

The models of logistical business processes are applied by enterprises for various purposes, what determines the type of the model being developed. The graphical model of logistical business process in the form of the evident, widely understood diagrams can be used to train new employees their functions, coordination of actions between the structural units of the enterprise, selection or development of components of information system and so on. The description by means of models of existing and target logistical business processes is used for optimization and enhancement of activity of the enterprise, by elimination of bottlenecks, duplication of functions and other. Simulation models of logistical business processes allow to estimate their efficiency and to see how the process with the input data which have never occurred in real work of the enterprise will be carried out. Performed models of logistical business processes can be started on the special software for process automation directly on model [3, p.96].

The model allows to carry out the all-round analysis, to view from divergent angles, to see what, probably, all the employees of the enterprise, including a management don't see.

Today in the market of computer technologies several special programs are presented, allowing to survey the enterprise and to construct a model. The choice of methodology and tools with the help of which a modeling of logistical business processes is conducted, has no basic value. There are standardized, time-tested methodologies and tool means with the help of which it is possible to examine the enterprise and to construct its model. Their main advantages are simplicity and accessibility to mastering.

The most known and widespread technique is the methodology of structural analysis SADT (Structured Analysis and Design Technique). On the basis of this methodology the standard of modeling of business processes IDEF (Icam DEFinition for Function Modeling, where «ICAM» is an acronym for Integrated Computer Aided Manufacturing) has been adopted. IDEF accepted as the standard in the several international organizations, including the NATO (North Atlantic Treaty Organization) and the IMF (International Monetary Fund). BPwin (Logic Work) is the tool means completely supporting the standard IDEF.

In the conclusion it is necessary to emphasize that the main advantage of the idea of the logistical business processes analysis of the enterprise by means of creation of its model is its universality. First, the modeling of logistical business processes is the answer to practically all questions, concerning enhancement of activity of the enterprise and increase of its competitiveness. Secondly, a manager or management of an enterprise which has implemented this methodology will have the information which will allow to improve independently activity of the enterprise and to make a forecast of its future.

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UDC 658.174

ANALYSIS OF THE EXISTING METHODS FOR ACCOUNTING COST AND PRICE COST

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Nowadays cost and cost price are the main indicators of efficiency of enterprise activity, that is why there are multiple methods for calculation cost and cost price. Some of them are used in our country, while others are used in world practice.

In condition of dynamic development of modern market economy importance of cost price term as a main index of activity of an enterprise has increased. Analysis of production cost allows to evaluate operation if the enterprise, to determine trend of this index changing and also to reveal a number of factors, having influence on changes of cost value. Also thanks to this analysis determination of production profitability, calculation of national revenue of the country technology are carried out. Of course, cost price term is closely connected with cost term. According to E.L. Koller just cost accounting makes up basis of accounting, but for a long time cost accounting and cost price calculation were under evaluated among accounting officers.

Needs of developing economics of industries countries formed at the end of XIX century – at the beginning of XX century, made to draw more closed attention to the problem of cost accounting an cost price calculation. The founders of scientific approach to cost and cost price accounting were economists J.M. Fells and E. Garke, who in 1887 presented the first edition of the theoretical work “Production account: principles and

practice of their accounting". Now there are multiple methods for calculation of cost and cost price. Many of them have been applied for a long time, some of them are in the process of formation, or just to the contrary have been obsolete. In our national practice in accordance with the methodical recommendations on predicting accounting calculation in industrial organizations of the Ministry of Industry Of Republic Belarus, implemented by the order of the Ministry of Industry No 250 dated April 1, 2004 are used repartition, *позаказный*, process (simple) и standard cost methods of calculation. Dwell on every one in detail.

1. *Repartition production costing method* – system, according to which, costs are distributed between homogeneous production, which is passing consecutively mass productions. Object of calculation is a separate repartition that is completed stage of the technological process. Each repartition, except the last one, represents a stage of raw material processing, resulting in obtaining an intermediate or finished product. Every intermediate product is picked out provided it has its own direction of usage, it means it may be realized. Advantages of this method are simplicity of their usage and low cost. Shortcoming of this method is complication in evaluation of unfinished production cost.

Cost price calculation using repartition production costing method is carried out using the following stages:

- calculation of the stream of physical units;
- determination of production stream in conventional (equivalent) units;
- summing up of all accounted costs in debit of the account "Main production";
- cost price calculation of a production unit;
- cost distribution between finished intermediate product and unfinished product at the end of the period, where the first to steps are quantitative operations and the rest are value operations.

