

APPROACHES ON THE COSTS INTO THE PUBLIC SECTOR ENTITIES

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Abstract:

The public sector must answer the users' increasing demands for quality public services at minimal costs within an environment coerced by the existing regulations and the limitation of resources. Within this context, the research has as objective to explain and develop the concept of cost and the manner of its cross correlation with the public sector. On the grounds of the fundamental research methodology, we explain the concept of cost, identify the cost typology, its determination methods and the decisions taken up on the basis of the cost information.

Key words: public sector entity, cost, quality, performance

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INTRODUCTION

The public sector involves significant consumption of resources, due to the extended number of offered services, and also of consumers, respectively the entire population. Within this context, the cost is a fundamental instrument into the decisional process in terms of typology and structure of services to be offered to the public and implicitly, in terms of entity's performance. The research takes into account a synthesis of the ideas published into the professional literature on the topic and by the public sector entities. In order to achieve the proposed objective, there has been used a capital research methodology comprising the investigation of the professional literature for defining the cost concept, the identification of the typology of costs and the methods of computation. Also, we have turned to deductive and inductive mechanisms of research to calculate cost and identify the decisions enacted on the grounds of the cost information.

1. SYNTHESIS OF THE PROFESSIONAL LITERATURE: APPROACHES ON THE COST CONCEPT INTO THE PUBLIC SECTOR ENTITIES

In general terms, the cost represents the total of expenditures, conveyed into money, performed to produce a good, execute a piece of work, provide a service (<http://www.dexonline.news20.ro>). The economic theory (Angelescu et al, 2001) defines cost as the money expenditure that must be incurred to benefit by a good or service. By analyzing this definition, we identify two concepts, respectively cost and expenditure which are equivalent within this approach. This is also the argument of using the concept of cost into the economic theory. This view gives the following definitions to the cost:

- Money expression of the economic agents' efforts to manufacture and provide goods and services within the consequences of the economic and ecological unbalances into the failures of the market on the people's activity and life, as well as into the

resignations generated by the preference of one version out of those possible ones of resource allocation;

- It is a very important indicator within the consumer and manufacturer's conduct, who, before undertaking something, want to know the price;
- It is a criterion and an instrument of comparison within the choice of the consumership and production version, no matter its type.

Starting from these meanings of the cost concept, the economic theory has shaped a typology of costs, divergent from the accounting one. Thus, the neoclassical school has substantiated the concept of *opportunity cost*, which is the cost of waiving the production or choosing something else. The principle of creating this cost involves either the maximization of the unit, or the minimization of effort. The economic approach of thinking (Heyne, 2006) implies that manufacturers and consumers should take into account the cost of chances because, within the decisional process, they are confronted with alternatives and they have to choose out of them. For economists, the total cost is the cost of chances and, thus, it includes not only the entity's payments to the suppliers of goods and services, but also the implicit value of any good which the entity delivers to itself.

A concept approached differently within the area of economy – accounting is the *explicit cost*. This one comprises the consumptions carried out and paid. In opposition, there is the *implicit cost*, respectively the resource consumption not included within the actual cost paid by the owner (for example, the rentals related to the use of intrinsic buildings). The two categories of costs form the *economic cost*. The accounting professionals have a restrictive vision of the economic cost because they are interested only in the actual consumptions incurred by the entity. These are concerned only with the explicit cost and they measure it at the past value. In general terms, the economists (Dudian & Huru, 1991) are interested in the actual value of the explicit cost, which is more wide-range due to the fact that they also add the implicit cost that comprises the expenditures in terms of opportunity cost with intrinsic production factors. Though difficult to accurately evaluate it, the implicit cost should be considered when establishing the strategy of the entity. For example, an entity belonging to the public healthcare system that wants to extend its activity and decides to build a new location for the chronic disease patients in another town, should be interested not only in the actual cost of it, but also in how much profit the resources intended for the funding of the new location would bring within another usage alternative. A skillful specialist shall decide on the location construction assessing not only its capacity to obtain revenues higher than expenditures, but also whether the gained revenues are superior to any other alternative of resource allocation.

