

THE USE OF PARTICULAR TOOLS OF MANAGEMENT ACCOUNTING IN BASIC UNITS OF LOCAL GOVERNMENT

WYKORZYSTANIE WYBRANYCH NARZĘDZI RACHUNKOWOŚCI ZARZĄDCZEJ W PODSTAWOWYCH JEDNOSTKACH SAMORZĄDU TERYTORIALNEGO

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Abstract: Presently, local Polish government units, including communes, function in the conditions of a limited amount of financial resources and, at the same time, unlimited social needs. Therefore, it is necessary to carry out activities aimed at the rationalization of the management of public funds. It has become essential to undertake in-depth analyzes of activities undertaken by municipalities and to identify costs that were actually incurred for the tasks. Local government units, like other entities, should function in accordance with the principles of efficiency and effectiveness. Unfortunately, this is often overlooked by their managers. Performing the tasks entrusted to them, they focus their attention on spending funds in accordance with the limit, without considering the fact if a given expenditure will bring a specific effect and whether the task will be effectively performed. In order to change this method of operation, municipalities should implement modern management methods and use management accounting tools. The introduction of, among other things, task-based budgeting and cost accounting will contribute to a more effective use of available resources. The aim of the article is to examine the extent to which communes in the Ostrołęka and Siedlce subregions use selected management accounting tools. In order to achieve this goal, a questionnaire survey was carried out for the treasurers of communes. The obtained results prove the negligible use of management accounting tools by the audited entities.

Keywords: commune, rationality, task-based budget, cost accounting, management accounting

Streszczenie: Obecnie jednostki samorządu terytorialnego, w tym gminy, funkcjonują w warunkach ograniczonej ilości środków finansowych przy nieograniczonych potrzebach społecznych. Dlatego też niezbędne jest przeprowadzenie działań mających na celu racjonalizację gospodarowania środkami publicznymi. Konieczne staje się podjęcie pogłębionych analiz działań podejmowanych przez gminy oraz identyfikacja kosztów, które zostały poniesione realnie na zadania. Jednostki samorządu terytorialnego, tak jak inne podmioty, powinny funkcjonować zgodnie z zasadami efektywności i skuteczności. Niestety jest to często pomijane przez ich zarządców. Wykonując powierzone im zadania skupiają swoją uwagę na wydatkowaniu środków zgodnie z limitem, bez zastanowienia się, czy dany wydatek przyniesie konkretny efekt i zadanie zostanie skutecznie wykonane. W celu zmiany tego sposobu działania gminy powinny wdrożyć nowoczesne metody zarządzania i wykorzystywać narzędzia rachunkowości zarządczej. Wprowadzenie m.in. budżetowania zadaniowego i rachunku kosztów przyczyni się do efektywniejszego wykorzystania posiadanych zasobów. Celem artykułu jest zbadanie, w jakim stopniu gminy podregionu ostrołęckiego i siedleckiego wykorzystują wybrane narzędzia rachunkowości zarządczej. Przeprowadzono badanie ankietowe skierowane do skarbników gmin. Uzyskane wyniki świadczą o znikomym wykorzystaniu przez badane jednostki narzędzi rachunkowości zarządczej.

Słowa kluczowe: gmina, racjonalność, budżet zadaniowy, rachunek kosztów, rachunkowość zarządcza

Introduction

Managing the basic units of Polish local government is a complex and complicated process, which requires the use of diverse methods, often from the private sector. The

management of public funds should be characterized by effectiveness and transparency in their spending, and the use of methods or tools facilitating the efficient functioning of local government entities in the field of financial

management also results from their partial implementation of the principles of New Public Management (NPM). A number of national and international institutions are also striving to increase the effectiveness, transparency and efficiency of the finances of local government units. To achieve this, municipalities are increasingly making recourse to accounting tools, which create a platform for communication (through a system of internal reports and financial statements) of the entity with the environment (Jarugowa, 2001). Such platforms were conceived in response to information needs that were not satisfied by financial accounting, which causes, on the one hand, that these two systems differ from each other, and on the other hand, there are relationships between them (Kiziukiewicz, 2014).

