

NATIONAL ECONOMY'S MARKET MECHANISMS OF ACCOUNTING, ANALYSIS AND AUDIT

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ACTIVITY-BASED COSTING AS PROGRESSIVE METHOD OF COST MANAGEMENT IN ACCOUNTING

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activity-based costing, activity, resources, costs, cost price, cost pool, cost driver

The nature and principles of functional costing as management basic component of the type of economic activity have been studied in the article. Due to this approach implementation of the strategy aimed at reorganization of business processes to achieve costs' rational level, motivated decision-making to provide the assortment and pricing policy, higher efficiency of financial results management as well as of enterprise's development capacity, which determines its relevance and practical importance for domestic economic entities, has been fulfilled. According to the stated goal, the peculiarities of activity-based costing (ABC) related to the fundamentally new approach to the indirect costs' distribution and the cost price calculation have been revealed. It has been found out that this method's specific feature is cost distribution by number of operations-initiated costs and the identification of cost drivers for each particular type of activity. A generalized algorithm for costing by type of activity with each stage's detail has been formed. Comparative analysis of traditional methods and activity-based costing has been performed. Advantages and disadvantages of this method have been revealed. In view of this, the efficiency of activity-based costing implementation by national enterprises has been proved. This method allows determining accurately the costs of production, control their volume and determinants, effectively manage costs and profits at the level of technological operations, increase the objectivity of profitability assessment and business process efficiency. The prospect for further research in this field is substantiation of the activity-based costing introduction benefits integrated with activity-based budgeting method as the methodological basis for process-biased management accounting.

АВС-КОСТИНГ ЯК ПРОГРЕСИВНИЙ МЕТОД УПРАВЛІНСЬКОГО ОБЛІКУ ВИТРАТ

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Ключові слова:

АВС-костинг, діяльність, ресурси, витрати, собівартість, пул витрат, драйвер витрат

Досліджено сутність та принципи функціонального калькулювання як базової складової управління за видами діяльності. Цей підхід дає змогу реалізувати стратегію на реорганізацію бізнес-процесів господарської діяльності для досягнення раціонального рівня витрат, приймати обґрунтовані рішення щодо формування асортиментної і цінової політики, підвищити ефективність управління фінансовими результатами та потенціалом розвитку підприємства, що зумовлює його актуальність та практичну значимість для вітчизняних суб'єктів господарювання. У межах поставленої мети розкрито особливості АВС-костингу, пов'язані з принципово новим підходом до розподілу непрямих витрат та розрахунку собівартості продукції, з'ясовано, що відмінними рисами цього методу є розподілення витрат за низкою операцій, у процесі яких виникають витрати та визначення носія витрат для кожного конкретного виду діяльності, сформовано узагальнений алгоритм калькулювання за видами діяльності з деталізацією за кожним етапом, проведено порівняльний аналіз традиційних методів та АВС-костингу, виявлено переваги і недоліки цього

методу. Результатом дослідження стала систематизація критеріїв ефективного застосування калькулювання за видами діяльності. З урахуванням яких, доведено доцільність впровадження ABC-костингу на вітчизняних підприємствах. Цей метод дає змогу точно визначити виробничі витрати, контролювати обсяг та причини виникнення витрат, ефективно управляти витратами та прибутком на рівні технологічних операцій, підвищити об'єктивність оцінки рентабельності продукції та ефективності бізнес-процесів. Перспективами подальших досліджень у цьому напрямі є обґрунтування переваг впровадження ABC-костингу в поєднанні з АБВ методом як методичної основи процесно-орієнтованого управлінського обліку.

Statement of the problem

Long-run growth of entrepreneurial activity in the context of market competition stems from the introduction of new strategic cost management methods focused on the efficient use of all available resources. Thus, it is important to choose the optimal method of cost accounting and costing in accordance with characteristics of business activity. ABC method, as an alternative to traditional costing methods, does not only improve the reliability of total cost price index calculation, but also helps to strengthen control and regulation of costs by the efficiency criterion. Cost management becomes more flexible and competitive.

