Concept of 3 E's and Public Administration Performance

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Abstract— The article aims to show the possibilities of performance management in public administration institutions through the principles of "3E's", namely on the example of the Czech Republic. The aim is to discuss the possibility of performance management using the principles of "3E's", i.e. economy, effectiveness and efficiency. In the first part of this article, the definition of performance issues within public administration institutions is discussed, followed by the definition of using the principles of "3E's" in connection with the very performance management. Part of the text comprises also a proposal for a decision tree applicable to performance management using the principles of "3E's". Addressing the issue is adjusted to the situation in the Czech Republic, but general conclusions can be applied to the situation in other countries as well.

Keywords— Concept of 3 E's, performance, public administration, decision-making model, Czech Republic.

I. INTRODUCTION

INFORMATION on prosperity, profitability or loss are among the important information necessary for financial management and performance measurement, including information on cost structure and its links to revenues. This applies even to public sector institutions, although they often do not provide paid services, however, they always have their performance and thus revenues as well (in the form of various subsidies and transfers, tax revenues, etc.).

We understand public administration in the Czech Republic as a) certain type of activity (management of public affairs) and b) institutions (organization, office) conducting public administration. In the materialistic (functional) approach it is public administration of state or other institutions activities, which by its content is not a legislative or judicial activity. In the formal (institutional, organizational) approach is public administration defined as activity of the authorities designated as the administrative offices. The concept of public administration is a common (superior) term for the concept of state administration (which is performed primarily by state authorities), local administration (performed by local government authorities or bodies of interstitial/professional self-administration) and other public administration [6].

Should we characterize public administration performance, public administration must be seen as a basic economic system, which is characterized by general features: •Inputs

•Inputs/outputs transformation

- •Outputs
- Economic area

Generally, during every economic activity, assets are consumed or worn out, services are bought from suppliers, liabilities to employees incur due to wages, etc. This, of course, applies to processes of public administration as well. Costs are inputs into the economic process. The results of economic activity (products, services performed), generally known as performance, represent revenues of the organization and are the outputs of the economic process. Desirable outputs are the positive result of the system. Transformation is a gradual transition of the input factors towards the desired output or objective. Based on objectives are provided inputs, i.e. resources that are in the form of personnel and physical provision transformed into outputs. Outputs are developing events in which public administration is interested. An example in health care can be, e.g. a patient treatment when the effects of inputs are developed in the form of improved health; in education the output consists of an educated student; a content citizen can be an output of municipalities, etc....

Since 2010 an ongoing financial reform in the Czech Republic has resulted in a gradual adjustment of public administration accounting to business accounting and some significant differences are slowly fading away, however, public administration will always differ in its nature. There is still the cash-based state budget setting, but accounting has been gradually transferred to the accrual principle. The Czech Republic, likewise earlier other developed countries, decided to implement accrual basic to the public sector accounting in 2007 [17]. According to [12],[15],[16] the SMEs sector and public sector, it's accounting information and the international harmonization process in accounting field play a very important role in economy.

All of the reforms undertaken in the public sphere are accompanied by consideration of the efficiency performance of public sector activities. Unlike the private sector, public administration institutions and other public sector organizations are disadvantaged concerning the evaluation of

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performance and efficiency, because they are managed primarily on non-profit basis and therefore cannot apply the profit criterion as a performance indicator. In the case of public sector institutions it is therefore necessary to manage and evaluate performance, alternatively, using other indicators.

The paper deals with performance management within public administration institutions. The aim is to discuss the possibility of performance management using the principles of "3E's", i.e. economy, effectiveness and efficiency, namely on the example of the Czech Republic. The paper introduces a decision-making model design applicable to performance management using the principles of "3E's".

