technical level very often is in conflict with the necessity for a rigorous procedure that is determined by the project schedule and budget. In the context of the conditions and problems listed here, project management of R&D is a particularly complex and difficult decision-making process, where special qualifications and competencies of the project manager are required. The project manager's own experience and expert knowledge used in the collaborative management of the project have a significant influence on the decision process. More and more often, in order to support R&D project

management, analytical methods are applied to track the level of the advancement of the project and to assess the results obtained in terms of their implementation and commercialization.

An important issue is the prediction of the designed solution development and the assessment of the effectiveness of the project, using the method of result assessment conducted in subsequent stages of the project. Another tool for project management is a computer simulation, where, after entering the requirements and assumptions, a collection of research predictions is provided. The information about the current progress of the project and the identification of risks in different spheres of its implementation allows taking appropriate corrective actions on a continuing basis. This article presents a practical application of a complex assessment of the maturity level of implementation and commercial potential in tracking and predicting the development of innovative technological solutions in the developed research projects.

1. METHODS FOR TRACKING AND ASSESSMENT OF THE PROGRESS LEVEL OF R&D PROJECTS – THE STATE OF THE ART

The beginning of a significant development of methods of assessing the innovative technological solutions took place in the end of the sixties of the last century (Porter et al., 1980). The methods for assessing technology solutions quickly found their use in the operational management and decision-making systems (Cagnin et al., 2008). The first significant practical achievement in the development of methods for assessing technology is the development and practical application of the qualitative assessment method – Technology Readiness Levels (TRL) by NASA in the 1980s (Mankins, 1995). The US Defense Department launched the program of the TRL implementation in their projects in progress in 1999, which is now a global standard used in the evaluation of innovation (Defense Acquisition Guidebook, 2011). The result of the development and improvement of the TRL is a quantitative assessment method – Technology Readiness and Risk Assessments (TRRA), which incorporates aspects related to the risk (Mankins, 2009). Based on the gathered practical experience regarding the uses of the TRL methods, the users in a number of publications presented verified advantages of the method, as well as revealed its limitations (Fernandez, 2010).

The most important advantages of the TRL method were indicated as follows:

- a conceptual system accessible to future recipients of the developed solution and business people;
- a hierarchical algorithm for the evaluation, which is easy to understand and to use;
- the structure and the procedures that ensure repeatability of the evaluation process.

The main disadvantages that became apparent in practical applications of the TRL method include the following:

- no reference to the problem of uncertainty in the process of developing and implementing technological solutions;
- the lack of mechanisms for using the analysis results of the design process to manage R&D projects;
- limited integration with tools for simulation and analysis of risks and costs;
- lack of inclusion of product specificity such as innovative systems and information technologies.

When using the TRL, it should be remembered that the TRL scale is not linear. The technical value increments of a solution in TRL, and the expenses and labour input are different at various skill levels. A new approach, which takes into account the critical observations about the TRL evaluation, is presented in the Integrated Technology Analysis Methodology (ITAM), (Mankins, 2002). The ITAM method is a quantitative assessment of Δ TRL increments, including the difficulty of a given R&D (Research and Development Degree of Difficulty – R&D3). The ITAM method is dedicated primarily to tracking projects that are concerned with creating complex technical systems. The systemic approach for the assessment of the maturity level of technological solution implementation has been recognized and accepted as a standard by many international organizations, for example, by the European Commission (ISO 16290:2013 (Final Draft). Space systems – Definition of the Technology Readiness Levels (TRLs) and their criteria of assessment, 2013). However, the developed standard presents only a general evaluation algorithm on a scale (TRL1 – TRL9), without a detailed assessment which would take into account solution specificity. As a consequence, the proposed standard is characterized by similar limitations as the TRL method, such as failure to take important aspects of the solution development on the market. The TRL method has been recommended to assess the level of R&D progress in the course of reviewing applications for the financing of R&D projects within the framework of the European Union and also for national programmes. Its major limitation, in this case,

is purely qualitative assessment of projects, which does not provide means to identify problems in the different areas. The identified weaknesses and limitations of the basic TRL method, as well as new challenges arising from technological developments, necessitate the development of more advanced and efficient methods for assessing the qualitative and quantitative solutions for R&D projects.

Primarily, the examples implemented by the US Defense Department are (Department of Defense Instruction 5000.02, Operation of the Defense Acquisition System, 2015) the Manufacturing Readiness Level (MRL) method for determining the level of preparedness for production and identifying the deficiencies and risks, and the Integration Readiness Level (IRL) method, which is implemented for assessing the maturity level of the integration and compatibility of complex systems (Gove, 2007). Critical evaluations of the TRL method primarily indicate the non-inclusion of the full preparation of the developed solution for placing it on the market and its use in the nine-point scale.

Publication (Hicks et al., 2009) presents the concept of an expanded scale of TRL, where the levels 10 and 11 represent the processes of product use and development according to the Product Lifecycle Model. In addition to the TRL method, the following are suggested: System Readiness Level, Design Readiness Level, Software Readiness Level, Operational Readiness Level, Human Readiness Level, the Habitation Level Readiness, and Capability Readiness Levels (Sausser et al., 2008). The issue of the effectiveness of the R&D projects and the methods of its comprehensive measurement are presented in a few publications (Sanchez, Perez, 2002; Laliene, Sakalas, 2014). The publications (Hage et al., 2013), (Hudson, Khazragui, 2013; Weyant, 2011) indicate that the problem of effective tracking and predicting the efficiency of conducted work is directly connected with the main causes of project failures. An example of the practical application of the TRL analysis and numerical methods to assess the level of advancement of R&D projects, and to estimate the probability of success, is presented in literature (Eckhause et. al., 2009).

The Institute for Sustainable Technologies – National Research Institute in Radom (ITeE-PIB) has proposed an original approach in assessing the development of technological solutions, taking into account the various aspects of their development. The basis of a methodology of the technological solutions evaluation (SDW) developed in 2010 is broad experience of the ITeE-PIB in the implementation of many research projects and implementation of innovative solutions in the industry. The SDW methodology is used for the quantitative evaluation

of technological advancement and implementation maturity of solutions developed in R&D projects (Mazurkiewicz et al., 2010). The effect of the continued work takes into account services in the categories of rated products (Mazurkiewicz et al., 2011) and the development of a method of assessing commercial potential (PK), (Belina et al., 2012). The method of innovative solutions evaluation uses an information system that integrates both modules of assessment SDW and PK. The methodology, which developed in the ITeE-PIB, is a complex assessment of innovative technological solutions including the evaluation of implementation maturity SDW, commercial potential PK, and the level of innovation, PI (Mazurkiewicz, Poteralska, 2012). The concept of applying the evaluation of implementation maturity (SDW) and commercial potential (PK) to the tracking and evaluation of strategic projects is presented in literature (Łopacińska, 2015). Improving the effectiveness of the R&D project management using the multicriterial methods of solution evaluation is currently one of the main directions of research conducted in the ITeE-PIB in the area of project management of research projects and the transfer of innovative solutions to economic application.

2. METHODOLOGY FOR TRACKING AND PREDICTING

For tracking and prediction of innovative technological solutions, two methods were used: the maturity of implementation assessment (SDW) and commercial potential assessment (PK). The SDW method in its basic assumptions about the overall structure of the evaluation algorithm and assessment criteria base for the evaluation is similar to the method of Technology Readiness Levels (TRL), (Tab. 1).

The main features that distinguish the SDW method are: the diversity of development and applying the main division into materials, process technology, equipment, systems, and services.

The developed categorization system is two tier and open, which enables the introduction of new categories and subcategories of the developed products. In accordance with the adopted approach, the SDW system includes developed criteria bases tailored to the specificity of a given solution category. Depending on the category, the criteria base for evaluating the progress of the project implementation includes from 200 to 240 specific points concerning various aspects of the solution development.

Tab. 1. The scale of assessment of the SDW

	SDW	A GENERAL DESCRIPTION OF THE SOLUTION ADVANCEMENT LEVEL
PRODUCT	9	Preparation of the product for the production and sales on a commercial basis
	8	Production of sample series and obtaining product compliance certificates and suitability for use permits
	7	Production of the final version of the product
PROTOTYPE	6	Verifying the prototype of the product in operating conditions
	5	Production and verification the prototype product in simulated conditions similar to actual conditions
MODEL	4	Checking the functioning of experimental model in simulated operating conditions
	3	Checking the functioning of the model under laboratory conditions
CONCEPT	2	Confirmation of the correctness of the solution concept
	1	The formulation of the concept of a solution
	0	Identification and description of the basic principles of action

In the assessment of the commercial potential (PK), the analysis of a solution is carried out in the following areas: technological, market, economic, organisational, and legal. The criteria base for the evaluation contains 32 detailed points to enable the identification of the most important features of the solution. The total measure of the commercial potential is a percentage. A computer tool for conducting a complex SDW and PK assessment is a developed computer program functioning as a dedicated Web site.

The high level of the reliability of the conducted evaluations is provided by an independent external expert panel. Practical experience with the implementation of R&D projects in the ITeE-PIB showed that, for the purpose of the on-going project

tracking, it is also possible to use evaluations by a team of internal experts with the participation of the project manager.

The combined SDW and PK methods for the evaluation has been applied to the current tracking of projects within the framework of the Strategic Programme, „Innovative technical support systems for sustainable development of the economy”, implemented in the ITeE-PIB, between 2010-2015, including more than 60 projects where each had its own defined scientific, technological, implementation, and market goals. As part of project tracking, periodical assessment is carried out every six months concerning the level of implementation maturity of SDW and commercial potential (Fig. 1).

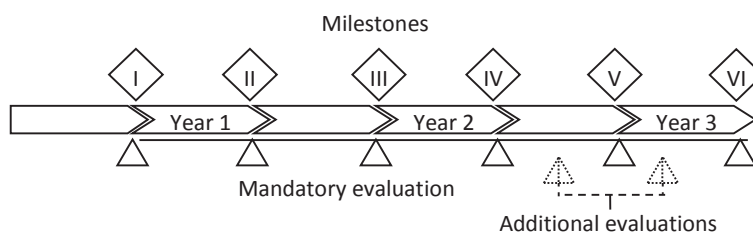


Fig. 1. Diagram of the periodical evaluations R&D project progress

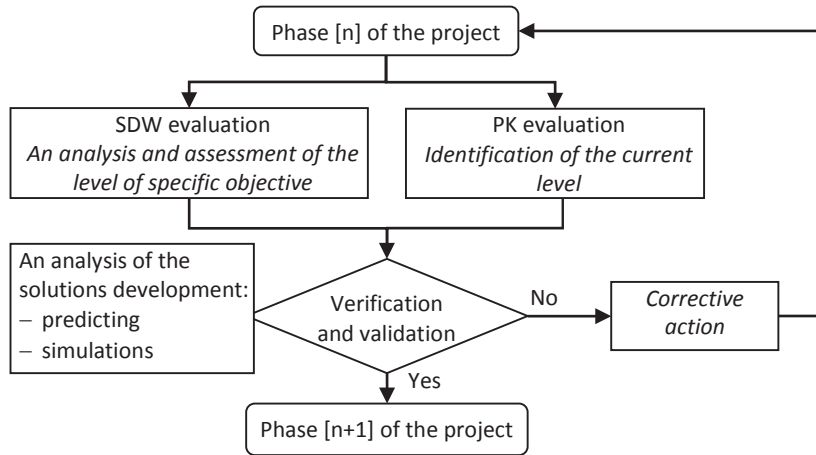


Fig. 2. An algorithm for tracking the progress of R&D projects

The tracking schedule has been correlated with milestones in projects. Depending on the specifics of the project and the progress of work, the possibility of conducting additional reviews at set points of the schedule was taken into account. Additional assessments are a particularly valuable source of information in the course of the project. The results of the evaluations were used by the project managers and the steering committee for the day-to-day management of the process, both at the operational level of individual projects, as well as at the level of the entire Programme.

The management process of the Strategic Programme uses a systemic approach, which included systematic tracking of the projects implementation. The algorithm of progress tracking takes into account the feedback mechanism that triggers corrective and recovery actions, according to the results of the

evaluation at a given stage in the project (Fig. 2).

The results of the SDW and PK assessments of the project progress presented in the chart make it possible to predict and simulate further development within a selected time frame, using a mathematical 2nd order polynomial trend line (Fig. 3). The estimates of the dynamics of changes in SDW and PK indicators can be used to verify the time and cost of reaching the final objective, as well as to assess the current risk of the project. In project tracking and prediction (individual and strategic), depending on the time frame, the following classification of assessments, predictions, and development simulation is proposed:

- on-going (up to 1 month),
- short-term (up to 3 months),
- medium-term (6-12 months),
- long term (2-3 years).

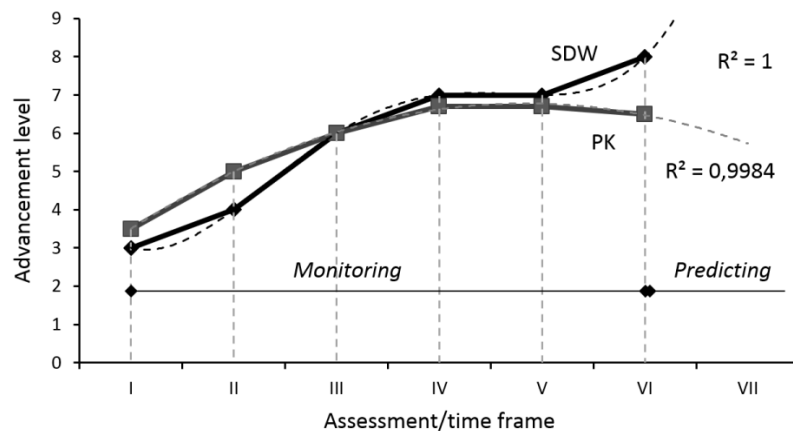


Fig. 3. A sample chart of changes in the project progress with the predictions for further development

Predicting and simulation the development of project results should take into account the significant impact of the trend line method on the process, and thus the result of obtained predictions. Reducing the uncertainty of prediction determination is possible by increasing the number of subsequent evaluations in stages prior to the point prediction. Taking into account this aspect, prediction using an analysis of trends in the characteristics of the SDW and PK should be treated with particular caution. Predicting in this form is mainly an element supporting the process of project management and requires a comparative verification using the results of other analyses. The results of the assessment of the progress level in reference to the timetable of the project implementation can be presented graphically (Fig. 4 and 5).

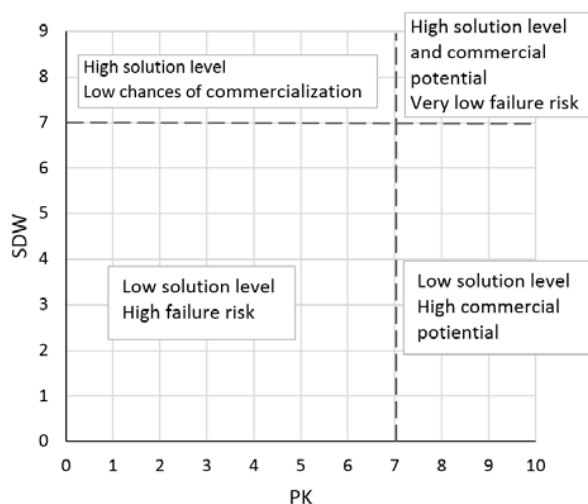


Fig. 4. Chart of the project progress of the SDW-PK framework

The methodology assumes that level 7 of the SDW scale represents highly advanced solutions, above which the technological risk of failure is very small. Similarly, in the scale of the commercial potential PK, the level of 70% marks set maximum level, above which there are high chances for commercializing the solution. In the tracking of the project implementation and the actual cost, the maximum acceptable value for both parameters is assumed to be 125% compared to the initially planned cost. A graphical presentation of the results of the SDW and PK evaluation, as well as predictions of the project deadline and budget can be used to analyse current project risks. When tracking a strategic project consisting of a number of specific research projects, the proposed charts provide a comprehensive analysis of the state of progress.

3. EXAMPLES OF METHODOLOGY APPLICATION

The developed method has been applied to project tracking within the framework of the Strategic Programme, „Innovative Systems of Technical Support for Sustainable Development”. The Programme planned the implementation of the more than 60 projects assigned to selected problem groups representing separate multidisciplinary areas of knowledge and technology. In the vast majority of projects, the planned targets include more than one result, which, in accordance with the adopted classification, are materials, process technology, methods, equipment, systems, and services. Tracking a project required, in most cases, following the

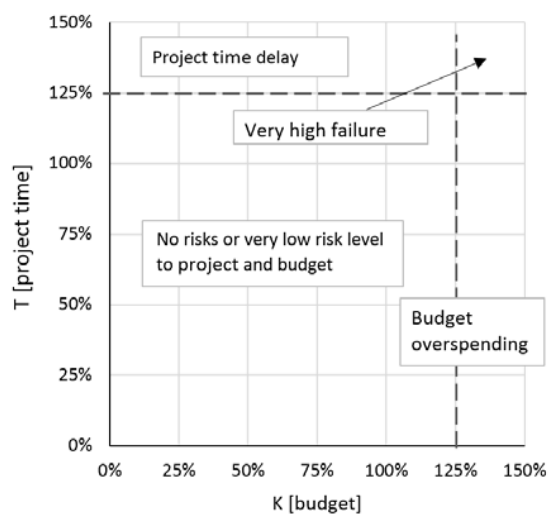


Fig. 5. The status of the project in relation to scheduled time and budget

progress of individual, planned targets. The objects of tracking and periodic evaluations for the entire Strategic Programme were nearly 150 solutions, many of which present a high level of innovation. The assessment procedures assumed a basic medium-term, six-month cycle of tracking and the prediction of the results of projects. The evaluations were carried out by a team of internal experts with the participation of the project manager and project contractors. The results of the analyses were important factors in determining the corrective actions to be taken.

Examples of the results of the implementation tracking of solutions within the framework of the project are shown in Fig. 6, where the subject of the development was a testing device for testing mechanical resistance RFID identifiers. The prediction of technology development based on the trend line indicated the possibility of achieving level 10, enabling the introduction of the solution into the

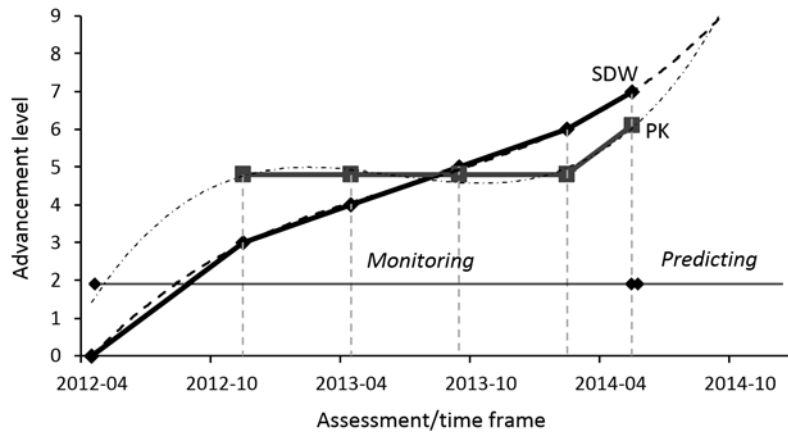


Fig. 6. The progress of the testing device development for mechanical resistance tests of RFID identifiers

market after time circa 6 months from the date on which level 7 was achieved. The observed increase in the commercial potential (PK) was primarily affected by the development of technical solutions confirmed during the verification tests of the prototype.

One of the tasks of the steering committee for the strategic Programme was to track the status of project implementation within problem groups and within the entire Programme. Examples of charts showing the aggregated results of the periodic evaluations of projects carried out in the final stage of the Programme are presented in Fig. 7 and 8. These charts show the results of the evaluations of solutions in the group of devices. Within this group, 30 products are classified. A definite majority of solutions achieved a high level in SDW and a medium or high level of PK. The projects in the group of devices were completed on schedule.

Only in one case (Fig. 8) the deadline was extended and the budget increased to circa 125% of originally assumed values for these parameters, due to the extension of the scope of work and planned results. The purpose of the extended scope of the project was the development of additional specialized machinery for which new buyers on the market were identified.

In the final stage of the implementation of the Strategic Programme, it was justified, and in some situations it was necessary to apply short-term monitoring cycles to individual projects. The tracking of particularly accountable and complex projects on a shorter-term basis increased the level of control and helped to reduce the risk of potential problems and failures.

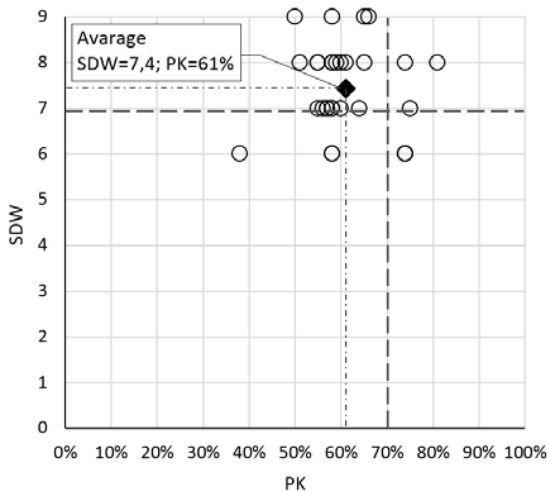


Fig. 7. A cumulative chart of progress of the projects in the SDW-PK system, for device solutions

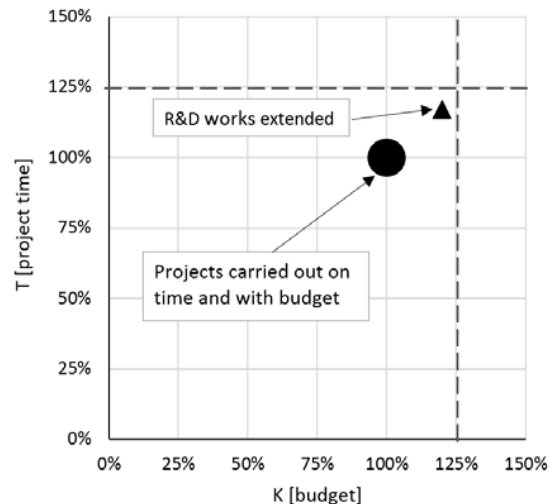


Fig. 8. The status of projects in relation to scheduled deadline and budget for device solutions

CONCLUSIONS

The method developed by the ITeE-PIB for a complex assessment of the maturity level of implementation and commercial potential makes possible to track and predict the development of innovative technological solutions in R&D projects. The method takes into account the specificities of projects which results are innovative solutions. The analysis of the results of numerous practical applications of the method for tracking project progress has confirmed its usefulness and effectiveness. Practical experience during the Strategic Programme showed that for the management support of the projects realisation in critical situations it is crucial to increase the frequency of evaluations and use their results to corrective actions at the operational level¹.

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INSTITUTIONAL AND POLICY ARRANGEMENTS FOR EVALUATION OF THE EUROPEAN UNION STRUCTURAL FUNDS IN LITHUANIA



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ABSTRACT

The aim of this article is to assess critically institutional and policy arrangements for evaluation within Lithuanian public administration in order to manage the support of the European Structural Funds and the use of evaluation requirements of EU structural funds as a limited case study. What has been changed in the administrative arrangements of EU Structural funds support during the two programming periods 2004-2006 and 2007-2013? A key research question is to assess administrative arrangements for evaluation within Lithuanian public administration in order to manage the support of the European Structural Funds and use of evaluation requirements of the EU structural funds as a limited case study to map how these arrangements are or are not developed, and isolating the key explanatory factors. Methodologically, we used semi-structured qualitative interviews and quantitative online surveys of officials, academics and evaluators. The research results show that isomorphism and donor-oriented evaluation dominates in the evaluation system of the EU Structural and Cohesion funds. Lithuania transfers the elements necessary for support evaluation to the public administration systems. From the intervention approach, supporting many programmes and projects, there is a change to the approach based on long-term planning, programming and consulting with the stakeholders. The current paper covers three significant topics (a) the evaluation of the EU Structural support to Lithuania; (b) the institutional and policy arrangements for evaluation within Lithuanian national government; (c) evaluation capacity for public policy evaluation within Lithuania. The research itself contributes to the spread of evaluation theory and practice in the new EU member states. State officials will be able to learn and compare the implementation of evaluation in other member states, what aims were reached, what the scope and significance of evaluation is dependent on evaluation coordination and system centralization-decentralization and what the influence of cultural aspects on evaluation implementation is. The evaluation community could learn about the differences of evaluation systems, possibilities and restrictions, the applied evaluation methods and means of evaluation quality management in order to work in a certain market.

