
Cost Accounting as a Set of Instruments for Performance Budgeting in Local Government Units

Submitted 15/01/24, 1st revision 12/02/24, 2nd revision 22/02/24, accepted 12/03/24

Olga Szolno¹

Abstract:

Purpose: The article aims to demonstrate the notion of cost accounting for performance budgeting and the need for applying it. The article also evaluates the possibility of implementing the concept in question. Moreover, the imperfections of traditional budgeting and budget accounting were pointed out, while the need to implement performance budgeting in the local government sector was argued.

Design/Methodology/Approach: The objective was achieved as a result of conducting a focused literature review, analysis of internal documentation of local government units related to budgeting and accounting system, objective observations of selected LGUs and interviews with their representatives, in addition to applying a general deductive method. The empirical studies conducted focused on updating the author's own study conducted so far in 23 cities with county rights. Particular emphasis was placed on units that implemented performance budgeting. Mainly larger local government units showed interest in performance budgeting (only two cities with a population of over 300,000, which means that performance budgeting was not implemented in 20% of the cases). Approximately 30% of the remaining entities implemented performance budgeting.

Findings: The currently prevailing traditional budgeting procedure, in local government units, mainly consists of dividing public funds, which must be at disposal, without paying attention to how effectively they are disbursed. Accounting adopted for the purposes of traditional budgeting is also characterised by a great number of flaws; in particular, it does not provide information that can be used to precisely calculate the required expenditure on specific tasks accepted for implementation. One of the best solutions that can guarantee that the resources owned are managed rationally and effectively at the same time is modern performance budgeting based on modified (according to the needs) tools for effective accounting. The multi-stage procedure of calculating the costs of the tasks implemented makes it possible to measurably increase the effectiveness and efficiency while disbursing public funds and improving the quality of the activities taken by the local government unit simultaneously.

Practical Implications: The proposed concept of cost accounting has potential practical applications. Knowing the total costs of tasks and their structure is crucial for the management. This knowledge makes it easier to consciously decide whether to continue a given task or stop doing it if it is expensive or ineffective, and thus allows for effective expense management. Moreover, costs of tasks can also be compared within a given unit, between different organisational units or different cities and over time.

¹Dr., Maria Curie Skłodowska University in Lublin, Faculty of Economics, Institute of Economics and Finance, Poland, olga.szolno@mail.umcs.pl;

Originality/value: *In the literature, there is an information gap on how performance accounting operates, particularly concerning cost accounting in local government units. Therefore, this article attempts to fill this gap by presenting the author's original and novel concept of performance-based cost accounting.*

Keywords: *Cost calculation, accounting, efficiency, performance budgeting, public sector.*

JEL classification: *H83, H72, M41.*

Paper Type: *Research study.*

Funding: *Publication co-financed from the state budget under the "Excellent Science" program of the Minister of Education and Science in Poland, project number DNK/SP/549676/2022, co-financing amount: PLN 44,000, total value of the project: PLN 81,000.*

1. Introduction

Every country meets the needs of its society by providing public goods and services. A variety of institutions at various levels of governance pursues all areas of the country's activities. Some of them perform their tasks at a central level, while others – such as local government units (LCUs) – are definitely closer to citizens.

By performing their public tasks, they aim to meet the needs of a given local and regional community, particularly regarding safety (Misiuk *et al.*, 2020) and public peace in the broad sense (Karpiuk, 2019; Kostrubiec, 2021). However, a growing spectrum of tasks performed by local governments requires increasing expenditure that is limited by their financing possibilities (Feret, 2020).

Increasing the number of tasks to be performed by local governments in accordance with social expectations requires that funds be allocated properly. In the lack of such allocation, the activity of local governments can be described as “doing more for less” (Ho, 2011; Institute for Government, 2009). Due to their limited funds, local governments are forced to implement the principles of rational management, which should – in particular – refer to budgeting.

Financial plans drawn up for a definite period of time indicate, on the one hand, potential financial income, and planned expenditure – meaning payments for various types of goods and services necessary to implement specified tasks in order to meet the broad social needs – on the other (Campbell, 1985; Horngren, Datar, and Rajan, 2012). Proper budgeting constitutes one of the incredibly useful and effective tools or techniques for management purposes (Pietrzak, 2013; Klimaitienė and Ramanauskaitė, 2019).

Thus, it is worth developing solutions that correspond to the needs of particular local government units as much as possible and simultaneously adapt them to the evolving conditions in which local governments need to operate. Striving to improve the budgeting method forces changes that are necessary both concerning a conceptual and technical dimension and in relation to the proper preparation of local government employees (Raghunandan *et al.*, 2012; Radu-Alexandru, 2019).

Local government units apply a traditional budgeting method (line-item budget) due to its current obligatory nature. The currently prevailing traditional budgeting procedure mainly consists of dividing public funds, which must be at disposal, without paying attention to how effectively they are disbursed. Therefore, there is no basic, yet necessary for proper management, information specifying the required expenditure level necessary to achieve a specific result.

Accounting adopted for the purposes of traditional budgeting is also characterised by a great number of flaws; in particular, it does not provide information that can be used to precisely calculate the required expenditure on specific tasks accepted for implementation. One of the best solutions that can guarantee that the resources owned are managed rationally and effectively at the same time is modern performance budgeting based on modified (according to the needs) tools for effective accounting.

Although the matters related to performance budgeting have been analysed extensively in the literature, this topic is mainly examined within the scope of management and public administration, while the role played by accounting in the public sector is omitted and is also pointed out by other authors (Budding *et al.*, 2022). The results of the studies conducted indicate that, so far, budgeting has played quite a marginal role in the European studies on accounting, while the multifaceted nature of budgeting has been neglected in the existing literature to a large extent (Anessi-Pessina *et al.*, 2022).