II. PROBLEM FORMULATION

Public administration must be viewed as an economic system and in assessing the economic aspects of the processes of public administration is often very difficult to vary between categories that are hard to define, especially in terms of revenues and profits. It may not always be the case that the activity is effective if the result is achieved with the lowest resources or costs. It is often questionable as how to value the benefits of public administration performance, how to measure them, what is an objective or subjective category? The decision-making in this area often includes ethical and solidarity dimension. For example, would it not be useful to spend some resources, energy or work in other areas of public administration? Some revenues are often measurable after a few years from the cost spending and time blurs the causal relationship with realized costs. The question is how much solidarity should there be between generations, regions, or sectors of national economy, etc.

If it is difficult to define and value the required or necessary public administration spending, it is even more difficult to define revenues in terms of expected or likely outputs. If we want to express some specific economic performance of public administration, it should be measurable in form of a change in the satisfaction of an individual or a company and should be measurable according to the relevant performance of public administration. However, this specification is often subjective and different participants of public choice may have different preferences. These different preferences can be described as financial relations within the public budgets. For example, employees may, i.a., wish to have high and stable wages, users and citizens want quality and cheap or free services, the state may often prefer to obtain high taxes and banks high interest on loans. The authors believe that the very understanding of these different preferences and definition of synergetic effects, which represent the common interests of the entities on both sides of the financial relations, can help increase the efficiency and performance of public administration.

The economic system of public administration should be probed into in terms of costs and revenues and should be assessed in terms of economy, effectiveness and efficiency. Revenues can be defined as valued performance that can be obtained from all operations for the specific fiscal period. Costs must always relate to revenues. Costs should be invested to obtain revenues. Revenues involve growth of resources for the organization, i.e. capital. The accounting shows the revenue at the moment of realization; it is not conditioned upon receipt of a payment. Revenues also include the change in inventory of own production and activation, these revenue items are not cash inflows.

Transformation of inputs into outputs in public administration is displayed in the following simplified scheme:



Fig. 1 Transformation of inputs into outputs in public administration (Source: Author's illustration)

If we limit ourselves to economic aspects only and try to define basic economic terms of costs, revenues, performance and results, we will encounter a wide range of issues and constraints that are important for accurate quantification of these concepts:

- What is the basic desired output of the public administration system in relation to the needs of the citizens,

- Each individual and society can be understood as a product,

- The process of transformation of input resources into the desired outputs is affected by the availability, quality and sufficiency of resources entered into the whole system,

- The whole complex of public administration services is a very complex, developing open system,

- Public administration is a system with predictable or only possible outputs, where the probability measure is difficult to quantify,

- Public administration concerns every citizen,

- Public administration does not have a clearly definable objective only but a number of specific objectives, where it is difficult to establish clear and easily determinable criteria,

- Wrong decisions can result in irreversible damage having impact on future generations,

- Resources and means spent in public administration are not always in direct proportion with respect to outputs, there is often no clear correlation and causality. To obtain the information necessary for complex processing of the issue some of the basic methods of scientific research were used. The methods usually complement each other and, in consequence, overlap. We used methods of qualitative research predominantly based on the exploration of relationships between individual facts which affect the range of education, especially the methods of induction and deduction, analysis and subsequent synthesis.

III. PUBLIC ADMINISTRATION PERFORMANCE

Understanding the concept of public administration performance has been still developing in connection with changes in the economy. The specialized literature has been dealing with the issue of performance of public sector, see, e.g. [1], [2], [8], [9], [10], [18]. It is true that all mechanisms of performance measurement and management are adequate and useful if they are designed to achieve goals. All of the reforms undertaken in the public sphere are accompanied by consideration of the effectiveness of performance of public administration activities, see e.g. [13].

If we want to assess the success of public administration using performance measures, it is necessary to define the term performance at first. The definition of performance or performance measurement is not very clearly defined anywhere in the literature. As Neely et al. [11] states, "performance measurement is a topic often discussed but rarely defined". The same authors [11] present their own definition how to understand the performance and its measurement: "Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action".