KEY WORDS

evaluation capacity, utilization of evaluation, monitoring, Lithuania, European Union, Structural Funds

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INTRODUCTION

Evaluation of public policy has been applied in Lithuania recently, and a certain impact of this tool is noted while administering the support of the EU Structural and Cohesion Funds. However, the information about evaluation has not been perfect yet. Evaluation is institutionalized in the Lithuanian

administration system. An evaluator is a new social role, and, as we know from anthropology and sociology, rights, duties, expectations, etc. are typical for any role. In addition, the role of an evaluator is related to other roles, which are politicians, administrators, citizens or modernizers and innovators (Hansson et al., 2014; Kraujutaitytė, Dvorak, 2014). Rules of behavior exist for any given pair of relationship or the norms and corresponding

configurations of power; thus, not only time, but also will is necessary to include evaluation into agendas. In the process of evaluation consolidation, the evaluator has the right to ask specific questions, demand for certain information, and charge the people to use evaluation results. While analyzing the development of the evaluation function, it is important to know how evaluation influence appears, mediates, is blocked or develops or, speaking instrumentally, how the influence of any evaluation may be increased. The research on policy evaluation, as well as many other retrospective instruments of public policy, faces the lack of data.

The amount of data about the outcomes of public policy instruments, which were provided a decade ago, is significantly higher in comparison to the information on public policy evaluation provided only several years ago. Apparently, there is an existing need to clarify how public policy evaluation is applied in the Lithuanian political and administrative environment. Of course, it is not necessary to wait several decades for the information about the implementation of public policy evaluation in post-communist countries. The more institutionalized evaluation is, the more difficult it will be to make changes while reconstructing the process of evaluation/the mechanism and compare with the earlier stages of implementation.

The current paper covers three significant topics: the evaluation of the EU structural support to Lithuania; the institutional and policy arrangements for evaluation within Lithuanian national government; evaluation capacity for public policy evaluation within Lithuania.

The aim of this research is to assess administrative arrangements for evaluation within Lithuanian public administration in order to manage the support of the European Structural Funds and use of evaluation requirements of the EU structural funds as a limited case study. What has been changed in the administrative arrangements of EU Structural funds support during the two programming periods 2004-2006 and 2007-2013?

Disciplined-configurative case study was combined with a structured comparative method and applied to the analysis of evaluation of the EU Structural and Cohesion Funds in Lithuania. Using the method of disciplined-configurative analysis, the existing theories were used in order to assess the evaluation scope and significance in the new EU states. The data for the analysis were collected and analyzed applying the triangulation conception:

- document analysis (legal and administrative documents, protocols, reports and media reports);
- in-depth expert interview of direct contact and

contact by telephone;

- quantitative questionnaire of public officials;
- content-analysis;
- statistical data analysis;
- logical distribution and classification;
- comparative analysis of the features.

In-depth semi structured interview: The qualitative research started in Vilnius, Lithuania. From October 15, 2009 to April 18, 2011, 26 semi-structured interviews were carried out. Eight interviews were carried out communicating directly with the respondents, fourteen interviews were carried out on the phone and four respondents wanted to answer the questions by e-mail. Two respondents were questioned in Brussels and Maastricht.

Quantitative online survey: In order to research the scope and significance of public policy evaluation better, a survey of state officials was carried out. The survey of Ministry, the Government and Office of the Parliament officials was carried out from January 3 to November 3, 2010. The survey was carried out with pauses. The link to the survey online was sent to 349 officials. Ninety of them sent the answers back.

1. RISE OF EVALUATION AND ITS SCOPE IN LITHUANIA

The appearance of evaluation function in Lithuania is related to the PHARE programme of preparation to membership in the EU. PHARE programme funding was allocated in Lithuania from 1991 to 2003. In total, €512 m were allocated. Later, in 2004, the first evaluations of the preparation for membership programme PHARE started. Several projects of interim evaluation were performed by external evaluators. According to the Ministry of Finance (2007), (subsequently, MF), 112 recommendations were provided; more than half of them (57 per cent) were implemented, around one third of evaluations (35 per cent) were partly implemented, and only a small part of recommendations were not implemented or they lost their relevance. Later, in 2006, one more evaluation project was initiated. At that time, evaluation function was coordinated by the National Aid Coordinator.

Even though evaluation started comparatively recently in Lithuania, the current research attempted to find out whether the evaluation function has had any noticeable influence on public administration. The data show that evaluation function is not completely institutionalized into the Lithuanian public administration system because most respondents do not know and have not noticed its

influence on public management. In order to find out some more issues, individualized interviews contained a question, whether the evaluation function in Lithuanian public administration has had any noticeable influence on public management. Civil servants who participated in the interview indicated that everything is starting, the function is being used, evaluation results are analyzed; however, more influence is not apparent. Nevertheless, the representatives of evaluators and academic community distinguished several influences on public administration:

- it encouraged accountability (to the European Commission and the public for the usage of financial resources);
- knowledge and capacities about evaluation appeared in the public administration system (but their dissemination is limited).

Evaluation capacities and knowledge are accumulated in one centre (in the Ministry of Finance).

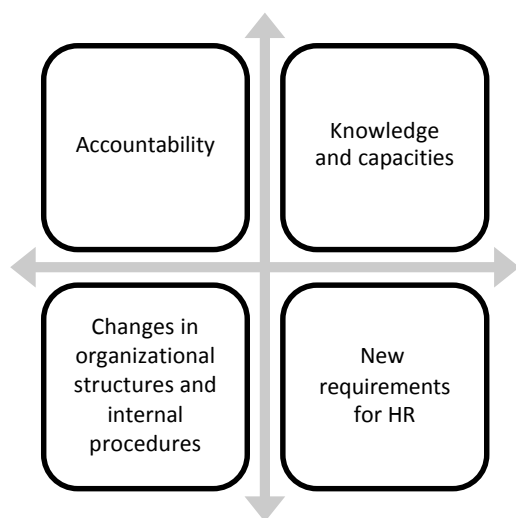


Fig. 1. Evaluation function influence on public administration in Lithuania

At the time of this writing, spread of evaluation is impeded by the fact that its rise was influenced by the formal correspondence to requirements, not because of the need to improve public governance; therefore, its dissemination scope is limited; changes in the organizational structures of the institutions and internal procedures (evaluation units were established in several ministries); new requirements for human resources. The data of qualitative research clearly show that the evaluation function is being institutionalized and is monopolized by the MF; thus it will depend on the initiative of the civil servants

of the Ministry whether the evaluation function will disseminate or whether it will remain an internal tool of the Ministry.

2. TWO DIMENSIONS OF INSTITUTIONAL ARRANGEMENTS FOR EVALUATION

Because of public administration traditions and different delegation of functions according to the competence of regional institutions in national contexts, the systems of the EU Structural Funds management and implementation vary along the scales of centralized/decentralized governing and integrated/non-integrated system (ESTEP, 2006; European Policies Research Center, 2009). With respect to this, the main ways of organizing evaluation is centralized, decentralized and mixed.

Centralized-decentralized: While organizing the Structural Funds evaluation, Lithuania adapted the approach of centralized evaluation. Under such circumstances, the process of evaluation is coordinated by the Government of the member state, or the evaluation function is delegated to the MF. Vilpišauskas and Nakrošius (2005) enumerated several advantages of this choice. On the one hand, centralized organization of evaluation provides the possibility to save while hiring less staff and ordering evaluations. On the other hand, evaluation results are more consistent and comparable. Centralized way of coordination provides more advantages as well because evaluation unit is independent from the staff that implements programmes, and the employees of the unit acquire skills in evaluation methodology. In addition, the unit has powers, which usually lacks of decentralized subdivisions. However, this approach is criticized because of poor decision-making and maintenance of programme effectiveness at programme level. Decentralized evaluation coordination and performance preconditions a more suitable adaptation of evaluation contents for single programmes, and the responsible institutions participate in the evaluation process more, as well as use the results of evaluation recommendations (Vilpišauskas, Nakrošius, 2005; Uitto, 2014).

According to Stern (2004), it is necessary to pay attention to the functions, which are achieved while performing evaluations and constructing coordination of evaluation function. When evaluation improves the implementation of programmes and policies, it is suggested to decentralize the coordination of evaluation function, and this encourages collective learning at decentralized level

(Berriet-Soliec et al., 2014). When the function of evaluation is to reinforce central strategies and decision-making, the evaluation function is coordinated at a centralized way, but this way the staff of central governing level will learn from evaluation results, not the level of programme implementation.

Since 2004-2006 programming period, MF has been appointed as the managing authority for the implementation of the EU Structural and Cohesion funds. MF coordinated the implementation of evaluations of the Single Programming Document (subsequently SPD) in 2004-2006. The main coordinator of the EU support evaluation system is evaluation unit of the MF, which prepared the evaluation plan of the EU Structural fund support (strategic character) for 2007-2013. The first lesson learned by the civil servants responsible for the evaluation after 2004-2006 programming period was that evaluations had to be organized in a systematic way. Since 2008, the evaluation unit prepares an annual evaluation plan. The European Commission (subsequently EC) has provided guidelines for the member states about making the evaluation plan, which was adapted by each member state according to its needs. The necessity to establish the evaluation unit was mentioned in an earlier evaluation (Central project management agency, 2003); however, the recommendation to establish the unit was implemented only in 2006. Interim institutions initiate and implement evaluations with regard to the approved annual plan, but they do not have evaluation units. Usually one employee is responsible for the initiation and implementation of evaluation.

The project of annual evaluation plan is discussed by an evaluation coordination group, which consists of public servants from various interim institutions. In 2004-2006, the predecessor of the groups was SPD evaluation management group. The composition of public servants of interim institutions changes, but the civil servant from the MF is the head of the group. It is likely that such monopolization of evaluation coordination inhibits quicker evaluation dissemination in the public administration system. The civil servants from other ministries, who work in the evaluation system, do not have the feeling of ownership for the evaluation function because as long as they do not participate in managing coordination, this will be a secondary exercise. The evaluation coordination group does not have the representatives of evaluation community; it is maintained that this would not be possible to implement because the evaluation coordination group decides about administrative issues. However, a limited number of evaluators sometimes participate as invited participants. Apparently, the participation

of alternative evaluators would precondition the development of the participatory model, strengthen partnership relationship between evaluators and representatives of institutions; the good practice would be exchanged and the evaluators could share their knowledge. In order to fulfill this aim, it is necessary to establish a formal association of evaluators, which would delegate its members and this way prevent from conflicts of interests.

Monitoring and evaluation unit was established in the Ministry of Agriculture (subsequently, MA) and is responsible for the evaluation of Rural Development Programme. This programme was financed by the European Agricultural Fund for Rural Development. The MA was appointed as the management institution of the Rural Development Programme. The activities of the Monitoring and Evaluation unit of the Ministry were organized in conformity to the Order of the Lithuanian Minister of Agriculture from May 22, 2009 according to the monitoring and evaluation plan of Lithuanian Rural Development 2007-2013 programme to 2015, No. 3D-371. In 2008, in conformity to the Order No. 3D-546 of the Minister of Agriculture, an evaluation coordination group was established, which was mainly composed of the officials of MA and the agencies subordinate to it. Also, the civil servants from the evaluation unit of the MF were incorporated into this group. Even though the composition of the group constantly changes, the leaders are the civil servants from the Ministry of Agriculture. One should note that in 2010 the vice-minister of the MA became the leader of the group, as the political civil servant. Similarly to the MF, the representatives of evaluators are not incorporated into the group.

Summing the dimension of evaluation coordination of the EU Structural and Cohesion funds, one can maintain that two models are dominant: a hierarchical and a non-hierarchical one. The hierarchical evaluation coordination model dominates in Lithuania, the centre of which is formed by the administrative unit. The aims of the hierarchical model coincide with the aims highlighted in the legal documents. The main actors are the MF, other ministries and institutions, and the evaluation coordination group. According to the hierarchical model, evaluations are ordered, meetings of civil servants are organized by the evaluation coordination group, and the evaluation results are presented. In addition, training and conferences are organized. Mainly these activities are indicated in the plan taking into consideration the budget; however, they can be organized taking into consideration the needs. The output of this model is the following: evaluation plans, methodological evaluation documents,

conferences and market coordination.

The non-hierarchical model has been noted only recently when the evaluation unit at MF started using the participatory approach and in strengthening the capacities. The first discussion, which involved evaluators, took place in 2008; the representatives of the academic community participated in the second discussion in 2010. The objectives of this model are described before the meetings, but in general it can be noted that an attempt is made to strengthen evaluation capacity. In addition to the civil servants of ministries and other institutions, evaluators and the academic community participate in this model. It functions as a focus group or as a discussion-meeting and operates according to the needs of the MF. The output of the non-hierarchical model is the improvement of priority evaluation topic and quality of formulating evaluation questions. In 2010, a suggestion was made for the society to formulate evaluation topics for the first time. Seventeen evaluation themes were received in 2010 and twenty themes in 2011.

3. THE USE OF EVALUATION RESULTS

It is possible to analyze the use of evaluation results in decision-making using the analytical model by Ferry and Olejniczak (2008). Its essence is that the use of recommendations depends on five main factors related to the creation of evaluation knowledge and stages of use:

Characteristics of the learner/recipient. This factor comprises the quality of human resources of public administration institutions and the dominant tradition of public administration. It is likely that the personnel that have evaluation knowledge, skills and experience, can perceive evaluation advantages better

and know how to use them in their work. The stability of institutions, position in the political system and experience in planning and implementing interventions can become an effective incentive for the use of evaluation results because knowledge is necessary to solve new complicated situations. In my opinion, this category has to comprise not only the employees of public administration institutions, citizens or their groups. Informativeness of media representatives about evaluation and their participation in the evaluation process can be an effective support in using evaluation recommendations in decision-making.

In Lithuania, the civil servants consider programme or project management (development, administration, implementation, and evaluation) in the list of their typical duties (see Tab. 1), (Bučinskis et al., 2014). The making of strategic, performance, and development plans, the adjustment of indicators, and monitoring were also typical day-to-day duties. Atypical duties identified during the research included participation in events or discussions, conducting of population surveys, replies to Member of the Parliament, international co-operation, proposals regarding the new EU financial perspectives, and drafting economizing plans (Bučinskis et al., 2014). It became evident that the duties typical of some civil servants can be atypical of others. The civil servants working for ministries needed analytical skills, however, those who worked for local government or sectoral institutions require a more technical skills (drafting of letter or investigation of complaints).

True, the critics (Nakrošis, 2008; Masiulis, 2009) note that the civil service is still not result-oriented; the society is not satisfied with the provided services and their quality. This is indicated by the index of civil servants' performance evaluation, according to which such evaluations decreased in 30 per cent in 2008 compared to 2007 (Pivoras, 2010). The government

Tab. 1. The actual duties in public administration: summary of interviews

INSTITUTION	TYPICAL AND ATYPICAL DUTIES	DUTIES LEARNT ON THE WORK SITE
Representatives of civil service	<p>Typical:</p> <ul style="list-style-type: none"> • the drafting of documents, including programmes, strategic plans, or action projects; drafts of legal acts; reports and decisions; population surveys; replies to complaints and requests from different constituents; • programme or project management; • participation in an event or discussion; • international communication. <p>Atypical: what is typical for some may be atypical for others</p>	<p>Administrative:</p> <ul style="list-style-type: none"> • understanding of legal norms and economical methods and ways of organization; • strategic planning; quality assurance; • project management, public finance management; <p>Research:</p> <ul style="list-style-type: none"> • paper analysis; • investigations; • evaluations; <p>Communication:</p> <ul style="list-style-type: none"> • collaboration with other civil servants and stakeholders, record keeping

Source: (Bučinskis et al., 2014).

can be defined as a provision of services to the citizens; therefore, these services do not often have a direct addressee, even though they are financed by taxpayers, and they also have to be qualitative. However, service culture has not been formed during the period of Lithuanian independence. Apparently, the reason for mistrust is that the residents have faced with irresponsible civil servants. The reason for this behaviour may not always be the will of the civil servant to humiliate the client: it is in the system itself where the citizen is described as an unsentenced criminal, while the job of the civil servant is to catch these criminals; otherwise, he/she is threatened with the punishment as well. Such organizational culture encourages condemnation and regulation of clients, the taxpayers, by using administrative tools rather than serving for the society.

The analysis of a learner's characteristics reveals that during the first programming period in 2004-2006 there was a lack of human resources in evaluation administration. This was influenced by a common turnover in the employees of ministries, which has already been mentioned in this research, and it actually affected the continuation of the accumulated experience (Stankaitienė, 2009). When the MF established the evaluation unit, the number of employees increased from one to six during several years. Accordingly, five people work at the evaluation unit in the Ministry of Agriculture. Other ministries do not have a person who works only with evaluation, thus, such employee is responsible both for monitoring and publication of information; therefore, an employee cannot allot enough time for evaluation. Boeckhout et al. (2002) emphasize that the difference in employee number is not significant in the member states. The authors claim that the quality of the staff is much more important than quantity. There was an attempt to solve the problem of human resources, and during the planning period of 2007-2013, there was a requirement for the ministries to have not less than one employee responsible for the evaluation of the EU structural support (Stankaitienė, 2009).

Generalizing the information collected during the qualitative research, one can maintain that most respondents admit that the competence is increasing, but there is a variety, in which the subdivision of the MF is the strongest; in addition, a big mechanism of evaluators exists in implementation agencies. Maybe these circumstances conditioned the fact that 70 per cent of recommendations provided in evaluation reports were implemented (Ministry of Finance, 2009). However, in this context it is important to emphasize that quite a number of evaluations, which were carried out in Lithuania, were related to the establishment the baseline of the

criteria or collection of monitoring data. Some authors (Markiewicz, Patrick, 2015) appreciate thinking in that streamline. Thus these recommendations of the process improvement could be implemented because of the need to improve the work of the department or accounting to the EC. However, as the evaluator noted: „Lithuania is a small country, and there is still no evaluation culture here; our role as a critic was often difficult (...) for our customers, the ministries (...). We used to argue about every sentence, and it was very painful for them¹”. In fact, this means that the evaluator has to know psychology very well and be diplomatic; thus it would be purposeful to complement the analytical model about the learner's characteristics by Ferry and Olejniczak with the characteristics of the evaluators' human resources in the country.

Characteristics of the policy which is being evaluated. The scope of public intervention and its importance in the political process may be the critical factor in using the evaluation results. The evaluation comprising policies will possibly get more attention from the politicians, administrators and the society. It is also similar with the programmes that receive much investment because their results are important for the society; therefore, probably, the evaluation results will be used as well.

There is a triple opinion about the EU Cohesion policy, and this, of course, influences the activities of evaluation. First, the attempt is made to have an effective regional policy and decrease differences between regions; however, as we can see, the regional policy does not help to achieve cohesion, and there is no assimilation of regions. Second, even though regional policy does not directly influence the development of regions and economy growth, in the areas where the institutions performed their tasks properly, a more effective regional policy was noted. Third, it is highlighted that the regional policy has a negative impact on the economy and business development of the country; the allocated EU resources do not have an impact on the growth of the region and economical convergence.

According to Barca (2009), cohesion policy invested significantly into the learning process, which facilitates the exchange of experience and encourages evaluation. As noted by Stame (2008) and Barca (2009), there is an area, which still does not exhibit progress and understanding what operates and what effect is caused by a certain intervention, what the additional value is for the whole EU. After twenty years of cohesion policy existence, little is known about its effects, and it is important for the new reformed policy to improve along these lines (Barca, 2009).

¹ Interview with the evaluator of the project „EQUAL” [05.05.2010].

Tab. 2. Operational programmes of the programming period of 2007-2013 and 2014-2020

OPERATIONAL PROGRAMMES	ALLOCATED FUNDS EUR	OPERATIONAL PROGRAMMES	ALLOCATED FUNDS EUR
Promotion of cohesion	2648,33	National advancement programme	8,35
Economic growth	3098,85		
Development of human resources	935,01		
Technical assistance	93,28		
In total:	6775,47	In total:	8,35

During the programming period of 2007-2013, Lithuania indicated four operational programmes: promotion of cohesion; economic growth; development of human resources; technical assistance (see Tab. 2). Such little number of programmes, compared to other EU member states (Poland and Slovakia) has some advantages: a bigger impact can be expected because financing is not distributed for many various programmes. This also facilitates monitoring and evaluation. Taking these priorities into consideration, 6,8 billion EUR were allocated for Lithuania from structural and cohesion funds. The amount of funds allocated for the 2014-2020 period – 8,35 billion EUR. Starting from this programming period Lithuania spends all allocated funds through one operational programme – National advancement programme.

The characteristics of the EU Cohesion policy pose the task for the evaluation to answer whether the resources of structural and cohesion funds are used the most effectively and how efficiency will be improved. In order to answer this question, it is important to take the sectors and the scope of intervention into consideration, which asks what relationship with the respective methodology, is (Gaffey, 2007; Jacob et al., 2015).

Fig. 2 provides dynamics about the evaluations carried out in 2004-2014 devoted for the

implementation period of SPD (Single Programming Document) in 2004-2006 and ES Structural Funds for 2007-2013 programming period.

One can see that the highest number of evaluations were carried out in the sector of agriculture (25 per cent) in 2004-2006 and 13 per cent in 2007-2013, 15 per cent of evaluations were related to the administration of SPD implementation in 2004-2006 and the highest number of evaluations (29 per cent) was conducted in 2007-2013, 12 per cent with the information society in 2004-2006, however only 3 per cent during 2007-2013 and 10 per cent were evaluations of a programme level and 27 per cent in 2007-2013. It can be expected that more recommendations and results were used in these areas. The analysis of evaluation content of SPD and EU Structural Funds implementation administration reveals that most evaluations are devoted for the improvement of processes; for example, how the prices of certain goods should be established in a grounded way, procedures of control and confirmation of payment request, evaluation of project risk, structure of applications or rational use of the resources for dissemination and publication of information. In the area of agriculture, the evaluations which implement processes and develop capacities or determine the effectiveness of the system were dominant, even though some of them could

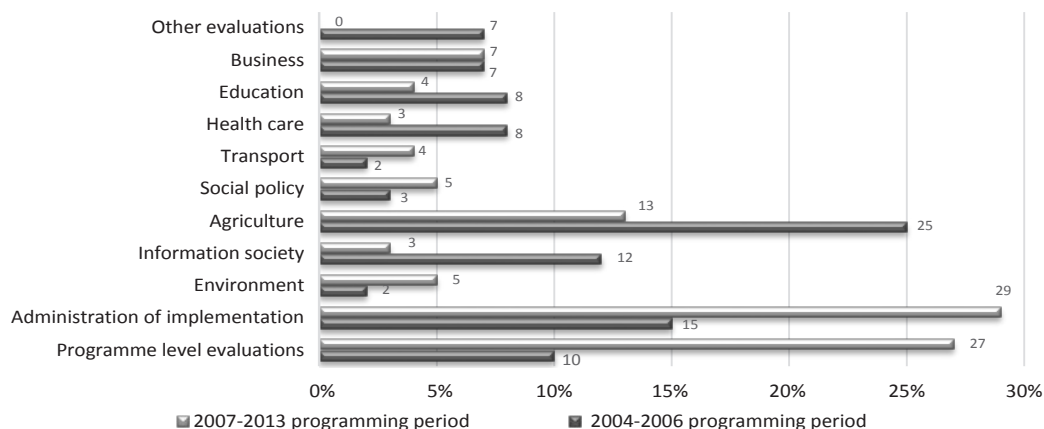


Fig. 2. Distribution of evaluation studies according to different areas carried out in 2004-2014

contribute to the development of public policy in the area of agriculture (for instance, the development of innovations in the modernization of the farms, that participate in the measures of SPD rural development and fishery priorities in 2004-2006; ex-ante evaluation of the national strategic plan of Lithuanian fishery sector in 2007-2013).

interested in evaluation results and recommendations. However, one respondent emphasized that the Committee on Rural Affairs is constantly incorporated in the presentation of evaluation results carried out by their Ministry, even though he could not tell to what extent the members of Parliament are interested. The respondents of the qualitative research mentioned several reasons of not being interested.