It should be noted that the current accounting system of basic units of local government should evolve towards increasing its usefulness in order to provide more transparent, understandable and reliable information. In order to be able to implement these assumptions in Polish municipalities, a number of legislative and systemic changes must be carried out (Firkowska-Jakobsze, 2019, p. 56), which have already partially begun. However, as yet there has been no comprehensive reform of public management, which in countries with developed democracies is based on strategic thinking and management. The introduced reforms obligated local government units to implement internal audit, long-term financial forecast, management control and task-based budget (which, however, is not obligatory for communes). The indicated instruments make it possible to measure the effectiveness of the tasks performed and to assess the level of society's satisfaction with the goods and services provided (Filipiak, 2011). In order to obtain sufficiently qualitative data for making management decisions, municipalities may, in addition to the above-mentioned tools, also use: budgeting of costs and revenues, calculation of the unit cost of

production, cost accounting and systems of financial and non-financial indicators.

This article assumes that management accounting tools used by commercial organizations can be implemented for the needs of local government units, including municipalities.

The aim of the article is to examine the scope of the use of selected management methods and management accounting tools in municipalities of the Ostrołęka and Siedlce sub-regions. In order to achieve this goal, it was necessary to conduct a questionnaire survey in the communes of the indicated subregions. The study was to answer the question of what management accounting tools are currently used or planned for use in basic local government units.

In the conducted study, a survey was used as the research technique and the research tool was a questionnaire survey. The questionnaire was sent electronically.

Characteristics of the research sample

As indicated in the introduction, the research concerned communes of the Ostrołęka and Siedlce subregions. The choice of the area was dictated by their specifics. They are part of the Masovian province described as the voivodship of the greatest contrasts. General indicators calculated for the whole province do not reflect the real situation in the studied subregions (Wakuła, 2020). To characterize the studied subregions, the following features were selected:

- total income in pln per capita,
- the number of economic entities,
- the number of inhabitants,
- population per km²,
- the area in km.

Analyses on the basis of the above features were conducted using standard measurement: minimal and maximal value, the median, variation coefficient. The results are presented in Table 1.

Table 1: Characteristics of the studied communes

Characteristics	N	Me	Min	Max	V
Total income in PLN per capita	88	4294,40	3630,22	6660,16	9,6%
The number of economic entities	88	622	194	7801	115,1%
The number of inhabitants	88	5276	1679	22656	61%
Population per km ²	88	40	19	1071	201,6%
The area in km ²	88	119	10	371	45,6%

Source: Own elaboration on the basis of the data from Local Data Bank.

On the basis of the data presented in Table 1, it is possible to state that half of the studied units achieve income per capita at 4294,40 PLN and lower. The lowest income per capita amounted to 3630,22 PLN and the highest – 6660,19 PLN. The lowest number of economic entities in a commune was 194 and the highest – 7801. Half of the studied communes have at least 5276 inhabitants. The maximal number of inhabitants in one of the studied communes amounted to 22656. The lower area of the commune in Ostrołęka-Siedlce subregion is 10 km².

While evaluating the diversity of the presented characteristics in the studied communes using the coefficient of variance for measures of location, we can state that non-uniform features of the analyzed communes include: population per 1 km² 201,6%, the number of economic entities 115,1%, the number of inhabitants 61% and the area in km² 45,6%.

Research methodology

Management methods and the degree of use of management accounting tools should have an impact on the level of the financial condition, which in the literature on the subject is often identified with the concept of financial situation (Bednarski, Waśniewski, 1996; Sierpińska, Jachna, 2022). This means that the financial goals of a local government unit as a result of the activities of the authorities are aimed at generating sufficient financial resources to settle liabilities within a specified period of time. The achieved financial position enables local government bodies to provide services at the level desired by the inhabitants. Therefore, a synthetic variable Q, illustrating the level of financial condition, was assigned to group communes and analyze their use of management accounting tools. In the process of its determination, the variables were normalized using the zero unitarization method according to the formula:

$$z_{ij} = \frac{x_{ij} - \min X_{ij}}{\max X_{ij} - \min X_{ij}} \quad \max x_{ij} \neq \min x_{ij}$$

where:

i – a symbol of spatial units

j – designation of diagnostic features

z_{ij} – the normalized value of diagnostic feature j characterizing the i unit

x_{ij} – value of diagnostic feature j in the unit i before normalization

\bar{x}_j – arithmetic value of the diagnostic feature j

$\min x_{ij}$ – the smallest value of the diagnostic feature j

s_j – standard deviation of the diagnostic feature j

As a result of the normalization of the values of the features of the examined community, a matrix of normalized values of features was obtained. Then, the standardized variables were aggregated using the formula from the group of methods without standard ones – additive aggregating function described according to the formula:

$$Q_i = \sum_{j=1}^s z_{ij}$$

where:

Q_i – value of the synthetic variable for the i-th commune

z_i – value of the normalized variable

In order to determine this variable, it has been assumed, following Adamczyk and Dawidowicz (2016), that the financial condition can be best described using the following set of indicators (diagnostic variables):

- X_1 – debt service burden ratio
- X_2 – ratio of total liabilities per capita
- X_3 – self-financing ratio
- X_4 – ratio of current expenditure burden with expenditure on remuneration and derivatives on wages,
- X_5 – capital expenditure share indicator in total expenditure.

The calculated values are the starting point for distinguishing typological classes. The division of communes into typological classes with a similar level of financial situation was made using one of the methods proposed by Nowak [Nowak 1990], which is based on the arithmetic mean and standard deviation. The set of objects is divided into five classes, including objects with values of the synthetic variable from the following ranges:

- group I (very high level) composed of municipalities for which $Q_i \in (\frac{1}{5}(\min z Q_i + 4 \max z Q_i); \max z Q_i]$
- group II (high level) composed of municipalities for which $Q_i \in (\frac{1}{5}(2 \min z Q_i + 3 \max z Q_i); \frac{1}{5}(\min z Q_i + 4 \max z Q_i)]$
- group III (medium level) composed of communes for which $Q_i \in (\frac{1}{5}(3 \min z Q_i + 2 \max z Q_i); \frac{1}{5}(2 \min z Q_i + 3 \max z Q_i)]$
- group IV (low level) composed of communes for which $Q_i \in (\frac{1}{5}(4 \min z Q_i + \max z Q_i); \frac{1}{5}(3 \min z Q_i + 2 \max z Q_i)]$

- group V (very low level) composed of communes for which $Q_i \in [\min z_i; (\frac{1}{5}(4\min Q_i + \max z Q_i))]$.

The value of the synthetic measure describing the financial situation of the studied communes ranges from 0.48 to 2.26. Such values make it possible to define the ranges adopted in the methodology, reflecting the hierarchical groups of the financial condition:

- 1) group I $Q_i \in (1,90; 2,26]$
- 2) group II $Q_i \in (1,55; 1,90]$
- 3) group III $Q_i \in (1,19; 1,55]$
- 4) group IV $Q_i \in (0,83; 1,19]$
- 5) group V $Q_i \in (0,48; 0,83]$

The size of particular groups, however, is in relation: 3:6:13:22:24. The most numerous are communes with a level of financial condition described as low or very low, constituting 67% of all examined basic local government units. The high share of municipalities with a low or very low level of financial condition is an indication for the need to take actions to improve the activities of these organizations and to search for such instruments that will ensure the best use of the resources.

The studied features ($X_1...X_5$) in the set of communes of the Ostrołęka and Siedlce subregions were characterized by a great diversity. Basic statistics determining their average level and measures of dispersion are presented in Table 2.

Table 2: Basic characteristics of the variables included in the study

Variable	X_1	X_2	X_3	X_4	X_5
Mean	14,66	809,06	125,81	38,4	14,02
Maximum	56	2419,31	713	43,7	78,9
Minimum	0,1	1	33,8	31,2	0,6
V_s	68%	66%	73%	11%	45%

Source: Own elaboration

The lowest value of the coefficient of variation ($V = 11\%$) means that the variable X_1 has the lowest impact on the ordering of the examined objects, resulting from the fact that the differentiation in this respect in the analyzed communes is insignificant.

The self-financing indicator has the greatest differentiation and the greatest impact on the assignment of communes to particular classification groups. This feature is also characterized by a significant discrepancy between the minimum and maximum values. The minimum value is 4% of the maximum value. Thus, the differentiation of the financial condition in the examined units is determined by the commune's ability to finance investments with its own funds.