However, in the natural and technical science the system performance is relatively well defined by a performance variable (amount of work done per unit time), in public administration there is not any similar unambiguous and longdated definition of a variable, economics and finance that would be respected by all authorities. This is primarily due to the fact that public administration is a very complex system, whose inputs and outputs are both measurable (e.g., financial nature), but also largely immeasurable (e.g., personnel area, outputs in the form of a quality of non-profit services, activities of officials, etc. ...). The most successful concept in this area is generally based on the principle that says that you can not measure the immeasurable, you can not even manage the immeasurable and therefore it is necessary first of all to make all variables affecting performance as much measurable as possible. Here the question arises whether this is in public administration possible and whether such strict approach makes sense. Anyhow, performance measurement and evaluation may answer the question, how effectively and efficiently public services are delivered [5].

As already indicated, performance is generally a very broad term, especially if you look at the dealing with performance from the perspective of stakeholders, i.e. all persons and institutions which are associated with public administration, because at first glance, their interests may appear different. This is reflected particularly in the area of duality of financial relations within the public budgets and the resulting synergetic effects. Each participant of public choice admits different objectives and acts in accordance with his/her interest and it is natural that this is so. However, if public administration was to function properly, the need to unify and satisfy the different interest of all stakeholders consists in a compromise solution, which is strongly influenced by external conditions. If we consider that the benefits of public administration activity for specific stakeholders is determined by what is entered into the system (i.e. inputs) and what is achieved (outputs), then it is possible to define performance in terms of each stakeholder as the ratio of outputs to inputs, or as the difference between outputs and inputs. Although this definition is very abstract, we can say that it is the essence of all performance evaluations, including public administration performance. When evaluating financial performance, the inputs and outputs are either financial in nature (revenues, costs) or are transferred into financial shape in some way (risk, value, performance ...). In public administration and non-profit organizations subsidies and various transfers prevail on the part of revenues, private sales are only complementary. Nevertheless, these institutions have their products and processes that may be more or less measurable. Costs are expressible financially and sometimes it is necessary to replace the revenues with "performance" and value at material benefits.

It is a widespread opinion that non-profit organizations, which include all public institutions, generally can not reach any profits or surplus by their activities. This opinion is inaccurate, because non-profit organizations are indeed organizations that do not generate profit for redistribution among its owners, administrators or promoters, but may under certain circumstances, create profit, which then must be put back again to the development of the organization to achieve its aims (in case of the Czech Republic). Therefore we can not talk about non profit, but about limits to the use of improved trading income. A different concept of profit in the non-profit sector compared to business entities is related to the limited use of meaningful indicators of performance evaluation. Public organizations have so far lacked a clear system of performance measurement indicators that would adequately reflect the effectiveness and efficiency [19]. Performance in public administration can be understood as part of the financial management system ensuring the economical, effective and efficient use of public funds. A universal model of performance measurement is not defined anywhere and varies in different organizations, but it is an integral part of management. We can call it a set of mechanisms and procedures to ensure quality and efficient management of the organization.

IV. The Principle of "3E's" – Economy, Efficiency, Effectiveness

The terms as economy, efficiency and effectiveness are

currently often in use in the Czech Republic, in sense of the so-called "3E's" principles [4]. It is hard to find a clear concise one-word Czech equivalent to the meaning of individual words in the Czech translation. Ways to understand the different meanings of the terms "3E's" are many, meanings and concepts often overlap. A number of Czech authors use different translations with different meanings, which makes the orientations among these terms very difficult. For example, the effectiveness as expediency, efficiency, profitability, economic efficiency, total effectiveness, prosperity, performance ... [14].