Tab. 3. Use of results by politicians

ARE THE MEMBERS OF PARLIMENT INTERESTED IN EVALUATION RESULTS AND RECOMMENDATIONS? (N=90)	PERCENTAGE [%]
Yes	9
No	32
Partly	59

The analysis of Fig. 2 reveals that in the areas of social, transport and environmental protection policies, the number of evaluations was minimal, even though these areas are related to the problems and perspectives of Lithuania. The evaluation results and recommendations ensured the functions of accountability and planning development in the areas of environmental protection and social policy. The evaluation results of environmental protection were used in accounting for the EC, while the results of social policy were used in planning the interventions of 2007-2013 (Ministry of Finance, 2010). The evaluation results and recommendations in the transport area contributed to administration and improvement of processes in this area (Ministry of Finance, 2010).

As the results of the survey indicate, it was asked whether the members of Parliament are interested in the evaluation results and recommendations (see Tab. 3). The biggest part of the respondents (59 per

First, information and recommendations have to be presented in an aggregated form. According to the respondent, the information is not provided for the Parliament; besides, „this institution manipulates more global indicators and more global conclusions²”. Second, there is the principle of separation of powers. As the respondent noted, the members of Parliament wanted to participate in work groups which were programming Structural funds during the time of Brazauskas or Kirkilas' Governments³. However, a legal dilemma arises because of the principle of separation of powers, as it is the function of the Government to prepare programmes; however, evaluation would be useful for the Parliament in carrying out parliamentary control⁴.

During the process of the research, a survey was carried out in order to find out who decides whether the results obtained during evaluation should be used (see Tab. 4). 22 per cent of the respondents claimed that this decision is made by the minister, while

Tab. 4. Who decides whether evaluation results should or should not be used? (N=90)

NO.	RESPONSE OPTION	PERCENTAGE [%]
1.	Minister	22
2.	Vice-minister	22
3.	Head of department	25
4.	Head of unit	13
5.	Others	18
IN TOTAL:		100

cent) thinks that the members of Parliament are partly interested in evaluation results and recommendations.

The respondents who participated in the qualitative research were asked the same question. Most of them noted that the members of Parliament are not

2 Interview with the employee of the Office of the Prime Minister [21.10.2009].

3 Interview with the employee of the Institute of Public Policy and Management [15.10.2009].

4 Interview with the employee of the Institute of Public Policy and Management [15.10.2009].

22 per cent noted that this decision is made by the vice-minister. Thus according to 44 per cent of the respondents, these decisions are made by politicians and the civil servants of political trust. According to the opinion of 25 per cent of respondents, these decisions are made by the head of the department, while 13 per cent claimed that this is made by the head of the division. Thus 38 per cent of the respondents marked that top civil servants decide whether the evaluation results should or should not be used. 18 per cent of the respondents chose the answer „other”.

The answer „other” meant different variants: „all the mentioned”; „such decision to use the obtained results is not necessary”; „the obtained results are often used by the specialists themselves (maybe you would call them administrators) in everyday work, while preparing the projects of various documents, preparing the projects of various decisions as an argumentative measure”; „work groups and committees”; „the Ministry of Finance”; „the chancellor and the vice-chancellor”. Summing up these responses, it is possible to maintain: decisions are often made in a collegial way in work groups and committees or individually while preparing the grounding for the decision.

At the EU level, it was found out that director level staff does not often have time to read evaluation reports (Pollitt, 2006). Many top civil servants prefer either a one-page summary in their computer or a quick oral presentation to long reports. Of course, the result of the evaluation should be understandable for the final user, so that he/she would like to use the evaluation results or find out how it is possible to use them. Evaluations should indicate a wide spectrum of potential consequences: systematic, productive, economical, nutritional and social environmental.

Research time. Evaluation is performed at different stages of the public policy cycle. While planning a policy or a programme, the ex-ante evaluation is carried out. While implementing the programme, the intermediate evaluation is performed. After the implementation is finished, the ex-post evaluation is done.

The evaluation cycles of the EU Structural and Cohesion funds are interrelated. Therefore, the use of evaluation results depends on the changing situation because there is not an automatic relationship between the evaluation report and factual changes because the process is influenced by many factors (the position of parties and the government, competencies of the institutions, interest groups and the opinion of the media). This way, the time of the research may not have much significance for the use of recommendations because during the

programming period of 2004-2006 little evaluations were performed, and during the new programming period recommendations lose their significance. The planning of the programming period of 2007-2013 started in 2005 and took place until the end of 2007. Accordingly, when new programming started, public administration did not have implementation experience; thus there was a lack of factual data analysis from the previous period. When the first and the second evaluation cycles merged, no basis was formed for the actions in the future.

The MF organized a preliminary evaluation of all operational programmes of 2007-2013. The results of this project were discussed by a commission responsible for the programming of the EU Structural Funds (ESTEP, 2006). The respondents of the qualitative research noted that the recommendations of the preliminary evaluation were used naturally because evaluators were working together with institutions which prepare programmes, and this significantly improved the quality of programmes, while the results were integrated into the programmes being prepared. The community of European evaluators formed a critical opinion about preliminary evaluations. They are viewed as an inefficient task because the Commission has a list of priorities and suggests the leading institution to take into consideration the priorities while programming. It is thought that the evaluation of the needs of the country is more effective in such case; besides, this evaluation is applied while planning interventions, and its importance has increased during the last decade. The civil servant of the EC admitted that „Preliminary evaluation was carried out practically in many countries as a formal process, so that it would be possible to mark it in a check-list, and that's it”⁵. This can be interpreted as the non-existent independence of evaluators and a threat to express opinion freely about the things that are agreed about and decided.

The finance and economics crisis and the increased pressure from the society and politicians show that the time of the research is topical for the use of the results. In such turbulent situation, a question arises for many people what they should do in this unstable environment. Public administration was analyzing what aims should be orientated to and if they should be changed taking into consideration the present events. The participant of the evaluators' discussion noted that „We got a recommendation that long-term goals should not in fact be changed because of the crisis. We could face the pressure and ground that

⁵ Interview with the employee of the European Commission [03.06.2010].

it is not necessary to change everything all of a sudden, as we had the conclusion of independent evaluators that it is unnecessary to destroy everything and construct new goals because the goals and strategy are suitable despite the fact that short-term goals are new or changed⁶.

As we can see, that the time of the research is important for the use of the results, even though it is not less important who says that, that is independent evaluators, and this, respectively, creates assumptions for the civil servants to have proof in order to defend their position. According to Albaek and Hojlund the results, which ground the aims and points of view of the activity of a person or an organization, is one more important form of using evaluation research (Albaek, 2004; Hojlund, 2014).

The used evaluation approach. This factor divides it into two aspects: one oriented towards experts and another oriented towards participation. In the first case, the experts performing the evaluation analyze the programming documents, statistical data and the information provided by the partners. Evaluation customers and the interested parties remain passive during the process of evaluation; therefore, the evaluator interprets the proof, provides conclusions and prepares the report. In the second case, the partners are encouraged to participate in the discussion about the programme. Their point of view is important while preparing the recommendations and conclusions. It is likely that the participating partners will understand about evaluation more and use the recommendations in their work

According to Pawson and Tilley (2004), programmes are theories because they start in the heads of policy architects, move to the hands of practitioners and sometimes through the thoughts of the programme subjects. As the authors claim, the programmes cannot be totally isolated or viewed as constant because unpredicted events and political changes take place, as well as changes in staff, physical and technological improvements, internal and external interactions, training, media attention, organizational imperatives and innovations of activity management. Sabatier agrees with this. He claims that in the search on how public policy operates, the knowledge about many actors of the country are necessary, and legal, technical and scientific questions of the decade should be comprised (Ministry of Finance, 2010). Thus, as has been mentioned in the present research, the programme theory was created by the evaluators and the members of the academic community.

While analyzing the case of Lithuania, it was found out that the evaluations of the EU structural support are rarely based on the programme theory, which would attempt to explain the mechanism of a concrete intervention and the results of public policy (Ministry of Finance, 2010). The experts note that theoretical assumptions are not often distinguished publicly (Ministry of Finance, 2010). While making logical models, a Keynesian economics theory is used. It may be that logical framework or econometrical models are formed (Ministry of Finance, 2010). The application of these models is indicated by the Keynesian demand management tradition, which dominates in the academic environment; it is also supported by many officials in the ministries because many of them graduated from Lithuanian universities. Besides, evaluation has some influence as well, as it is accumulated in several evaluation companies because there is a lack of more innovative evaluation methods, and a part of evaluations is based on the same evaluation structure. One can note that while trying to change this situation, foreign experts and their methodologies are used; for instance, while carrying out the evaluation of the EU Structural Funds impact on the GDP, the economical macro model HERLIT was used, which is based on HERMIN⁷ methodology widely used in other member states (Ministry of Finance, 2009). Eventually, it appeared that this model is viewed critically: the comparison of HERMIN and another macro model results in four states shows that the differences are very big (Hart, 2007). Only one counterfactual impact evaluation was conducted in 2007-2013, however the implementation of the evaluation arose few issues: difficulties to obtain the data from public institutions due to data protection and missing link between officials and evaluators.

It is possible to state that the choice of evaluation methods is conditioned by the scientific tradition of the country, education of the evaluators and the EC. In Lithuania, the traditional methods of survey of the target group, in-depth interview and expert evaluations are often used. However, evaluations are carried out using new methods: a comparative method of programmes and financed areas, the analysis of expenses and results; in one project a correlation between the results obtained during the project and the expenses allocated for the project was counted, analysis of supervision results applying SMART methodology (by the way, the application of this method causes additional difficulties if the indicators are not the information of SMART

⁶ Discussion of the networking of Lithuanian evaluators [02.12.2010].

⁷ Prof. John Bradley (ESRI) was the author of the original HERMIN model. HERMIN is econometric model to assess a potential impact of the European Union Structural Funds on the macroeconomic situation in the country.

supervision); use rates of the structural support and the analysis of fact comparison (Hart, 2007). Stame (2008) notes a regular tendency here because, according to the author, statistical and econometrical models are used at the EU level in order to indicate macro effects, while qualitative methods are used on the local level.

Evaluators of the EQUAL project use a participatory approach by using the method of focus group discussions. According to the evaluator, „When you form a group and talk to the project recipients and implementers, then the participants talk constructively, (...) the people express themselves, and the evaluator comes and does not look at the data as an inspector; he/she allows the people talking among themselves, think, open up, and this way the recommendations are accepted much better; even the report is not important then”⁸. This method helps creating the feeling of ownership of the evaluation results; therefore, a dialogue between the evaluator and the participants is created, they are helped with formulating recommendations, which will be implemented in the future. In general, it can be noted that even though there are not many evaluators in Lithuania, most of them represent certain schools of research methods by choosing evaluation approaches, which are constantly used in evaluation. Other companies, that participated in evaluations, use a traditional quantitative survey and qualitative in-depth interview research methods.

Quality of the report. Qualitative preparation of the evaluation reports is the premise for its further usage in the formation of public policy formation. Apparently, this variable depends not only on the evaluators who perform the evaluation but also on the participation of the employees of the client (the managing authority).

Many respondents have noted that the quality of evaluation reports is constantly increasing. In improving quality, qualification of evaluators is mentioned the most often; however, it is noted that the quality was increased by competition among providers of evaluation services. It is admitted that during the programming period of 2004-2006, the quality of evaluation reports was fluctuating in different ministries. This can be seen from the analysis of the reports provided on the internet website: in some of them, simple surveys are carried out in order to find out the opinion of a certain respondent group. According to the civil servant, „the ministries received some resources for evaluation of structural funds, and they ordered evaluations; maybe not all evaluations were qualitative, maybe

some of them were left in the chest of drawers”⁹. As noted by the respondents of public administration, content mistakes were more common: a low quality report was provided; the recommendations and the conclusions are not good sufficiently or they are distant from the reality.

The quality of the reports can be improved by collaboration between the institutions. More attention was paid to this during the new programming period of 2007-2013 when the evaluation unit was empowered to coordinate the evaluation process. The evaluation unit of the MF discusses intermediate results with other ministries, and the employees of the ministries are constantly taught how to supervise the quality of results. Even though the employees of the MF indicate this as a merit, this in fact shows the lack of centralized evaluation coordination because the staff of the ministries will constantly need help and they will be forced to ask the evaluation unit for help because they will doubt about the evaluators and their own skills to determine whether the evaluation is carried out qualitatively.

The measures implemented by the MF in order to reach a better quality of the reports shows Tab. 5. The quality control was developed by improving the evaluation process and evaluation results. In the development of the evaluation process, the documents of buying evaluation services were improved (technical specifications, evaluation questions and the criteria of economic usefulness), as well as the supervision of evaluation services implementation; introductory meetings were started to be organized and discussion of intermediate results. The evaluators are asked to provide initial, intermediate and final reports of service agreement implementation. On the other hand, cooperation between evaluators and civil servants is very important while striving for high quality evaluation because the civil servants know the context of the object being evaluated. It is necessary to cooperate intensively for a qualitative service in order to avoid elementary mistakes.

In order to improve evaluation results, an EC evaluation methodology was adapted and methodological guidelines were prepared by the order of the MF, which suggested a quality control form. The EC uses an EVALSED¹⁰ manual for quality evaluation, which distinguishes eleven criteria (for example, suitability of scope, structure and reliability of the data) and the upper and lower limit of evaluation were set (very positively or very negatively). Each technical task indicates that evaluation results will be checked according to the

⁸ Interview with the evaluator of the project „EQUAL” [05.05.2010].

⁹ Interview with the employee of the MF [15.10.2009].

¹⁰ Evalsed is an online resource providing guidance on the evaluation of socio-economic development.

Tab. 5. Improvement of evaluation quality

QUALITY CONTROL	
EVALUATION PROCESS	EVALUATION RESULTS
Public procurement documents for evaluation services purchasing improvement <ul style="list-style-type: none"> • ToR; • evaluation questions; • economic efficiency criteria 	Evaluation report style – according to the Evaluation style guideline
The review of the evaluation services implementation process: <ul style="list-style-type: none"> • introduction meetings; • introduction, ongoing and final implementation report of the service contract; • ongoing results discussion 	Evaluation report quality control in the accordance of special form

Source: (Burakienė, 2009).

quality control form. In addition, the manual of report style was prepared by the order of the MF, which is used by the evaluators, and this is recorded in the technical task.

Respondents of evaluators also claimed to be using various measures in order to ensure quality. In the subdivisions of foreign audit companies, ISO 9001 quality standards are implemented in order to ensure internal processes and internal quality of the companies. In other evaluators' companies, informal quality evaluation processes operate, which are similar to the review system of scientific journals. The conclusion and recommendations are presented to the colleagues who are not related to the project and their opinion is asked about complementing the recommendations. In addition, the evaluators understand that it is important to work with the customer; thus they attempt to cooperate while carrying out evaluation projects. The quality of evaluation results is influenced by certain factors: a broad scope of the evaluation indicated in the technical specifications of evaluation projects, some evaluation questions are excess and unrelated with the evaluation aim, objectives and the period being evaluated. A similar problem exists in the EC and the institutions of the member states: the evaluators are asked many questions, to which the evaluators simply cannot answer, especially taking into consideration the time perspective. In the XI conference in Warsaw the evaluator Toulemonde (2009) provided an example: the evaluators were asked forty questions, ten of which comprised the analysis of causal relationship¹¹. The administrators' group admitted to the above mentioned remark.

The use of evaluation results is also conditioned by the quality of formulating questions. As the civil

servant has noted, „Naturally, there's a complicated issue with the formulation of questions. Sometimes it is necessary to analyse the whole pile of literature in order to formulate a question well. (...) sometimes it is necessary to get into the theme very much. What concerns, European evaluations, there are questions which should be answered by carrying out concrete obligatory evaluations. There are guidelines which help, there are also methodological documents"¹². Apparently, the ability to formulate questions is very important; in Lithuania it was noted in the national discussion of evaluators. However, this is influenced not only by the inability of the administrators to ask but also by the unwillingness of the evaluators to get deeper into it.

One more indicator of the report quality is the data obtained during the quantitative research: whether the evaluation provides more information about the problem and about the ways of solving it. The results of the survey carried out showed that 59 per cent of the respondents consider that evaluation provides more information about the problem and the ways of solving it, 38 per cent of the respondents indicated that they obtain knowledge about the problem and the ways of solving it only partly (see Tab. 6). Only 3 per cent of the respondents think that evaluation does not provide more knowledge about the problem and the ways of solving it.

Generalizing these results, one can claim that most of evaluation reports are qualitative because they provide the respondents with actual information, and using it, it is possible to solve the problems.

During the process of the research, a survey was carried out in order to find out whether evaluation increases the quality of decisions and their implementation (see Tab. 6). 49 per cent of the

¹¹ Oral presentation during the conference in Warsaw 2009.

¹² Interview with the employee of the Ministry of Agriculture [21.10.2010].

Tab. 6. Indicators of the quality of evaluation report

DOES THE EVALUATION PROVIDE MORE INFORMATION ABOUT THE PROBLEM AND THE WAYS OF SOLVING IT? (N=90)	PERCENTAGE [%]
Yes	59
No	3
Partly	38
DOES THE EVALUATION INCREASE THE QUALITY OF DECISIONS AND THEIR IMPLEMENTATION? (N=90)	PERCENTAGE [%]
Yes	49
No	8
Partly	43

respondents answered „yes”, 43 per cent of the respondents marked „partly”, and only 8 per cent of the respondents chose the answer „no”.

The analysis of the data revealed that almost half of the respondents admit that evaluation increases the quality of decisions and their implementation; quite a lot of the respondents think that it is increased partly. Based on this, it is possible to state that the results provided by the evaluators are useful, while the information of the reports is qualitative. Civil servants can learn from the evaluations, and therefore, the implementation of the decisions improves.

CONCLUSIONS

The research results show that isomorphism and donor-oriented evaluation dominates in the evaluation system of the EU Structural and Cohesion funds. Lithuania transfers the elements necessary to support the evaluation to the public administration systems. Concerning the intervention approach, supporting many programmes and projects, there is a change to the approach based on long-term planning, programming and consulting with the stakeholders. The methodological documents of evaluation created by the EU are used and new national methodological evaluation guides are created. The officials participate in the EU evaluation networks and initiate national evaluation associations or networking. The mentioned circumstances denote the dominating management of evaluations, the basis for which is the institutionalization of evaluation activities. However, it should also be understood that management by evaluations should be used and guaranteed that because of the evaluation study, the government fulfills the evaluation functions analyzed in this research.

As the qualitative and quantitative data analysis shows, the EU member states have different evaluation organizing approaches, taking into consideration public management organization in the state.

In Lithuania, evaluation function is not widely developed, applying the centralized evaluation approach; it is transmitted to other ministries, even though the skills of the Lithuanian Ministry of Finance are evaluated very well.

The quantitative and qualitative data analysis on evaluation shows that Lithuania was not prepared for the collection of monitoring data and it was not planned what data would be necessary for evaluations. Monitoring of financial data worked best, as it was the inheritance of economic-financial control, which operated quite effectively during the period of socialist regime. The data of physical monitoring was not collected or there was no continuation of data collection because of staff changes. Inappropriate definition of indicators conditioned the scarcity of qualitative data of monitoring system.

In order to assess the use of evaluation results, Ferry and Olejniczak's analytical model was used. Taking into consideration the obtained results, it can be concluded that in a well-operating state office, the recommendations received during evaluation become the source of alternative information for the decision maker. Very much attention is paid on the EU Cohesion policy and its evaluation on the EU level. The EU budget is prepared on the basis of the evidence; however, in Lithuania, the Cohesion policy lacks the local officials' feeling of ownership; therefore, there is also a lack of evidence use while reaching the changes in the country through the assimilation of resources of Structural Funds. Time of the research is an important factor in the use of evaluation results. However, it was noted that interim evaluation and results are viewed as an unnecessary task because evaluation recommendations are not used as the EU priorities provided for the member states, and they have to ensure the reflection of priorities in the strategic documents of the country. Under such circumstances, it would be useful to carry out the evaluation of the country's needs. The used evaluation approaches and quality of the report are viewed as important factors, which influence the use of the results. In fact, traditional qualitative and quantitative

methods still dominate, the innovative evaluation methods (counterfactual analysis) are transferred to Lithuania. The quality of evaluation reports is constantly increasing because the officials' skills in project management are improving. In addition, the evaluators in Lithuania view this business seriously because there is an evaluation plan, according to which future activities may be planned.

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MYSTERY VISITOR AS A RESEARCH METHOD OF TRADE SHOW PERFORMANCE



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ABSTRACT

The goal of this paper is to present a research method used during trade shows, which is commonly named as a mystery visitor, and in particular to identify its unique characteristics and the conditions under which correct results may be achieved. The authors used to one of the variants of participant observation, which is mystery visitor, as a research method. This method was used during the MAPIC – the world's largest retail real estate business trade show. Mystery visitor method can be used to examine in detail various phenomena existing in exhibitors' activities and to assess a general level of customer service during a particular trade show. The observation based on the mystery visitor method, carried out during trade shows, which is properly conducted can provide numerous benefits for both exhibitors and exhibition event organisers. The mystery visitor research method has not been presented in the marketing literature yet. This paper fill in the existing gap, in particular, by indicating characteristics of that method. The paper points out how to effectively use the mystery visitor method in practice in order to assess trade show performance.

KEY WORDS

trade shows, trade show performance, participant observation, mystery visitor, retail real estate business

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INTRODUCTION

Contemporary enterprises have a wide spectrum of instruments at their disposal necessary for influencing the market. Electronic forms of communication, based on the Internet and mobile telephony, are becoming more and more significant. Those methods make it possible to reach consumers and deliver information about products to them in a quick and easy manner, however, using only two senses (sight and hearing). In the context of the fast development of new media, the future of trade shows – which have been a traditional information exchange platform, used for many decades – will be dependent on the exhibitors' ability to communicate with visitors effectively. Maintaining an important role of exhibition events among the marketing communication instruments (especially on the business-to-business market) is conditional on whether the contact during trade shows is made appropriately, and if it produces desired results for both exhibitors and people who visit booths. In order to identify the level of that

contact, the mystery visitor method, which was rarely applied by exhibitors and trade show organisers, can be used. The method was applied occasionally also by researchers who carried out research during exhibition events.

The mystery visitor research method has not yet been presented in the literature on the subject. The paper aims at filling in the existing gap by indicating characteristics of that method, in particular, by comparing it with a similar, far more frequently used participant observation method, that is mystery shopping. The characteristics of mystery visitor method have been presented basing on the analysis of the literature on the subject and on the basis of empirical research which used that method. The characteristics have been also demonstrated as a result of a comparative analysis made in connection with other research methods applied by the authors of the paper to the research which concerned exhibitors. The research based on the mystery visitor method was conducted during the MAPIC trade

show – the world's largest retail real estate business exhibition event, which is held every year in Cannes, France. Observation questionnaire was the instrument used in the research.

1. THE ESSENCE AND APPLICATION OF TWO METHODS: MYSTERY SHOPPING AND MYSTERY VISITOR

The mystery shopping method should be considered the prototype of mystery visitor. Both methods are the forms of participant observation whose main principle is that a person who carries out research becomes directly involved as a participant in peoples' daily lives (also including professional life). Through participation, the researcher is able to observe and experience the meanings and interactions of people from the role of an insider (Jorgensen, 1989, p. 21).

The main goal of using the mystery shopping method is an appraisal of the level of customer service, which is done by the people who take the role of „ordinary” purchasers of products. Such people do not reveal the fact that they conduct research during the interaction with a seller, and the appraisal is made, first of all, in order to verify if customer service standards are met and what a point of sale or place where service is rendered looks like. In typical mystery shopping-based research a trained researcher visits a selected place (chosen randomly) of sale (a place of rendering services or an eating place) and observes everything he or she is able to see and hear from the point of view of a customer. Observations are made in a deliberate, planned and systematic manner. The researcher usually seeks an answer to a research problem that had been defined before. Data is gathered mainly by the use of senses, especially sight, and a registration process is made by entering the data into sheets (observation registers, called audit questionnaires), which had been earlier prepared specifically for that purpose. The observation may concern people, their behaviour, and objects (Wódkowski, 2003, p. 47).