Within the area of public sector economy, a concept generating costs is the one of *free rider*. This one sets the person who benefits by a public good without paying it, due to the fact that this person hopes that another one shall buy the public good and he will benefit freely by it. Therefore, the demand for this kind of goods is difficult to be known and it is possible that their manufacturing should involve higher costs as compared to the revenues even if the profit of the society is higher than the costs. Within the public system, characterized by the uncertainty of the consumers' number, the complexity of the required services as well as the substantiation on the principle of equity, the theory of free rider has a significant impact on the performance of the public sector.

The accounting theory gives to the resource consumption a dual vision within the couple financial accounting–managerial accounting. Thus, the concept of expenditure is used into the financial accounting and the concept of cost into the managerial accounting. Although they have the same meaning, there are major differences between the two concepts. In this respect, Mann & Mayer (1996) assert the

major difference consists in the principle that forms the grounds of the dual accounting system: the financial accounting is based on the principle of clearness within the calculation of documents, respectively, it takes into account the expenditures from the schedule of accounts for the result calculation; the managerial accounting's foundation consists in the principle of causality, respectively the classification of cost types in accordance with their dependence on certain decisions or evolutions within the entity.

In terms of managerial accounting the cost is the expression of all resource consumptions made by a service or activity delivery, or good production. Călin & Cârstea (2002) define the cost as the expression of the ratio between the money form of expenditures performed by an entity to obtain and deliver its production into a determined period of time and the quantity of goods and services that embody this production, expressed in certain monetary units. From Gouget et al (2007) point of view, cost represents the total expenses incurred by the entity within the process of exploitation of a good or delivery of a service.

Horngren et al (2006) give a definition to cost which is closer to the view of the economic theory. The authors consider cost a sacrifice or a waiver to a resource in order to achieve a specific objective and it is quantified as the amount of money that has to be paid to purchase certain goods or services. For Gapenski (2005) cost is the monetary value of all material expenses, labour expenses and capital expenses made within the manufacturing and delivery of goods, execution of works and delivery of services.

The review of approaches regarding the cost concept shows the following convergent aspects: it is a cumulation of expenditures to make a product or service; it reflects consumption of resources; it is the money expression of the resource consumptions; it is the component of the sale price of the service/product.

At the public sector level, the cost is the link between quality and performance. Out of many types of costs, our option turns to the *quality costs*. This choice is argued by the fact that performance is perceived by the public through quality and, on the other hand, the quality cost is an inductor of the entity's performance and management's decision in enacting the decisions.

In general terms, quality shows that a product/service is better than other due to its features. Crosby (1979) considers quality to be the compliance with the requirements. Deming (1988) assesses quality as being a standard of competition on the world market. In another approach, Garvin(1997) proposes three different sides of the quality concept:

- Quality cannot be precisely defined, being absolutely and universally recognized as a model of high achievement. Quality is synonymous with predominance or excellence;
- Quality is a function of a specific measurable variable. The differences in quality show the differences in the quality of certain attributes of the product;
- Quality is pertinent for the achievement of the proposed objective. Therefore, quality shows how well the product accomplishes its function. Such approach is very important from managerial point of view and underlines the client's importance.

In economic terms (Needles et al, 2001) quality is an operating environment through which a product/service delivered by the entity to its clients meets their requirements. Horngren et al (2006) approach quality from the perspective of two fundamental aspects: quality of the design and conformity. *The quality of the design* shows how close are the features of the product or services to the clients' needs and desires. An example can be taken from the healthcare public system: if the patients from a hospital want to make on-line appointments, the hospital's incapacity to offer such services is a failure of design. *Conformity* refers to the performances of a product or service in relation to the project and its specifications. For example, the technical failures of the public hospital site lead to the impossibility of the on-line scheduling of patients and, thus, the hospital does not comply with the conformity requirement.