Research results and discussion

The effectiveness and efficiency of local government administration in Poland are closely dependent on the level of knowledge, skills and competences of officials, primarily those who hold high managerial positions, but also regular employees.

Responsibility for the financial management of local government units is borne by the head of this unit, however, in accordance with the Public Finance Act, he may entrust duties in its scope also to employees of this unit. Pursuant to Art. 54 (act 1) of the Public Finance Act, the chief accountant of a local government unit is entrusted with both duties and responsibilities in the following areas:

- keeping the entity's accounts,
- administering public funds,
- internal control of the compliance of economic and financial operations with the financial plan, and the completeness and accuracy of making entries for economic and financial operations.

In practice, this means that the treasurer should have the greatest knowledge about the financial condition of their respective local government unit, and thus should also have the greatest influence, apart from the executive body, on the shape of solutions adopted in the budget. As a rule, it is the treasurer who coordinates the implementation of the tasks of individual

organizational units during budget planning. His tasks also include constant monitoring of the implementation of the budget. The considerations show that the scope of competence, and thus also the scope of the treasurer's responsibility, is very wide and the treasurer himself is an important person from the point of view of the continuity of the local government unit's functioning. Therefore, the person holding this position should have appropriate knowledge and experience in the field of the entrusted duties. In the surveyed local government units, 67% were treasurers who had been associated with the public sector from the beginning of their professional careers. Others started their professional career in the private sector. This may have an impact on the knowledge of management methods and management accounting tools as well as on the process of diffusion of solutions and tools from the private to the public sector.

When analyzing the seniority of treasurers in individual classification groups, it can be concluded that chief accountants starting work in the private sector were employed in communes belonging to groups IV and V. They constituted 38% of treasurers employed in communes included in this group. In the group of communes with a high financial condition, no treasurer started working in the private sector. The share of chief accountants with experience from the private sector in group I was 33%.

A local government unit functions in strictly defined legal areas, in which generally formulated tasks are distinguished. A proper implementation of the functions entrusted to it requires not only designation of the subject of the activity in the operational and strategic scope, but also proper planning of all related activities. Their scope also includes budgeting, which is important from the point of view of managing public funds; and is one of the key elements of management, especially in the field of financial management. In the practice of economic activity, planning and budgeting are terms used interchangeably. It should be noted that this ought not to be done. Planning concerns the actual values characterizing the intentions of an economic unit (Karmańska, 2006), it defines the goals and directions of the activity and development of the unit as well as the way of using available resources. By contrast, budgeting is an expression of planning. It is a quantifier of the assumptions made in the plans, their specification, and its task is to assign specific measures and actions to the places and time of their spending

and the people responsible, as well as their control (Habelman, 2014).

An important issue in every organization, including local government, is the process of determining the level of costs incurred in the implementation of planned tasks and achievable revenues. In the examined units of the Ostrołęka and Siedlce subregions, 52 units apply cost and revenue budgeting. The remaining 16 units do not use and do not want to implement this management method. The largest percentage (50%) of communes that do not use cost and revenue budgeting is in classification group III. In group I, 38% of the units do not try to apply this method. This is a disadvantageous phenomenon because the information coming from budgeting costs and revenues provide the basis for their subsequent analysis, evaluation and making future decisions. A regular cost and revenue analysis is used by 92% of the surveyed entities. The high percentage of entities using this management tool in their activities should be considered a positive trend. Information on the amount of costs incurred is essential for the management of any organization. Without incurring them, one cannot conduct any activity, but one should aim at limiting their level. The consequence of this is the increase in the value of the available financial resources allowing for the increase of the offer of public services and the development of infrastructure. This, in turn, affects the attractiveness of the commune for external capital, which results in increased local entrepreneurship.