When one refers to the genesis of mystery shopping, it should be noticed that the method derives from the techniques used by private detectives, whose aim was to detect theft or prevent it. The main focus was put on the theft committed by the employees of banks and shops. The term „mystery shopping” was introduced in 1940 by a research company WilMark and from that time on, the method has been put into practice. Nowadays, the mystery shopping-

related industry is estimated to be over \$1.5 billion annually (Zikmund et al., 2009, p. 238).

The literature on the subject pays a lot of attention to the mystery shopping analysing its diversified aspects. Based on the literature review, it must be admitted that the most of publications refer to the practical dimension of using mystery shopping, and in particular, they contain instructions on how to conduct research properly (for example PamInCa, 2009; Mooradian, 2011). There are also papers in which central focus is placed on the usefulness of that method when one attempts to identify the level of service quality (Dawes, Sharp, 2000; Schmidt, 2007; Varma, 2008). However, some of the authors concentrate on using mystery shopping to check the quality of services rendered by entities representing selected areas of business activities, for example: banks (Roberts, Campbell, 2007; Prymon-Ryś, 2011), restaurants (Rood, Dziadkowiec, 2010; Lai, Chang, 2013), hotels and travel agencies (Atef, 2012; Minghetti, Celotto, 2014), medical facilities (Moriarty et al., 2003; Baum, Henkel, 2010, pp. 19-23). In the literature, there appears a trend connected with using the method under analysis to study the satisfaction and loyalty of customers (Van der Wiele et al., 2005) as well as to create business relationship (Mattsson, 2012). An ethical dimension of mystery shopping is also indicated (Shing, Spence, 2002; Wódkowski, 2007, p. 237; Rzemieniak, Tokarz, 2011, pp. 48-51). The method is also considered to be the support for selling products in connection with the activity perceived as field marketing (Gębarowski, 2007, p. 137). Furthermore, some of the authors believe that the observation based on the mystery shopping may be useful not only to accomplish marketing objectives, but also to manage human resources – in the process of controlling the work of sales personnel and coaching (Latham et al., 2012).

So far, there have not been any in-depth scientific publications devoted to the mystery visitor method. Books on marketing research very seldom mention the possibility of using this method to study the behaviour of trade show participants (Kaniewska-Sęba et al., 2006, p. 98). However, they do not refer to detailed matters related to any measurements performed among exhibitors. Similarly, trade show publications do not describe mystery visitor in detail. One of the very few scientific papers concerning the issue under question indicates that a person who carries out such research „approaches a booth pretending to be a potential customer, and after the visit, he or she gives an account of the manner in which the service was provided. On the basis of that practice, a person responsible for the

organisation of the participation in trade shows is able to verify, whether the standards of dealing with guests who visit the booth, which had been established before, are reached or not” (Mruk, Kuca, 2006, p. 129). With reference to the mystery visitor method, the observation can concern both the personnel behaviour (including many detailed aspects such as the way of presenting showpieces, an attitude towards a customer, familiarity with the presented offer) as well as the appearance of the booth and the programme of a trade show performance (carrying out marketing actions contained in its scenario). After the end of a discussion with exhibitors, observation results are recorded in questionnaires containing open-ended, closed-ended and semi-closed questions, which enable the standardisation of questions and comparability of results after their aggregation and analysis.

The review of scientific literature on trade shows demonstrates that mystery visitor has been very occasionally used in scientific researches. Herbst et al. (2007) introduced an innovative way of measuring interaction quality – the concept of mystery shopping – to industrial markets. The above-mentioned authors organised a famous international trade show of the packaging industry in Germany; and Polish researchers – Pilarczyk and Kwiatek (2010) – used the mystery visitor method to collect data from exhibitors who participated in one of the furniture business trade shows, organised by Poznań International Fair. Their research was focused on dyadic buyer-seller professional communication on business markets.

In addition to the above, it must be pointed out that the method has been put into practice by providing trade show organisers with results that can be useful for the management of trade show preparation and performance. The application of this method helped some entities that organise trade shows check the level of service provided to people who visited booths. To provide examples of such actions, one can refer to the following events during which the mystery visitor method was used: *International Confex (London)*, *ED Expo (Dallas)*, *Nowy DOM Nowe MIESZKANIE (Warsaw)*.

2. COMPARISON OF MYSTERY VISITOR WITH OTHER RESEARCH METHODS

2.1. MYSTERY VISITOR VS. MYSTERY SHOPPING

Mystery shopping and mystery visitor are very similar to each other with regard to the way in which

they are employed – the only difference is that one of the methods entails carrying out observation at points of sale or places where customer service is provided, and the other involves observation made at booths. It can be assumed, however, that specific work conditions during trade shows determine, to a large extent, the dissimilarity of the mystery visitor method. That dissimilarity with regard to the way of behaviour displayed during trade shows entails predominantly working for many hours in haste, noise and confusion resulting from the fact that exhibitors enter into discussions with several customers at the same time (Gębarowski, 2013, pp. 132-133). The comparison of mystery shopping to mystery visitor lets identify the differences and similarities between the two methods.

Above all, mystery shopping is classified as belonging the group of quantitative marketing research, in which the researcher’s purpose is often to obtain the results that can be subject to statistical analysis. In the case of mystery shopping, the selection of a sample is rather not indicated, as the measurement is almost always made at all points of sale (Wódkowski, 2007, p. 233). The mystery visitor technique, on the other hand, must be considered to be a manifestation of qualitative research in which the primary objective is to explore the phenomena which seem interesting for a researcher.

For the mystery shopping method, it is crucial to find out to what extent sales personnel abide by the customer service standards, established for a particular entity (for example chain store). Contrary to the above method, in the mystery visitor-based research observation is made while visiting selected booths of various entities representing diversified businesses. Hence, the standardisation of research and the comparability of obtained results are far less important than in the case of mystery shopping.

In the context of the standardisation, one must also mention the fact that when using the mystery shopping method, it is essential to compare the evaluated points of sale or customer service points. That is why rankings for individual chains are frequently prepared: banks, restaurants, petrol stations. For mystery visitor, on the other hand, it is relevant to grasp certain phenomena. It can be thus assumed that in the case of that method the quantity of booths under research is not as important as researching selected trade show performances for which specific phenomena can be observed.

With regard to mystery shopping and mystery visitor – which are the forms of participant observation, ethical doubts may be raised. They result

from the fact that the person whose behaviour is under evaluation is not aware of being observed. However, both at points of sale (customer service points) and during trade shows, the observation takes place in public places and can be made by representatives of almost the entire society. Consequently, it can be assumed that such research does not violate ethical norms that are applicable in everyday life circumstances (see Wilson, 1998, p. 149). On the other hand, there are more considerable doubts regarding the situation when the result obtained by the mystery shopping or mystery visitor method is linked with a specific person employed by an organisation (then, the final appraisal of such person may have an impact on his or her salary or may even result in dismissal of an employee who fails to perform well), and an observation process is recorded with a recorder or a camera without his or her permission. In that case, the issue in question must be considered not only in terms of ethical aspects but also in relation to the infringement of law. The literature on the subject puts forward a view which implies that using the mystery shopping-based research for disciplinary purposes is negatively interpreted by the observed and creates a barrier to the development of that method (Wódkowski, 2007, p. 223). The same problem may occur in connection with mystery visitor.

2.2. MYSTERY VISITOR AND OTHER RESEARCH METHODS ADOPTED DURING TRADE SHOWS

When one analyses the mystery visitor method other possible marketing research methods which may be implemented during trade shows must also be mentioned. Optional methods which facilitate gathering empirical material from exhibitors are: auditorium questionnaire – which represents quantitative research methods, and personal interview – classified under qualitative research methods. Those methods also have their own unique characteristics but they have been quite extensively described in the literature on marketing research.

The auditorium questionnaire is a form of measurement suitable for application during such events as conferences, symposia, lectures, trade shows. The research involves distributing questionnaires to its participants, and after answering the questions – an interviewer collects the completed questionnaires. The possibility of measurement control is an advantage of the auditorium questionnaire, which enables to achieve a huge percentage of answers and to preserve anonymity at the same time (Kaczmarczyk, 2011, p. 262). Moreover, one person is able to conduct the research

by providing all exhibitors with the questionnaires during the first day of trade shows, and finally, collect them on the last day. This method is often exposed to the following limitations – first, the personnel which run a booth do not have time to answer questions contained in the questionnaire, and second, due to many other duties, exhibitors tend to forget about filling them in. Therefore, during every single day of a trade show, a researcher should visit the booths and remind about the questionnaires that he or she has handed out.

It is also possible to carry out the research using a personal interview method. However, there are certain conditions for carrying out the interview during trade shows: a limited number of questions addressed to the representatives of exhibitors and the time of the research – when there are fewer visitors at booths (usually, the lowest attendance is observed straight after the beginning of a trade show day or at its end, 2-3 hours before the closing of trade show halls). The fact that a researcher is present when conducting the personal interview makes it less plausible that a respondent misunderstands a question or chooses an answer contained in the questionnaire incorrectly. There is, however, a risk of obtaining erroneous results because the respondent's answers can be influenced by the researcher's behaviour (Kaniewska-Sęba et al., 2006, p. 113). People who collect the data during a face-to-face discussion can be supported by computer terminals, and then research based on Computer-Assisted Personal Interviews (CAPI) is involved. There are several user-friendly electronic packages that design relatively simple questions for the respondent to understand. CAPI can be used to collect data at test facilities from street interviews, conferences as well as trade shows (Malhotra, Birks, 2007, p. 271).

In the case of both the auditorium questionnaire and personal interview, a researcher reveals that he or she carries out research. It is thus impossible to conduct a disguised and uninterrupted observation of the personnel which run trade show booths. Only the mystery visitor method allows for such possibility. Furthermore, this type of research differs from conventional survey research in that it aims to collect facts rather than perceptions (Malhotra, Birks, 2007, p. 284).

3. EMPIRICAL RESULTS – AN EXAMPLE OF USING MYSTERY VISITOR

Mystery visitor-based research was carried out by one of the authors of this paper in November 2013

during the MAPIC trade show which is organised in Cannes once a year. The method was applied to study 34 exhibitors. The sample size was determined by the number of discussions (in respect of relations existing on B2B market) to be held by one person throughout the duration of the trade show, that is within three days.

The process of preparing and carrying out the research consisted of several stages, which can be presented as follows:

- developing a research concept – formulating a research problem, defining the scope: objective, subjective, spatial, temporal;
- selecting a trade show for the research – it was decided to choose the MAPIC event, as its subject matter was concurrent with the many years' interest (both scientific and professional) of one of the authors; moreover, it is the biggest retail real estate business exhibition event all around the world, which guarantees a high attendance of exhibitors and great diversity of trade show performances;
- constructing a scenario of behaviour for a person conducting the research – it was specified how a researcher must behave and what to ask about; the same scenario was implemented at every booth;
- preparing a measurement instrument – an observation questionnaire was used, which contained nineteen questions – mostly open-ended and closed-ended (both dichotomous and multi-chotomous); the application of such questions enabled to significantly shorten the time needed to fill in the measurement instrument, and what is more, it ensured greater comparability of the results obtained at various booths; diversified aspects of the appraisal of trade show performances were considered in the questionnaire – and they were, among other things, the appearance of booths, the way of having discussions, the scope of applied forms of promotion;
- gathering empirical material – participating in the trade show for three days and carrying out the research that involved: selecting the booths to be observed, holding discussions (15 to 30 minutes long), recording obtained results;
- aggregating and elaborating on the collected empirical material – the answers given to the questions contained in the questionnaire and additional researcher's remarks were gathered and analysed (in the case of quantitative questions, a spreadsheet was used); consequently, the results were obtained, which were a qualitative description of the phenomena explored by the researchers.

The aim of the research conducted using the mystery visitor method was to explore trade show performances made by selected exhibitors who participated in a retail real estate business trade show. One of the phenomena interesting to the authors concerned the study of the scope of using the experiential marketing forms by exhibitors representing that business. The first criterion that was taken into account in this context during the observation of the booths was the attractiveness of exhibitions. Above all, the appearance of the booths was considered – their influence on the visitors' sight. After the end of the visits, the researcher's opinions were recorded in the observation questionnaire – each booth under evaluation was awarded one of the following marks: very attractive, attractive, average, unattractive. The highest marks were given to the booths: which were original; whose offer was presented with the use of diversified and unique means; which were functionally correct; and which displayed a sense of cohesion regarding the overall concept of the booth. Apart from the above assumptions, the appraisal of the booth attractiveness was determined, to a large extent, by the researcher's subjectivity. It resulted from the qualitative nature of the research.

The person who visited the booths focused also on whether an exhibitor used any marketing-related event during his or her participation in the trade show – the observation results were recorded in the questionnaire in the form of dichotomous question (with the possible answers: „yes” and „no”). With regard to the entities which included marketing-related events in their trade show programme, the researcher specified what type of events they were: contests, lotteries, quizzes, special exhibitions of products, presentations with the participation of famous people or some other forms of events – the questionnaire contained a semi-open question (a cafeteria question) that corresponded to that issue.

The also researcher attempted to observe carefully what methods were applied at the booths in order to overcome the intangible nature of the presented services. Among the possibilities that manifested that activity, the following items in the questionnaire were specified: the use of diversified visual materials, special personnel clothing, aromamarketing, tastings, the application of sounds, symbolic things (gadgets), the presentation of an exhibitor's logo. The observation concerned selected booths and its aim was to understand the reasons why the exhibitors used a particular means of influence on the visitors' senses. For example, one of the booths under observation, where more sophisticated experiential marketing activities were conducted, was run by Places Brussels,

a developer, and presented a new shopping centre. The trade show performance programme established by that exhibitor included, among other things, such elements as: a cocktail party called „happy hour“; house music played live by a DJ; Belgian sweets tasting. The presentations were accompanied by female models wearing eye-catching clothes. Outside the trade show hall, the models moderated over various events, for example taking photographs of them together with the people disguised as fairy tale characters.

Many important remarks referring to the use of experiential marketing by the exhibitors were included in the observation questionnaire in the form of open-ended and semi-open questions. Those remarks constituted a loose description of the observed phenomena and they were analysed in the next step. As an example of such opinions the following statements made by the researcher can be quoted: „the decoration of the booth made reference to the Arab culture (the personnel dressed in Arab-style clothes, Arab sweets, ethnic music)“, „the booth was plastered with pictures and visualisations of the exhibitor’s offer – playgrounds for children“, there was a presentation of large urban space (it was an artificial island in Qatar to be developed in the existing buildings by retailers)“, „the exhibitor used a slogan retailtainment presenting

everything about entertainment“.

After the end of the MAPIC trade show, the data gathered in all observation questionnaires was analysed. This served as the basis for compiling tables related to the issues which were the focus of the researchers’ attention. It must be mentioned, however, that the results have been analysed in consideration of the parameters contained in demographics questions of the questionnaire – there were, among others, three exhibitor subgroups distinguished according to the exhibitors’ business profiles: developers (12 exhibitors), tenants (7), service providers (15).

The obtained quantitative data made it possible to carry out a more in-depth qualitative analysis of the selected phenomena. Part of the results referring to experiential marketing achieved through the mystery visitor-based research is presented in Tab. 1.

In the light of the presented description of the mystery visitor method, one can notice that the research conducted during the MAPIC trade show had to take into account considerably individualised appearances of the booths, which means that there was no standardisation and different conditions under which the observation took place occurred. The researcher concentrated on certain detailed elements of the trade show performances and

Tab. 1. An example of the results obtained through the research carried out using the mystery visitor method

QUESTION IN THE OBSERVATION QUESTIONNAIRE	OBTAINED RESULTS				
		Service providers	Developers	Tenants	Total
Attractiveness of a booth in comparison to the others:	very attractive	6	4	1	11
	Attractive	3	5	1	9
	Average	4	3	5	12
	Unattractive	2	0	0	2
	Sum total	15	12	7	34
What methods have been used by an exhibitor in order to overcome the intangible nature of the offered services?		Service providers	Developers	Tenants	Total
	visual materials: paper materials	14	12	6	32
	the presentation of a logo	13	11	7	31
	visual materials: multimedia presentations	10	11	1	22
	groceries	7	11	4	22
	symbolic things, gadgets	6	8	4	18
	sound	2	3	0	5
	visual materials: mock-ups	1	6	0	7
	aromamarketing	1	1	1	3
	special personnel clothing	0	2	1	3
	other methods	7	5	1	13
	no methods have been used	1	0	0	1

perceived the booths as the area for creating experiences. The empirical material that was collected has enabled to identify quantitative research results, yet they constitute merely a complementary element to the overall research. The results gained through the research cannot, therefore, be generalised owing to the lack of statistical analysis. Nevertheless, it must be highlighted that the essence of the research was a qualitative identification of the characteristic phenomena that occurred during trade shows.

4. UNIQUE CHARACTERISTICS OF MYSTERY VISITOR

As it has been already mentioned, the mystery visitor-based research is carried out under specific trade show conditions which could be noticed during the research done at the MAPIC. Taking into consideration the results of the observation as well as the qualities typical of mystery shopping (that is a method implemented in a similar manner), one can identify the features that give the mystery visitor-based research a distinct character. The Tab. 2 shows these features.

As it has been already noticed, the observation using the mystery visitor method is carried out similarly to the mystery shopping-based research. Therefore, apart from the differences, it is also possible to indicate similarities between the two methods. The authors of the paper have recognised the following main characteristics which the two techniques have in common:

- a confidential nature of research, which makes the researchers take any measures necessary to avoid being exposed;
- the necessity to specify main assumptions for research – the scope, time and context of observation;
- the use of standardised observation questionnaires, which are filled in in secret after the visit at a point under appraisal (a shop, a booth);
- for a proper execution of the research it is required to select auditors who have desired qualities (which include, among others, a good memory, perceptiveness) and skills (for example acting skills) as well as to train them later on with regard to the observation assumptions.

In addition to the similarities, it must be mentioned that – adopting the typologies of observation method, presented in the literature on the subject – both mystery shopping and mystery visitor represent, above all, participant observation (a researcher becomes a participant of an observed society).

Furthermore, both methods refer also to the following types of observation: disguised (people under research are not aware of being observed), controlled (people under research are influenced by auditors), standardised (an observer knows under which conditions he or she must conduct research and how and where he or she must record the results), (Kaczmarczyk, 2011, pp. 333-336). What is more, the essence of the two methods is in line with the triangulation trend of research methods, that is „the use of multiple research methods across multiple time periods” (Woodside, Wilson, 2003, p. 498). Triangulation effect on those researches enables to minimise the disadvantages of traditional quantitative and qualitative methods of customer satisfaction recognition (see Kaczmarek et al., 2013, p. 154). Researcher’s familiarity with the characteristics distinguishing mystery visitor is a condition which determines the proper use of this method in practice. And that is because it is impossible to transfer the commonly used mystery shopping method directly to trade show halls.

CONCLUSIONS

The paper focuses, first of all, on identifying specific characteristics of the mystery visitor method by juxtaposing it with the similar research method – mystery shopping. The research process considering the observation of trade show performances has been described. Moreover, the examples of the results obtained after visiting the exhibitors’ booths during a large international trade show have been presented. As a consequence, such a detailed description of mystery visitor has enabled to fill the gap existing in the literature on the subject.

Considering the comparison between the two methods – mystery shopping and mystery visitor – one can draw a conclusion that the observation based on the mystery visitor method, carried out during trade shows can be used to examine in detail various phenomena existing in exhibitors’ activities and to assess a general level of customer service during a particular trade show (this method involves an assessment which concerns activities taken by many exhibitors). The mystery visitor research, on the other hand, is not suitable for examining single exhibitors. However, it could be applied to evaluate the activity of a single enterprise, if it exhibits its offer throughout several trade shows per year or in a longer time perspective.

It must be also noticed that a complete appraisal of the same exhibitor’s performances during several consecutive trade shows could be problematic – a particular entity can use a different booth for

Tab. 2. The characteristics of the mystery visitor method (in comparison to mystery shopping)

A CHARACTERISTIC	MYSTERY SHOPPING-BASED RESEARCH	MYSTERY VISITOR-BASED RESEARCH
Place and subject of research	The research refers to many places belonging to one organisation where contact with customers occurs (for example chain store, mobile telecommunications network)	The research often considers single performances of many exhibitors during one exhibition event (it is possible that the research focuses on the performances made by one attendee at many subsequent trade shows – yet the duration of such research would have to be several years)
Aim of research	Frequently, the aim of the research – apart from the assessment of the present-day level of customer service – is to set optimum standards of service for a single entity	The aim of the research is, first of all, to study the nature of trade show performances (including the specification of the level of customer service) in very general terms – with reference to all exhibitors, and not only to one entity
Standardisation	The research refers to the (codified) standards applicable in a particular organisation, which facilitates the interpretation of results	Exhibitors rather do not enforce standards of trade show visitor service, which are appropriate for them and which oblige booth personnel to comply with general guidelines for holding discussions properly (this hinders the interpretation of results)
Auditor's competence	An auditor acts within the framework of „story life“, which makes it possible to compare the results of many observations and lets control the research to a large extent	An auditor must be flexible since it is difficult to follow only one pattern because each exhibitor presents a distinct offer
The conditions under which observation is conducted	Every observation is carried out under comparable conditions – at similarly arranged points which offer the same products (for one research project)	There are diversified conditions under which observation is done – even though, the subject matter of a trade show is common for exhibitors under research (sometimes the subject matter is significantly narrowed down) – entities which participate in trade shows use various booths and can offer products which differ completely from each other
Duration of research	The duration of the research is unlimited, which enables to carry out observation for a large research sample (several hundred, even up to one thousand points)	The duration the research is determined by the duration of a trade show (often 2-3 days), which is the reason why in this time period only a limited number of observations can be done (the sample size is restricted also by the number of exhibiting entities)
Duration of contact with customers	Usually, there is no time pressure resulting from the fact that an auditor is present at the facility which is being evaluated (he or she is the one who decides on for how long the observation should be carried out)	Usually, a short time available for the contact with a customer, which results from the nature of many trade show discussions held in accordance with a „touch & go“ approach
Control of sales personnel work	The research enables to check the work of salespeople (including the functioning of a team) during the time in which they are performing their daily (routine) duties	The research makes it possible to check how every single salesperson and the entire team running a booth work under specific trade show conditions (when the area around is crowded, when they have to perform many activities simultaneously, and when they are under stress)
The nature and object of appraisal	The appraisal has a quantitative dimension and is often carried out in the context of clearly defined customer service standards, which must be met by the employees of all points of sale (service points)	The appraisal is of a qualitative nature and is conducted in connection with personnel behaviour during a trade show performance, which cannot be easily standardised
Costs of research	High costs of a single research study (which is, among others, due to the fact that it is necessary to arrive at every point of sale which has been chosen for the appraisal)	Lower costs of observation, which is due to the fact that several hundred exhibitors are concentrated in one place during a trade show
Necessity for personal contact	There are forms of research, which are not performed personally (via phone or email)	The research always requires a visit at trade shows and personal contact between an auditor and exhibitors
Documentation of research	Documenting the observation in the form of photographs creates serious difficulties for an auditor, as he or she has to take the pictures without being seen by the observed	It is easier to take pictures of a booth and personnel working at it, because trade show visitors very often photograph exhibition elements

exposition every time (with a different area, layout, arrangement). Moreover, the number of team members designated to serve visitors at a booth as well as the division of duties may also differ during every consecutive trade show. However, taking into consideration these differences, the mystery visitor-based research may be conducted due to its qualitative nature.

The mystery shopping-based research is a long-term project which involves cyclical observations at many points owned by a particular business entity. In the case of mystery visitor, it is difficult to talk about a long-term nature of activity, because – as it results from the analysis of the literature on the subject – nobody has ever before carried out this research undertaking in the long-term perspective.