A great number of international organisations recommend switching to performance budgeting as the most transparent method of allocating public funds (Allen and Tommasi, 2001). Performance budgeting is expected to fill the gap by informing all concerned parties about what a public body is trying to achieve and by answering questions such as *what can be achieved using the resources allocated?*.

However, in practice, such positive expectations have not been fully met due to the problems with implementation; a great number of countries still struggle to draw up their budgets and to ensure that the budget is reflected in goals achieved (De Vries *et al.*, 2019). Perhaps it would be a better solution to implement not only the planning itself in performance-based form but also the entire concept related to accounting, including changing both accounts and records of costs by nature and cost accounting, making it possible to settle costs against tasks.

The aspects presented above have outlined the objective of this article, namely indicating and presenting a set of cost instruments for the purposes of performance

budgeting in local government units, along with indicating how it could be used. Moreover, existing problems with adapting the accounting system for the needs of performance budgeting, in particular cost accounting in local government units, were presented.

To clarify, the basic goal was to identify the issue related to the separation of full direct and indirect costs of tasks carried out by local government units along with the use of cost calculation. The objective was achieved as a result of conducting a literature review, objective observations of selected LGUs and interviews with their representatives in addition to applying a general deductive method.

Based on the considerations presented so far, a research question can be formed:

RQ1: which set of instruments enables performance budgeting to perform its function in increasing the effectiveness of the local government unit's operations? Searching for an answer to the above question gives reasonable grounds for addressing this topic.

The following research hypothesis will be verified in this article:

H1: The performance budgeting system requires adopting accounting within the scope of management accounting, and estimating the total costs of public services contributes to determining the effectiveness of the services offered.

Performance budgeting unquestionably requires support from an information system. Therefore, a key role is played by accounting, one that is tailored specifically to its needs, which may also be called performance accounting. It will provide quantifiable information on public tasks which can subsequently be used to improve the effectiveness of the LGU's operations. Due to the fact that the possibility of calculating the total cost of a given task is one of the attributes of performance budgeting, a properly modelled cost accounting system is gaining importance.

2. Literature Review

Information derived from traditional budgets is limited because such information is not related to specific and tangible results. The current budgeting procedure is only based on allocating public funds (Martí, 2013) without focusing on how effectively they are disbursed. Therefore, there is no information on whether the result required high or low expenditure; all we know is who spent the funds and how much was spent. Therefore, it is impossible to reduce the costs of ineffective tasks (Réka *et al.*, 2014; Thalassinou and Kiriazidis, 2003).

Accounting for the purposes of traditional budgeting also has a number of flaws. For instance, it is only closely related to the budgeting and budget implementation procedure (Athukorala and Reid, 2003), while providing ex-post information – mainly for reporting and controlling purposes, but not managerial purposes – which

could be used in a decision-making process to evaluate the effectiveness and efficiency of the actions taken.

Due to the flaws of traditional budgeting, it might be replaced by a different solution focusing on tasks, linking costs, results and the ways of achieving particular objectives. Such possibilities are provided by performance budgeting. The mechanisms used as part of this type of budgeting make it possible to identify the most important tasks (Poniatowicz *et al.*, 2020) and calculate the total costs of the tasks themselves and the outcomes achieved thanks to the implementation of such tasks and holding responsible persons to account. Correct decisions can only be taken based on this kind of data (Marcel, 2014; Willoughby and Melkers, 2000).

Performance budgeting aligns with the new public management approach (Bleyen *et al.*, 2015). According to it, public expenditure should be considered within the context of the objectives achieved (results/outcomes), not the expenditure only (Martí, 2013; Behn, 2003; Franco-Santos *et al.*, 2007; DeGroff, 2010). The results (performance budgeting is perceived as management by results, Curristine 2005) of activities taken must be quantified using appropriate measures (Braz *et al.*, 2011).

In the literature, there is several publications on performance budgeting, which are in line with the idea of transforming the public finance sector, which is called New Public Management (Kuhlmann, 2010a; Dynowska, 2018; Diefenbach, 2009; Schedler and Mussari, 2009). A performance budget was one of the elements of New Public Management, which appeared in Poland and many other countries.

Many countries have introduced various reforms in line with the idea of NPM. These were – for instance – Portugal (Corte-Real, 2008), Switzerland (Rieder and Lehmann, 2015), The Netherlands (Steijn and Leisink, 2007), New Zealand (Chapman and Duncan, 2007), Great Britain (Jarvis, 2002), and Australia (Zaman Mir, and Rahaman, 2007; den Heyer, 2011; Kowalczyk, 2018).

Many governments have implemented New Public Management (NPM), which has changed the public sector by introducing the principles of business-like management and the market terms typically applied by the private sector (Hood, 1991; Broadbent and Guthrie, 1992), as well as tools, including, audit or management control (Cwiakala-Malys *et al.*, 2020; Trigkas, Liapis, and Thalassinou, 2019).

This was motivated by the perceived weaknesses of the static, ineffective, inefficient and non-responsive public sector (Grossi and Steccolini, 2014; Trambly, 2012) and the tendency of NPM to measure financial results and control whether public resources are used effectively and economically (Broadbent and Guthrie, 1992; Guthrie, 1998; Eriotis *et al.*, 2021).

Although performance budgeting is a tool used by governments in many countries worldwide (Ho, 2018; Grossi *et al.*, 2016), in reality, it is difficult to find a clear

definition in scientific literature and international research (Robinson, 2013; Allen and Tommasi 2001; Kong, 2005, Jakobsen and Pallesen 2017, *Modernizing Government...*, 2005; *Performance Budgeting...* 2007, *Performance Budgeting: A Users' Guide...* 2008).

