

Activity based costing analysis for making managerial decisions

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Аннотация. В статье рассмотрены вопросы использования технологий осуществления учета затрат по видам деятельности ABC (Activity based costing) в обеспечении эффективного стратегического управления предприятиями. Доказано, что эффективность операционной деятельности предприятий и ее результативность зависит не от качества выбранной руководством стратегии, а от качества ее реализации. Проанализированы подходы к внедрению метода учета затрат по видам деятельности для целей стратегического управления предприятием.

Abstract. The article covers the issues of ABC (Activity based costing) method used for providing effective strategic management of the company. It is proved that efficiency of the company operating activity and its performance depend not on the quality of the selected strategy but on the quality of its implementation. Approaches to the implementation of the activity based costs for the strategic management of the company have been analyzed in the article.

Ключевые слова: *прямые затраты, накладные расходы, формирование себестоимости, факторы затрат.*

Keywords: *direct expenses, overhead cost, production cost generation, cost factors.*

In response to the improvement of competition company's management team must have a clear idea of the products (services) output profitability and understand the influence of the managerial decisions on the finance results and cost¹ value. Therefore, to keep up with other companies it is necessary to improve the process, create a clear-cut production expenses and cost control system and calculation of the output product cost. Process-oriented management can contribute to the solution of these problems as it evolved initially as an expenditure method ensuring high accuracy.

GOST (All-Union State Standard) R ISO 10014-2005 requirements "Quality Economics Management Manual" (par. 7.2) confirms that of primary importance for the process owners is the added value maximization which is the basic concept of the conventional managerial accounting system.

Paragraph 7.2 Producing authority must identify and control the costs connected with every operation of the chosen process. The emphasis is made on the in-plant processes, i.e. operating business. To estimate the most efficient method of business process it is necessary to perform quantitative measurements of cost elements, as they are considered to be an important quality and process efficiency index. The idea is in compliance with GOST R ISO 10014-2005 requirements. For effective management it is important to know not only the volume of costs but also the input pattern and cost behavior. As regard the input pattern, most companies are already experienced enough in keeping track and estimating direct expenses, i.e. employees' daily work, collecting data on cost rate and standard expenses². However problems with overhead burdens arise³ [4].

Complexity of their quantification in the cost price is conditioned by their mutual character for two or more cost objects and results from the total productive maintenance, product marketing and management.

Overhead expenses when calculating the product, commodity or service costs are estimated by the selected method. There are two approaches to overhead expenses allocation: conditional distribution and cause and effect relationship establishment (fig.1).

Conditional distribution forms the basis of the conventional cost accounting method. This approach is efficient when the companies produce a few products, or when overhead expenses account for a little share in the spending pattern. So, in the 19th and most part of the 20th century cost accounting methods were rather simple causing no difficulty with their order of allocation, as the major part was constituted by direct labor cost (fig.2).

One overhead base³ was used for the whole entity or some bases were used for its different units.

Allocation to the objects was made according to the preset (target) overhead rate. The target standard (rate) was determined prior to the running period by dividing the overhead target for the period by the target index figure accepted as a base of allocation (machine-hours or man-hours). Typically man-hours were selected as labor costs were the basic component in the spending pattern (production costs) [3, 6].

Thus, the application of the traditional approach to the overhead reappointment channels expenses at discretion to resources in various ob-

¹ Costs is an English term used to denote different notions in Russian: затраты, расходы, издержки, usually used as synonyms.

² Cost classification with reference to the operating procedures is divided into general expenses and overhead costs. Depending on

the ways products (services) costs are included in the cost expenses are divided into direct and indirect costs. In the article indirect costs and overhead costs will be used as synonyms.

³ Overhead base is an index used for overhead reappointment; it determines its value.

jects, e.g. production of commodities, without any consideration given to the logical connection and using a limited number of expense values (overhead bases). So it does not make it possible to assess

carefully the cost value of the commodities produced (services provided). With this approach conditional unit cost will be obtained.