The selection of auditors, who would be able to conduct research during certain trade shows organised for the participants of the B2B market, can create a difficulty in carrying out the mystery visitor-based observation. B2B market-related trade shows are the events in which many experts take part, and because they operate in this business on a daily basis, they know it very well. Therefore, people who carry out observation – in order to avoid being unmasked and to do research incognito – should be very well prepared not only in terms of conducting research, but also with regard to factual knowledge (they should be familiar with the business related with the trade show). This is a mandatory condition if one has to enter into business-related discussions with booth personnel and to properly assess their behaviour.

In the context of the defined characteristics of a mystery visitor, it can be stated that research which is properly conducted can provide numerous benefits for both exhibitors and exhibition event organisers. Direct observation of the way in which booths are run, and consequently, sharing the conclusions drawn therefrom with personnel representing exhibitors, leads to the increase of trade show performance level, and in particular – visitor service. This results in improving the perception of a trade show as an effective instrument applied to accomplish marketing objectives and is the reason for using it more frequently instead of other means of communication.

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STATE SUBSIDIES AND THEIR IMPACT ON BUSINESS



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ABSTRACT

The effect of market regulation tools on business is a complex phenomenon, and the impact of such regulation could be both positive and negative. The enhancement of the positive effect is a scientific task which requires a systematic approach. In order to find a solution to this problem it is necessary: a) to identify the relevant factors; b) to make a coherent evaluation of these factors and their influence on the phenomenon under investigation; c) to establish the optimal form and extent of the SRB (State Regulation of Business) tool required for the achievement of the desired results. The study analyses aims of economic regulation and business management from the point of view of a state. The research focuses on problems caused by state subsidies for business enterprises as one of the forms of SRB. The research also aims to enhance the effectiveness of business regulation. The main objects of this study are: state subsidies for business enterprises as a form of state intervention in the market and the possible correlation between the characteristics of subsidies and their impact on business. The evaluation presented in this study proved that EU subsidies have had a direct positive influence on the expected effect. The analysis revealed that rate of subsidies has had a higher effect on SRB impact than the size of funding.

KEY WORDS

state subsidies, EU financial aid, multicriteria evaluation methods, expert assessments

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INTRODUCTION

STATE REGULATION OF BUSINESS AND INFLUENCE ON THE EFFECTIVE FUNCTIONING OF A MARKET

The regulation of the state economic policy is one of the major tasks of the government in order to ensure the economic stability and regular functioning of market economy (Martinkus, Žilinskas, 2008). The overall aim of the state regulation of business (SRB) is the adjustment of market processes with the view of the sustained well-being of the society. In other words, state intervention has to have a clear aim – to be beneficial to the society. The achievement of this aim is impossible without state intervention, or it will take much longer time without state intervention, or the benefits gained will be less significant.

When the market regulation is too lax or when state intervention is too intrusive, the efficiency of the market (in its most common sense) decreases. The level of the effect of state regulation on general economic efficiency is defined in Fig. 1. We can see how important it is to regulate state interventions in the market economy.

The task of the present work is to define the level of market regulation (in this work it is state subsidies for business) and its limits that ensure the greatest benefits offered by regulation. With the view of the greatest effect of intervention, the employment of projected regulation tools should undergo a thorough evaluation.

In most economically developed countries the valuation of the regulation tools employed by the government is commonplace. However, different countries use different methodologies for creation

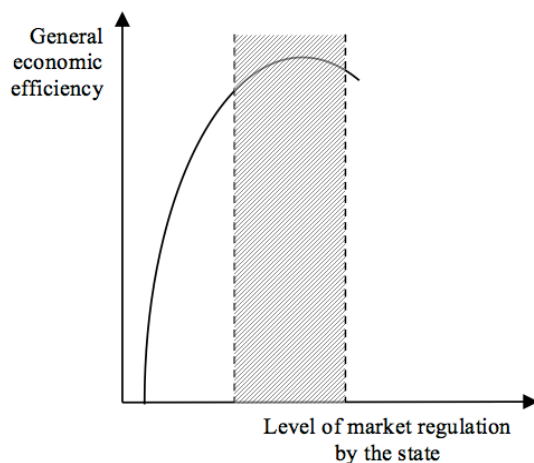


Fig. 1. Efficiency of state economy and the level of government regulation

of business regulation tools; a single perfect method for assessment of the effect of state interventions on the functioning on the market does not exist.

The object of scientific research in the article is state subsidising of enterprises as a form of state intervention in the market functioning. The main aim of the research is to determine the effect of state subsidies on business. The study is based on findings of the previously published studies on the EU financial aid to business (Ginevičius et al., 2008).

The research methods employed in the present study include complex, multiple criteria, comparative analysis, aggregation, synthesis, simulation, statistical analysis, a representative survey of expert evaluation (formalized surveys) and other methods. The reference sources used in the paper include the materials offered by the official international organizations, scientific databases, as well as the material from the scientific literature.

1. ECONOMIC RESEARCH AND VALUATION OF STATE SUBSIDISING ON BUSINESS

One of the SRB forms is the state aid to enterprises. State interventions have a certain effect on the functioning of the market. For some enterprises, this effect is motivating, while the position of the competitors of the above mentioned enterprises is infringed. However, due to the imperfections of the market, the aid provided by the state could be and is used as a tool to decrease market distortions. It is mostly used as a factor promoting enterprises to engage in the activities which they normally ignore.

Though the volume of the state aid in the EU member states has been decreasing since the end of 1990, the state aid constitutes a significant proportion of the GDP generated in the EU. The provision of aid by the state aims at tackling the problems arising in the market that the market itself is unable to solve without external intervention.

The monitoring of the state aid in the EU is closely supervised. The EU member states are invited to evaluate the intervention very carefully before the aid is accepted with the intention to verify whether the intervention is the most suitable and effective way to tackle the problems related to the existing market imperfections. Systematic evaluation of the Cohesion Policy commenced subsequent to signing of the Single European Act in 1987. In conformity with the provisions of the Act, the EC started applying the established standards for the evaluation of financial aid: specific and measurable objectives were identified and certain agreements regarding the evaluation methods were achieved. After the reform of the EU Structural Funds in 1988, evaluation of the effect of structural tools became compulsory. As per regulations, the ex-ante, on-going and ex-post evaluation of a programme has to be carried out to produce an indication of the effect of the programmes (Hagens et al., 1994). According to the estimations of the EC, this resulted in about 300 independent studies in 1992. All studies concluded that assistance of the Cohesion Policy had a substantial effect on the growth in the added value of regions as well as on the level of employment. Nevertheless, Bachtler and Michie (1995) referred to such evaluations as very subjective. They identified additional evaluation problems such as incoherence of evaluation in different countries or regions and differences in the quality of such studies. The international audit company Ernst & Young (1996) has also criticised the studies for incompatible evaluations. In response to critical remarks, the EC introduced even stricter evaluation procedures. Simultaneously, they started a research into evaluation procedures which employ simulation methods for the evaluation of the macroeconomic effect of the Cohesion Policy (European Commission, 1999).

As evaluation of the structural aid is one of the functions of the EU funded programmes there have been more studies and articles published on the topic. (Sisäasiainministeriö 1996a, 1996b, 1997; Eskelinen et al., 1996; Forsström, Mustonen, 1996). In 1996, authors of the study on the financial aid for business which was carried out in Finland focused on five types of effect on business: distortion of competition, safety of supply, social outcomes, impact on technologies, and the environment.

Systematic evaluation of EU finding programmes was also a major part of the EC initiative (in 2000) aiming at sound and efficient management. Apart from the internal management reforms, the sound and efficient management initiative of 2000 was aimed at increasing cooperation with the EU member states and improving programme evaluation and monitoring.

The number of available evaluation methods has been growing together with the increasing number of evaluations of the EU Cohesion Policy and Structural Funds (Alexe, Tatomir, 2012; Munteanu, 2012; Vadasan, 2012; Jaliu, 2012; Gómez-García et al., 2012). Methods used for evaluation include case studies, method of computable general equilibrium and econometric methods (Bradley et al., 2003). Beutel (2002) used the input-output method in his analysis of the effect on the macroeconomic level (in East Germany and Mazzogiorno Region in Italy) as well as on the national level (in Greece, Ireland, Portugal and Spain). Pellegrini et al. (2013) used a non-experimental comparison group method, the regression discontinuity design and a novel regional dataset for 1994-2006 to evaluate the impact of the EU Regional Policy on economic growth. Their findings show a positive impact of the EU Regional Policy on economic growth. Another method of regional modelling, based on the income-expenditure model, was offered by Treys (Treys, 1993; Fan et al., 2000). Other researchers have developed their own evaluation methods for quantification of the effects resulting from the injection of the Structural Funds, for example Monrobel et al. developed a model, which is considered a neoclassical version of the Walrasian equilibrium, modelling production sectors on perfect competition, full use of production factors and the clearing of all markets of goods (Monrobel et al., 2013). The main advantage of evaluation methods based on the macroeconomic modelling is the possibility to evaluate the policy effect comparing it to scenarios without intervention (Bradley et al., 2003).

Some econometric models for evaluation of the Structural Funds are based on the growth of regressions (Ederveen, 2003). These methods are used for the analysis of information on regions. De la Fuente and Vives (Fuente, Vives, 1995) evaluated the effect of the European Regional Development Fund as well as other state subsidies for infrastructure and education on the income level in different EU regions. In their analysis, they used a small simultaneous equation model and the decomposition method. The studies confirmed the success of the EU policy in the convergence of the EU regions.

There were a lot of studies carried out in Lithuania too (Evaluation of Changes ..., 2011; Report on the Implementation ..., 2011). They aimed to evaluate the financial aid of the EU Structural Funds to Lithuania (including the direct financial aid to business) as well as its effects. The Ministry of Economy of the Republic of Lithuania commenced a research on the Most Effective Forms of Financial Support to Business from the European Union Structural Funds (The Most Effective ..., 2007).

In summary, taking into consideration all of the findings of the above mentioned studies, it can be stated that evaluations of the EU financial support as well as other research into state regulations of business are mostly focused on the effect of aid. The evaluations only consider whether the financial aid was provided or not. The above studies do not analyse how different specifications of the financial aid – such as the size or the rate of co-funding – influence the effect of funding.

Both state regulation of business and the aid from the Structural Funds (as one of the forms of state regulation of business) and their effect on business are multipurpose and complex phenomena. A great number of models and their criticism only confirm the fact that a single and universally accepted approach for evaluation of such phenomena simply does not exist. Depending on the questions raised during evaluation, and seeking a greater credibility and accuracy of results, different approaches can be applied.

Due to the fact that the financial aid is multipurpose and complex, it is impossible to define the subsidies provided to business enterprises and their effect on business if we use just one or two criteria. To have a more detailed evaluation of the phenomenon under consideration, it is necessary to significantly increase the number of descriptive indicators. During the evaluation process, it is also necessary to consider the importance of individual indicators (that is the indicators are not of equal significance), (Tamošiūnienė et al., 2006). It is possible to get a more objective answer to the question on the effect of financial aid on business when the issue is considered from several aspects rather than just one dominating aspect. In order to identify the conditions determining the positive influence of the financial aid and to identify the appropriate volume of such aid it is essential to distinguish the criteria for the definition of the financial aid as such.

2. COMPLEX VALUATION OF STATE SUBSIDISING EFFECT ON BUSINESS

Only after the criteria defining the state subsidies and the criteria defining their effect are merged into common derivative indicators it becomes possible to carry out the complex evaluation of subsidies and their effect: to establish the relationship between the aid and its effect, to identify the spheres where the aid was most efficient, also to identify the characteristics of the aid which have the determining influence on the effect of the aid. The use of multicriteria evaluation methods enables us to evaluate various indicators defining the object under investigation in a complex way.

In conformity with the provisions of legal acts of Lithuania and the EU stipulating the EU aid for enterprises, four areas of activities of enterprises which were subsidised from the structural funds during the period of 2004-2006 may be defined:

- development of production,
- development of services,
- research and development (further on – R&D),
- staff training.

Further empirical research will be based on the investigation of subsidies for enterprises in the above mentioned areas. The main object under investigation is subsidies and their effect as well as the relation between the form of subsidies and their effect (Fig. 2).

Seven criteria defining subsidies for enterprises were selected by the authors for further evaluation.

Two questionnaires were compiled. One questionnaire was designed for subsidised businesses while another was designed for experts working in the field of the EU aid provision. There were two representative surveys carried out on the basis on these questionnaires. 150 small and medium business (SMB) industrial enterprises (members of the Lithuanian Confederation of Industrialists) were surveyed. Another representative survey addressed the experts in the EU aid provision. 10 experts from the Ministry of Finance, Ministry of Economy, Lithuanian Confederation of Industrialists, private consulting agencies operating in the field of the EU aid provision participated in the survey. The establishment of significance of the criteria used in the survey of enterprises was based on the information obtained from the questionnaire.

The findings of the study were processed using the multicriteria evaluation methods. In order to make the evaluation more comprehensive, the authors used two evaluation methods for the analysis of the results: Simple Additive Weighing (SAW) method which is not very sophisticated and the TOPSIS method which is a more profound one (Ginevičius et al., 2008).

In the cases when the enterprises included at least one criterion scored 0 and the VICOR method produced indefinite results, it was found to be inadequate for the research and was not used further. The summarised multicriteria values of aid indication are given in Tab. 1.

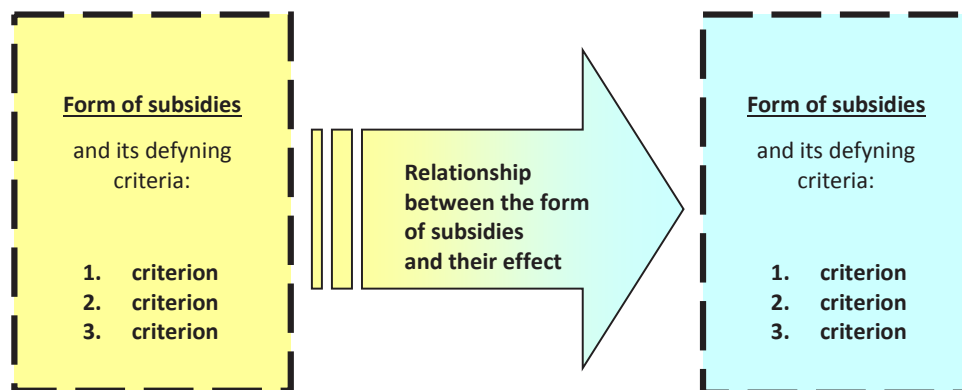


Fig. 2. Relationship between state subsidies and their effect

As the evaluation seeks to establish the interdependence of subsidies and their effect, criteria that would define the effect of subsidies have to be identified. Fifteen criteria defining the effect of subsidies for enterprises were selected by the authors for further evaluation.

The summarised multicriteria values of aid effect indication (obtained using multicriteria methods) are given in Tab. 2.

In order to compare the results obtained using different multicriteria methods, a correlation analysis was made and the places of enterprises compared.

Tab. 1. Summarised multicriteria values of aid indicators

ENTERPRISES	MULTICRITERIA EVALUATION			
	SAW		TOPSIS	
	Multicriteria value	Place	Multicriteria value	Place
1	0.0404	8	0.320	6
2	0.0447	5	0.261	17-19
3	0.0355	14-15	0.261	17-19
4	0.0348	18	0.274	13
5	0.0280	22	0.270	15-16
6	0.0417	7	0.337	5
7	0.0346	19	0.243	20-21
8	0.0355	14-15	0.270	15-16
9	0.0349	17	0.289	8-9
10	0.0376	11	0.222	22
11	0.0525	4	0.321	4
12	0.0375	12	0.282	11
13	0.0359	13	0.280	12
14	0.0703	3	0.458	3
15	0.0852	1	0.471	2
16	0.0401	9	0.295	7
17	0.0269	23	0.219	23
18	0.0305	20-21	0.284	10
19	0.0251	24	0.212	24
20	0.0387	10	0.289	8-9
21	0.0353	16	0.271	14
22	0.801	2	0.504	1
23	0.0428	6	0.261	17-19
24	0.0305	20-21	0.243	20-21

Source: (Ginevičius et al., 2008).

Tab. 2. Summarised multicriteria values of aid effect indicators

ENTERPRISES	MULTICRITERIA EVALUATION			
	SAW		TOPSIS	
	Multicriteria value	Place	Multicriteria value	Place
1	0.0349	17	0.309	17
2	0.0462	10	0.375	12
3	0.0446	11	0.379	11
4	0.0379	16	0.343	15
5	0.0247	19	0.204	21
6	0.0410	13	0.357	14
7	0.0503	7-8	0.425	7
8	0.0891	1	0.567	1
9	0.0406	14	0.387	10
10	0.0330	15	0.315	16
11	0.0598	3-5	0.458	3-5
12	0.0598	3-5	0.458	3-5
13	0.0598	3-5	0.458	3-5
14	0.0162	23	0.138	23
15	0.0185	22	0.148	22
16	0.0540	6	0.443	6
17	0.0128	24	0.091	24
18	0.0445	12	0.371	13
19	0.0241	20	0.232	19
20	0.0276	18	0.247	18
21	0.0503	7-8	0.412	8
22	0.0604	2	0.473	2
23	0.0469	9	0.401	9
24	0.0229	21	0.224	20

Source: (Ginevičius et al., 2008).

Tab. 3. Comparison of the results of the multicriteria evaluation (correlation)

COMPARATIVE METHODS	FIRST GROUP INDICATORS	SECOND GROUP INDICATORS
	COEFFICIENT OF DETERMINATION VALUE	COEFFICIENT OF DETERMINATION VALUE
SAW and TOPSIS	0.86	0.94

Tab. 4. Comparison of the results of the multicriteria evaluation (places)

FIRST GROUP INDICATORS		SECOND GROUP INDICATORS	
PLACE OF ENTERPRISE SAW METHOD	PLACE OF ENTERPRISE TOPSIS METHOD	PLACE OF ENTERPRISE SAW METHOD	PLACE OF ENTERPRISE TOPSIS METHOD
1	2	1	1
2	1	2	2
3	3	3-5	3-5

The results of the analysis are given in Tab. 3 and Tab. 4.

As it can be seen from the above, the results obtained applying both methods are very much alike. Values obtained during multicriteria evaluation are used further on for the analysis of the relationship between subsidies and their effects. Multicriteria values defining subsidies and their effects produced by different valuation methods are grouped and presented in Fig. 3.

After the evaluation of the effect of subsidies and with regard to the nature of various activities subsidised by the EU, we can draw the conclusion that the greatest effect was achieved when the aid was provided for the development of production and R&D – the values of derivative indicators of the effect

of subsidies in these areas are the highest. Training projects occupy the third place. Due to significant differences related to general trends of subsidies and their effect on the one hand and very small sample on the other hand, the investigation was not carried out.

During the research into the influence of different criteria of subsidies on their effect, it was established that not the absolute size of subsidies but their rate had the greater effect.

As the rate of subsidies indicates the subsidised share of project value, we can assume that the higher the rate of subsidies, the greater effect of subsidies is going to be achieved.

In the case of the projects related to the development of production, within the range of relatively low rate of subsidies (40-60%), the

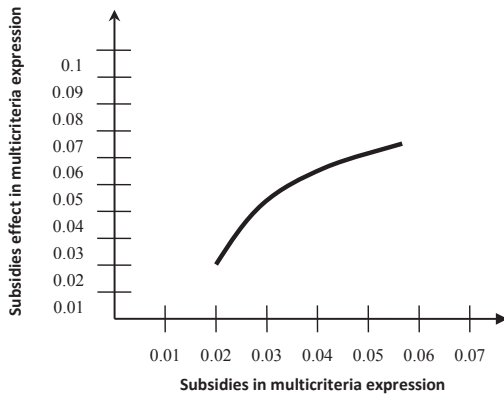


Fig. 3. Subsidies effect to companies, SAW method (coefficient of determination 0,38)

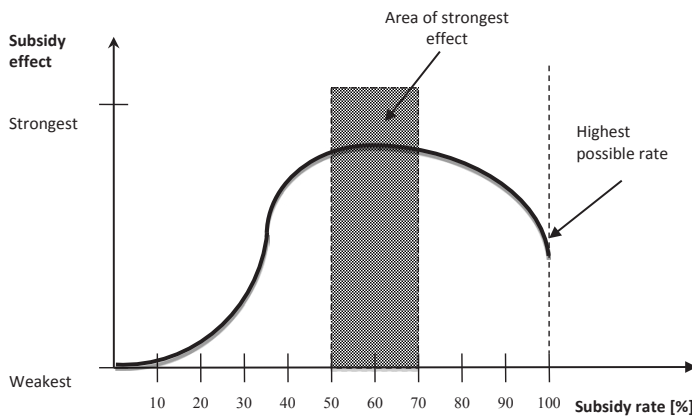


Fig. 4. Corrected theoretical correlation between subsidy rate and subsidy effect

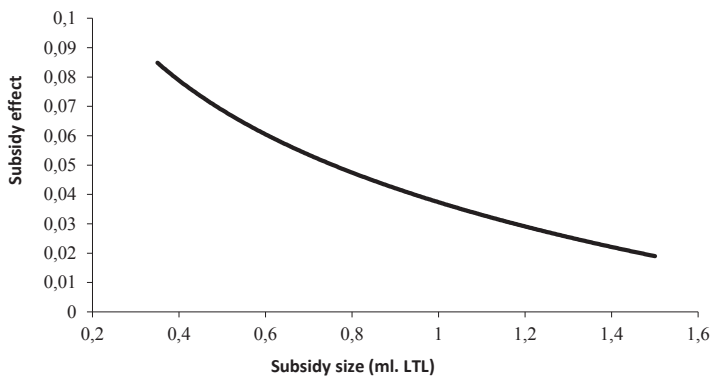


Fig. 5. Size of subsidy and aid effect in the field of qualification development (SAW method), (coefficient of determination 0,81)

growing rate of subsidies had a positive effect on companies' determination regarding the implementation of a project and, simultaneously, on the effect of subsidies. However, in the case of staff

training projects, where the rate of subsidies was higher (60-100%), the growth of the rate of subsidies had no beneficial influence on the effect of subsidies. Within this range, the effect of the growth of the rate of subsidies was the opposite – the effect of subsidies was decreasing. We can draw the conclusion that the greatest effect on subsidies is achieved when the rate of subsidies is 50-70% (Fig. 4.).

The graphic relationship between the size of subsidies and their effect (in multicriteria expression) is presented in Fig. 5. The assessment was made employing various multicriteria valuation methods. Due to bigger sample, the analysis is limited to areas of staff training and development of production.

The analysis of the size of subsidies and their effect indicated the reverse relationship between the size of subsidies and their effect in the area of staff training. In the case of subsidies for the development of production, the absolute size of subsidies had no noticeable influence on the effect of subsidies. Taking into consideration the above, we can draw the conclusion that the size of subsidies as such has no significant influence on the effect of aid (especially on the motivating effect). When the size of subsidies is growing, the rate of subsidies is decreasing. When expenditure is growing, the effect of subsidies remains unchanged. The greatest established subsidy effect was in the area of staff training and it was achieved when the size of subsidies varied between LTL 200,000 (EUR 58,000) and LTL 500,000 (EUR 145,000). In the case of subsidies for the development of production, the greatest effect was achieved when the size of subsidies varies between LTL 0.5 mln (EUR 0.145 mln) and LTL 2 mln (EUR 0.579 mln) (Fig. 5 and Fig. 7).

When drafting the regulations on aid provision and trying to reach the greatest subsidy effect, the size of subsidies for enterprises should be limited and should not exceed LTL 500,000 (EUR 145,000) per one enterprise. We also suggest differentiating the size of subsidies in the area of the development of production with regard to the size of the enterprise. The size of subsidies for the SMB enterprise should not exceed LTL 2 mln (EUR 0.579 mln).