Analysis of recent studies and publications

S.A. Burlan [1], N.Yu. Yershova [2], R. Kaplan [5, 6], R. Cooper [5, 6], L.B. Prokopovich [1], M.I. Skrypnyk [10] and other foreign and Ukrainian scholars studied the nature of ABC method. Some scholars particularly analysed the possibility to apply the method by enterprises of different fields of economic activity. For example, Yu.V. Karpenko [3] examines the conditions of costing methods application in various industries, T.Ya. Kotskulych [4] analyses the specifics of the ABC method application by drilling enterprise, Yu.Yu. Myronova [7] study the peculiarities of costing by types of economic activity at mechanical engineering enterprises. I.V. Pushkar [8], Ye.M. Rudnichenko [9], S.Y. Yadukha [9] and other scholars examine the prospects of management accounting's innovative methods' application in the system of enterprise's strategic cost management.

Objectives of the article

The article's objective is the studying of the nature and peculiarities of ABC method as of progressive methods of cost and management accounting to justify criterion of its efficient implementation by domestic enterprises and the advantages of its application in cost management.

The main material of the research

One of the progressive methods of accounting management is Activity-Based Costing (ABC) method, which has recently become widely spread at foreign practice, especially European and American enterprises of different types of activity. The category "Activity-Based Costing" was first applied when analysing John Deer activity (manufacturer of tractors and combines). R. Cooper and R. Kaplan [5, 6] initiated this method's spread. They substantiated the costing system in its current form. The main prerequisites of ABC method's origin are: growth of marketing overheads, marketing expenses, research and development costs, which generally contributed to the increase of the overhead

costs share; higher requirements for accounting information concerning the business processes cost and cost price long-run pricing; specialized automated data processing systems required for ABC method's application, in particular SAP R3.

These reasons cause the priority of ABC method among the domestic scholars, as it is of practical importance for enterprises. Yu.Yu. Mironova asserts that ABC method is based on the calculation of the total consumed resources to ensure task performance or going into production and allows to determine the cost and efficiency of the production process most accurately, identify the cause and effect relationship between cost price formation determinants and processes [7, p. 323]. E.M. Rudnichenko, S.I. Yadukha consider ABC method as an alternative approach for tracking overheads from the centers of their origin to finished goods. It shifts focus from simple cost adjustment to the assessment of different types of resources application in the production and marketing process of certain types of products [9, p. 40]. Yu.V. Karpenko considers that ABC method means distribution, calculation, control and planning of overheads by processes, that is, the central idea is to trace the nature of overheads and their justification, the correct distribution between costing objects [3, p. 162]. According to N.Yu. Yershova the basic concept of ABC method is to distribute indirect costs, reduce the volume of "common pot" costs, save costs and provide reengineering of business processes [2, p. 179]. So, one can form the main essential characteristics of Activity-Based Costing method:

- it is based on the principle that products consume activity (business processes, operations) and activity consumes resources;
- first, overheads are grouped by main types of activity, and then they are distributed by types of products, based on activities required to produce each type of product;
- it is aimed at achieving a rational level of overheads, objective assessment of certain types of products' cost price for pricing and production profitability measurement by the more accurate overheads distribution and impact factors of their level identification.

The fundamental difference between ABC method and other methods of cost accounting and costing is the order of overhead distribution. Thus, the main feature is two costing objects: intermediate – operations; final – products (Fig. 1).