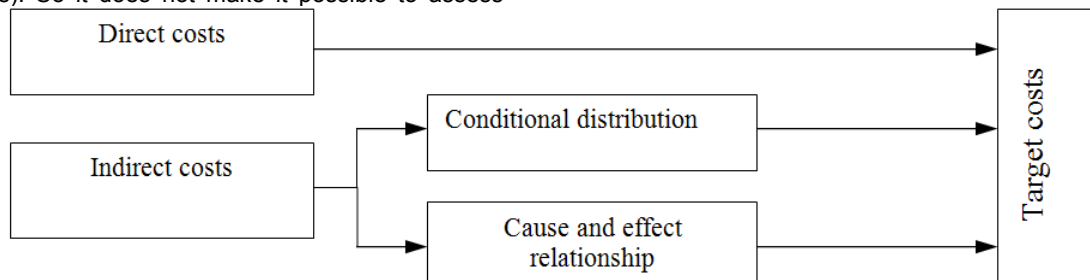


Fig. 1. Approaches to expenses allocation.

In the past decades of the 20th century changes in the spending pattern can be observed (fig.2); overhead costs gradually replace direct labor costs. The reasons for this are: automation development, automated machine maintenance, output of wide assortment with short-term production cycle, increase in marketing, sale, market research ex-

penses which have recently dramatically increased as compared to the wage hike [4,7].

Under current production conditions traditional approaches to the overhead reappointment are not efficient because allocation to the objects is conventional. All these factors encouraged the development and application of new approaches to the overhead reappointment.

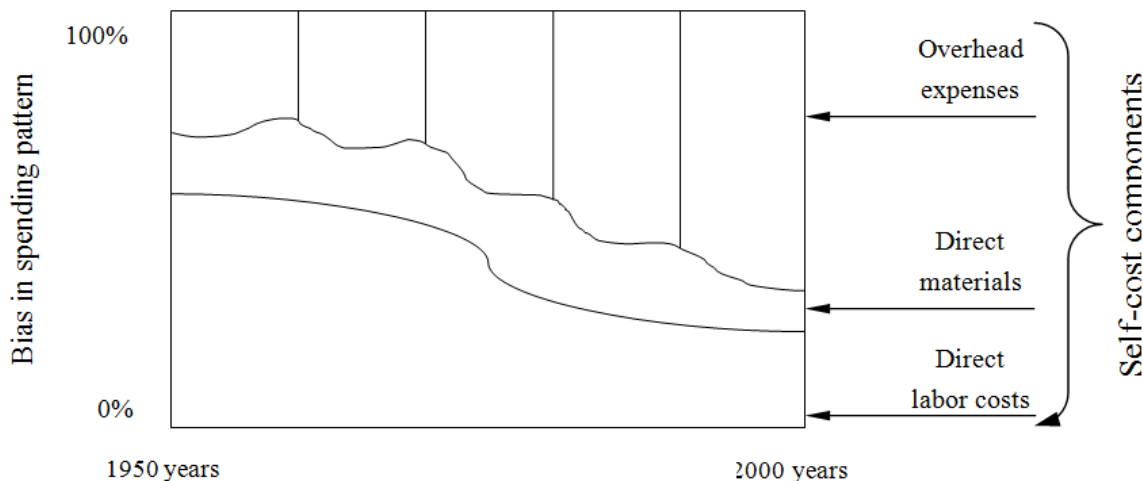


Fig. 2. Overhead costs replace direct costs. [4]

American scientists have analyzed the weakness of the traditional approaches. The obtained results triggered the development and implementation of the new approach to the overhead cost allocation allowing specifying the unit cost. The developers of the new approach R. Cooper and R. Kaplan called their method Activity based costing (ABC), which is translated by Russian economists as: operation calculation, activities calculation, functions calculation. Due to different interpretations and translations of the abbreviation the method is recognized in Russian practice as «AB-costing», i.e. unconventional calculation system considering the operations as the source of expenses.

ABC-method is based on the next principle: the expenses result from operations (activities) not from production. One and the same product can be turned out at different resource expenses, even by one company. The incurred expenses depend on various factors: selected technology, error rate, modifications, defect rate, number of executive staff in charge of the production process, etc.

Therefore, the resources needed and the company aggregate costs depend on the business-

process organization. Production is the result of this activity, thus it does not generate expenses as such. Production self-cost results from the company process organization, the level of the company, its employees' and partners' sophistication [2, 6].