From Needles et al (2001) point of view, the quality costs are expenditures related specifically to the compliance or non-compliance with a certain level of the goods and services quality. The authors set out the following categories of costs: *costs of the appropriate quality*, made to ensure the efficient production of a good or service; and *costs of the inappropriate quality*, made to transform a rejected product or service into an acceptable one for the client. Supporters of this definition, Horngren et al (2006) divide the quality costs into the following categories: *prevention costs*, *assessment costs*, *internal malfunction (error) costs*, *external malfunction (error) costs*. The *prevention costs* are the costs incurred to prevent the production of certain products which do not meet the specifications. The *assessment costs* are represented by the costs incurred to identify the product units which do not meet the specifications. The *internal malfunction costs* are those costs incurred with a product before its delivery to the clients, and the *external malfunction costs* are incurred for a product further its delivery to the clients.

The undertaken analysis emphasizes the fact that into the public sector the costs represent a fundamental instrument within the decisional process of the entity's management because: the entity is focused on client (the public, tax-payers); it eliminates the costs which do not contribute to the improvement of service quality; identifies alternatives to ensure the use of resources efficiently, economically, effectively and the improvement of the quality of delivered services; through its offer, the entity answers the clients' expectations; it contributes to the improvement of the entity's performance. In our view, it is necessary the existence of an instrument allowing the assessment in financial terms of the decisions of the public sector entities from Romania into the field of quality assurance, respectively, the cost of quality.

2. MANAGERIAL INSTRUMENTS SPECIFIC TO COST DETERMINATION INTO THE PUBLIC SECTOR – A COMPARATIVE APPROACH

The professional literature offers a complex range of managerial instruments specific to cost determination into the public sector, based on total costs and part costs. Out of the managerial instruments based on total costs, we shall approach the *ABC method (Activity Based Costing)*, and out of those managerial instruments based on part costs, the *direct-costing method*, these methods being considered by us as wide applicable into the public sector entities.

The development of the ABC method is substantiated by the idea that all the costs into an entity are determined by activities. Cost calculation per activities is the interface between the expenses and the performed activities. This implies the identification of all activities within the value chain of a product/service and the causes which have determined the expenses related to those activities. Sequential, cost calculation per activities concerns the following stages:

Table no.1 *Stages of cost calculation through the ABC method*

Identification of activities and related costs	➤ Fundamental stage due to the fact that the activities which do not generate value must be eliminated.
Set-up of cost inductors for each activity	➤ It is identified the accounting treatment of each activity, respectively, whether it is related to the product (main activity) or they are not related to the products but they serve the main activity.
Set-up of regrouping centres	➤ It is calculated the unit cost of the inductor as being the ratio between the cost of the centre of regrouping and the total volume of the inductor.
Calculation of the cost of products/services components	➤ It is calculated the production cost of the products/services components.
Calculation of the production cost of products/services	➤ It integrates the following elements: cost of parts, of other raw materials, direct manufacturing, cost of equipment functioning, cost of activities consumed by the manufactured products/services.

Calculation of complete cost	➤ The production cost calculated into the previous stage is integrated with part of the administration and delivery cost, and this part is calculated taking into account the cost inductors related to the activities.
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The analysis of the argument of the calculation based on activities emphasizes the fact that this one offers a general view of the entity as a result of the correlation between the activities and the resource consumption. Thus, the ABC method answers the issues concerning the costs and performance management at the public sector entities level. Appealing to the deductive research mechanisms, we display the calculation of cost through the ABC method at the level of a public hospital that offers healthcare services in hospitalization and ambulatory régime. The situation regarding the primary allocation of costs per activities is the following:

Table no. 2 *Situation of costs per activities at hospital level*

Activities	Annual cost (lei)	Cost inductor	No. units for Hospitalization	No. Units for Ambulatory treatment	Total No. units for services	Unit cost per activity (lei)
<i>Patients' reception</i>	15.000	No. patients	90,00	80,00	170	40,00
<i>Primary assessment</i>	20.000	Time Hours/Patient	0,50	0,25	0,75	220,00
<i>Diagnosis</i>	85.000	Time Hours/Patient	0,75	0,50	1,25	650,00
<i>Treatment</i>	110.000	Time Hours/Patient	4,00	0,90	4,90	200,00
<i>Prescription issuance</i>	10.000	No. Hours/Patient	1,00	1,50	2,50	15,00
<i>Invoicing (patient)</i>	30.000	No. Hours/Patient	1,50	1,00	2,50	130,00
Total cost	270.000					