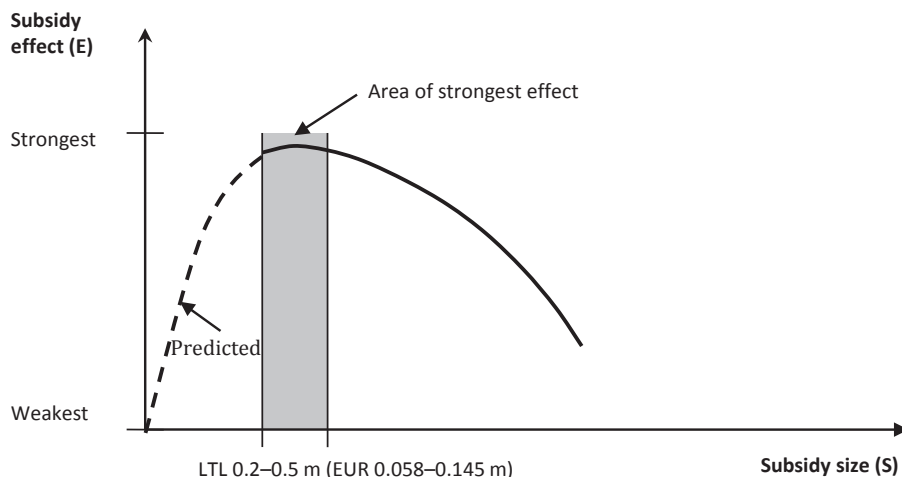


Fig. 6. Relationship between subsidy intensity and subsidy effect in the case of qualification development

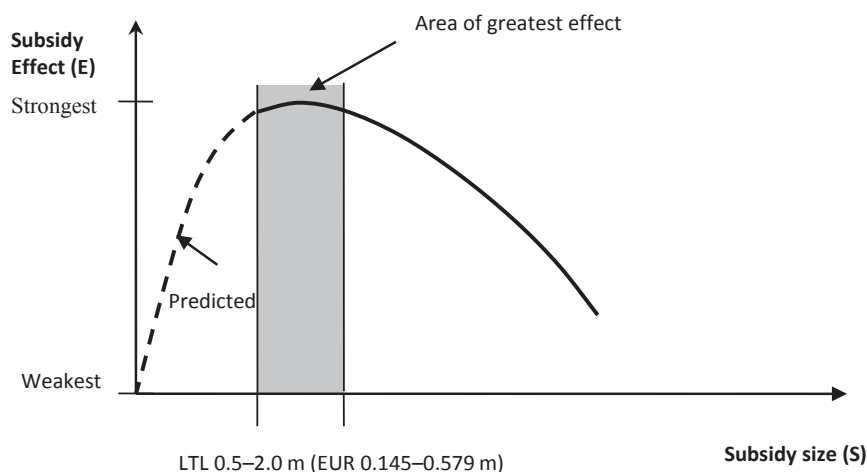


Fig. 7. Relationship between subsidy intensity and subsidy efficiency in the case of production development

The findings of the research, the identified principles of aid provision and the measures proposed may be applied to increase the effectiveness of other SRB tools. The generalised model for valuation of SRB is presented in Fig. 8.

The model of the valuation of the effect of SRB used in this work may be successfully used for valuation of the effects of various tools or for establishing the relationship between the nature of SRB and its effect.

CONCLUSIONS

The systemic analysis of the reference sources in the scientific literature suggests that valuation of SRB tools is rather problematic due to the complexity of the market and the multi-purpose nature of state

interventions. Therefore, valuers have to take into consideration a wide range of influencing factors, and in order to use them for valuation purposes, a comprehensive and objective system of indicators is required.

The systemic analysis of scientific literature both on SRB and the EU aid provision indicates that the evaluation of the ES aid programmes, like other research into SRB, is mostly focused on the effect of subsidies or the peculiarities of administration. They are also targeted at the effect of aid. Other studies of the effect of the EU aid also do not have an explicit answer to the question how the different characteristics of subsidies (for example size, rate) influence the effect of subsidies.

The assessments of subsidies and the effect of subsidies carried out employing multicriteria valuation methods as well as the established

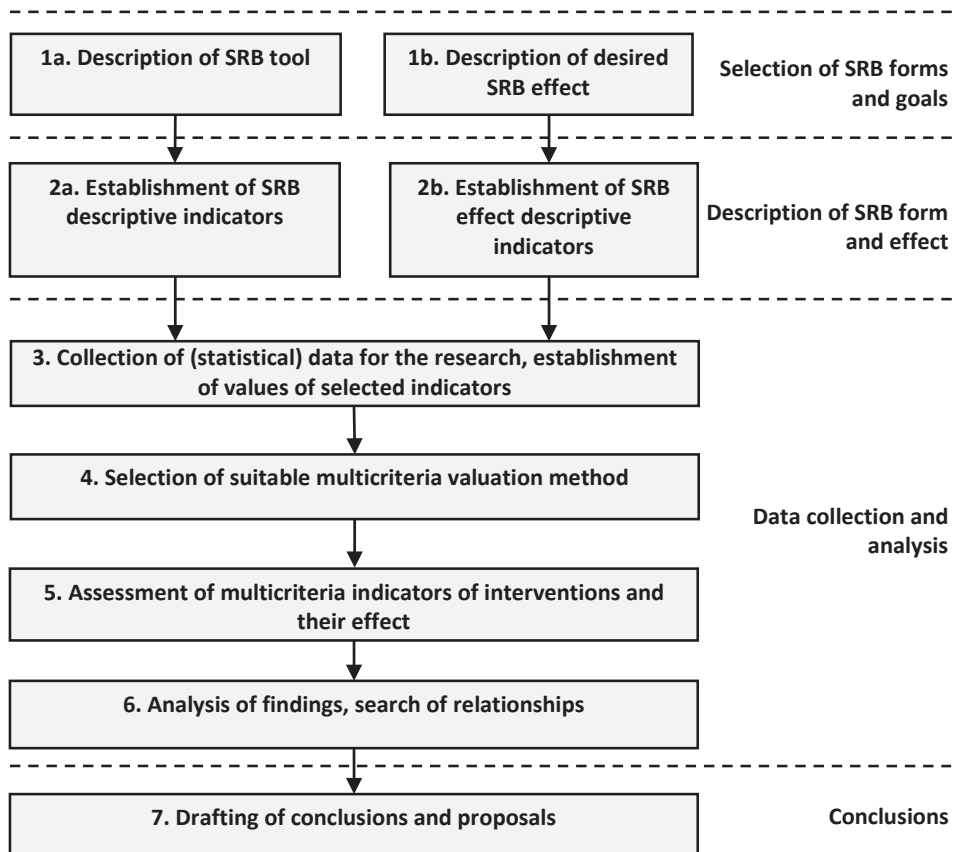


Fig. 8. Model for evaluation of the effect of state regulation

correlation coefficients let us believe that subsidising has had a direct beneficial effect. Based on the evaluation of the effect of subsidies and with regard to the different nature of the areas of activities subsidised by the EU, we can draw the conclusion that the greatest effect was achieved subsidising the development of production and R&D – the values of the derivative indicators of the effect of subsidies in these areas were the highest. Staff training projects took the third place.

During the investigation of the influence of different subsidy criteria on their effect, it was established that it is not the absolute size of subsidy but the rate of subsidy that has a greater effect. In order to have a greater effect, it is recommended to have the subsidy rate no less than 50%, and it should be 50–70%.

The analysis of the size of subsidies and their effect indicated the reverse relationship between the size of subsidies and their effect in the area of staff training – the higher the size of subsidies, the lower their effect. In the case of subsidies for the development of production, the absolute size of subsidies had no noticeable influence on the effect of subsidies. We

can draw the conclusion that the size of subsidies as such has no significant influence on the effect of aid (especially on the motivating effect); when the size of subsidies is growing, the rate of subsidies is decreasing – when expenditure is growing, the effect of subsidies remains unchanged. The greatest established subsidy effect was in the area of staff training and it was achieved when the size of subsidies varied between LTL 200,000 (EUR 58,000) to LTL 500,000 (EUR 145,000). In the case of subsidies for the development of production, the greatest effect was achieved when the size of subsidies varies between LTL 0.5 mln (EUR 0.145 mln) to LTL 2 mln (EUR 0.579 mln).

When drafting the regulations on aid provision and trying to reach the greatest subsidy effect, the size of subsidies for enterprises should be limited and should not exceed LTL 500,000 (EUR 145,000) per one enterprise. We also suggest differentiating the size of subsidies in the area of the development of production with regard to the size of the enterprise. The size of subsidies for the SMB enterprise for the promotion of specific activity should not exceed LTL 2 mln (EUR 0.579 mln).

The model of the valuation of the effect of SRB used in this work may be used for valuation of the effect of various instruments or seeking to establish the relationship between the nature of SRB and its effect.

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FINANCE MANAGEMENT IN INDEPENDENT PUBLIC HEALTH CARE CENTRES – DIAGNOSIS ATTEMPT



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ABSTRACT

The objective of efficient management in the public sector is first of all the rational use of limited resources that sector has. It is only possible when the performance of activities is entrusted to qualified managers specializing in the management of public sector organizations. It also depends on the implementation of modern management methods, for example procedures which enforce the efficient use of material (especially financial) resources: it is so-called management technology. Health protection and the management of public health care system units is one of the key elements of the state policy carried out as part of its constitutional duty regarding the common good. Within the system of managing these resources, territorial self-governments, particularly communal self-governments, are responsible for performing the activities which have the fundamental importance for citizens. The problem discussed in this article is first of all the clarity of planning in self-governmental independent health care centers and the availability of information on the management of public financial resources. It presents the results of research carried out in selected independent public health care centers in Warmia and Mazury region. Apart from drawing certain conclusions, the aim of the article was to propose changes in the financial management system of self-government health care units, especially planning which involves the performance budget execution system of the revenue and expenditure plan.

KEY WORDS

independent health care center, territorial self-government, performance budget

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INTRODUCTION

Within the framework of the new budgetary classification, in contemporary democracies the functions of health protection, health care or medical services are usually attributed to the state, namely, the public sector. In Poland, health is the 20th item in the state revenue and expenditure plan in the performance system (Information ..., 2015, p. 195). In Western democracies, most activities that in Poland are performed by the central administration have been moved from the public sector to the self-governmental one, to public benefit organizations, or directly to individuals or private organizations (Kozłowski, Czaplicka-Kozłowska, 2011). This has led to a clear increase in effectiveness, because the executors of common good activities are now closer to the

direct stakeholders. It must be emphasized, however, that the efficient management of public sector organizations, including health care centers, is only possible when the execution of the activities is entrusted to qualified managers specializing in the management of public sector organizations. It is related to the necessary implementation of modern management methods, including procedures which enforce the efficient use of material resources, especially financial ones. Since human health is of special importance, health protection and the management of health care infrastructure components is one of the most important functions of the state, carried out as part of its constitutional duty regarding common good resources. The performance of this activity, which is of key

importance for the citizens, has mostly been assigned to territorial self-governments. The basic problem discussed in the presented article is the transparency of planning in self-governmental health care centers, including the citizens' access to these financial plans and statements. In the study it was assumed that the transparency of planning in health care centers contributes to the rational use of the entrusted material resources. The article presents the results of research carried out in selected health care centers in Warmia and Mazury region. Apart from conclusions, the article includes recommendations showing the need for changes in the financial management system of self-government health care units, especially planning which involves the performance budget execution system of the revenue and expenditure plan.

1. INDEPENDENT PUBLIC HEALTH CARE CENTERS IN POLISH MEDICAL SERVICE SYSTEM

An independent public health care center, which is the subject of the research, is a very complex organizational structure. In Polish conditions it is usually managed by a doctor with the help of a complex administrative apparatus. A hospital usually consists of the emergency room, hospital wards, outpatient clinics, as well as diagnostic and rehabilitation units and a pharmacy. The main goal of a hospital is to provide medical services for people covered by health insurance within the scope and on the conditions set forth in contracts with the National Health Fund or other insurance institutions, as well as for people who are not covered by health insurance but want to use such services. The basic tasks of a hospital usually include (Organization Rules ..., 2012):

- providing in-hospital treatment to patients whose health condition necessitates stay in hospital;
- providing outpatient specialist treatment;
- health assessment, including the adjudication of temporary incapacity to work, and cooperation with institutions adjudicating permanent incapacity to work;
- organizing other forms of medical care in emergency situations (natural disasters, catastrophes, epidemics);
- defence activities in accordance with the applicable regulations;
- doctors' postgraduate and specialization education;
- scientific and research work;

- postgraduate education and student traineeships for nurses and midwives;
- health promotion workshops for nurses and midwives;
- rehabilitation services.

Whereas the effectiveness of private sector organizations is measured on the basis of sales and the resulting profit, in the case of public sector organizations it is mostly evaluated on the basis of material indices regarding the management of common good resources. This first of all refers to satisfying specific social needs (Nogalski, Klimek, 2014), and satisfying the needs of health protection (in various dimensions, beginning with the cost of insurance and the availability of medical services) is especially significant. That is why a very important criterion for economic decisions in public sector organizations is the quality, efficiency or rationality, and in the discussed field also for example the time of waiting for a medical appointment or admission to the hospital (a significant index in a plan based on the performance system). Yet, it should be noted that within the public sector the decisions are often forced by the necessity and obligation to perform the activities specified in the social contract. Taking into consideration the choice by the public (Owsiak, 1997, pp. 63-64), this may generate other factors affecting, on the one hand, the effectiveness of using public financial resources, and on the other hand, the efficiency of operation of public sector organizations, including independent public health care centers. The problem of arranging medical activity accepted by the society and by the medical circle alike, which is not characteristic of Poland only, calls for decisions made as part of New Public Management, based first of all on the transparency of management of health care centers' resources. Thus, the search for an answer to the question regarding the expenditure of independent public health care centers founded by territorial self-government units (Lubińska, 2009, p. 296) is important for the evaluation of the use of public financial resources, the efficiency of functioning and the execution of social control by the territorial self-government. What needs to be emphasized is that an independent public health care center manages its finances autonomously on the basis of a financial plan established by the manager (Act of 15 April 2011 on Medical Activity). Inappropriate management may lead to the violation of financial stability and to a negative financial result. The deficit may be covered by the founding entity, yet it is not obligatory. Therefore, by virtue of Article 59, if the negative financial result is not covered, the competent self-government authority may change the organizational/legal form of the health care center

or even liquidate it (Act of 15 April 2011 on Medical Activity). Taking into consideration the consequences of such decisions for local finances, it seems necessary to inform self-government members about financial management of health care centers, by publishing clear financial plans and statements.

The assets of independent public health care centers are basically two kinds of capital: the founding capital (assets coming from the founding body) and the health care center's capital (all the assets belonging to the health care center minus the founding capital). An independent public health care center may obtain financial resources by offering paid services, from interest on deposits, separate business, donations, bequests, legacies, or the performance of other legal activities. The basic source of financing independent public health care centers is paid medical activity, predominantly contracts with the National Health Fund, concluded as a result of contests or negotiations and usually accounting for over 90% of the medical entity's revenues. The medical entity may sell services not included in the contract. All this shows that an independent public health care center, as an element of the public sector, has at its disposal financial resources which use is regulated mainly by the Public Finance Act. The new regulations included in the Public Finance Act, which came into force on 1st January 2015, have introduced some changes aimed at increasing the efficiency of management of public finance liquidity and decreasing the public debt. The regulation extends the obligation to deposit free cash on a deposit kept by the Ministry of Finance at Bank Gospodarstwa Krajowego. Independent public health care centers are obliged to deposit free cash on the deposit of the funding entity if the entity is the territorial self-government and if it decides so (Public Finance Act).

The basis for financial management of an independent public health care center is a financial plan. The scope of information to be included in a financial plan is set forth in the Public Finance Act. A significant element of financial management of independent public health care centers is the investment plan, which shows the asset expenditure and the sources of investment financing. The financial plan should include all the revenues and expenditure of the entity, because it can only contract liabilities up to the amount resulting from the plan of expenses or costs minus staff expenditure and obligatory contributions and charges. For independent public health care centers, exceeding the planned expenditure means violation of public finances discipline. A change of planned revenues, in turn, is possible within a calendar year; this provides the possibility of increasing expenditure too, but it does

not refer to increasing the planned liabilities level. The manager of an independent health care center is responsible for drawing up and adopting the financial plan, and the board of trustees of the founding body expresses their stance towards it in the form of a resolution, which, however, is not binding for the manager (Act of 15 April 2011 on Medical Activity).

The Maastricht Treaty (Official Journal of the European Union C 115 of 9 May 2008), on the basis of subsidiarity principle in the European Union member states, introduced decentralization, transferring state activities to territorial self-governments. These include activities connected with health care. Thus, territorial self-governments became engaged in health care issues and whenever they are the founding bodies of health care institutions, they have to reserve resources for the centers' operation in their budgets. Besides, self-governments also carry out activity connected with broadly understood social services (including medical services provided at nursing homes), assistance for the disabled, or activities aimed at the prevention of drug addiction and alcohol abuse (Act of 8 March 1990 on Communal Self-government). Still, it can be assumed that all these aspects of care provided by self-governments are dispersed and therefore – to make their performance more effective – they require proper coordination of activities to ensure well-functioning local health care policy. For lowest level public health care activity (investigated in the research) to be effective and transparent, broad and comprehensive evaluation of specific programmes (aimed for example at the enhancement and improvement of prevention) is necessary. Since the main source of financing of such activities is public financial resources mostly coming from taxpayers' levies, they should have the right to receive full and clear information about the purposes for which health care centers' resources are used and whether they are spent reasonably and effectively (Lubińska, 2009, pp. 311-316).

Referring to Griffin, we need to stress that management is a system which includes actions such as planning and decision-making, organizing, managing people and controlling. In the case of health care institutions management, the effectiveness and efficiency of their operation are of key importance for health protection (Griffin, 2005, pp. 6, 104). That is why what matters in the management of independent public health care centers is, on the one hand, the qualifications of managers, and on the other hand, the clarity of short- and multiannual plans. As our study shows, most independent public health care centers are

managed by doctors, few of whom have qualifications in the field of management of public sector organizations. In accordance with the Act on Medical Activity, the person only needs to have experience at a managerial position, for example as a head of ward or another organizational unit, to meet the manager skill requirements for the position of the manager (Act of 15 April 2011 on Medical Activity). In many territorial self-governments, it is typical to appoint as managers health professionals working as doctors in the given institution. Management of health care centers is sometimes referred to as setting objectives and achieving them. For such objectives to be achieved, the person managing the health care center must display the holistic approach, including the development of a functional organizational structure, rational decision-making and information processes, an effective management style and the appropriate repair actions in management (Galicki, 2011).

In accordance with the Act on Medical Activity, the supervision of medical entities is exercised by the founding body; in the case of the investigated independent public health care centers the supervisor is the competent territorial self-government. The supervision is mostly executed by means of control, surveillance and evaluation of the performed activities. The object of supervision is among others the availability and quality of the provided medical services, the accuracy of management of assets and public resources, and the financial management of independent public health care centers. Independent public health care centers are separate organizational entities established to constantly provide medical services on the basis of a specific material and staff potential and with relative economic autonomy guaranteed (Galicki, 2011). Health care organization management involves the medical processes of the institution, ancillary processes (food supply, accommodation, clothing, instrumentation, renovation and transport), managing the staff, including medical personnel, managing finances and knowledge. As for the time frame, the orientation of operational management should be short-term (1 year), and of strategic management, long-term (even up to 15 years), (Galicki, 2011). The most frequent planning method applied in independent public health care centers is management of predominantly public finances on the basis of the current budgetary classification. The classification has its origins in the period of socialist organizations hiding their financial management and is unclear, and the only person who has the knowledge on financial flows is the one who directly manages the finances (the chief accountant of the health care institution), (Nogalski et al., 2014). Transparency

of financial planning helps make quicker and better investment, reorganization or functional decisions. It allows to prepare emergency plans, and import data from other plans in order to create new planning models (Głowacka, Klamerek, 2011, pp. 37). Different techniques are applied in independent public health care centers' financial planning, but most of them are based on traditional planning, resulting in the incomprehensible system of the revenue and expenditure plan.

2. FINANCE MANAGEMENT IN INDEPENDENT PUBLIC HEALTH CARE CENTRES – ANALYSIS OF THE AUTHORS' RESEARCH

It was assumed in the research that pursuant to the applicable regulations of the Public Finance Act (Journal of Laws Dz.U. 2009, No. 157 item 1240 as amended) and first of all the Act on Access to Public Information (Journal of Laws Dz.U. 2001 No. 112 item 1198 as amended), financial plans and statements of independent public health care centers shall be published in the Public Information Bulletin (in Polish: Biuletyn Informacji Publicznej, abbreviated to BIP). The preliminary research involving BIP resources shows that none of the 18 randomly selected health care organizational units in Warmia and Mazury region had the current revenue and expenditure plan or the report from budget implementation published in BIP. Hence, it may be assumed that the selected independent public health care centers have violated the right to access to public information. Therefore, the next step in the study was to apply to the managers of those organizations for information concerning their financial management. Interestingly, only 2 institutions gave a positive response. Thanks to the authors being acquainted with some members of the boards of trustees, data of three other independent public health care centers were obtained¹. It seems that the lack of access to information about financial management, the lack of publication in BIP, and thus preventing territorial self-government (its members) from the execution of social control is the basic element of pathology in health care center management in Poland.

Information obtained at the end of the 1st quarter is very general and it is hard to evaluate thoroughly the institutions' financial management on that basis.

1 The researchers decided not to make a complaint to the supervising authority regarding this fact, coming to the conclusion that it is not the responsibility of scientific workers or the aim of the research. They also resolved not to reveal what institutions and what people the information was received from.

In most investigated entities, the profit and loss account is used as a document summing up the financial plan. In most cases, this is what the authors received. The Tab. 1 below presents these reports from financial statements regarding the most important financial data.

The obtained data concerning financial management lead to the following conclusions:

- independent public health care centers mainly obtain financial resources from the National Health Fund, so their basic source of financing is public financial resources, the use of which is regulated by public finance law;
- the health care centers' total revenues compared to National Health Fund subsidies show that their operation is financed from sources other than NHF resources to a very limited degree;
- it may be assumed that the basic cost in the functioning of independent public health care centers is staff remunerations;
- in 2014, the investigated entities had positive financial results.

The conducted research work, including the analysis of the obtained documentation of five

no indices of the achievement of the assumed operating or strategic goals, which makes internal control (being the basis of evaluation of the effectiveness of using public financial resources) practically impossible.

3. RECOMMENDATIONS

The effectiveness of using public financial resources is the subject of interest not only for people managing public entities, the employees of those organizations or the bodies which supervise them, but also for citizens who benefit from the resources of common good, also because these organizations mostly operate thanks to the public levies contributed by them. In order to ensure rational resource management in independent public health care centers, the management technology has been drawn up to improve the efficiency of their operation, including a system of access to public information as well as a system of supervision and broadly understood social control. However, as the research indicates, in most cases the system was drawn up but not

Tab. 1. Analysis of financial data of medical entities in Warmińsko-Mazurskie Voivodeship

DATA FROM THE FINANCIAL STATEMENT	INVESTIGATED ENTITIES				
	A	B	C	D	E
Total expenditure planned for 2014	1,136,388.60	11,051,000.00	28,281,005.63	16,561,880.73	2,397,301.93
EXECUTION OF THE PLAN FOR 2014					
Total revenues	1,086,032.73	11,274,300.00	26,341,934.36	16,583,679.83	2,589,086.09
Total operating costs	1,139,251.35	11,169,900.00	27,971,914.35	16,401,657.35 16,527,074.88	2,460,461.51
Financial result	52,759.79	104,200.00	117,658.02	54,007.35	100,354.58
Staff remunerations	490,568.88	6,629,000.00	9,840,003.99	7,881,652.78	649,363.35
% of remunerations in operating costs	45	58	37	55	25
Revenues from the NHF	1,057,549.64	11,049,000.00	22,813,566.00	14,305,358.03	2,505,596.07

Source: authors' own study based on information obtained from medical entities.

medical entities and taking into account the principles on which it was obtained, the following conclusions can be drawn:

- access to financial information of an independent public health care center is difficult, in this regard one of the main principles of public finance law – the right to access to public information – is not observed;
- financial statements and plans are drawn up on the basis of the valid but unclear budget execution system of the revenue and expenditure plan, which makes it harder for boards of trustees or territorial self-governments (citizens and bodies within the self-governments) to supervise the use of public financial resources;
- the achievement of the assumed operating or strategic goals of the entities is not described in financial plans and statements, there are

implemented. The significance of internal control, functioning in public finance entities for a few years, must also be emphasized. This system forces the entities to implement appropriate annual planning, monitoring, and reporting. But in order for internal control in independent public health care centers to function properly, these entities need to be appropriately supervised by the founding bodies; besides, infrastructure used to perform internal control must be developed. Failure to implement planning based on the goals and indices of the degree of goal achievement makes broad internal control impossible. Our research and the obtained information show that the following solutions in finance management in independent public health care centers could rightly be implemented:

- multiannual financial plans and reports from their implementation should be published on BIP sites of all public sector entities, including communal

Tab. 2. Proposal of the revenue and expenditure plan in the performance system for a communal self-government (the portion concerning health care)

ACTION	FINANCIAL SCHEDULE OF THE ACTION	PREVIOUS CLASSIFICATION OF EXPENSES – NEW CLASSIFICATION	LEGAL BASIS	PLANNED AND ACTUAL EXPENDITURE IN PLN AND INDICES IN THE YEARS 2013-2017				
				2013	2014	2015	2016	2017
				Execution in PLN Index value	Execution in PLN Index value	Plan in PLN Index value	Plan in PLN Index value	Plan in PLN Index value
FUNCTION: HEALTH PROTECTION								
ACTIVITY 15: HEALTH PROGRAMMES FOR COMMUNE RESIDENTS				62,500.00	60,000.00	58,000.00	56,000.00	55,000.00
Objective: Reduction of flu incidence and limitation of flu complications								
Indicator: people staying in care and nursing or care and treatment institutions and in nursing homes in the period of raised incidence				2,500	2,700	2,780	2,700	2,500
TASK 17: PURCHASE OF PREVENTIVE VACCINES AND DISEASE PREVENTION				5,208.10	5,000.00	4,833.33	4,666.25	4,583.60
Objective: provision of infection prevention measures and preventive education.								
Indicator: – the number of vaccines purchased – the number of interviews and preventive education				265 1,350	230 1,000	200 850	185 850	170 720
Purchase of necessary preventive vaccines, support in prevention aimed at lowering the incidence of infectious diseases	Once a month – 1/12th of the annual expenditure plan	85117	Act of 5 December 2008 on the Prevention and Control of Infections and Infectious Diseases in Humans					

self-governments and independent public health care centers: this would be in agreement with the principle of public finance transparency;

- so as to ensure instruments for internal control, an execution system of revenue and expenditure plan should be implemented which would be based on certain goals (for example shortening the time of waiting for admission to a health care center or for a surgery) and indices (for example the time of waiting for a surgery, the expenditure for specific surgeries, the number of patients) precisely showing the use of public financial resources and its effects.

