THE POSSIBILITY OF APPLYING THE ORDER COSTING CALCULATION METHOD TO AN ECONOMIC ENTITY IN ROMANIA

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Abstract

The way management accounting is organized is at the discretion of each economic entity, depending on the specifics of the activity and its own needs. This study deals with the development stages of the order costing method, which is influenced by the peculiarities of the organization and production technology, as well as the complexity of the manufactured products. From a theoretical and applied point of view, the methodological steps taken in management accounting and the calculation of the costs of the products obtained by an economic entity specialized in the production of specific equipment for the sorting and recycling of household waste are addressed. The traditional costing method fails to reflect the realities of the manufacturing process and ignores external factors, which inhibits the orientation of the economic entity towards changing the market, processes, and technologies, on the way to improve the response to customer needs, so new possibilities are constantly sought maintaining and increasing the company's competitiveness on the domestic and foreign markets. The authors of this study present how the order method can contribute to improving the performance of a company in the field. The article ends with the authors' conclusions regarding the application of the method on order costing in this company.

Keywords*: calculation, decision, information, method, performance*

1. Introduction

In general, each cost calculation method can be approached under various aspects, such as: definitions, notions and particularities, work stages, advantages and limits, the possibilities of use in the practice of economic entities, both at the national and international level, etc. The common feature of all these cost calculation methods, whether classic or modern, consists in calculating the cost of a product, work, or service, starting from the totality of the costs incurred during the course of the activity [1]. If some methods suit economic entities in the sphere of production, other costing methods suit economic entities in the sphere of services. If some methods calculate the unit cost by means of the operating hour/machine cost or calculate equivalence coefficients, others calculate the costs of the activities within the economic entities, then allocating the costs to either products or services, depending on the field of activity of each. Starting from various theoretical approaches of specialists in the field of management accounting, this study aims at the correct understanding of the methodology of applying the principles of the order costing method.

The calculation procedure is carried out in successive stages, using specific work procedures in each one. The company under study applies the global calculation method, and the authors' proposal is to apply the calculation method on orders, this being an absorbent calculation method (full-costing) applied within the entities where production is carried out, either on the basis of individual orders, whether based on sequences of processes that repeat or not, and require a certain continuity, also called contract costing or terminal costing, where the finished product is the result of the mechanical joining of parts, subassemblies or previously manufactured assemblies as independent parts. The order method presents certain particularities generated by the specifics of technological processes, such as [2]: (1) it involves the determination and evaluation of unfinished production due to the variation it has from one period to another, in the post-calculation stage; (2)

the final carrier is the product, and the one used for cost tracking and recording is the order; (3) the object of the order differs in relation to the way production is organized. The unit cost is calculated, after the completion of the order, by dividing the expenses by the number of units produced from each order. The object of cost calculation in accounting is the order in relation to which the direct expenses are collected and the indirect production expenses are distributed through known conventional procedures.

2. Specialized Literature

Regarding the relevance of cost calculation methods, the specialized literature abounds in pro and con opinions, the study highlighting both the advantages and disadvantages of the individual application of cost calculation methods. In economic theory and practice, studies on how to apply this method of calculation, on orders, can be found in the works of some Romanian authors, such as C. Olariu, C. Oprea, Ch. Caraiani, N. Tabară, S. Briciu, etc. In foreign literature, in-depth studies in the field have been developed by authors such as: Gary Cokins, from SAS Institute Inc., Cary, North Carolina, USA, R. Cooper and R. Kaplan from Harvard Business School, and last but not least, by C. Horngren, M. Datar, G. Foster, B. Needles and H. Anderson respectively. The results of the research carried out on the specifics of the order costing method are presented through an exemplary case study of this method, intended to demonstrate its practical utility, even in the current context of the world economic situation.

3. Organization of pre-calculation and post-calculation of costs

The purpose of pre-calculation is to prepare the production cost budget provided in the company's activity program, for the next financial year, with a breakdown by quarters, being a side of the calculation that precedes the development of economic processes [3]. The analysed company applies a pricing strategy focused on achieving a set of objectives such as: correlation of profit with the market position and image of each product and with the competitive situation on the characteristic market segment; full recovery of the manufacturing cost and obtaining a profit in line with the established target and ensuring a margin that makes it possible to negotiate sales contracts and it has two production sections (halls) under the same roof, respectively a hall where locksmith activities and another hydraulic/electrical shed; transport section; an administrative sector and a sales sector. The company practically obtains a single product, sheet metal, from which it makes three categories of finished products: sorting stations, transfer stations and various equipment.