Economy	Effectiveness	Efficiency
INPUTS =>	OUTPUTS =>	RESULTS
Less spending	Targeted spending	Wise spending

Fig. 2 The principles of "3E's" and their link to the transformation proces sof inputs and outputs (Source: Author's illustration)

The principles of "3E's" are in the Czech environment collectively defined as organizational performance and the model concept of the "3E's" is (for ex. according to [7]), considered the basis for performance monitoring in public administration, when based on the objectives are provided inputs, i.e. resources that are in the form of personnel and material securing transformed into outputs. Outputs are developing effects in which public administration is interested. When considering all the aspects of economy, efficiency and effectiveness, it is essential to proceed comprehensively. Even with a separate study of the economy or efficiency of the given activity, it is essential to assess the effectiveness at least in general, which has fundamental importance. And vice versa, in assessing the effectiveness is necessary to evaluate the economy and efficiency, because assessed activities, programs, operations, etc. could indeed have the desired result, but resources to achieve this result have not been used economically and efficiently. A generally known and customary explanation of how to understand various terms is represented in a quote by Drucker [3]: "Efficiency is doing things right, effectiveness is doing right things." In the Czech Republic, the principle of "3E's" is a basic principle for the area of financial control in public administration under the rule of statutory regulations (Act No. 320/2001 Coll., on Financial Control).

The meaning of words can be loosely interpreted as follows: Economy = the lowest possible expenditure of funds within the appropriate quality (performance in relation to price), the evaluation criterion for input based on the principle of doing things inexpensively.

Efficiency = achieving the necessary outputs for little money, the relationship between inputs and outputs based on the principle of doing things the most suitable way.

Effectiveness = expresses the degree of progress towards the set objectives (Do we have what we wanted?), the evaluation criterion for output based on the principle of doing only those things that really should be done.

In public finance management, it is necessary to extend the

basic principle of "3E's" to "6E's", i.e. Equity, Environment and Ethics.

Equity = an effort to do things properly, especially in relation to the surroundings, to avoid discrimination and dishonesty. *Environment* = a responsible attitude towards the working and living environment.

Ethics = an emphasis on the legal and moral conduct of the management and employees.

Ethics plays a significant role in the management of all companies, including public administration. Good ethical climate provides positive work enthusiasm, problem solving and peaceful working environment. Ethical codes basically deal in various areas with a question of decency, fidelity to law, good relations between employers, companies, but also with issues of safety and health, and solving conflicts. Therefore, the financial management in public administration can not be seen in any case from the economical aspect only, but it is necessary to take into account all aspects, financial and nonfinancial criteria.

A performance audit deals with researching the economy, effectiveness and efficiency, whereas an individual performance audit may be aimed at examining one or more aspects. Performance is in the performance audit seen as minimizing the costs of resources or the use of public funds for the activity (inputs) regarding the relevant quality. The economy may in some cases mean maximizing the income from the activity. It is assessed as the relationship between outputs and inputs used to produce them. One element in the overall effectiveness assessment involves cost-effectiveness. The term cost-effectiveness concerns the effectiveness of spending on individual subjects, the activity, program or operation in achieving the results in relation to costs. Costeffectiveness analysis studies the relationship between costs and results expressed by the cost per unit of output. Performance measurement refers to what extent objectives have been achieved and the relationship between intended and actual impact of activities. Usually it is more appropriate to try to determine the extent to which the tools have contributed to achieving the objectives. The performance audit in its true meaning requires evidence that the observed outputs are indeed outputs in relation to the defined objectives.

The chart (Fig. 3) illustrates the essential links and processes in use of financial resources from public budgets in relation to performance management through the principles of "3E's". From the chart are also visible the links of individual principles to inputs and outputs - the economy principle is the evaluation criterion for input into the decision-making process, the effectiveness principle is the evaluation criterion for output and the efficiency principle assesses the link between inputs and outputs.



Fig. 3 Basic links within the public administration processes and their relation to the principles of "3E's" (Source: Author's illustration)

V. PROBLEM SOLUTION

The reasons addressing public administration performance is that the functioning of the public sector has been primarily affected by the overall development of society, market environment, membership in the European Union and competition among individual entities of public administration. This fact makes all entities managing public resources to find ways to streamline the management system. Also in the context of European integration, there is more intensive development of international activities focused on the necessary steps to improve the efficient redistribution and allocation of cash and cash flows. Although the terms competitiveness and performance became an ongoing need in the private sector, the non-profit sector did not take account of economic management tools until long after their discovery. It is good that even this sector has now begun to understand the importance of financial management, but many reasons remain why financial management in public administration is still not good enough. We include some factors such as inexperience financial management in general, provisional with inconsistency of best practices available in the literature, the changing legislative processes, etc. The result is even more serious due to the fact that the predominant resource of funding is still public finance. Although a number of effective measures in this direction have been already taken, it is still

possible to find appropriate instruments and suggest other methods for increasing the efficiency of public administration performance.