The point is to guarantee that public funds are spent in the best possible manner and invested in the provision of public funds (Boyle, 2011). Analyzing the definition in the context of the main purpose of the work, authors focus in particular on the cost aspect as the key element of performance budgeting (Robinson, 2007b; Regal and Summers, 2002, Shah, 2007), shows that it allows for evaluating the costs of particular elements (activities) – the implementation of which will move the unit towards its intended result, which is possible due to the fact that the result achieved is linked to the expenditure in the budget (De Vries *et al.*, 2019).

This is supposed to increase the effectiveness and efficiency of public expenditure (Robinson, 2007a; Joyce, 2011) and, thus, the activity of public institutions (Mensah, Schoderbek, and Werner, 2009). It is worth pointing out that it is not the cost of the entire project (the objective achieved) that is estimated, but the cost of its particular stages (tasks).

The studies conducted by Melkers and Willoughby (2005) indicate that performance measurement systems are crucial for supporting communication between various levels of governance and within a specific level. On the other hand, the studies conducted by the OECD (Curristine, 2006) indicate that many factors determine the willingness to implement performance budgeting. Striving to improve the effectiveness and efficiency of the disbursement of public funds is one of them.

The OECD studies have proven that the performance budgeting method leads to increasing the rationality of the public funds spent and the effectiveness of the activities taken by a public sector unit (Joumard *et al.*, 2004; Lee and Wang, 2009; Zaltsman, 2009; Moynihan, 2005).

However, there is little systematic evidence that performance budgeting has a significant impact on management decisions (Gilmour, 2006) due to it not being applied as prescribed (Carlin and Guthrie, 2003; Moynihan, 2008; Roy and Seguin, 2000).

The benefits of implementing performance budgeting (Melkers and Willoughby, 2001; *Performance budgeting in OECD*, 2007; Arizti *et al.*, 2010) in question or selected elements thereof can be observed in those countries in which relevant reforms have been introduced (Grima and Thalassinou, 2020).

What can be observed there is the awareness of the costs of tasks implemented, which translates into increased effectiveness and efficiency of disbursing public funds (Schick, 1997).

The performance budgeting system is applied in over fifty countries around the world² (Kašek and Webber, 2009; Beerli, 2019; Performance Budgeting in OECD, 2009; Martí, 2013; Sterck and Scheers, 2006; Downes *et al.*, 2017; Shaw, 2016; Postuła, 2018).

However, it should be noted that not all countries have implemented a comprehensive performance budgeting system; some only apply its selected elements that support traditional budgeting (Poister and Streib 1999; Melkers *et al.*, 2002; Padovani *et al.*, 2010; Reichard, 2010; Kuhlmann, 2010b; Demeulenaere, 2013; Ho, 2011; Franek, 2015; Poister, 2008). What arises from the core of performance budgeting are the effects (benefits) that can be achieved by implementing it (Jones and McCaffery, 2010; Smith, 1999; Martínez and Guzmán, 2019; Szolno, 2018).

Due to the objective of the article, the author has focused on one of the most crucial, to the author's mind, benefits of performance budgeting. First and foremost, the performance-based form provides information on the scope of tasks to be implemented and on the actual total costs (Kristensen, Groszyk, and Bühler, 2002; Bouckaert and Halligan, 2007) related to their implementation. Thanks to this, it is possible to control their amount and structure or to reduce the costs if savings are needed (Hood, 1991).

The notion of costs is not defined separately in laws or executive acts; however, for the purposes of local government units, they can be defined as using (disbursing) resources in order to gain benefits (Jaruga *et al.*, 2001). Costs are one of the most crucial economic effectiveness indicators of a unit and, to a large extent, reflect the "quality of work" at nearly all stages of economic activity (Sierpińska and Jachna, 2004).

Therefore, it is so important to know and be able to manage them through operations management. Cost management, in turn, can be defined as all activities taken by managing various levels and employees of an organisation to manage short- and long-term cost effects (Jaruga *et al.*, 2001; Grima *et al.*, 2019).

Both direct and indirect costs can be identified. Thanks to this, it is possible to consider the total costs of particular tasks in a multi-variant layout and to select solutions that would make it possible to minimise such costs. By providing relevant data and being able to analyse it, it is more likely that a desired relation of effects to expenditure will be obtained (Walker, 2002).

²They include: New Zealand, United States, Australia, Great Britain, France, Canada, Italy, Slovakia, Finland, Sweden, Mexico, Poland, Turkey, Chile, Belgium, The Netherlands, Lithuania, Denmark, Estonia, Latvia, Spain, Japan, Iceland, India, Norway, Republic of South Africa, Russia, Portugal, Ireland, Germany, Bulgaria, Czech Republic, Romania and Croatia.

Knowing the total costs of tasks and their structure is crucial for the management. This knowledge makes it easier to decide whether to continue a given task or stop doing it if it is expensive or ineffective (Robinson, 2013). Costs of tasks can also be compared within a given unit, between different organisational units or different cities and over time (Jones and McCaffery, 2010; Mohr, 2016).

This makes it possible to identify reasons for the changes noticed and to allocate resources to implement tasks in the future. Thanks to the availability of information on the degree to which particular tasks have been implemented and their costs, it is possible to control the structure of public expenditure on an ongoing basis – which, in turn, can be used to analyse the ongoing changes. Thus, reducing expenditure that does not facilitate achieving the objectives and tasks set is possible.

It is also easy to identify tasks that do not yield the expected results so that the funds can be allocated to other tasks. However, it should be borne in mind that there is a risk that expensive tasks will be eliminated although they appear to be necessary from society's perspective.