3.1.Elaboration of cost estimates for the entire production

The total operating expenses necessary to manufacture the company's global output, grouped by expense element, regardless of location and cost bearer, including general administration and selling expenses, which are not included in the cost of production, but only in the cost completely, being expenses of the period, make up the cost budget regarding the production activity. This budget is carried out in several stages, in each stage obtaining partial budgets of expenses that are progressively integrated into the general budget of operating expenses [4]. In order to prepare this budget, it is necessary to go through several stages, such as: preparing the department's budget, preparing the company's general administrative expenses budget, preparing the sales expenses budget, preparing the general operating expenses budget. In order to draw up the expenses budget of the sections, the following steps should be taken: drawing up the budget for raw materials and direct materials, drawing up the budget for direct labour, drawing up the expenditure budget for the auxiliary activity, drawing up the indirect expenditure budget for the sections of the basic activity [5].

3.2. The Organization of Post-Calculation and Primary Document System

The company under study is an industrial commercial company that manufactures transfer and sorting stations based on obtaining a single product, metal fabrication (sheet metal), in two production sections (SI and SII), which uses industrial water and electricity, being necessary imputation (distribution) of the general administration expenses on the productive sectors of the company. During a management period of one month, the company obtains 1,000 kg, collecting production expenses in the amount of 200,000 lei, the pre-set cost as the price of registration in the accounting being 200 lei/kg of metal packaging. The following will be recorded: expenses in management accounting; calculation of the cost of finished production; settlement of mutual consumption between auxiliary sections; settlement of the production of auxiliary sections delivered to other sectors of activity; distribution of indirect production costs; distribution of general administration expenses; registration of production in progress; recording finished production at actual cost; recording the differences between the actual cost of the finished production obtained and the predetermined cost (registration price); closing the management accounting accounts [6].

The main economic operations carried out during a management period are presented in table no.1

Table no. 1. Main economic operations [7]

No.	Name of Economic Operation	Amount
1	Collection of expenditure on raw materials and consumables	50000
	1.1. Consumption of raw materials for:	
	- basic section I	30000
	- basic section II	20000
	1.2. Consumption of auxiliary materials at the main production sections at:	21000
	- basic section I	10000
	- basic section II	5000
	at the auxiliary sections:	
	- water plant (WP)	3000
	- transformer station (TS)	2000
	- in the administrative sector	1000
2	Expenditure on wages, social security contributions and social protection	105000
	2.1. Salaries of workers in basic sections:	
	- basic section I	40000
	- basic section II	25000
	2.2. The salaries of the staff in the auxiliary sections:	
	- water plant	6000
	- transformation station	4000
	2.3. The salaries of the technical, administrative and management staff of the sections:	6500
	- basic section I	3500
	- basic section II	2000
	2.4. Salaries of staff in the administrative sector	
3	Expenses with depreciation of tangible assets	35000
	3.1. at the production departments	
	- basic section I	15000
	- basic section II	10000

	at the auxiliary sections: - water plant (CA = WP) - transformation station (ST = TS) - in the administrative sector	 3000 2000 5000
4	Obtaining the finished product: 1000 kg of metal packaging, at the registration price of 200 lei/kg.	200000
5	Mutual delivery of utilities between auxiliary sections: 5.1. TS delivers electricity to WP 5.2. WP supplies water for TS	 2000 1000
6	The counter value of the production of the auxiliary sections delivered to the other sectors of activity 6.1. The counter value of the water production delivered to the production sections: - basic section I - basic section II in the administrative sector: 6.2. The counter value of the electricity production of the transformer station delivered to the production sections - basic section I - basic section II - in the administrative sector:	20000 9000 3500 500 3500 2500 1000

For the collection and recording of expenses, the calculation accounts are used:

921 Basic activity expenses, for direct expenses

923 Indirect production costs, for simple indirect costs

924 General administrative expenses, for double indirect expenses.

The first stage for the highlighting of production expenses and the calculation of costs is the collection of expenses, respectively the delimitation of direct and indirect expenses and their accounting registration [8].