The information displayed into Table no. 2 represents the grounds to determine the cost of each healthcare service offered by the hospital, respectively 1,647.50 lei for the healthcare service into hospitalization régime and 752.25 lei for that in ambulatory regime (table no.3):

Table no.3 *Determination of cost per healthcare service at hospital level*

Activities	Criterion of allocation (lei)	Unit cost per activity (lei)	No. units for Hospitalization	Hospitalization service cost (lei)	No. units Ambulatory treatment	Ambulatory service cost (lei)
<i>Patients' reception</i>	No. patients	40,00	90,00	40,00	80	40,00
<i>Primary assessment</i>	Time Hours/Patient	220,00	0,50	110,00	0,25	55,00
<i>Diagnosis</i>	Time Hours/Patient	650,00	0,75	487,50	0,50	325,00
<i>Treatment</i>	Time Hours/Patient	200,00	4,00	800,00	0,90	180,00
<i>Prescription issuance</i>	No. Doctors/ Patient	15,00	1,00	15,00	1,50	22,50
<i>Invoicing (patient)</i>	No. Invoices/ Patient	130,00	1,50	195,00	1,00	130,00
Service total cost				1.647,50		752,25

The undertaken study emphasizes the fact that the application of the ABC method at the level of the public sector answers the following questions: Which is the manner of acting since the moment of the service design in order to diminish the consumption of activities and resources? How can the duties related to each activity be

executed more effectively and efficiently? Are the results of an activity superior to the effort and resources involved into this activity? Which treatment shall be applicable to an activity: cost diminution or its placement into the public-private partnership?

A deep analysis reflects the capital role of the ABC method in obtaining the information regarding the service cost as well as in its usage as foundation of the decisional process into the public sector. This method advantages as compared to the traditional cost methods are various: better accuracy in cost identification, method accessibility, identification of the activities adding value and of those not creating value directly in products/services delivery, monitoring of activities and processes, identification of low performance causes, its sustainability in time and the impact on the improvement of the organizational processes. The limitations of this method are similar to those based on total costs: difficulties in data collecting, inaccurate classifications of costs, as well as monitoring difficulties and difficulties in up-dating the system and the calculation method.

The complexity of organizing the public sector, the heterogeneousness and diversity of the service offer and the limitations of the managerial instruments based on total costs have enforced the enactment of managerial instruments based on part costs. Thus, the direct-costing method emphasizes the relationships between cost, production volume and result in order to enact the short term decisions. Its distinctiveness comprises the components of total cost: fixed costs and variable costs, divided in direct and indirect costs of a cost carrier. By appealing to the direct-costing method, the manager of the entity must get answers to the following questions: How will total costs and total revenues be influenced if the level of services is modified? How will the production level be influenced if the sale price is risen or diminished? How will the costs, sale prices and the level of production grow if the entity enters new markets? To answer these questions, the direct costing method functions with the following indicators:

Table no. 4 *Indicators of the direct-costing method*

<i>Breakeven</i>	<ul style="list-style-type: none"> ➤ Reflects the sold production quantity for which the total revenues are equal to total costs. ➤ Has an interest for managers in preventing operational loss due to the fact that they are given information on the minimum production quantity (services) that must be sold to cover total expenses.
<i>Cover factor</i>	<ul style="list-style-type: none"> ➤ Shows what percentage of sales is necessary to cover the fixed expenses and to obtain profit; ➤ Offers information to the managing board to enact the decisions concerning the optimization of the production and sale of products/services schedule.
<i>Margin of safety rate</i>	<ul style="list-style-type: none"> ➤ Points out in relative digits how much the sales could diminish so that the entity should reach the breakeven level.
<i>Margin of safety</i>	<ul style="list-style-type: none"> ➤ Points out in monetary units how much the activity could diminish so that the entity should reach the breakeven level.