Alternatively, this might result in removing tasks that are only seemingly ineffective and increase the role of activities that are only considered effective even though this is not the case in reality (Joyce, 1993). A performance budget presents information on costs derived from an accounting system. Proper modelled cost accounting plays a particular role as part of information support (Boyle, 2011), becoming a key part of the performance budgeting system (Walker, 2002).

In the literature, there is an information gap on how performance accounting operates, particularly concerning cost accounting in local government units. Attempts are taken to indicate the need for and directions for modifying the accounting system so that it provides information on the tasks implemented. However, they are only fragmentary, do not present the matter in question in a comprehensive manner and refer mostly to government units (Kaczmarek, 2013, 2009; Kowalczyk, 2012; 2013; Heciak, 2012).

The purposefulness of applying cost accounting for performance budgeting is indicated, for instance, in comparison to traditional types of cost accounting (Granof, Platt, and Vaysman, 2000), and it is claimed that if a unit wishes to understand its costs, it must understand the tasks it performs and closely allocate costs to them (Fabian, 2002).

Solutions related to this topic can be found in specialist literature; however, there is no complex and synthetic concept dedicated to the purposes of performance accounting (Kozuch, 2013; Mohr, 2016; Mosso, 1999; Mullins, 1999; Brown, Myring, and Gard, 1999). Activity-based costing, modernity and the transformation of local government, (Arnaboldi and Lapsley, 2003; Mensah, Schoderbek, and Werner, 2009; Briner, Alford, and Noble, 2003; Brown, Myring, and Gard, 1999).

However, as mentioned above, although local governments already have many years of experience in applying performance budgeting, it still requires improvement (Bonomi Savignon *et al.*, 2019) – in particular, with regard to adopting the accounting system covering record keeping, cost accounting or reporting. Therefore, this article attempts to fill this gap by presenting the author's original and novel concept of performance-based cost accounting.

3. Research Method

To achieve the objectives mentioned in the article, selected research methods will be used as needed; a critical analysis of scientific literature both in Polish and in foreign languages. It is also necessary to use the internal documentation of local government units related to budgeting and accounting systems. The research should also include an interview method (the local government units were contacted in the form of telephone interviews and e-mails) and various types of analyses; descriptive, cause-and-effect analysis, multiple-criteria and comparative, with the last one examining relations between phenomena and processes, combined with a synthesis of results.

The empirical studies conducted focused on updating the author's own study (in the field of applied management accounting solutions) conducted so far in 23 cities with county rights. Particular emphasis was placed on units that implemented performance budgeting. Mainly larger local government units showed interest in performance budgeting (only two cities with a population of over 300,000, which means that performance budgeting was not implemented in 20% of the cases). Approximately 30% of the remaining entities implemented performance budgeting.

The main objective of the conducted study was to indicate the ongoing problems with adopting an accounting system, particularly one of its crucial elements – cost accounting – in local government units. To be more specific, the underlying objective was to identify an issue related to separating the total direct and indirect costs of tasks performed by the LGU along with applying cost calculation. The local government units were contacted in the form of telephone interviews and e-mails.

Entities were selected on a random basis, and the largest local government units were selected – cities with county rights, which perform a wide range of tasks belonging to the competencies of both communes and counties. Moreover, they are characterised by an appropriately high level of budget income and expenditure in addition to the fact that their territory is inhabited by a large number of people.

The need for disbursing funds appropriately and rationally – in particular, where the level of funds is insufficient in relation to the needs and expectations of society forces LGUs to use advanced tools which would allow them to obtain information on the effectiveness and efficiency of the tasks they perform. This aims to achieve potential savings, meaning specific tangible benefits which could mainly be substantial in the case of large entities.

Therefore, showing interest in innovations, clearly noticeable in larger units, is not insignificant. Large local government units are also more likely to find funds for implementing new solutions in the field of management, and they employ more employees.

The role of large local government centres as leaders of changes in management and as potential role models for similar entities should not be omitted either. It is definitely easier to implement good practices developed by large units in smaller ones, not the other way around. Therefore, the target group comprises cities (with county rights) with a population of more than 150,000 that apply performance budgeting.

4. Results

The results of the author's own study and other authors' studies confirm the vital role of costs in the public sector. In their articles, the authors indicate that information on total costs is incredibly valuable for a decision-making process, planning or even controlling (Rogoscic, 2021). It also helps determine fees and outsourcing possibilities, increase responsibility or improve any processes (Gosselin and Journeault, 2022). The authors also advocate for incorporating accrual management accounting (Kowalczyk, 2018) into statutory and implementing provisions for the public sector (Labrador and Olmo, 2019).

The development of a reporting system, including cost reporting, may considerably influence the usefulness of information derived from the accounting system of the public sector units, which will contribute to taking optimal management decisions (Wakula, 2013).

The study conducted by the author indicates that the interviewed representatives of the entities also emphasised how important it is to know the actual total costs of tasks and their structure. This knowledge makes it easier to decide whether to continue a given task or stop doing it if it is expensive or ineffective.

This also allows LGUs to conduct multivariate analyses related to their future projects (for instance, to check whether the costs of maintaining a school per one pupil would be lower if a new school building was built or if the existing school building was extended). Being aware of the costs of tasks makes it possible to take proper decisions to potentially limit the number of tasks. If the need for reduction results from top-down recommendations, a manager will know exactly how possible the reduction is and if it will not result in lowering the quality of tasks.