No.	**Name of Accounting Operation**	**Accounting registration**	**Amount**
1.	Registration of expenses with raw and auxiliary materials:	% = 901 Internal settlements on expenses 921 Core business expenses 921 SI 921SII 922 Expenses of auxiliary activity 922/WP 922/PP 923 Indirect production costs 923/SI 923/SII 924 General administrative expenses	71000 50000 30000 20000 5000 3000 2000 15000 10000 5000 1000
The release of materials and sub-assemblies is done by the managers at the request of the production sections, based on consumption vouchers, consumption limit sheets, with the signature of the authorized person. Consumption is recorded on each production section that participates in the creation of each product. Each section is composed of workshops in which several successive technological operations are performed that compete to create the products.			
2	Recording expenditure on wages, contributions, and social protection	% = 901 Internal settlements on expenses 921 Core business expenses 921 SI 921SII 922 Expenses of auxiliary activity 922/WP 922/PP	105000 65000 40000 25000 10000 6000 4000

		923 Indirect production costs 923/SI 923/SII 924 General administrative expenses	10000 6500 3500 20000
A part of these expenses, namely the salaries of directly productive workers, the contribution to social insurance, the unemployment fund, the contribution to social health insurance, commission, workbooks, the risk fund and the national health social insurance fund on these salaries being directly identifiable on products are recorded in the debit of account 921 "Basic activity expenses" and in the analytics corresponding to the cost bearers and expense item. The salaries of the management, technical, economic, other specialized, administrative staff of the basic departments and the contributions related to these salaries are recorded in the debit of account 923 "Indirect production costs" in the analytics by departments and corresponding types of expenses. Similarly, the salaries of the company's TESA staff and the contributions related to these salaries are recorded in account 924 "General administrative expenses". The salaries of the staff from the auxiliary sections, the contributions related to these salaries are registered in the analytical accounts of the synthetic account 922 "Expenses of the auxiliary activity", corresponding to the places of employment, types of expenses and cost bearers.			
3	Recording expenses with depreciation of tangible assets	% = 901 Internal settlements on expenses 922 Expenses of auxiliary activity 922/WP 922/PP 923 Indirect production costs 923/SI 923/SII 924 General administrative expenses	35000 5000 3000 2000 25000 15000 10000 5000
Depreciation expenses are recorded in the debit of accounts 922, 923, 924, depending on the places of occurrence of these expenses in the corresponding analytics.			
4	Recording the finished production at the predetermined cost (1000 kg x 200 lei/kg = 200000 lei)	931 Cost of production obtained = 902 Domestic settlements on production obtained	200000
5	Settlement of mutual consumption among auxiliary sections	922/WP Expenses of auxiliary activity = 922/TS Expenses of auxiliary activity 922/TS Expenses of auxiliary activity = 922/WP Expenses of auxiliary activity	2000 1000
6.	Settlement of the value of the production of the auxiliary sections delivered to the other sectors of activity		
	6.1. Counter value of the production of the water plant - WP	% = 922/WP Expenses of the auxiliary activity 923 Indirect production costs 923/SI 923/SII 924 General administrative expenses	13000 12500 9000 3500 500
	6.2. Counter value of the production of the transformation station - TS	% = 922/TS Expenses of the auxiliary activity 923 Indirect production costs 923/SI 923/SII 924 General administrative expenses	7000 6000 3500 2500 1000
Keeping the fixed assets in operation and ensuring their normal performance, for as long as possible,			

requires that they be subject to periodic technical reviews and repairs. The expenses caused by the execution of these works are indirect expenses and are registered according to the places where the fixed assets are used, in accounts 923 "Indirect production expenses", 922 "Auxiliary activity expenses", 924 "General administrative expenses". The accounting reflection of maintenance and repair expenses is influenced by the execution method of these works. If these works are carried out by the maintenance and repair workshop organized as part of the auxiliary activity of the company, the expenses caused by the execution of the works are highlighted in the analytical account 922 corresponding to the section, after which, following the settlement of these works, they will be debited to accounts 923, 924. In addition to maintenance and repair expenses, there are also other works and services performed by third parties, recorded in tax invoices, contracts, orders, expense reports, which, as they are carried out, are recorded in the same accounts as the maintenance and repair expenses, depending on the places of occasion.