Cost accounting using repartition method is carried out by enterprises of metal orgy, oilrefining, chemical, glass, cement, painting, textile and meat industries.

2. *Job-order production costing* system implies production cost calculation of individual products or groups of homogeneous products. Homogeneous products possess similar qualities and are easily identified. This method is used as a rule at individual production units. Thanks to this method there is no need to distribute costs between finished products and unfinished production and that is substantial advantage.

Among the other merits attributed to the job-order production costing system are the following:

- to definite exactly cost for a specific order and accordingly its price;
- to evaluate efficiency and profitability of separate orders;
- to form a basis for planning production cost and purchase prices for future orders;

The main shortcoming of this method is considered determination of actual cost price only at the end of the order execution, hence lack of the control over cost in the time of the execution.

Cost accounting by this method is executed based on the following stages:

- cost planning of the enterprise on the whole and cost planning of separate orders;
- cost collection and distribution analysis of order efficiency.

3. *Process production costing (simple)* system executes by production distribution of direct production, production unit, general economy and other costs for finished products (work, services) in equal shares for the reporting period. At the end of the reporting period all the cost are divided by quantity of the finished products and get in such a way a value of average production cost price. Of a production unit consists of some process sections, producing as a result intermediate (unfinished) products, then direct production cost is accounted apart in every section, but production unit and general economy costs may be distributed to the process sections in proportion to direct production cost at the end of the reporting period. As a result we may obtain detached cost of every production period and a component of average production cost price for every process. Such a method is applied at the production units, where it is not possible to compare cost with a unit of goods produced due to complexity of technological process, for example, electric energy generation.

4. *Standard production costing* system is presented by totality of procedures for planning, rationing, delivery of raw materials internal reporting, production costing, and execution of cost control. This method assumes interference into formation of production cost. Standard production costing system is an instrument of saving of resources and allows to reveal resources for reducing cost. It had been used in production practice since the end of the last century. The essence of this method is in determination of preliminary cost standards and finding deviations from them: in the first hand labour and material cost are related to the standard production costing system. Using standard production costing system actual price of the limited products is determined as a sum of standard cost price, deviation from the standards and changing the standards, that is in accordance with the following equation 1:

$$C_{act.} = C_{stand.} \pm \text{Standard deviation} \pm \text{Standard changing}, \quad (1)$$

where $C_{act.}$ – actual cost price; $C_{stand.}$ – standard cost price; Standard deviation – deviation from the standards, which may be positive as a result of saving, achieved by almost completed usage of raw materials, by increasing

labour productivity, by reducing time for component treatments and so on, and negative, as a result of spending too much of raw materials, additional labour payment spending, etc., Standard changing – changing of standards (increasing or decreasing).

It should be understood that such a variety of cost accounting and cost price calculation methods are stipulated for that every separate method has a number of merits and shortcoming, so there is no such a method, which is applied for any type of production unit. That is why often production units change applied method for the other one at the end of reporting period.

Among the methods applied in Republic Belarus the most substantial shortcoming are:

- complicated evaluations of every stage of production;
- lack of cost control and accounting on separate technological stages of production;
- difficulties in defining of types of cost accounted;
- complicated final costing and other.

So solution of revealed problems and shortcomings is possible through adopting experience and practice of foreign enterprises. Controlling and logistic controlling, ABC-analyses (activity based costs), functional cost analysis CVP-analysis and “just-in-time” system are the most popular methods of accounting cost and cost price in the world.

ABC-analysis with considerable accuracy to define production cost value and to control them. Intent attention in this analysis is paid to sources causing cost rise. “Just-in-time” system allows to minimize production raw materials stock and percentage of defective products. Also this system makes it possible to reduce production areas and to reduce the time of finish products storing. Installation of this system is at a production unit often requires substantial investments, but such costs will be surely paid back. Controlling is based on principles of direct costing and standard costing, but its application is much wider. It is not limited to control cost of production profitability, it also secures maximum profit. Controlling system is especially expedient, when the enterprise is controlled by many departments and services. Controlling is executed in two stages:

- strategic stage (securing long term production unit operation);
- operative stage (reaching the planned level of profit).

Logistic controlling in its turn studies areas, where production costs are formed, and finding the ways to reduce them.

Finally it is necessary to draw conclusion that there are multiple methods to minimize costs and maximize profits, but for every separate production unit it is necessary to select its own most suitable method, dependent on peculiarities and specificity of production.

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