According to one of the treasurers, by dividing the operations of a unit into tasks, allocating expenditure to them and identifying the stage of a given task, more attention can be paid to the existence of direct and indirect expenditure. The unit itself incurs indirect expenditure and must be covered, irrespective of whether the

tasks have been performed (e.g., costs of maintaining buildings, energy or remuneration not related to specific tasks, which differ from the direct costs related to the performance of tasks only).

The respondents also indicated that the costs of tasks might be compared within a given unit, between different organisational units or different cities and dynamically (over time). This makes it possible to identify reasons for the changes noticed and makes it easier to allocate resources to implement tasks in the future. Therefore, comparisons may refer not only to the amounts of costs, but to expenditure as well.

The effectiveness of such an analysis – with reference to staff resources – was considered in the study's units since, in performance budgeting, activities are assigned to specific people or positions. This makes it possible to check how many persons perform a given task, whereas the effects will be conclusions related to possible ineffectiveness in the unit analysed caused by assigning too many persons to a given task. In the units subject to the study, employment-related costs were the most significant group.

Therefore, limiting the number of persons performing the same task, which implies precisely stating the demand for staff resources, might translate into quantifiable savings without detriment to the task performed. Resources saved this way might be used to perform other socially valuable tasks.

According to the respondents, accounting subordinated to performance budgeting provides information for the purposes of calculating and analysing the costs of public tasks and controlling their performance (these objectives were indicated by nine respondents). The respondents also believe that such information is used to take rational decisions concerning managing public funds and evaluating the total cost of public tasks (seven cases).

Half of the respondents claim they apply full-costing, while nine units conduct cost calculation – mainly simple division calculation (seven). One of the respondents indicated job-costing. However, the internal documentation of the units indicates that the calculation was conducted in five units and was only job-costing.

In each case, the allocation key used was labour consumption, which was understood in a slightly different manner: in one entity as person-hours (labour consumption was determined based on the register of the actual working time used to perform tasks) and in two entities as FTEs (labour consumption was expressed as the number of FTEs assigned to the tasks performed), while in two other entities as remuneration (labour consumption was linked to remuneration of employees that can be assigned to particular tasks).

In practice, both the number of FTEs and the remuneration were averaged, which means that they are estimations to a certain yet slight degree. In three units, it could

also be observed that indirect costs were registered (as costs of indirect tasks or simply indirect costs, without linking them to tasks), but they were not settled against tasks. Three other entities completely marginalised the aspect of separating and settling direct costs. Therefore, in six out of 12 entities applying performance budgeting, indirect costs of tasks are calculated at a single stage, meaning in direct relation to the tasks performed.

One of the accounting systems most tailored to the needs of performance budgeting was based on the separation of direct and indirect costs of the tasks performed by nature, meaning costs by cost centres (just one unit). Few units (three) even prepared appropriate detailed documentation describing the principles for recording and determining the costs of tasks (including a classification of costs into direct and indirect ones or an algorithm for settling direct costs).

One of the respondents indicated the need for extending the cost accounting process, where costs should be registered by function (on the accounts of Team 5), whereas the cost accounting for activities should be done at a further stage. In such a situation, direct costs would be allocated directly to tasks, while indirect costs would be settled based on data registered on the accounts of Team 5. Then, the information on costs would make it possible to control their level, evaluate the rationality of incurring them and take measures aimed at reducing the unit's own costs.

Treasurers notice a problem with calculating the costs of services offered and investments. This problem arises due to the fact that hardly any unit (one of all units subject to the study) applies cost accounting by type – even though the legislature provides for using cost accounting by cost centre.

This is because the profit and loss account is obligatorily drawn up with a classification of expenses by type and presents information on costs by type. As the answers suggest, to present a clear situation of a given unit, the operating costs of an office should be settled against the costs related to, for instance, ongoing and investment tasks.

For instance, the working time of a given person should be divided into periods of time spent by such a person working to perform particular tasks. In such a situation, the employee's remuneration (working time registered) would be charged not only to current expenditure, but also to investment expenditure. It is more favourable due to the strict rules applicable to the public finance sector.

According to most treasurers, such a solution should be imposed by law. Therefore, such a cost settlement should be obligatory. The obligatory nature of the solutions results from the lack of knowledge but also from the lack of requirements – “if something is not required, they do not want to do it even though they see it is needed”.

Undoubtedly, the fact that the units notice the need to calculate the total costs of tasks should be assessed positively. Of course, efforts to implement the accounting system, particularly those pertaining to the processes of settlement and calculating task expenses, should be emphasised.

However, in practice, despite the solutions concerning cost calculation indicated by the respondents, these solutions are not applied at all or are applied to a limited extent only. The system of calculating costs of tasks is not comprehensive in any case; only selected elements thereof are present. Appropriate cost accounting is definitely missing. The fundamental fault discovered throughout the study's execution is the accounting treatment's incompleteness, which inhibits the entities from fully realising the solution's potential. The accounting system for performance budgeting still requires major modifications.

The lack of adoption results from methodological problems (persons responsible for accounting are often not sufficiently prepared and qualified to draw up a chart of accounts or a calculation procedure).

Failure to settle indirect costs or settling them only based on one allocation key (labour consumption) even though they are dependent on many, often quite diversified factors, is a very serious mistake. As a consequence, no information on the total costs of tasks is obtained.

5. Proposals Concept

According to the author, performance accounting should be understood as a comprehensive system of collecting, processing (using appropriate methods) and providing quantifiable information on public tasks, which can be subsequently used to improve the efficiency and effectiveness of the units operating in the public finance sector. Cost accounting constitutes its element linking recording with reporting (Figure 1). The performance budgeting systems make it possible to calculate the costs of performing particular tasks. It is one of its core advantages because without knowledge of the costs associated with performing certain duties, it is hard to arrive at a decision that is sensible in terms of managing public funds.