Solving the current problems of public administration requires implementation of effective financial management tools that have been already proven in the private sphere. Through these methods, there is a convergence of private and public organizations. Although some differences are slowly fading away, the public sector will always differ in its nature from the private one. The fundamental difference is the diversity of objectives, when the aim of public administration economy is not making profits, but mainly meeting the public interest. Other significant differences can include differences in the legal environment and impacts of political decisions. The main objective of sound financial management in nonprofit organizations, i.e. organizations that are entrusted to manage the property and financial resources of public budgets, is considered to provide the necessary degree of efficiency, effectiveness and economy while maintaining their competitiveness. From the literature research in this area is visible the main focus on the business environment and it is the non-profit organizations that have a huge potential for further research. The adaptation of the objectives and performance management tools for the specific needs of public administration are being worked on. The need for addressing performance partly results from the necessity of harmonization caused by external environmental influences, as well as the needs of internal processes within the functioning of public administration, which can be considered as a starting point for creating a viable model.

In order for the state to perform tasks in the field of public administration, it is necessary to create a functioning legal and institutional system, and from this point of view is also very clear the need to control all processes. Complexity of management and control requires an integrated approach and coherent implementation of the desired goals of efficiency, economy and effectiveness. In the private sector this involves basic conditions for successful business, the more it must apply to public funds. The reason for necessity of solving the issue of public administration performance is mainly the fact that there is constant pressure on the effective and economical management of public funds in public administration and many of the problems that result from setting conditions for the functioning of organizations within the public sector in the Czech Republic.

An analysis of problem areas in performance management in the Czech Republic:

 \Rightarrow Reluctance of management of some public sector organizations to take responsibility for the inputs (resources) management and for the outputs (results) control towards the set objectives; persistent tendency to transfer this responsibility to superior authorities,

 \Rightarrow individual internal control mechanisms within organizations often show signs of formality,

 \Rightarrow lack of application and implementation of systems analysis and risk management and its insufficient understanding by management,

 \Rightarrow lack of current feedback.

The authors in their own research examined the above issues based on an analysis of processes occurring in public administration. Using the principles of "3E's" for performance management can be simplified to the basic decision model generally applicable to any decision-making institutions of public administration. Based on the decision-making model are defined and specified objectives based on the needs, consistent with the objectives are provided inputs, which are then transformed into outputs. It is also necessary to define separate evaluation criteria for each "3E's" principle in each institution individually as necessary. After meeting the condition that the management of the specific institution or activity corresponds to the set criteria of economy, efficiency and effectiveness, we can talk about the process performance. Basic decision-making model of processes in public administration shows Fig. 4.

As part of their decision-making process, public administration institutions have to determine their objectives. Given that public administration institutions operate with limited financial resources from public budgets, in order to manage and evaluate the performance it is necessary to define the inputs (including their quantity, quality and price) and specify outcomes that will lead to achieving the objectives.

If we want then to evaluate the performance of the institution using the principles of "3E's", we will require that all three principles are met at the same time. The given decisionmaking model allows us to focus on each principle separately and thus determine which principle has been met and which has not. Consequently, managers of the public administration institution can investigate only that part of the decision tree, where satisfactory results have not been achieved.

Economy represents minimizing costs on resources used in specific activities within the appropriate quality. In principle, this term means "doing things inexpensively", refers primarily to the costs of specific activities and is the evaluation criterion for input. In the case of determining whether the principle of economy has been met by the relevant institution in the process of ensuring the public good, regarding the performance evaluation, it is tested whether the minimizing of costs occurred during the process without reducing the quality of results. It is always necessary to combine the two criteria of this test - it is not possible to consider the process as economical, if only one condition of cost minimization is met. In some cases, the cheapest option is not the most economical.