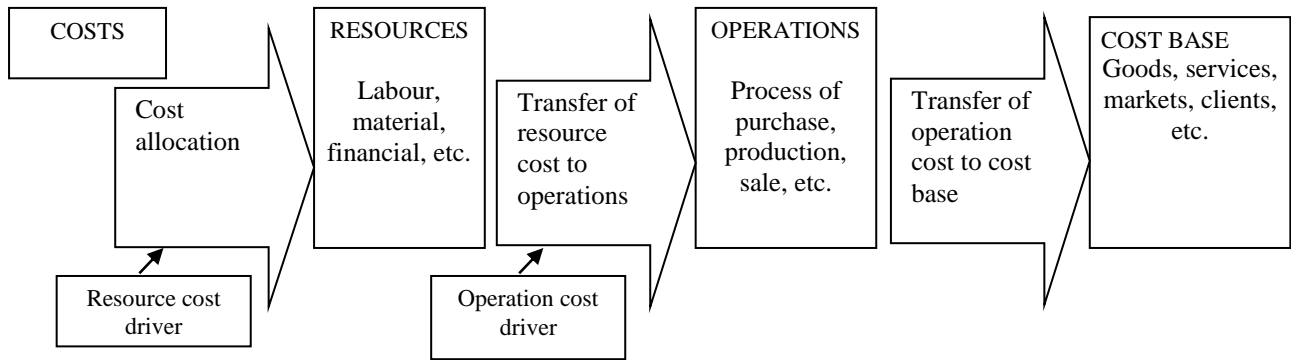


Fig.1. The chart of ABC method

Thus, the concept of activities which consume resources is at the heart of ABC method. Activity means a set of routine operations aimed at performing specific and measurable tasks over a specific period; resources are economic elements to carry out certain tasks (operations, activities). Direct costs incur directly for object’s cost price. Indirect (overhead) costs are grouped by activity (a

pool of costs is created). Then they are distributed according to the cost determinant (cost driver).

Ukrainian scientists distinguish the main stages of cost accounting when applying ABC method [2, p. 179; 4, p. 271]. In general, its algorithm is systematized in Fig. 2.

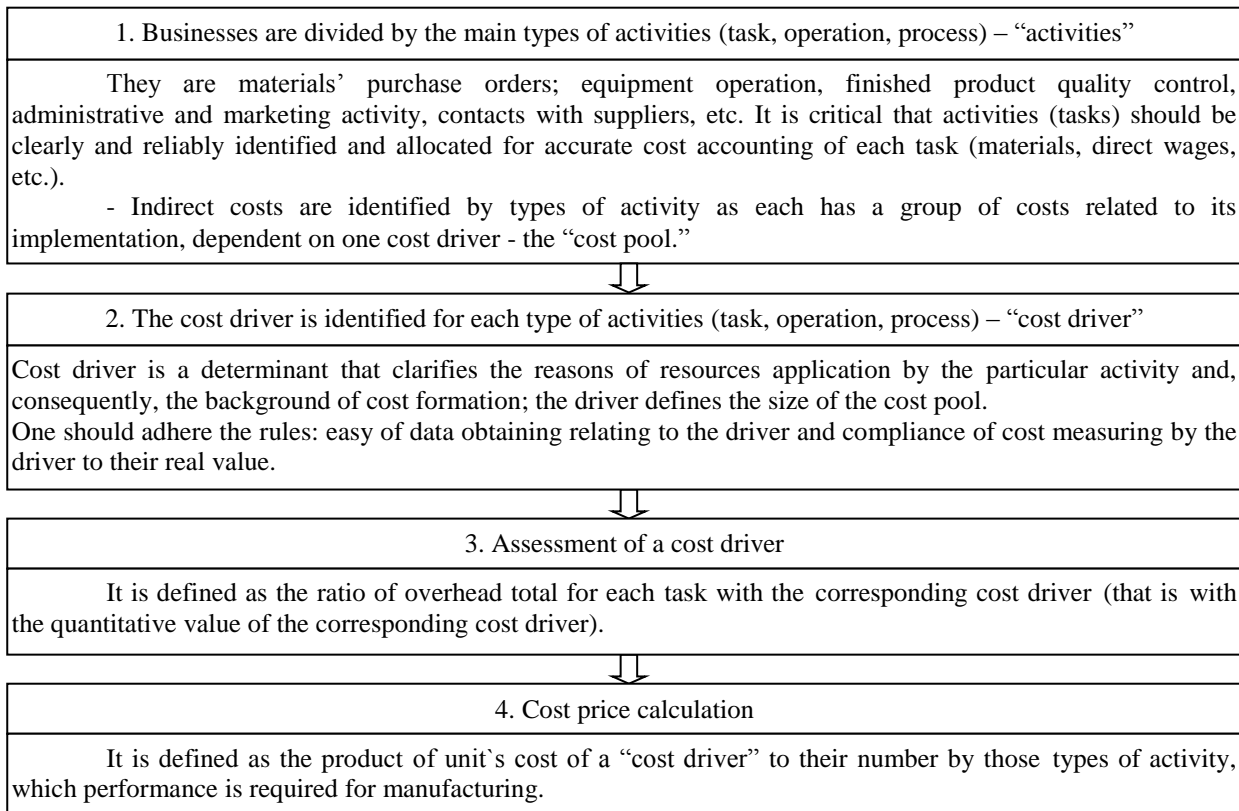


Fig. 2. The sequence of ABC method application

The chart shows that the object of cost accounting is a certain type of activity (task, operation, process) and the object of costing is the type of product.