In local government units, traditional budgeting with the binding budget classification is dominant due to the obligatory character, in accordance with which income, expenses, revenues and expenditure are allocated to sections, chapters and paragraphs. Information from budgets and reports based on traditional budget classification is limited as it is not related to costs and results achieved. The classic budget only answers the question about the amount of public funds spent by individual units, but it does not describe the purpose for which the expenses were incurred and what measurable effects they brought. In the traditional budget, expenses are divided among the appropriate items, within which detailed limits have been set. Therefore, when implementing this type of financial plan, the most important task is to ensure its compliance with the applicable law, and thus not exceeding the limits set. On the other hand, however, it is also important for units to meet the limits, i.e. to spend the maximum amount

of planned funds in order to prevent their reduction in the plan for the next financial year. Therefore, when implementing the budget, there is very often the phenomenon of excessive spending without a rational need, especially at the end of the financial year. The lack of rationality in the management of public funds must be assessed negatively, especially in the situation of constantly looking for savings in public administration (Szołno, 2019). One of the solutions that can guarantee the rational management of public funds is task budgeting, which is optional in the basic units of local government. Its essence is the management of public funds through appropriately specified and hierarchical goals in order to achieve specific results, measured by means of metrics (Lubańska, 2010). The analysis of the level of use of this type of financial plan in communes showed that only 3 treasurers out of 68 answered positively the question about the implementation of the task-based budget. The discussed solution was used by 1 commune from the group of communes with the highest financial standing, 1 from the group of communes with a low financial standing and 1 from the group of communes with a very low financial standing. Among the entities that do not use the discussed solution, only 1 commune wants to implement it. This approach of the main budget accountants is not optimistic. It proves that they are not aware of how important this financial plan is in managing the finances of the commune. The lack of its application is related to the fact that the Multiannual Financial Forecast prepared by them (which is obligatory for all levels of local government) is a simplified and erroneous way of long-term planning. There are no calculated resources to be used for the implementation of tasks, no specific expected results, and the implemented tasks are not related to the strategy. Therefore, it can be concluded that the mandatory Long-Term Financial Forecast is becoming a fiction.

The specificity of the functioning of basic units of local self-government, resulting from their public nature, causes that the assessment of these organizations is, *inter alia*, the resultant of the scope of diversification of public services provided in particular budgeting periods. This is associated with the expansion of the scope of decisions made and the search for solutions that best suit the needs and requirements of members of a given community, while ensuring high quality. Therefore, communes should implement such instruments which, apart from differentiating the effects of an organized action and improving the quality, enable

the reduction of the level of incurred costs. This is reflected in the changes that must occur in the record and cost accounting system. They are faced with tasks related not only to providing information for making decisions and facilitating management, but also enabling the valuation of services provided, also selling off the processes actually taking place in local government units (Kožuch, 2012).

The starting point for the use of these modern instruments is the implementation in the accounting system of municipalities of solutions for the assessment of unit costs, ensuring knowledge both about management processes and about individual services provided in the studied entities.

In the analyzed communes, the basic system of cost records is the type system – the so-called Team 4. Local government units are required to record costs only in this system without linking them with responsibility centers or with the resources used. It is obligatory to prepare only a comparative variant of the profit and loss account, and the information derived from it can be used to a limited extent to analyze the costs of tasks, as well as their precise calculation. Making any decisions aimed at the rational and effective use of financial resources requires the use of full cost analysis of public service provision, taking into account all incurred expenses. The absence of this data makes it difficult to properly manage public funds. Obtaining such information from the cost records in Team 4 is impossible. Its structure is too general and does not allow for adequate supervision of the funds spent.

In order to obtain qualitatively appropriate information on the full cost of production, changes in the cost accounting system should be introduced. One of the possible solutions is the introduction of a calculation system of cost accounting (Team 5), which would allow for the identification of resource consumption divided into particular services and cost centers (Kožuch, 2019). The current legal conditions, as well as the level of activation of financial management of local government units, are not, however, conducive to taking actions in this area. Only 12 communes decided to extend their record-keeping systems with solutions allowing for the determination of direct and indirect costs of activities or tasks, which is the calculation system for the records of costs. Worryingly, only one treasurer calls for the system to be made mandatory. Such a small percentage of municipalities in the Ostrołęka and Siedlce subregions using the calculation system

and a negligible willingness to implement it may result from the lack of legal provisions within this scope.