Financial planning based on performance budget execution system should first of all be implemented in communal and powiat self-governments; many self-governments in Poland have started working on such projects (Kozłowski, Czaplicka-Kozłowska, 2014) and it is very important for the implementation of the programme of public finance education for all citizens. The implementation of planning on the basis

of the budget execution system proposed in Tab. 2 might force the managers of public organizations managing common property to pay more attention to effective management of public finance. Concealing financial flows, for example failure to make financial plans and statements available and drawing them up only on the basis of the valid budgetary classification, should be a signal for thorough control of financial management, including internal control, in independent public health care centers.

CONCLUSIONS

As part of the research the authors mainly found negative phenomena in financial management in independent public health care centers, which belong to the public sector and use public financial resources. The research confirmed the assumption of problems regarding access to public information and the impossibility to evaluate the effectiveness of resource management in independent public

health care centers. Analyzing the financial management of health care centers subjected to the basic organizational units of Warmia and Mazury territorial self-government, especially the transparency of planning and information about the results, it is evident that financial information is unavailable. Thus, it is hard to determine the effectiveness of expenses, which could be evaluated not only by self-governmental authorities but first of all by the citizens who benefit from the services of those institutions and cover the costs of their operation. Therefore, the implementation of rules within new public management should be considered to regulate financial management based on clear annual and multi-annual revenue and expenditure plans in the performance system. This is the fundamental condition for management to be based on communication with citizens and treating them as the subjects and participants of activity execution. It should be stressed that a self-government consists of residents, and it is them who exercise the authority through their representatives in councils, for example influence the appropriate functioning of independent health care centers. The lack of access to public information violates the basic civil rights and shows the management of health care centers and the supervising bodies do not implement the law. All this confirms that the health care system in Poland needs thorough reforms.

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ORGANIZATIONAL TRANSFORMATION IN SUBNATIONAL GOVERNMENTS: SELECTED TECHNICAL EVIDENCE ON THE EXISTENCE OF LEARNING



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ABSTRACT

This paper addresses the concept of learning organization in public sector from the technical perspective. The „learning curve“ of 10 Slovenian cities during the crisis period 2009-12 is investigated, where the focus is on outcomes and not on the processes of learning. In essence, the working concept of dynamic performance monitoring is utilized. The empirical evidence suggests that productivity of 10 Slovenian cities decreased on average during the crisis period 2009-2012, however this decrease was particularly intensive in 2010, whereas in 2011-2012 period productivity started to consolidate. The main contributor to this was technology, represented by innovation and adoption of new operating techniques and procedures. Paper addresses the concept of learning organization from the technical perspective. When the technical perspective is expanded to the social perspective, the results might suggest that innovations come in the form of the utilization of new modes of subnational government service provision.

KEY WORDS

learning organization, productivity, technical perspective

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INTRODUCTION

Learning organization concept was developed in 1970's, but it became popular during the 1990's with the influential work of Senge (1990). Throughout last quarter of century, the learning organization has been increasingly addressed in literature, and even researchers are increasingly interested into this concept. Several reasons exist for that, as for example increasingly changing and dynamic external environment and increasing necessity to innovate. As the basic definition of learning organization suggests, those organizations are places where people continuously expand capacities to create desired results and new patterns of thinking are emerged and implemented (Senge, 1990). In essence, this means that learning organization fosters innovations, and innovations enable adaptation to changing environments, which contributes to better performance (Shipton et al., 2013). This empirical paper examines „learning“ of Slovenian cities during the fiscal stress, and the focus is given on performance monitoring. Consequently, the research problem

is related to addressing the technical aspect of learning organization concept.

1. LITERATURE REVIEW

Learning organization is one of the phases in a new organization design paradigm. The first successive phase involves total quality organization, the second learning organization and the third successive phase is world-class organization (Hodgetts et al., 1994). Basic differences among those phases are that learning organizations, in contrast to total quality organizations, possess double-loop learning feedback that provides capability of the organization to anticipate change, whereas world-class organizations tend to be recognized by their peers as the very best in their class and/or in some aspect of activity. Nevertheless, all those concepts or phases develop on the total quality management and systems thinking, where focus is given on the

interrelationship between inputs (root causes) and outputs (effects), which facilitates managers that they address not just the symptoms but also the real causes of problems. This facilitates the importance of feedback mechanisms in organizations, and furthermore, the long-term orientation of organizations.

The above stated elaboration provides the idea that two types of learning exist in an organization: single-loop (adaptive) learning is learning that happens when a problem is detected and corrective action is delivered without any other changes; double-loop (generative) learning is learning that also includes changes in organizational policies, norms etc. The evidence shows that most organizations have a tendency to the utilization of the first type of learning (Avci, 2014). The concept of learning organization is based on the organizational culture that means increased ability of learning, adaptation and change, which include new values, training, policies, structures and system of organization that support and promote the learning of all members in organization (Bennett, O'Brine, 1994; Daft, 1997). Basically, Ortenblad (2004) provided the framework of learning organizations, which includes four aspects, that learning organizations should achieve: learning at work, organizational learning, developing a learning climate, and creating learning structures.

Learning organization concept is heavily based on the total quality management (TQM) principles. Evidence shows that quality management has been widely used in private as well as in public sector organizations, although the consensus exists that TQM is not suitable for general adaptation to the public sector and challenges are widely discussed in the existing literature (see, for example, Swiss, 1992; Stringham, 2004). Those challenges involve the necessity to substantially modify the orthodox TQM to fit the public sector's unique characteristics, which involve orientation on services; multi-dimensional customers; specific emphasis on results and omitted top-management functions. However, those authors tend to admit that a limited application of certain elements of TQM is warranted in the public sector, and those elements include client feedback evaluation, performance monitoring, continuous improvement and employee participation. It is also worth noting that the definition of learning organization possesses some challenges itself. Not just that it correlates, at least in terms of semantic if not otherwise, very similar concept of organizational learning, but learning organization concept involves two variants, technical and social one. The first one looks at organizational learning curve (costs-output relations), and focus on outcomes is preferred,

whereas the social variant focuses on discussing process orientation in organizations (see Smith, 2001).

2. RESEARCH METHODS

On the basis of above stated elaborations, this methodological paper examines double-loop learning feedback of selected public sector entities when facing fiscally challenging environment and the focus is given on performance monitoring. Some authors (for example, Stringham, 2004) even argue that performance monitoring becomes even more important in times of crisis, as it becomes crucial to be able to determine which entities (or programs) are working well and which not. Moreover, increased competition as well as crisis challenges usually increases the utilization of business-managed style and customer-oriented principles in organizations (Hsao, 2011) – in the public sector this effectively means that management-based reforms are further accelerated. The existing evidence on cutback management practices in the public sector may support the idea that concepts like efficiency assurance are on the rise again, and those concepts belong to the once very influential New Public Management ideology (Pevcin, 2014).

Unlike the majority of existing literature, which prefers to address the concept of learning organization from the social aspect (see, for example, Shipton et al., 2013; Fard et al., 2009), this paper addresses the technical aspect of learning organization concept, so the „learning curve” in selected public entities is investigated during the crisis period. This means that the focus is on outcomes and not on the processes of learning, and the working concept of dynamic performance monitoring, which is suitable also for public organizations, is utilized.

Performance monitoring includes monitoring of efficiency, effectiveness and productivity of organizations. Out of that, in relation to learning curve investigation, productivity seems to be particularly suitable indicator to monitor. It is expected that learning organization practices increase performance. Productivity changes can be divided into technological and technical changes, where both improvements directly address organizational changes that contributed to productivity growth, and might therefore be the direct consequence of learning organization practices.

This empirical paper would like to assess productivity levels and productivity change for 10 Slovenian cities for the 2009-2012 time period. The purpose of this research is to gain the insight if we can find the „evidence of learning” among

Slovenian cities, and the selection of time period under consideration directly corresponds to extremely severe conditions and changes in the external environment due to the emerging fiscal crisis. Empirical estimation is based on the input-orientated Malmquist Productivity Index approach. This methodology is suitable for estimating productivity change, and this change can be decomposed into technological change and technical efficiency change. The second one indicates that observed units are catching up with the frontier, whereas the first one indicates that frontier is shifting upwards over time (Barros, 2006).

The inclusion of input and output variables in the analysis is based on the combination of literature review as well as on the legal provisions that determine specific tasks of cities under consideration. Since we are interested in determining costs-output relations, total current expenditures of cities are taken as proxy for operational costs (all values are transformed to initial 2009 level with GDP deflator), and output bundle is represented by following variables: the total city population, the number of children attending public kindergartens, the number of pupils in public primary schools, the number of population over 65 years; the number of construction permits issued by the city, and the amount of waste collected by public waste collectors. This output bundle roughly represents the most important responsibilities of cities under consideration with respect to the social, educational, planning and infrastructure services they need to provide for their residents. A specialist DEAP program version 2.1, developed by Coelli (1996), is used to estimate total factor productivity. Descriptive statistics for the variables employed in the analysis is presented in the Tab. 1 below.

3. RESEARCH RESULTS AND DISCUSSION OF THE RESULTS

Columns of the Tab. 2 present technical efficiency change (MTE), technological change (MT), and total factor productivity change (MTEFP). The change in technical efficiency relates to deviations from best-practice technology in the management of the activity, and can be attributed among others to the changes in planning, technical experience and organization in units under observation. In contrast, technological change relates to the innovation and the adoption of new technologies, procedures and techniques as well as skill-upgrades by best-practice units (Barros, 2006).

The results presented in Tab. 2 indicate that total factor productivity annual means decreased by 5.8% in the period 2009-2012 across the cities included in the sample. This productivity decrease is the sum of technical efficiency and technological change, so these two values should be compared. In this case, the overall decrease in productivity over the period is composed of an average technical efficiency decrease (movement from the frontier) of 1.3%, and average technological regress (inward shift of the frontier) of 4.5% annually. Clearly, the decrease in productivity of Slovenian cities over the period 2009-2012 is more the result of contraction in the frontier relating inputs to outputs rather than in decrease of technical efficiency. This might suggest that, in particular, the existing procedures, techniques and skills, that are being used, are not in accordance with the ones needed during the contraction; that is in the period of fiscal crisis.

However, the above table suggests that productivity changes varied between the years under consideration.

Tab. 1. Descriptive statistics, input and output variables (yearly data, period 2009-2012)

VARIABLE	AVERAGE	STD. DEVIATION	MINIMUM	MAXIMUM
Total current expenditures (in EUR)	5,731,952	2,893,567	2,173,046	13,275,368
Total population	42,904	26,535	16,787	112,642
Number of children in public kindergartens	1,606	911	574	3,926
Number of pupils in public primary schools	3,175	1,684	1,425	7,304
Population over 65 years	7,446	5,419	2,427	22,396
Number of construction permits issued	44	30	8	130
Amount of waste collected (in metric tons)	19,548	13,301	3,707	58,939

Sources: author's calculations on the basis of (Ministry of Finance, 2014; SORS, 2014).

Tab. 2. Productivity changes and learning cities evidence, annual means 2009-2012

MALMQUIST INDEX SUMMARY OF ANNUAL MEANS			
Year	M_{TE}	M_T	M_{TFP}
2010	0.978	0.860	0.840
2011	0.983	0.997	0.979
2012	1.001	1.016	1.017
Mean	0.987	0.955	0.942

The high mean productivity decrease can be observed for the year 2010 with 16% reduction on average, which was composed of 2.2% reduction in technical efficiency and 14% of technological regress. In contrast, total factor productivity even increased on average in year 2012 by 1.7%, predominantly through technological gain (1.6%).

techniques/procedures utilization might be involved. This evidence might suggest that learning exists also in public entities under observation.

If we observe city mean changes of productivity during the period 2009-2012, it is evident that in some cities (for example Novo mesto) productivity even increased, on average, during the period under

Tab. 3. Productivity changes and learning cities – city-by-city means

MALMQUIST INDEX SUMMARY OF CITY MEANS			
City	M_{TE}	M_T	M_{TFP}
Celje	1.006	0.921	0.926
Koper	0.961	0.975	0.937
Kranj	1.000	0.980	0.980
Maribor	1.000	0.933	0.933
Murska Sobota	0.951	0.913	0.868
Nova Gorica	1.022	0.899	0.918
Novo mesto	1.000	1.008	1.008
Ptuj	0.991	0.975	0.966
Slovenj Gradec	0.954	0.962	0.918
Velenje	0.988	0.990	0.978
Mean	0.987	0.955	0.942

What does this indicate? In contrast to mean values, there is some year-to-year empirical evidence on the existence of learning in cities, as on average both technical efficiency and technological improvements occurred in 2012. This means that after initial slump, cities were able to learn and adapt to new circumstances, thereby improving their performance, and drivers like innovation and new

observation. Out of 10 observed cities, 2 cities (that is Celje and Nova Gorica) experienced mean technical efficiency improvements. However, technological regress can be observed in all cities, except in the above mentioned city of Novo mesto, which indicates the lack of innovation leveraging the organizational factors in cities. Moreover, in 6 out of 10 cities mean technological regress outpaced mean technical

Tab. 4. Number of cities with productivity improvements, 2010-2012

CITY	$M_{TFP2010}$	$M_{TFP2011}$	$M_{TFP2012}$
Celje	1.087	0.853	0.856
Koper	0.773	0.940	1.131
Kranj	0.825	1.039	1.097
Maribor	0.829	0.975	1.007
Murska Sobota	0.830	1.003	0.786
Nova Gorica	0.766	1.043	0.968
Novo mesto	0.940	0.970	1.125
Ptuj	0.561	1.451	1.106
Slovenj Gradec	0.997	0.765	1.012
Velenje	0.915	0.887	1.153
Number of cities with $M_{TFP} \geq 1$	1	4	7

efficiency decrease, which means that those cities experienced the deterioration of organizational factors when using inputs and outputs and their combinations, but they also need to adopt new technology in order to upgrade their organizational skills.

What does this suggest? Similarly to previous elaboration, each city should be analyzed separately, year-by-year. This analysis is presented in Tab. 4 below. The evidence suggests that over the years under consideration, the number of cities where productivity improvements could be observed increased, which suggests that they have tried to adapt to the new circumstances that occurred under the contraction, although support for this suggestion is not entirely straightforward. However, we should not dismiss the existence of evidence that productivity improvements, also in number of observed units, exist, and consequently enable the justification of a proposal that, in fact, also cities already behave like learning organizations; the real question remains if the crisis might be a reason for that.

CONCLUSIONS

During the period 2009-2012 cities in Slovenia experienced, on average, total factor productivity decline, which could be contributed mainly to technological regress. Namely, fiscally challenging environment decreased demand for certain services, but the lack of innovations deteriorated organizational skills that would enable adaptation to new circumstances. Productivity decreased suddenly in 2010, but it started to improve in the period 2011-2012. Selected evidence suggests that cities started to adapt to new circumstances, and technological factors, like innovation and adaptation of new techniques, were the main factor facilitating those processes, which indicates that cities are „learning“.

Turning from the technical aspect of the topic to the social aspect, the question needed to be answered is: could some evidence on changing practices in organization and management be outlined? One of the practices recently heavily implemented is the creation of the so-called joint municipal/city boards, responsible for joint provision of selected services at the local level. This describes the alternative mode of service provision, which is literary the adoption of new procedures – innovation. This experiment was widely accepted, and more than 90 percent of cities and municipalities in Slovenia are involved more or less intensively in those ventures. This kind of cooperation among localities can lower transaction costs, help achieving

economies of scale, and increase efficiency and productivity. Finally, this might be the case that cities, which are not involved in such ventures (for example, Murska Sobota), also practically exhibit less evidence on learning. This relation should be addressed further.

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THE IMPACT OF PUBLIC MANAGEMENT ON THE EFFECTIVENESS OF PUBLIC FINANCES AT THE LOCAL LEVEL



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ABSTRACT

The main purpose of the paper is to show the relations between the management method practiced by the public authorities and the efficiency of public finances carried out at the local level. The paper has been prepared on the basis of literature and copyright research on the effectiveness of financial management in Polish local government. A descriptive method and the results of economic and statistical analyses have been used in the work. Authorities applying the administrative management model are characterized by passivity and reluctance to use innovative methods of management. They apply a one-year financial planning cycle and perform cost analyses to a very limited extent. Local governments applying the strategic management model use modern and effective methods of financial planning in financial policy, also in the multi-annual arrangement, and constantly carry out financial analyses. The practice of public financial management at the local level shows the impact of public management on the effectiveness of financial policy and budgetary economy at the local level. The paper refers to the theory of public finance and efficiency of local public financial management. The conclusions of the paper can be applicable for the practice of finances of the local self-government.

KEY WORDS

public management, local finance, local government

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INTRODUCTION

Public sector entities operate in conditions of limited budgetary resources in relation to the existing current and future development needs. In the situation of intensifying spending pressures, the reduced size of public funds, it is necessary to analyse the effectiveness of budget management, allowing for more efficient use of available resources. In such circumstances, the question is to what extent public authorities are able to skilfully use local socio-economic potential and possessed financial resources. These problems can be analysed in different planes – revenue collection, allocation of expenses, shaping the financial result and debt levels, as well as the use of property resources.

With this in mind, an important task is the search for the relationship between the decisions of local authorities, and the efficiency of their budgetary

economy. In particular, it is worthwhile to pay attention to the demonstration of the relationship between the management model practiced by public authorities, and the quality of the collection and spending of budget funds.

In recent decades new trends have appeared in public finance management focusing on the introduction of management methods aiming at directing activities to the rational and efficient forms of management. An open question is whether the new trends in public finance management, with an emphasis on improving the definition of policy objectives, detailed scheduling of tasks, monitoring the progress of their implementation and control of the achieved results, are applicable in the practice of functioning of the public sector at the local level.

In this publication, an attempt is made to show the relations between the management model practiced by Polish local public authorities and the efficiency of public expenditure carried out at the local level.

To this end, traditional and innovative methods of management in the public sector will be discussed, with the demonstration of their advantages and disadvantages, and with the analysis of the effects of their use in practice.

1. PUBLIC MANAGEMENT THEORIES AND THE EFFECTIVENESS OF MANAGEMENT

Public management is a discipline of science whose main focus is the management of public sphere organizations at different levels of their operation. It deals with the study of methods and harmonization of activities ensuring the proper setting of goals of organizations making up the public sphere and the rational use of resources for the realisation of public interest. Public management as a distinct academic discipline in theoretical approach appeared in the 80s of the twentieth century (Brudney, 2000, pp. 4-6). Its essence was an attempt to integrate elements of business and general management with elements of political science and public administration. In-depth theoretical analyses of organizations forming the public sector conducted in this field led to the formulation of recommendations for practitioners of public management.

In the economic theory, we can find the basis of the management discipline in the public sector mainly in: the public choice theory, the stakeholders theory and the transaction cost theory (Kozuch, Sułkowski, 2015, p. 25).

In the public choice theory, the most significance is given to the analysis of decision-making processes undertaken by the authorities. In particular, this approach focuses on the study of how decision makers use public property and organizational resources belonging to them.

In the light of the considerations on the problem of public sector management it is worth stressing the aspect of the presence of external effects of taken decisions. The allocation of funds to certain social and economic spheres (for example the decision-makers' focus on building technical infrastructure) has an impact on the functioning of many entities in the economy, even though they were not directly or even indirectly involved in the decision-making process (Wilkin, 2005).

The interest of the stakeholder theory is the issue of interactions between stakeholders of a given organization and benefits which are the results of these relationships. It concentrates on managerial decision making and the analysis of their effects.

In the public sector, stakeholders are primarily residents, businesses and other organizations which directly or indirectly feel the effects of decisions made by public authorities. Of key importance here is the social responsibility of public decision-makers for meeting the needs of businesses located in the area of the given territorial unit. The stakeholder theory is a good prerequisite for the introduction of modern forms of governance in the public sector, such which are based on the social and economic image of the public organization. In practice, its use is often manifested in the application of instruments aimed at soliciting „stakeholders' favourable disposition". This is done for example by means of the use of simple fiscal incentives (lower taxes, exemptions), the provision of certain services, or infrastructural development of well communicated investment areas.

The third theory, constituting the background for the emergence and evolution of the discipline of public management, is the theory of transaction costs, established on the basis of management science in enterprises. Coase is considered its precursor, who in his deliberations formulated the theorem according to which the basis for determining the boundaries of a company, and thus the range of tasks performed independently, should not be technological conditions, but the amount of the costs that must be incurred in connection with carrying out transactions within the organization or between companies in the market. Coase pointed out that narrowly specialized units typically gain the benefits of economies of scale and are able to assure lower manufacturing costs of offered products in comparison with enterprises in which the majority of areas of activity needed in the business, leading to the creation of specific goods and services, is carried out independently (Coase, 1988). These deliberations were later put to the test of adaptation for the needs of improving the efficiency of public sector management.

It is worth referring to the theory of organisational configurations in the public sector concerning two main principles of efficient operation: effectiveness and efficiency. The main idea of this theory is the assertion that various parts of the organization should not be considered separately, since the whole organization gives them the correct meaning (Roberts, 2000). The public domain model focuses on the objectives of the public sphere, the conditions of its operation and its tasks. The concept of organisational publicness explains the specifics of public organizations and their relationships with the environment (Markowski, Banachowicz, 2003; Kozuch, 2004, p. 50).

It should be noted that there is a close convergence of these concepts with elements of the model of public

governance (Markowski, Banachowicz, 2003). Thanks to the introduction of public governance in the social reality the following will be obtained: the improvement of the political decision-making process, increase in the level of participation of citizens in public life, the creation of a cooperation network, ordering of the State, the improvement of the public administration efficiency and the observance of the principles of democracy and human rights.