A performance-based approach to the operations of local government units can be compared by analogy to a process-based approach concerning the management of economic units operating under market economy conditions. In profitability-based business, cost accounting is used to value specific products and services, which can be compared to tasks performed in the public sector.

Therefore, the author believes that any activities related to allocating costs to particular tasks should constitute cost accounting based on the tasks that must be performed to meet social needs. Such accounting would mean calculating the costs of a given task based on direct costs and correctly settling indirect costs necessary to

perform the task reliably. An appropriate approach to the entire cost accounting for tasks requires, in the first place, identifying tasks recognised in the approved budget.

All tasks to be performed can be divided into two groups:

1. primary (basic) tasks, which are related to meeting the needs of a given society;
2. supporting (auxiliary) tasks, which alone do not have socially useful effects but are often an essential prerequisite for the proper performance of basic tasks.

Primary tasks generate direct costs, whereas supporting tasks, as an auxiliary element making it possible or easier to perform relevant tasks, imply indirect costs incurred in the form of external services of a given unit or specific strategic areas.

Supporting tasks typically refer to distinct strategic areas within a given unit as well as the general operations of local government entities. A strategic area is understood as a set of similar objectives and tasks in terms of specific criteria, the most common of which are: time horizon, type of activity or competencies of the management.

As a result of observing the operations of offices in the cities subject to the analysis, the author distinguishes three tasks belonging to the group of auxiliary tasks related to the general operations of a given unit:

1. Tasks related to the management of local government units in the broad sense, including organising and managing the work of a specific office, motivating employees within a system and controlling the performance of work resulting from the specificity of a given office. This entails the full management process of making decisions to define priority objectives and any other decisions to choose or refrain from carrying out particular tasks that make it feasible to achieve the intended objectives. As part of the management of the unit, the effectiveness of the operations of an LGU as a whole and of selected areas of a given unit is also examined; however, this happens relatively seldom;
2. Technical support creating necessary working conditions, including guaranteeing that every workstation is in line with the principles of ergonomics, ensuring safety, rest and refreshment, building a training system to meet the needs, in particular about modern IT techniques and guaranteeing failure-free operations of devices. This also includes developing principles and any procedures related to the proper operations of the office;
3. Administrative support focused on various activities in order to confirm the work of a local government institution. It is mostly about drawing up documentation and controlling and archiving it at the same time. This area also includes tasks related to any registration, including accounting, and all the work related to staff. This auxiliary task subgroup also includes financial and budget reporting and stocktaking activities.

In turn, each strategic area, the number of which corresponds to the number of strategic objectives set, is characterised by one auxiliary task coordinating a given area. The indirect costs created here refer to remuneration along with obligatory mark-ups of coordinators and other employees pursuing the specific strategic goal assigned to a particular area.

The total costs of basic tasks can be reliably defined by implementing a proper procedure in accordance with the stages presented below:

1. Registering all costs (direct costs broken down by primary task and indirect costs broken down by auxiliary task) in a thorough manner and on an ongoing basis. It appears advisable that as many costs as possible be classified as direct costs;
2. Settling the costs of supporting tasks related to technical and administrative support against strategic areas and a task related to the management of the unit. This is due to the fact that technical and administrative support is inseparable from each basic task;
3. Settling the costs of a specific supportive task related to the general operations of the local government unit;
4. Settling the costs of the strategic objectives set;
5. Determining the costs of operating and strategic tasks.

In the first stage, all costs related to the performance of tasks, which means both direct and indirect costs, are registered. Direct costs should be registered and broken down by basic task, while indirect costs – by auxiliary task.

It appears prudent to classify as many costs as possible as direct costs, and only those that cannot be readily assigned to basic tasks as indirect costs. Activities in the second stage refer to settling the costs of auxiliary tasks: technical support and administrative support.

All costs of such tasks should be settled against separate strategic areas (costs of areas) and the auxiliary task of managing the local government unit. This approach stems from the fact that all basic tasks are grouped into appropriate strategic areas, and the management of the local government unit requires both technical and administrative support.

In order to properly determine the costs of particular tasks, relevant cost objects should be used. A synthetic summary of the cost objects used in the calculation procedure is presented in Table 1.

It would be deemed advisable to use the number of employees qualified to particular strategic areas and included in top management as a cost object for technical support. The selection of the cost object for technical support could be justified by the assumption that higher costs are determined by higher employment.

Table 1. Cost objects for auxiliary tasks in performance-based cost accounting

Auxiliary task name	Cost object suggested for a task
Local government unit management	Working time
Technical support	Number of employees
Administrative support	Number of documents
Area coordination	Direct costs of basic tasks

Source: Author's own work.

However, administrative support costs should be settled using the cost object represented by the number of documents drawn up for the operations conducted by organisational units separated in particular strategic areas and top management. In this scenario, the choice could be supported by the assumption that the preparation expenses increase as the number of papers increases.

Therefore, it is necessary to precisely assign them to strategic areas and the LGU management. To settle the costs of auxiliary tasks: technical support and administrative support, the following index can be used (draft 1)³:

$$I_{TS/AS} = \frac{C_{TS/AS}}{N}$$

where:

$I_{TS/AS}$ – costs mark-up for a given auxiliary task;

$C_{TS/AS}$ – costs of an auxiliary task;

N – number of employees/number of documents assigned to all strategic areas and included in top management.

The index allows one to determine the costs of auxiliary tasks assigned to each employee, excluding those who perform such auxiliary tasks. In turn, the costs of particular strategic areas or a task related to unit management can be calculated using the following formula:

$$C1/2_{SA_n/UM} = I_{TS/AS} \times N_{SA_n/UM}$$

where:

$C1/2_{SA_n/UM}$ – costs of technical/administrative support of the n-th strategic area or the LGU management;

$N_{SA_n/UM}$ – number of employees/number of documents of the n-th strategic area or task related to the unit management.