It should be noted that from the perspective of decision-making processes, understanding the unit cost of producing a product or providing a service is one of the most important economic categories. Therefore, the results of the research carried out are worrying. Among the surveyed entities, 41% do not use the calculation of the unit cost of production and do not want to implement this method in their activities. This is an unfavorable situation. It may prove that local government units do not know and do not apply such an important stage of rationality and improvement of the activities of economic organizations. The largest percentage of units that do not calculate the unit cost of production is in group I of communes (66.6%). On the other hand, in the group with a lower financial condition, the percentage of these units is 27%.

The essence of cost accounting is the measurement of the consumption of an organization's resources, which means that it is used to determine the costs of running an activity including the production and sale of products, or the provision of services. In economic practice, various cost accounting models have developed, including: variable costs, fixed costs, ABC activity costing. Variable cost accounting allows you to make current decisions concerning optimization of the size of the production or provision of services as well as the extension of the cost control tools. Unfortunately, only 16% of treasurers declared that they use this type of cost accounting in their units. The highest percentage of communes not using this method is in the group of communes with a very low financial condition (91%). In turn, in the examined local government units included in the first classification group, 33% use this variant of variable cost accounting.

The target cost accounting is one of the instruments aimed at increasing the efficiency of local government units. It allows focusing attention on the needs of citizens and other stakeholders of these organizations and cost management throughout the life cycle of public services and the alignment of resource use with the organization's goals. Its adaptive use in basic units of local government is a legitimate condition for improving their economic efficiency. The analysis of responses to this model of cost accounting showed that 25% of the surveyed communes use it in their activities. 75% do not use it and they do

not want to implement it. Unfortunately, this is a negative phenomenon.

In the functioning of communes, an increase in the importance of the range of services as well as their quality and usefulness can be noticed. Therefore, difficulties arise concerning the determination of the structure and value of indirect costs. Due to that fact, it should be very important for municipalities to implement a method of measuring costs and effectiveness of activities, resources – the cost accounting of ABC activities. This cost accounting model is used by 29% of the surveyed units. The largest percentage (77%) of communes using this model is in the group of communes with a poor financial condition. From the group with the best financial condition, none of the municipalities has implemented ABC cost accounting. The use of the activity costing in the commune is to reduce the costs of the conducted activity without the necessity of reducing the quality of services by defining a new structure and rules for calculating indirect costs.

Conclusions

The municipalities, striving to satisfy the needs of their respective inhabitants, manage financial resources that should be rationally used. It seems that the use of modern management accounting methods and tools should improve the functioning of basic units of local government, and thus contribute to a more effective use of resources. However, practice shows that communes use management accounting methods and tools offered by the commercial sector.

One of the conclusions that can be drawn after the study is that the basic units of local governments do not use a task-based budget and do not even treat it as a method that could be implemented in their activities. The main type of planning is the traditional budget, which does not improve the decision-making process of municipal managers, but only serves the administration of the unit and the control of the expenditure limit. Lack of effectiveness of this tool in the decision-making process results from the lack of linking expenses with objectives and tasks. Moreover, the traditional approach to budgeting is not very transparent, it does not contain clear information about the commune's expenditure policy, which in turn prevents communication with the public and other external stakeholders. The above-mentioned disadvantages of the traditional budget make it necessary to strive for the fastest possible introduction of compulsory task-oriented planning

in the communes, which, to a large extent, may affect the effective use of the resources available.

Another conclusion from the research is the discovery of the minimum interest of treasurers in solutions using cost accounting and the introduction of activities aimed at the correct calculation of production costs. It should be noted that the cost accounting is an important factor in determining those areas of the commune's activity in which changes should take place in order to obtain greater economic efficiency of a given local government unit.

It is surprising that communes achieving a high and very high level of financial results use modern management methods and management accounting tools to a much lesser extent than communes posting poorer figures. This seems almost impossible because the management accounting tools discussed in the article aim at, among others, better using the resources to hand so as to improve the financial condition of economic entities. The only explanation may be that treasurers are not aware of these management accounting tools. They probably use these methods and tools intuitively, but they cannot name and define them. This may be confirmed by the fact that in the communes included in group IV, none of the treasurers worked in the private sector and they will not encounter these methods in their professional work.

Summing up, it should be stated that in times of limited material and financial resources, the treasurers of the surveyed communes should strive to implement tools that will contribute to the improvement of the efficiency and the effectiveness of the available resources.

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