7	Allocation of indirect production costs	921 Expenses of the basic activity of production 921 SI = 923/SI 921SII = 923/SII	= 923 Indirect expenses of production	68500 44000 24500

By allocating the indirect expenses to the cost bearers (orders) they are added to the direct expenses identified on the orders and the overhead expenses. For this, an allocation quota (percentage) is established using the direct labour recorded on the work orders, per cost centre and per month as the allocation key.

8	Allocation of general administrative expenses			
	8.1. Additional coefficient Kscg = $\frac{27500}{114000+69500} = \frac{27500}{183500} = 0,14986376021$			
	8.2. Inclusion in the cost of the products of the quotas of general administration expenses	921 Expenses of the basic activity 921/SI (0.14986376021 x 114000=17084) 921/SII (0.14986376021 x 69500 = 10416)	= 924 General expenses of administration	27500
9	Production in progress at the end of the month is 3250 lei distributed as follows: Section I - 2750 Section II – 500			
	933 Cost of work in progress		= 921 Basic activity expenses 921/SI 921/SII	32500 27500 5000
10	Recording the actual cost of production:			

Department/Section	**Total expenses (full cost)**	**Actual cost of production in progress**	**The actual (full) cost of final production**
SI	131080	27500	103580
SII	79920	5000	74920
Total	211000	32500	178500

After recording the actual cost of unfinished production from the analytics of account 921 on calculation objects, the actual total costs of the finished production obtained (products, parts, miscellaneous) are known, on the basis of which the actual cost per unit of product is determined. Settlement of the actual cost of finished production involves debiting account 902 by crediting account 921 with the appropriate analytics.

10	902 Internal settlements on the production obtained	=	921 Core business expenses	178500

		921 SI 921SII	103580 74920
After this registration, the 902 account allows us to determine the price difference related to the production obtained since its debit shows the actual cost of the finished production, and its credit shows the predetermined production cost.			
11	Recording price differences	903 Domestic Settlements = 902 Domestic Settlements of price differences on production obtained	-21500
12	Settlement of the actual cost of the finished product obtained	901 Internal settlements = 931 Cost of production regarding the expenses obtained	178500
13	Account closure 903 Domestic settlements of price differences	931 Cost of production = 903 Internal settlements obtained regarding price differences	-21500
14	Settlement of actual cost of production in progress	901 Domestic settlements = 933 Cost of production in regarding the expenses the course of execution	32500

4. Results

As a result of this study, it was concluded that the company must use a method to correctly evaluate the efficiency of each department. The proposed solutions aim at: the settlement of all services and works performed between the auxiliary sections and between them and the basic sections at single settlement prices which can be: previous average costs, standard costs, planned costs; positive or negative deviations between the settlement costs and the actual costs to be taken as deviations to be distributed only on the costs of the section that benefited from the respective services.

The separation of management accounting from financial accounting should not be understood as a division of accounting, since the solutions regarding the operative organization of production expenses imply an intrinsic link between financial and management accounting, in that all expenses on primary elements recorded in the debit of the accounts from class 6 are found deployed on calculation items in the debit of accounts from class 9 [9].

In order to ensure this connection, the rule must be respected that any operation recorded in the Journal Register of financial accounting must be found with the same value in management accounting, in its synthetic and analytical accounts.

This means delimiting a field in the Journal Register which in terms of expense recording is equivalent to the cost centre code.

In today's modern conditions of automatic data processing, the passage of the department code facilitates bringing into management accounting and expenses by nature, alongside those on calculation items, thus providing additional elements of cost analysis.

5.Conclusions

Applying the method to orders within the respective company would ensure several advantages such as: calculation of a more accurate production cost, than is done now by applying the global method; reorientation of the company towards the application of the most effective cost calculation method, even a combination of classic and modern methods, in accordance with the technological particularities and the organization of production and efficient management of resources.

At the same time, the decentralized post-calculation system applied within this method, on orders, would also represent a series of disadvantages such as: the dissemination of data that the management would probably like to keep confidential from some employees; increased risk of informational fraud to competitors or business partners, as cost data is the most sensitive in the competitive mechanism, so fierce these days.

The use of electronic computing equipment offers the possibility of complex processing of data from primary accounting documents, increases the analytical character of the information, increases their operability, creates reliefs for all the information valences of accounting. The fact that an accurate record can be ensured for each department, workshop and in some cases even for the brand, makes it easier to allocate production costs.

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