³See O. Szolno, *Controlling i rachunkowość w systemie budżetowania zadaniowego, UMCS, Lublin 2019.*

The links between technical and administrative support have been omitted in the above calculation of the costs of the enumerated auxiliary tasks. This is because units dealing with technical matters assist in administrative support (for instance, they provide appropriate working conditions and guarantee that equipment is functional), whereas administrative matters also refer to technical support (for instance, relating to drawing up HR or payroll documents for employees working in technical units).

However, it is not advisable to settle the costs between the enumerated auxiliary tasks since the costs generated by these tasks are fully settled against the remaining tasks anyway. The total costs of the LGU management are calculated by settling the costs of technical and administrative support as follows:

$$C_{UM} = IC_{UM} + C1/2_{UM}$$

where:

C_{UM} – total costs of the LGU management;

IC_{UM} – indirect costs of the LGU management (which do not have to be settled if assigned to the costs of the LGU management).

However, as previously mentioned, these costs can be fixed or variable in relation to tasks, which is why they should be settled based on the working time used to perform specific activities.

It is crucial to specify, at least in percentage terms, how much time was needed to address tasks arising from the budget (performed in particular strategic areas) and address matters not directly related to them. Due to the fact that effective working time was used as an object, it can be determined in one of the two following manners:

1. actual – it is necessary to have information on how the working time is used by the top management, i.e., mayors, treasurers, councillors, controllers (in a centralised controlling model);
2. estimated – based on data related to, for instance, previous years or planned for the current year, which can be obtained by means of conducting individual interviews with councillors, mayors, treasurers, controllers or based on documents describing the meeting.

Determining working time always requires obtaining additional data. In the first case, it is very time-consuming and requires taking detailed and regular notes, but it provides very accurate – almost actual – data. The other manner allows one to avoid the difficulties mentioned above, whereas the information obtained this way is less precise and biased due to the subjective perspective of estimating persons.

Having information on working time allows you to divide the expenses of administering the local government unit into fixed costs for activities that are not settled against basic duties (they represent overall costs) and costs for specific strategic areas. Therefore, it is necessary to calculate the following index.

$$I_{UM} = \frac{C_{UM}}{T}$$

where:

I_{UM} – costs mark-up for the LGU management;

T – time spent by the top management performing specific activities.

The costs of the LGU management assigned to specific strategic areas or constituting overall (fixed) costs are then calculated using the following formula:

$$C3_{SA_n/FC} = I_{UM} \times T_{SA_n/FC}$$

where:

$C3_{SA_n/FC}$ – costs of the LGU management for the n-th strategic area or constituting fixed costs in relation to tasks;

$T_{SA_n/FC}$ – time spent by the top management performing specific activities for the purposes of the n-th strategic area or that cannot be assigned to any of the areas.

The LGU management costs, just like the remaining auxiliary tasks, could also be settled directly against various basic tasks. However, it seems easier and less laborious to settle them directly through costs of strategic areas, which must be assigned appropriately to basic tasks anyway.

In the procedure of calculating the costs of tasks, the fourth stage refers to settling the costs of strategic areas. Such costs should only be assigned appropriately to the tasks they refer to, meaning strategic or operating tasks performed in a given area. It should be borne in mind that the costs of one strategic area cannot be allocated to other areas since these costs do not refer to these areas.

However, the problem related to how to settle costs should be solved. Direct costs of tasks performed in a given area can be used as an exemplary cost object. This is because the more that costs are generated by a given task, the more significant it is from the perspective of the area. It involves more time (of the coordinator's work) and the measurement of effectiveness is also more important.

Effective disbursement of public funds, particularly regarding such types of tasks, might translate into appropriately high savings. Even a slight percentage reduction in the costs of expensive tasks translates into large amounts, while in the case of less expensive tasks, a considerable percentage reduction in costs will not result in too

considerable benefits in monetary terms. The total costs of strategic areas are determined according to the following formula:

$$C_{SA_n} = IC_{SA_n} + C1_{SA_n} + C2_{SA_n} + C3_{SA_n}$$

where:

C_{SA_n} – total costs of the n-th strategic area;

IC_{SA_n} – indirect costs of strategic areas (which do not have to be settled if assigned to the n-th area).

These costs are then settled based on the following indicator:

$$I_{SA_i} = \frac{C_{SA_i}}{CBT_{SA_i}}$$

where:

I_{SA_i} – costs mark-up for the i-th strategic area;

CBT_{SA_i} – sum of direct costs of basic tasks performed within the i-th strategic area.

Each of the operational (primary) tasks must be then assigned an appropriate portion of the total costs of the strategic area within which they are performed. The following formula should be used for this purpose:

$$CI_{OT_n} = I_{SA_i} \times CD_{OT_n}$$

where:

CI_{OT_n} – indirect costs of the n-th operational task separated within the i-th strategic area;

CD_{OT_n} – direct costs of the n-th operational task separated within the i-th strategic area.

The final stage of the calculation procedure within the calculation method described is to determine the total costs of the basic task at an operational level, which is done as follows:

$$CT_{OT_n} = CD_{OT_n} + CI_{OT_n}$$

where:

CT_{OT_n} – total costs of the n-th operational task.

The costs of performing strategic tasks can only be determined after obtaining such information. They are the sum of the costs of operational tasks and, consequently, the entire areas or the degree to which the objectives have been met.

Possessing comprehensive information on costs linked to various types of other information (for instance on the degree to which the objectives have been met) allows one to measure the effectiveness and efficiency of disbursement of public funds on basic tasks included in the performance budget.