One example is assessing the economy in the use of external entities, or when purchasing technology. In providing the services of external entities, cost savings do not always guarantee the required quality and the cost saving can often be in terms of input completely counterproductive. Regarding the technology, the purchase of the cheapest device or equipment does not always mean maintaining required quality. The assessment of individual cases needs to be approached objectively as well as the consideration of the balance of the two requirements - the requirement to minimize costs and to maintain the required quality. For this purpose, both exact (statistical data) and empirical assessment methods (references, negative experiences of other entities, or their referrals) can be used.



A. Fig. 4 Proposal for the basic decision-making model of processes in public administration in relation to the principle of "3E's" and performance (Source: Author's illustration)

Efficiency is the relationship between outputs in the form of goods, services or other results and resources used to achieve them. Efficient activities maximize outputs towards given inputs, or minimize inputs towards given outputs, again always with a view to maintaining the required quality. In principle, this term means "doing things the right, or the best way, in the best possible manner". It is a criterion that evaluates the relationship between input and output, thus using the resources for the right purpose. Performance evaluation of the public administration institution using the efficiency principle again begins with the assessment of costs minimization, i.e. the evaluation criterion for input. However, since the efficiency principle also assesses the process link to output, it is necessary to ask whether the process of ensuring the public good or service has achieved the desired results. In the case of the fulfilment of both conditions, it can be stated that the efficiency principle has been met.

Effectiveness describes the extent to which objectives have been achieved, i.e. the relationship between the intended and the actual impact of the monitored activity, i.e. the verification of the actual effects of activity compared with the intended. In principle, this term means "doing the right things or doing only those things that really should be done". An effective activity is such activity whose results most closely match the expected goals. It is a criterion for evaluation of the output. In terms of performance evaluation we therefore expect a positive answer to the question whether the results obtained are in accordance with defined objectives. A classic example is the assessment of the effectiveness in spending resources defined and identified by specific programs or projects, or evaluation on whether objectives of specific activity were met, or whether there was derogation from its original program.

The extent of meeting all principles of "3E's"- economy, efficiency and effectiveness of the given public administration institution then determines the extent of performance. However, it is clear that the evaluation of the level at which the public institution performance is and whether it can be further increased, is not provided by the decision-making model. Given differences in public administration institutions, each institution must set its own performance measures, according to the outputs which it provides for the company.

VI. CONCLUSION

Nowadays, the topic of performance management in public administration institutions is very up-to-date. Public budgets are faced with a lack of resources and increasing public spending, due to both economic processes (see, e.g., the consequences of the recent economic recession on the revenue and expenditure side of public budgets), and increasing technical and technological demands of certain activities of public administration. Neither the public sector nor public administration can longer afford to waste a large extent of limited resources from taxpayers. Taxpayers, therefore voters, require from the public sector what is already common in the private sector - the optimal binding of results to inputs used, thus they ask for the emphasis on the highest possible performance of the public administration institution.

The aim of the article was to show the possibilities of performance management in public administration institutions using the principles of "3E's", namely on the example of the Czech Republic. In the Czech Republic, the principles of "3E's" are incorporated into the Act on Financial Control, listed as fundamental to achieving economic efficiency. The law, however, does not specify how to achieve these principles, or how it is possible to link them to the performance management in public administration institutions. But the authors believe that these principles can be used in the very relation to performance management, because achieving all three principles at the same time means also increasing the performance of institutions. In this connection, the decision-making evaluation model of the principles of "3E's" was designed. In the framework of this model, each principle is evaluated in the given institution separately, in order to allow performance management to focus only on the area that has poor results. The performance improvement of the institution occurs if the results of the individual (ideally all three) "3E's" principles enhance. Addressing the issue is adjusted to the situation in the Czech Republic, but general conclusions can be applied to the situation in other countries as well.

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