To group the overhead expenses by operations and their distribution between types of products based on ABC method, all tasks must be divided into several levels, depending on their correlation with a cost driver: one product activity; a lot of product activity; type of product activity; enterprise level activity [4, p. 270].

Unlike traditional methods, overhead distribution drivers are more detailed and used at various stages of cost transfer in the form of resource and operational cost drivers, which provide a cause-and-effect relationship with the underlying determinants.

Let us compare traditional method and ABC method as the case of a conditional commercial enterprise. We consider the profitability of product lines by traditional calculation method, if marketing costs are distributed in proportion to each groups’ cost price (Table. 1).

Table 1 – Month-end account of revenues and expenditure by traditional method

Article	Lounge furniture	Office furniture	Garden furniture	Total
Sales revenue, UAH	556000	725000	458000	1739000
Sales cost price, UAH	335000	467000	278000	1080000
Marketing costs	52731	73509	43760	170000
Total costs, UAH	387731	540509	321760	1250000
Operating income	168269	184491	136240	489000
Sales margin, %	30	25	30	28
Product line contribution into profit	34	38	28	100

To determine the cost price more accurately, we make calculations using the ABC method. For this purpose, there are three processes and corresponding cost drivers, which form the basis for overhead distribution in marketing (Table 2).

Table 2 – Processes and cost agents by ABC method

Processe	Cost driver	Value of cost driver				Total cost, UAH	Cost of driver's unit, UAH
		Total	including				
			Lounge furniture	Office furniture	Garden furniture		
1	2	3	4	5	6	7	8
Order fulfillment	Number of orders	30	15	10	5	9000	300
Rental	Square meter	300	100	70	130	81000	270
Delivery	Conventional tkm	80000	22000	25000	33000	80000	1
Total:	x	x	x	x	x	170000	x

Based on the obtained results let us calculate each process' costs for every product line as the product of the unit of a cost driver and the value of a relevant product group's cost driver. Results are presented in Table 3.

Table 3 - Month-end account of revenues and expenditure by ABC method

Article	Lounge furniture	Office furniture	Garden furniture	Total
Sales revenue, UAH	556000	725000	458000	1739000
Sales cost price, UAH.	335000	467000	278000	1080000
Ordering cost, UAH	4500	3000	1500	9000
Rental cost, UAH	27000	18900	35100	81000
Delivery cost, UAH	22000	25000	33000	80000
Total costs, UAH	388500	513900	347600	1250000
Operating income	167500	211100	110400	489000
Sales margin, %	30	29	24	28
Product line contribution into profit	34	43	23	100

According to ABC method, profit earned by each product group is different from the traditional method, in particular: office furniture has the highest profitability,

hence profit calculated by ABC method is higher. Garden furniture profit decreased. This affected sales margin (Fig. 3).