The procedure in question, related to cost accounting in performance-based form, makes it possible to calculate the total costs of basic tasks and are, thus, tasks that are treated as operational tasks and are included in the performance budget of a given local government unit.

Modern performance-based cost accounting also makes it possible to precisely calculate the complete costs of achieving particular operational objectives as well as main and partial (detailed) strategic objectives. To this end, specific tasks and objectives at lower levels of the hierarchy of objectives and tasks should be totalled.

6. Evaluation of Possible Implementation of the Model

Implementing the presented model of performance cost accounting requires a significant number of changes not only in the LGU itself, but also in the entire legal environment. In this case, legislative changes are incredibly important since it is the legislation that full implementation of performance cost accounting depends on. Provisions implementing the obligatory nature concerning the application of performance budgeting would force local government units to apply this effective tool, one that definitely makes management more effective.

However, this must imply amending the Act on Public Finance, adopting the chart of accounts and simultaneously reporting to the requirements of performance budgeting through executive acts. The desired results will not be achieved if key amendments are not made to the Act of Public Finance and if the non-compulsory nature of performance budgeting as an element of management accounting is maintained.

As the implementation of performance budgeting is not obligatory, most LGUs do not implement it due to the fact that within the current legal framework, they would have to conduct many registration activities twice – which could lead to an undesired increase in labour consumption and, thus, costs.

Therefore, even though some LGUs potentially have two solutions (obligatory and performance-based) with regard to record-keeping and reporting, local government management bodies gravitate towards maintaining the existing traditional approach to settling public funds, while the performance-based approach is omitted.

The overriding role of budgeting in the traditional model creates certain fiction, whereas the performance-based approach is only an insignificant auxiliary element in this case. Only if there were a single performance-based budget would the allocation of anticipated financial resources be based on a new, more effective performance-based budget classification.

Applying and using a performance-based budget skilfully requires something more than changing the accounting policy supplemented by information on new or modified particular charts of accounts or groups of accounts.

What must also change are the principles of cost accounting – from the traditional full costing to the modern performance-based one, and the principles for performance-based reporting. It is also necessary to adopt IT tools and modify the IT system for performance accounting.

From the perspective of the objective evaluation of implementing performance budgeting in the LGU, it should be mentioned here that while applying performance cost accounting in practice, one can encounter conceptual difficulties with determining and selecting the most suitable cost objects.

The cost objects applied in the model might fail to be directly proportional to the costs settled, whereas information obtained through estimates sometimes slightly deviates from reality. Nevertheless, such problems do not have a significant impact and do not undermine the positive evaluation of using these modern solutions.

At the same time, it should be emphasised that a human factor plays a key role in bringing the expected effects of performance accounting. Certain LGU employees will find that a change in the approach to cost accounting from the traditional, well-known one to performance-based calculation methods complicates how they have worked so far.

That is why overcoming social and psychological barriers in implementing innovative solutions also determines the success of implementing performance budgeting.

Management has an important part to play in this case. Before adopting the new approach to accounting, they must conduct an information campaign to explain it and have tailored training courses to resolve any doubts that employees may have regarding the methodological intricacies and technical aspects.

In conclusion, it can be stated that applying the presented concept with regard to cost accounting requires additional labour input while making changes and are necessary costs of implementing the new solution. However, they are required in order to have an information system that takes the effectiveness and efficiency of the public tasks performed to a higher level to meet the needs of a local or regional society.

7. Conclusion

The fundamental attribute of accounting budgeting makes it possible to determine the complete costs of tasks. The idea of performance cost accounting is to calculate the expenditure required to perform particular tasks, in the absence of which it would not be possible to achieve the basic effect of implementing modern performance accounting – maintaining the rational management of public funds available.

A lack of basic information on the real costs of tasks performed creates a significant gap while taking decisions on rationally spending limited funds. As a consequence of the insufficient information or low accuracy of valuating the costs of tasks, it is difficult or even impossible to determine to what extent the principles of effectiveness and efficiency advocated in the Act on Public Finance are complied with. Consequently, there must be significant changes made to the accounting system, starting with cost accounting.

The studies conducted have allowed the author to fully achieve the objective stated at the beginning. The research hypothesis has also been positively verified. The proposed cost accounting is a novel solution which has not been described in the literature and is not applied in practice. Due to its universal and utilitarian nature, local government units should adopt the model presented here.

At the same time, this model is not rigid and can be modified by adopting it to the needs of a given unit and updated in relation to the changes occurring in the unit's environment. Within the scope of modifications, auxiliary tasks can be freely selected, including increasing or limiting their number. It is also possible to design other solutions concerning creating basic parameters such as cost objects or procedures.

The overall aim of implementing the presented cost model is to measurably increase the effectiveness and efficiency while disbursing public funds and improving the quality of the activities taken by the local government unit simultaneously.

It should be pointed out that the mere implementation of performance budgeting does not automatically guarantee that the LGU will better function as a whole and manage public funds. However, this provides excellent grounds for determining the allocation of such funds to improve how they are disbursed to the satisfaction of the society from a given area managed by a given local government unit.

Positive effects of implementing performance budgeting depend on management skills and exploitation of the information potential of the cost accounting for tasks. The more accurate this information will be, the more effective the cost management and the more noticeable the improvement in management will be.

However, it should be kept in mind that achieving the fundamental objective of implementing performance budgeting in practice depends, to a large extent, on the potential of the persons responsible for its functioning. Their commitment, specialist preparation and qualification, and positive attitude have a decisive impact on the success of the entire project, consisting of modernising cost accounting and implementing performance budgeting

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