Basically, the distinctive features of the ABC method are treatment of indirect costs and approaches to the collection of information. In the traditional system "top-down" approach is used to set the overhead target costs which are distributed with the limited number of expense measurements (without distribution). ABC method involves "down-top" approach to the data collection followed by overhead costs evaluation allowing to group, trace and attribute them to the expenses on the grounds of cause and effect relationship. ABC method suggests specification of business process and activity based costing. If to consider the structure of the method it will include the next stages:

- selection of cost objects,(activity type), data collection;
- grouping of activity based costs;

- specifying the cost factor¹ for every group;
- assessment of overhead costs and their cost object allocation.

The first stage of the ABC method implementation is specifying the types of activity (functions) which form its basis. By the types of activity we mean the operations performed by the staff, equipment for the product manufacturing requiring an increasing part of the costs. The standard procedure is to interview the employees responsible for the company principal activity to describe their basic actions.

The second stage is grouping of activity based costs. Initially, the list of the activity types is long; therefore it is necessary to group overhead costs for every type of activity. To reduce the list homogenous operations are combined. For example, we can combine some actions concerning the arrival of raw materials ranging from shipping to cargo segregation and storage. All these actions can be considered as cargo handling, etc. The key feature of this stage is taking into consideration the level at which the activities are grouped (e.g. production, lot, consumer, etc.).

The third stage is specifying the cost factors influencing the expenses. To define the factors influencing the activity expenses the term «cost driver» is used. For every group of the overhead costs a cost driver is selected which helps to connect the activities performed and the resources consumed. The selected factor must adequately cover resource consumption by this type of activity as it regulates the accuracy of the product cost accounting.

There are two most common types of factors – operational and temporal. Operational factors are measures of the number of operations (activities) such as the number of accounts drawn by the customer, the number of the company employees – for personnel management, etc.

Temporal factors determine the amount of time required for the operation performance, e.g. time for equipment adjusting or product quality audit. They are considered to be more accurate cost measures, though being more difficult to record. Therefore, numerical measures are used more often.

The fourth stage is overhead costs assessment with regard to the groups and their cost object allocation. The method involves further specification and object costs tracing and production requirement for this type of activity. The next operation at this stage is consumption expenditure calculation for every type of resource. It is achieved with the selected cost factor. The consumption expenditure is defined as the product of cost factor by work output cost. As a result we understand what resources are required for certain types of activities and their standard expense of allowance [1, 3, 5].

As for production requirement for a certain type of activity it is measured by the number of operations performed by the cost driver for the production. For example, aggregate costs of equipment adjustment amounted to 100 000 units of currency and there were 100 adjustments over a period. The overhead rate is 1000 units of currency per adjustment. The specified rate of the product adjustment

cost is determined as follows: the number of the product adjustments is multiplied by 1000. It follows therefrom that expenditure on one item for the production lot of 20 items will amount to 50 units of currency (1000/20). With this approach ABC system allows to calculate other types of costs up to the final product.

Thus, we do not just develop a formal mechanism of costs transfer using the provisional figures but trace cause effect relationship between types of activity and cost objects. Within the framework of the function cost system long-term cost control is performed through activity control. Thus, activity is considered to be the object of control not the costs because the costs result from activity.

Currently, ABC system is viewed not as a method of expenditure accounting but as a management tool because it ensures better understanding of the cost factor by executive management. Therefore there arise possibilities for more efficient cost management, reducing or eliminating the types of activity which do not add to the costs, and possibilities for improving certain business processes.

ABC information formed the basis for the concept development including: ABC (Activity based costing), ABB (Activity based budgeting), ABM (Activity based management). ABM combines lean production principle with ABC business practice.

Business process management based on the system research of these three aspects was called activity type or business activity management method, focusing on the waste elimination and value improving activity. In general, the methodology is based on the system of measures ensuring competitive growth and involving the next indexes: quality, time and expenses which are to be analyzed and improved [1, 3].

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¹ The term "cost driver" (synonyms: factor, driver, expense measure) is used to denote events or efforts taken which regulate the activity cost value.