We consider that at the public sector level the direct-costing method offers the necessary information to correlate the delivered services with the available resources, the exclusion of the non-profitable services, as well as the long lasting comparisons between the performances of services that shape the entity's offer.

On the grounds of the deductive research mechanism, we present the application of the direct-costing method from a public hospital perspective. Since the beginning of current year this hospital has had 260 beds assigned according to the type of healthcare services: Internal medicine – 100 beds; ORL – 70 beds; Endocrinology – 90 beds. The expenditures incurred to deliver healthcare services are in the amount of 640,050 lei, out of which 80,000 lei fixed expenses and 560,050 lei variable expenses. The unit tariff established for the healthcare services is: Internal medicine: 10 lei, ORL: 30 lei, Endocrinology: 40 lei. The managing board is interested in the following information: What is the number of beds per total and per types of healthcare services the hospital

should have, so that the total expenditures related to them should be entirely covered from the revenues (financing) received from the Health Insurance National Office (Casa de Asigurări Naționale de Sănătate (CNAS))? Further to the diminution of the financing received from CNAS, which is the type of healthcare services the hospital should give up and which is the alternative? To answer these questions, reference is made to the breakeven, cover factor and preliminary indicators. The information is displayed below: Table no.5 *Information provided by hospital and through the direct-costing method-lei-*

Indicators	Healthcare services			Total
	Internal medicine	ORL	Endocrinology	
<i>Unit cost</i>	6,50	32,15	30,00	-
<i>Variable expenditures</i>	65.000,00	225.050,00	270.000,00	560.050,00
<i>Unit tariff</i>	10,00	30,00	40,00	-
<i>Total revenues</i>	1.000,00	2.100	3.600,00	6.700,00
<i>Unit gross contribution</i>	3,50	-2,15	10,00	-
<i>Fixed expenditures</i>	-	-	-	80.000
<i>Breakeven</i>	72 beds	51 beds	66 beds	189 beds
<i>Cover factor</i>	35%	-0,07%	25%	-

The analysis of the information displayed into Table no.5 emphasizes the enactment of the following managerial decisions:

- The hospital should have a total of 189 beds so that the total expenses related to them should be entirely covered from the revenues (financing) received from the CNAS. With reference to the types of healthcare services, they are divided into: internal medicine 72 beds, ORL 51 beds, endocrinology 66 beds;
- The hospital should give up offering ORL healthcare as a result of the diminution of financing and should identify an alternative to deliver them, i.e. the enactment of the public-private partnership. We consider that through this decision the financing alternative is ensured and the patients keep benefit of this type of healthcare.

Besides its informational value, the application of the direct-costing method into the public sector must be accompanied by prudence as a result of its limitations: it is not relevant enough the assessment of productivity per product only in terms of the size of the margin of the variable expenditures; the structure expenditures are fixed only on given periods of time, and it is difficult to create their division from the variable ones.

The study of the managerial instruments based on total and part costs shows that each of them is pertinent within the decisional process of the public sector entities. In our opinion, the main argument in choosing the managerial instruments based on total costs is the significant weight of the fixed costs within the structure of costs. The choice of managerial instruments based on part costs is supported by the following arguments: simplicity and efficiency in application; elimination of certain bases of cost assignment; the fixed costs are recognized as costs of the period when they were generated.

CONCLUSIONS

The undertaken research emphasizes that into the public sector the concept of cost has multiple approaches both from the economic theory view and the accounting one. Also, the study reveals that regardless of the arguments or counterarguments in favour of the managerial instruments based on total or part costs, each of them is pertinent within the decisional process of the public sector entities in respect of cost. In our opinion, the information on cost offers answers to the following questions: Which is the strategic objective of the entity? How can the duties related to each activity of the entity be accomplished more efficiently and more effectively? The results of an activity are superior to the effort and resources involved into this activity? Which treatment shall be applicable to an activity: cost diminution or its placement into the public-

private partnership? These will contribute to the diminution of costs for the delivered services, the improvement of the quality of service offer, the increase of the capacity to answer the requirements of the public and the improvement of the public sector entities' performance.

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