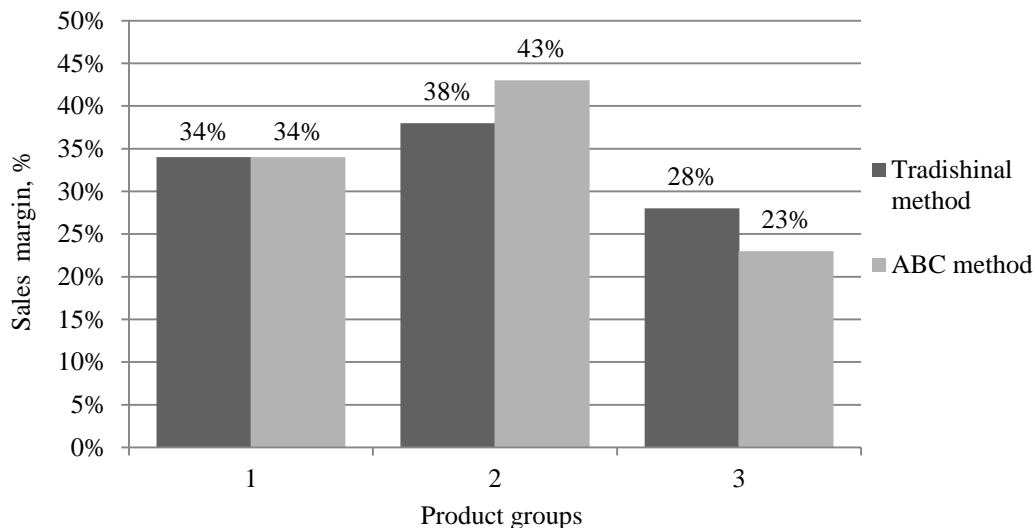


Fig. 3. Sales margin by product groups

The results prove that the main difference between traditional and ABC method is the approach to overhead cost distribution which influences the total cost's calculation of each product line.

Thus, functional calculation has many decisive benefits [3, 8, 10]. The main are: cost structure identification according to activity type (business process); higher validity of conventional costing by setting the relationship between the type of activity and cost driver; more accurate costing of product cost price for pricing purposes; possibility to evaluate the effectiveness of each business process and identify types of costs that need to be optimized to increase business' profitability and competitiveness. Besides, ABC method has certain drawbacks and implementation problems [1, 3, 8], i.e.: it is necessary to provide changes in the current accounting system; high labour intensity; increased costs for job retraining and professional's attraction; it is necessary to provide new software to ensure accounting process which substantially rises administration costs.

It is worth noting that ABC method is rarely used by domestic enterprises. However, it is relevant for enterprises having certain features of their activity: the share of indirect costs exceeds the share of direct costs and most of the indirect costs are not directly related to output; cyclical processes which can be singled out, identified and formalized; wide range and different volumes of production as well as level of manufacturing complexity; business' strategic focus on cost optimization.

To implement this method, an enterprise has to meet certain criteria. The main ones are: already established cost management in accounting, structured and registered current business processes; extensive planning and control automation of accounting processes.

Moreover, recommendations of management accounting standards developed by the management accounting committee of the Institute of Management Accountants in the United States, in particular SMA 4 "Introduction of ABC" has to be taken into account [11]. The standard

systematizes the principles of ABC method's development, describes its methodology's characteristics. Special attention is paid to the role and responsibility of management accounting professionals. The standard states that ABC method's implementation requires a comprehensive approach. Accordingly, it involves significant costs, which is a major limitation. Therefore, taking into account characteristics of business activity and its methodological justification, this method can be selectively applied, namely in separate units or for activities that contain more processes which generate overhead expenses.

ABC method's application provides an opportunity to study costs not only in terms of product cost price, but also as costs incurred for performing separate tasks, which opens up new opportunities for objective assessment and cost control. ABC method along with activity-based budgeting method build an effective technology of strategic planning and cost management to increase business profitability and competitiveness.

Conclusions

The results of the study indicate the meaning of ABC method that is all business' financial and economic activity is considered as a set of certain activities which create value chain for the formation of costs of production. Hence, when applying the ABC method, there is cost distribution with drivers, which makes it possible to reveal that most of the overhead is in fact direct conditional-fixed costs, which in turn allows to increase the accuracy of full cost price calculation. This makes it possible to make reasonable decisions in the context of product assortment and pricing policy-making of an enterprise. This is a significant advantage of the method. It makes sense to apply the method taking into consideration its peculiarities at high overhead costs' enterprises. The main disadvantage of the method is its high labour intensity and the necessity to meet a number of criteria that determine its application's success.

However, introduction of ABC method by domestic enterprises would have increased their cost management

efficiency, as there is opportunity to analyse expenses' nature, assess selective products' profitability, as well as customers', market segments' and distribution channels' benefits.

In this context, prospects for further research are to examine the advantages of abusiness-type costing and activity-based budgeting integration as of progressive management accounting methods to ensure cost management efficiency.

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