Historically, a bureaucratic management model has developed in the public sector, which assumes that public entities should undertake only those actions that are necessary for the proper, that is conforming to the regulations, realization of their tasks. According to Weber, bureaucracy as an ideal type should be characterized primarily by: action precision, speed, flexibility, unambiguity, continuity of work, impersonality, compliance with regulations, cost savings and predictability of behaviour. In practice, in the bureaucratic model administration is focused on creating procedural frameworks of its activities and performing of activities within the framework of competence defined by the law. In the interest of bureaucratic administration is, therefore, not effective provision of services to maximize the benefits for stakeholders, but smooth, continuous, cost-effective, predictable and mechanical execution of predefined tasks and procedures. In Weberian terms, it is called upon to perform specific, mechanical activities resulting in the implementation of planned, mostly short-term objectives. Functioning, it primarily performs current tasks arising not out of the signalled needs of its stakeholders, but from pre-set work schedules. It is not oriented on tasks that go beyond a short-term time frame, therefore, its employees and managers do not wonder about the long-term consequences of their decisions.

In the twentieth century, there was a gradual change in the paradigm of management in the public sector, manifested primarily by an attempt to move away from the traditional bureaucratic model. Under the conditions of the dynamic development of the world economy and the growing social needs, public administration reform proponents more and more often took the floor. To meet these challenges, public authorities should implement new management solutions, approximating the structure and form of governance in the public sector to management of a company operating in the conditions of market competition.

One of the forerunners of modern science of management in the public sector units was Peter Drucker, who claimed that the efficiency of the action is an essential attribute of the modern theory of organization and management in both the private

and public sectors (Drucker, 2003, p. 34). He introduced the concept of the three „Es” (efficiency, effectiveness, ethical) to the science of management in the public sector. According to Drucker, the assessment of the efficiency of public authority includes: the degree of implementation of planned goals (effectiveness), the positive ratio of operation results to the cost (efficiency) and compliance of operation with the adopted axiological system (ethics).

In the first place, we should point to New Public Management – NPM among modern management models. The development of this idea has become a response to the changing role of public authorities in the management and organization of socio-economic life and the growing societies’ demands in relation to government bodies. The main assumption of NPM is to transform the approach of public asset managing authorities towards increasing the effectiveness, efficiency and quality of provided services, while increasing the responsibility of decision-makers for their actions (Hughes, 2003, p. 37). New public management, therefore, proposes new solutions for assessing the effectiveness of public sector activities by targeting the authorities and decision makers on the final results of their activities. Postulating a departure from bureaucratic methods of governance, the possibilities of cooperation with the private sector and non-governmental organizations are used to a greater extent. It should significantly expand the selection of alternative mechanisms of service provision. The NPM trend also introduces significant changes in the internal structures of public organizations.

Undoubtedly, NPM, as a collection of modern methods of management in the public sector, has played a significant role in shaping directions of development of the public sector. This trend, however, has not become the dominant paradigm of management in the public sector. One of the main objections formulated against NPM is too much confidence in market mechanisms, manifested to some extent in mechanical attempts to transfer the majority of business solutions to the public sector.

Assessing the practical application of this management model it is worth pointing to Pollitt’s conclusion that, in fact, there is no „pure” model of public management in the spirit of NPM in any European country (Hughes, 2003, p. 37). It seems that NPM brings beneficial effects (in terms of improving the quality and efficiency of services), mainly in the case of simple services with measurable quantity and value, the quality of which is also relatively easy to measure. However, in the case of social services with a complex structure and multiple objectives,

NPM can, next to the positive economic effects, cause adverse social results.

From among modern management methods applicable in the public sector, we should still draw attention to entrepreneurial management. In this spirit, one of the first coherent concepts in terms of the paradigm change of governing of public affairs and transformation of the role of decision-makers was presented by American researchers Osborne and Gaebler. They present the problem of the quality and effectiveness of management in the public sector against the background of the rapidly changing socio-economic environment and rising public expectations (Osbourne, Gaebler, 1994, p. 43). The rules, which Osborne and Gaebler talk about, allow public authority to manage public affairs more effectively and more efficiently. They insist that „in order to reduce wastefulness” in the public sector, bureaucratic institutions should be transformed into entrepreneurial institutions which will not hesitate to reject useless ideas. They also point out that the administration in its nature is passive, reluctant to change, closed to the growing needs of society and cannot meet new challenges.

In recent years, much attention has been paid to the trend of „public governance”. Its message is a method or system of governing not related to the structures of power, but to the governing function (in terms of performing the tasks of power), from the point of view of modes of action and the quality of governance. In this model, governance assumes that policymakers, organizing the public service provision process, replace competition with cooperation, partnership, co-responsibility and the possibility of achieving mutual benefits on the basis of synergy. The governance trend implies, therefore, that public authority is a major player animating social and economic processes, and above all fully responsible for the proper execution of its tasks. In the model of public governance a key role is played by the governing process itself.

It seems that due to the lack of unambiguous positive effects of the implementation of NPM in the practice of public administration, the public governance approach will be applied more and more often. An important common feature of the two doctrines is the formula for exercising of public power. For both of them one of the main principles is that decision makers should focus on defining the general organizational, financial and technical framework for the functioning of the organization, the sphere of the public service performance should be as much as possible transferred outside into specialized entities.

2. THE EFFECTIVENESS OF MANAGEMENT OF PUBLIC FINANCES AT THE LOCAL LEVEL IN RELATION TO THE METHOD OF MANAGEMENT

2.1. LOCAL REVENUE POLICY

The public sector on local level is subject to an increasing pressure to increase efficiency and improve the quality of its actions. Pressure of authorities, local communities, businesses, and media stimulates its development and thereby forces the introduction of modern management methods.

As pointed out by Raczkowski, local government units should seek self-assessment and planning tools which would allow them to manage the given unit in an efficient, transparent and predictable way. An important element of management is finance, which should be managed not only on the annual but also on the long-term basis (Raczkowski, 2015, pp. 65-67). It can be also pointed out that in the context of public management it is essential to ensure activities which are harmonious, targeted and optimal from the point of view of the public sphere (Kozuch, Sułkowski, 2015, p. 42).

Management in the public sector encompasses decisions and actions of the public authority, as an entity responsible for the implementation of a wide range of municipal and social services and shaping development processes. It requires the use of instruments from the field of management, including financial management (Bitner et al., 2013, p. 20).

Managing public funds, local authorities conduct their own financial policy, which should be understood by a conscious and purposeful activity of people and institutions involving the definition and implementation of specific objectives, using available funds. (Ruśkowski, 1994, p. 17). An element of financial policy is financial planning, which is the process of determining of financial effects of planned activities within the specified time, and comparison and adjustment of these plans to the anticipated financial resources.

The practice of public financial management at the local level shows a close connection between locally conducted financial policy and the budgetary economy, and the implemented management model. This is confirmed by author analyses and forecasts of the financial situation of many Polish local governments. On this basis, it can be argued that local authorities using the bureaucratic management model limit themselves to financial administration,

but decision makers implementing innovative management methods resort to instruments of strategic management.

Authorities applying the administrative management model are characterized by passivity and reluctance to use innovative methods of management. They apply a one-year financial planning cycle, make cost analyses to a very limited extent. Strategic management is, however, the process of shaping of financial policy and budgetary economy, both on an annual as well as on many year basis. Here, a cost and benefit statement is used as well as available management tools helping to shape long-term policy of local authorities. In this model, satisfying needs is not a simple sum of the annual plans of financing of tasks, but it has a strategic character, connected with long-term local social, economic, spatial, environment protection policy. And annual budgets are a reflection of this policy and an instrument of its implementation. A very important feature of strategic management is creativity, understood as the ability of public authorities to identify and solve local problems, combined with the creative ability to apply methods and techniques of planning of current and developmental tasks. It is connected with the transfer of methods of planning and strategic management from the private sector and adapting them to the conditions and needs of public institutions (Sierak, 2013, p. 191).

The experiences of functioning of local government in Poland show that administration, as a bureaucratic management model, is a cause of many conflicts and tensions among members of local authorities, because their activities concentrate on the annual „battle for budgetary resources” which are necessary to achieve their preferred tasks. In such conditions, decisions concerning the scale and direction of budget spending (especially pertaining to investments) are subject to achieving a current compromise. They are not a result of long-term arrangements. It is disturbing that in Poland still a little more than a half of municipalities uses this passive, ineffective management model (based on the results of the author’s study in the Department of Economics and Finance, Warsaw School of Economics).

Financial management encompasses a great deal of decision-making planes. For obvious reasons, the considerations contained in this publication have been limited to selected elements of the revenue and expenditure policy-making of local authorities in Poland.

By analyzing management decisions of a large collection of local authorities, it can be argued that locally conducted revenue policy is closely linked with the adopted management model. This applies

primarily to the formation of local taxes and fees and the management of municipal property.

At this point it is worth referring to Tiebout, according to whom people move (migrate) to places where local authorities provide the appropriate relationship between the tax burden and the level of services (more Tiebout, 1956). This process is called „voting with the feet”. Residents have identified preferences pertaining to the size of taxes and the resulting number of services which they would like to receive from the local government. According to Tiebout, „voting with the feet” would lead to Pareto optimum, that is a situation in which the improvement of one’s situation cannot occur without deterioration of someone else’s. Thus, rational management can help to increase the location attractiveness of the territorial unit. A consequence of unskilful management can be depopulation and decline in the location attractiveness for businesses, which in the long run may have a negative impact on the level of budget revenues.

The first element of local government financial policy relates to fiscal policy. Federowicz uses this term in the sense of „a choice of sources and methods for collecting public revenues, and also directions and methods of implementation of public expenditure in order to achieve social and economic objectives fixed by competent public authorities” (Federowicz, 1997, p. 7).

The analysis of the relationship between the management model and the effectiveness of the local government budget economy should start with the local income policy. Its object is to collect revenues to be able to execute public tasks in accordance with the established current and development objectives.

Local government income policy in Poland is pursued in the conditions of decentralization of public tasks and competencies to perform them. Unfortunately, it goes hand in hand with the decentralization of public finances to a limited extent. This is a significant external condition of shaping own financial policies of local government units. In local government budgets, this process results in an excessive increase in current expenditure, which limits the pool of funds which could be used to finance investments.

The first relationship between the shaping of income policy and the management model implemented by public authorities occurs in the shaping of local taxes and fees. A significant problem here is the optimization of tax rates, on the one hand, in relation to the possibility of taxpayers, and, on the other hand, to the scope of current and development expenditure needs reported by them.

Referring here to the decision-making processes – the bureaucratic model is characterized by low activity of authorities in shaping tax policy. In practice, setting tax rates is based on the size of the previous years, indexed with the rate of inflation. Potential changes in the size and efficiency of the tax base are not analyzed, the examination of internal and external determinants of fundraising is limited, the simulation of the impact of tax rates on the future financial situation of the municipality is missing. Local politicians often freeze tax rates, keeping them at the same level even for many years. An argument in favour of such an action is the protection of the financial status of the local community. However, the effects of such policy can be inverse. Such policy, in conditions of rising prices of energy, transport, materials, increasing wages leads gradually to increase in the share of current expenditure in total expenditure, which in turn results in a reduction of the development potential. As a final result, such policy is not conducive to the growth of potential and competitiveness of the territorial unit. In addition, when it is practiced over a longer period, it leads to the deepening of the financial gap. Very often bureaucratically managing authorities' reaction is the balancing of the budget with funds derived from the sale of municipal property. Such activities cannot be regarded as a solution to the existing problems. Property resources are in fact limited, and it is not always possible to achieve the desired level of revenues from their sale. Such a management model may eventually lead to an imbalance, even loss of liquidity.

A different approach to the financial policy is characterized by the strategic management model. In this model, it is integrated with the shaping of socio-economic development.

Griffin draws attention to the specific features of the strategic management process, such as proficiency, effectiveness, efficiency (Griffin, 1996, p. 38). He points out that achieving the goals of the organization lies in the use of existing resources in a rational way, without unnecessary wastefulness.

Strategically managing local authorities, while shaping the revenue policy, analyze the current and future implications of the decisions made within it. Here, it is necessary to highlight the problems that have a strategic impact on the level of satisfaction of the current collective needs and the scale and pace of development processes. In strategic management an important element of the shaping of the revenue policy is the orientation on the future, that is, solving of current problems from the perspective of the future and focus on results, that is the achievement of objectives through the systematic, efficient and effective implementation of pre-planned tasks. At the

same time, each territorial unit is treated as part of the environment, which constitutes a set of both opportunities and threats to its development.

Treating finances as part of integrated strategic management we should pay attention to the direct connection of the municipality's tax policy with its development strategy. Current objectives should be subordinated to operational and strategic objectives. Tax policy cannot be limited only to enforcement, differentiation and collection of revenues from local taxes. The amount of burden resulting from local taxes and fees, the level of prices for public services, rental rates for residential and commercial premises, as well as fees for the use of public facilities are dependent on the current financial needs of local government. Attractive rates and periodic tax exemptions should help to attract new investors (Patrzałek, 1994, pp. 47-51).

Local government income policy is associated with the choice of sources and methods of financing (self-financing, borrowing). In the process of financial management, public authorities are faced with an important decision-making dilemma – whether to raise taxes and local fees or to borrow money to finance capital expenditures, or to do both. In the model of strategic management, decisions in this area result from the analysis of alternative scenarios of projected solutions and simulation of their future implications. Of course, local authorities are aware of the fact that taxpayers' reactions to the tax burdens may vary. What is therefore important is the parallel implementation of principles of openness of public finances, with a clear indication of financial policy objectives, including income and tax policy with respect to the feasibility of strategically and operationally assigned tasks (current and investment ones).

An important element of strategic financial management is the shaping of the revenue structure. On the basis of stable income, it is possible to forecast development scenarios which generate future budgetary income as a result of new investments. This happens, for example, when development of areas creates conditions for the location of new business entities and housing development. Taxes play the role of local policy instruments, their skilful shaping is conducive to the creation of conditions of socio-economic development. A much less favourable situation occurs when the budget structure is dominated by grants and subsidies.

Public authorities can pursue income policy objectives also by means of the sale of assets (due to the limited resources, all decision in this regard should be taken with caution), their rent, tenancy, lease, and other forms of real estate management. The

effects of income policy in this area are diverse and largely depend on the ability of effective property management. Rational management of municipal property requires the adoption of local strategies of managing its components which clearly define the principles and directions of its use. Another source of own income for local government units are also their capital revenues from shares in commercial companies and benefits derived from this and the possible sale of the acquired property rights. Also in this respect, specific goals of income policy of local government units should be formulated and implemented, so that the undertaken actions are conscious and rational.

2.2. LOCAL EXPENDITURE POLICY

The other important element of financial policy is the policy of expenditure. It involves a conscious and deliberate formulation of directions of distribution of public funds in order to carry out tasks serving the satisfaction of collective public utility needs. As part of the expenditure policy, the directions of spending of funds and the criteria for their allocation are determined. Moreover, entities to carry out specific tasks (obligatorily and optionally) are selected.

As mentioned in the introduction, a commonly occurring problem of local finances in Poland is the scarcity of financial resources in relation to the range of tasks to be implemented and the size of investment needs handed over to local governments. In such conditions, the budget economy must be characterised by as high as possible efficiency of resource management. The more so because with the development of society, the demand for public funds rises. This dependence was noted by Wagner, German representative of science of finance, who perceived and described the phenomenon of continued growth in public spending, noting that with the development of society, public authorities report demand for growing revenues, which are determined by increasing public spending (Wagner, 1893, p. 916).

Economic efficiency is expressed in constant pursuit of economic operators to maximize the effects of incurred expenses. However, measuring the efficiency of public spending in practice has some limitations, because the connection of specific categories of expenditure with the indicators describing their results is often difficult. This problem is pointed out, among others, by Stiglitz, who states that it is extremely difficult to ensure consistency between equality of access to public goods and services, and efficiency (Stiglitz, 2004, p. 136). Due to the specificity of public sector services, public

sector institutions often have other priorities than maximizing efficiency in financial terms, because social and environmental factors are equally important. The assessment of the expenditure effectiveness is further hampered by the time gap between expenditures and the effects appearing as their consequence. For example, when planning to build a network of municipal infrastructure, as wide range of recipients as possible is covered by it, even if the financial statement suggests that the investment pays off when realized only in larger population clusters.

The assessment of the effectiveness of any organization is closely related to the concept of productivity (Pawlak, 1995, p. 13). Looking for the optimization of economic, public and administrative activities, the DEA parameter assessment of efficiency can be used (Data Envelopment Analysis). The DEA method is based on the concept of the best practice frontier in which it is assumed that all entities should be able to operate at a given expected level of productivity, determined by the effective entities in the given sector. Entities which achieve productivity lower than the border level operate inefficiently. The scope of improvement of their effectiveness is determined by reference of their results to the results of efficient entities (Nazarko et al., 2008, pp. 34-35).

Applying this method in the measurement of effectiveness, one can, for example, enter one input variable (for example the size of expenditures on education) and several output variables showing the effects of these expenses (for example relating to the conditions and effects of teaching in schools). The described method of efficiency testing is only used in the model of strategic management. Because in the bureaucratic model there is no or is very limited range of cost analyzes of public service provision.

Another feature of strategic management of the expenditure side of the budget (which does not appear in the administrative model), aimed to improve the efficiency of management of public funds, are cost analyses. They include the study of the total cost and their unit breakdown. Especially, the latter approach gives wide possibilities of application and indication of expenditure rationalization planes. Calculations may concern own resources (for example comparing costs of operation of several educational, cultural institutions), as well as comparisons of similar institutions existing in other territorial units (and differently managed).

For comparative purposes, an objectively important task here is to establish a rational standard of costs of providing of various types of municipal and social services. This requires detailed financial and economic analyses, taking into account the

impact of various factors on the cost of operation of various settlement units. For example, operating costs of a big city and a small settlement are different. However, in any case, funding of reasonable costs should be pursued, preventing the occurring forms of mismanagement. In the case of large cities it is also important to keep in mind the periodically emerging needs for overcoming developmental thresholds. In these conditions it is necessary to calculate for each service the justified, average cost of its provision, with reference to the present local and regional conditions.

Rational management contributes to achieving the desired efficiency effects. The concept is one of the basic premises of modern methods of strategic management in the public sector. In line with the philosophical tradition, the action is considered reasonable only if the operator chooses – on the basis of his/her knowledge – the most effective means to achieve the objective (such a definition of rationality refers to the philosophical tradition, already adopted by the French rationalists in the eighteenth century, which proclaimed that the main determinant of human action is the reason). According to Lange, a rationally acting operator pursues the realisation of a specific function of the objective, guided in his/her economic choices by the general principle of rational management (Lange, 1959, p. 207). This principle imperfectly formulated by Quesney, was reconstructed by Lange, according to whom it should be considered in two terms. A procedure aimed at achieving the maximum degree of the goal realisation with the given outlay is the principle of maximum productivity, which is the principle of the greatest effect; a procedure which allows to obtain a given degree of the objective realisation with the minimum outlay is called the principle of the least outlay of funds (funds saving), (more Lange, 1959, p. 207; Zagórski, 1963). In summary, it can be said that the rationalization of current expenditure should aim at minimizing the cost of meeting of public needs belonging to the tasks of local government, while maintaining a certain standard of provided services.

In expenditure policy of units managed according to the previously described innovative methods of public management we should point out two important instruments for efficient public spending. The former is rational planning, the latter is skilful allocation of resources.

The basis for the construction of financial plans is the knowledge of laws governing economic processes. There are different time horizons – short, medium and long term. Individual activities should be planned in such a way that it should be possible to use the existing resources in the most rational way

in specific periods of time.

The effectiveness of financial planning depends to a large extent on the applied methods and planning tools. The method of extrapolation is the simplest, but often used (Kaleta, 1982, p. 28). It involves planning of the budget revenue and expenditure on the basis of the implementation of the budget in previous years. It cannot be, however, a static process. Its element must be based on an analysis and assessment of historical trends and on drawing conclusions for the future financial policy.

In building financial plans, two basic methods can be used: revenue and expenditure ones. In the first of them, the size of the expenditure, subject to the continued rationalization, is adjusted to the level of income. In the other method, the basis is the implementation of a predetermined range of expenditure, financed with budgetary revenues, and in the event of a financial gap – with other sources of funding, mainly – debt instruments. Practice shows that this method is less conducive to the rationalization of budget expenditures. Financial policy adopted by the local authority determines the use of one of the above methods. The revenue method is usually used in the strategic model of management of the local unit government, and the expenditure method in the administrative model.

The implementation of investment programmes, in amounts exceeding their own financial potential, requires incurring debt. In this situation, an important part of financial planning is the assessment of the creditworthiness of the local government unit and the determination of a safe level of debt. Equally important is the skilful selection of debt instruments (a loan, a credit, municipal bonds) and the determination of the repayment terms and debt service costs, according to the existing financial potential. Uncontrolled indebtedness is a dangerous phenomenon, which can lead to disequilibrium, and even loss of liquidity. According to the „golden rule” of balanced budget, local government should not borrow money for the current purposes, it is possible to incur a debt for investment programmes.

In implementing budgetary expenditure, their rational allocation should be prepared. This function of public finances determines proper functioning of society and local economy. This allocation has a dimension of effective budget distribution to different spheres of the territorial unit operation.

The first of the dilemmas faced by public authorities relates to the issue of the budget allocation for the current and capital expenditures. The former determines the correctness of everyday functioning of the territorial unit, the latter influences the direction and intensity of development processes.

The relative proportions between the two groups of expenditure are information about the preferred policy direction of local authorities.

Properly implemented expenditure policy should ensure proper functioning and development of the territorial unit. Under conditions of limited resources, all expenses are mutually competitive, and any decision to allocate a certain amount of public revenue to a specified target automatically limits the amount of funds available for other purposes. Therefore, the preparation of the expenditure side of the budget should be preceded by a number of consultations and arrangements, including through direct meetings with residents and representatives of local entrepreneurs.

Budget allocation is also a dilemma relating to the sector structure of expenditures and decisions with regard to their distribution to: administration, public utilities, education, social services, transport, housing management and other areas of the territorial unit operation. Proper allocation is here also determined by rationality of the management process, because in expenditure policy, pursuit of a steady increase in budget expenditures is more and more visible. However, this increase is not always justified. Public spending cannot grow without limit, so continued rationalization efforts are necessary in budget economy.

One of the functions of public expenditure is the stimulation of economic growth. Expenditure on infrastructure is important, which is connected with the occurrence of external effects. Theoretical basis for such a statement is provided, among others, by Barro's model (Barro, 1990), according to which expenditure on infrastructure or, broadly speaking, capital expenditures that make up the public capital, may belong to expenditure increasing the productivity of private capital. Kneller and co-authors come to similar conclusions stating that public investments accelerate economic development (more Keller et al., 1990).

A similar argument can also pertain to public investment in human capital, primarily subsidizing of education, health, culture, sport and recreation (it is confirmed by growth models, for example Romer, 1990). This results from the fact that the growth of technology, and therefore economic growth depends on the level of human capital – the higher it is, the quicker technology develops. So, if public authorities are able to effectively increase human capital, they can thus also affect economic growth. Lukas draws attention to the relationship, according to him the accumulation of human capital may therefore be an important factor explaining economic growth (more Lucas, 1988).

In summary, we can conclude that the requirement of effective financial management is closely linked to the implemented management model. The benefits of application of modern management methods are seen in practice. Their use, however, is quite difficult – it requires knowledge, skills and consequence of the proceedings.

CONCLUSIONS

Management in the public sector is a complex process and is conditioned by many internal and external factors. The quality of this process has a significant impact on the conditions of functioning of territorial units as well as on the pace and direction of local and regional development.

The practice of public management at the local level shows two models of financial management – administrative – related to the bureaucratic management model and strategic management – used in units capable of applying modern methods of management.

Comparing local government units using administrative and strategic financial management models we can indicate that they are differentiated by the following elements of financial policy:

- strategically managing units strive to maintain a diversified but relatively stable income structure, trying to prevent a situation in which there is a large fluctuation of various sources of income;
- these units establish local fees and taxes and prices for municipal services at a level corresponding to the cost of their provision and also apply active policy of exacting their income;
- local governments applying the strategic management model use modern and effective methods of financial planning in financial policy, also in the multi-annual arrangement, and constantly carry out financial analyses;
- every financial decision is considered from the point of view of its impact on current and future budgets, with a constant analysis of its potential effects on the future liquidity of the local government unit.

The application of strategic financial management methods should lead to an increase in the efficiency of management of public funds.

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