

Practical Aspects of Supply Chain Management in Cost Management Accounting Application in Dairy Cattlebreeding of Vologda Region (Russian Federation)

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Abstract- Abstract: Many authors argue that it is essential for a company to know the true costs of supply chain management (SCM) in order to achieve its objectives. The article describes the practical experience of cost management application in the dairy industry of the Vologda Region (Russian Federation). They identified the problems in the organization of cost accounting, which are primarily the absence of methodological support for this process and the necessary regulations. The author outlines the areas for improvement that take into account the industry specifics.

Keywords- management accounting organization, supply chain management, accounting policy, chart of accounts, budgeting regulations, cost, dairy cattle breeding.

1. Introduction

Over the past two decades, Supply Chain Management (SCM) has come to be regarded as one of the key factors of competitiveness and organizational effectiveness. The trends of uncertainty growth and the complexity of doing business, as well as the sanctions imposed by Western countries, force agricultural organizations of the Russian Federation to use active tools to increase business efficiency. Due to the fact that the effectiveness of activities directly depends on the speed of managerial decision making, the basis for which is information obtained from accounting, it is necessary to improve this tool. Now the managerial accounting is actively introduced in the practice of accounting thought for managerial purposes. Therefore, interest in the study of management accounting use practical aspects in relation to the dairy industry enterprises is timely growing.

2. Method

Currently, SCM is perceived as a set of management processes, where the process is defined as a group of activities important to achieve a specific purpose, such as order fulfillment. All these processes constitute the whole of SCM. These processes should be coordinated through collaboration and relationship management throughout the supply chain, from the initial suppliers to final consumers. A survey conducted among the experts in the accounting service

of agricultural enterprises of the Vologda Region during January-March 2018 showed that the main drawback in cost management accounting organization is the lack of a methodology that takes into account the characteristics of dairy cattle industry [1]. The organization of managerial cost accounting at enterprises most often ends with the allocation of responsibility centers, without developing job descriptions and provisions on incentives for industry workers during planned benchmark performance. A contradiction in the practice of managerial accounting application arises in the delegation of authority for its creation between a head, economic and accounting services.

Management cost accounting at agricultural enterprises of the region is based on uniform principles, methods and is implemented through traditional accounting functions. The information basis of cost management accounting is their initial registration in primary documents at the time and place of their occurrence. The survey showed that 20.9% of all respondents use their own forms of primary documents. Information on costs is grouped, systematized and accumulated through control accounts in accounting registers. The procedure for cost accounting management is regulated by the developed accounting policy, which creates its own unique cost accounting system, consisting of certain elements, the filling of which depends on the requirements of managers, the size of the organization and other factors. A work chart of accounts for management accounting complements accounting policy. In dairy cattle breeding, it is implemented in accounting and maintained for convenience, according to a single chart of accounts, but advanced analytics or additional sub-accounts are added to cost accounts (20, 23, 25, 26, 44). The accounting method is double entry.

Cost grouping in the dairy cattle breeding industry is carried out according to accounting objects: cost carriers, cost centers, elements and costing items. The method of cost accounting in cattle breeding is procedural one [2-6].

The combined method of calculating the cost in dairy cattle breeding is used, which implies that the cost of by-products is excluded from their total amount, and the remaining amount is distributed in the following proportion: 90% for milk and 10% for litter [3]. The calculation of production costs is carried out

by the method of full and incomplete cost. In the first case, the cost of production includes all production costs and commercial and administrative expenses, and in the second case, only variable costs. The choice of method is assigned to the accounting and analytical service and depends on the ability to control the cost by deviations, that is, the level of planning at an enterprise.

3. Result and Discussion

Table 1. Indicators characterizing the effectiveness of agricultural organizations in the dairy industry of the Vologda Region

Indicator name	Year					Deviation of 2018 in relation to 2014 (+;-)
	2014	2015	2016	2017	2018	
Number of organizations, units	164	158	151	131	147	-17
Cattle stock, thousand heads, incl. cows	142,6 68,0	143,3 68,1	144,4 68,0	146,8 69,5	147,7 70,2	5,1 2,2
Milk per 1 cow, kilograms	6028	6319	6640	6919	7185	1157
Cost of milk production, rubles per 1 center	1553,0	1680,9	1806,3	1929,2	2088,6	535,6
Profitability of the main activity without subsidies, %	2,5	2,2	5,0	4,5	2,8	0,3

Source: The analysis of production and financial activities of agricultural organizations in the Vologda region (2018) / Department of Agriculture and Food Resources of the Vologda Region. - Vologda, 2019. - 149 p.

The number of enterprises involved in milk production in the region decreased by 10.4% during 2014-2018 with profitability reduction by 0.3 percentage points. The profitability of activities without state support during five years is rather low on the average - 3.4%. The increase of natural performance indicators, in particular milk yield per cow and livestock, was caused by the introduction of innovative technologies into the production process and the modernization of fixed assets. The productivity of cows in the Vologda Region is 14.5% higher than the national average. The cost of milk production, as a systemic indicator that includes the totality of enterprise resource use, has a tendency to increase by 34.4% with the official inflation rate of 4.3% in 2018. The data presented in table 1 confirm the need to focus the heads of agricultural organizations of the Vologda Region on finding ways to reduce costs by using all the capabilities of managerial cost accounting.

Managerial cost accounting is a system of targeted actions that are carried out with costs and combining standardization, planning, current and cumulative accounting, employee motivation, analysis and generation of information about accounting objects [2].

The practical application of cost accounting management in agricultural enterprises of the Vologda Region begins with its organization, which should include, from a theoretical point of view, organizational, methodological and methodic foundations. The accounting and analytical service on the basis of the organizational structure of the enterprise management is a financial structure development where the main management segment is the center of financial responsibility - the center of

SCM is discussed using a typology of four forms of SCM: physical integration, information integration, control integration and infrastructure integration. It is argued that management accounting plays an as yet undefined role in SCM. Milk production is one of the most attractive types of agricultural business. Dairy cattle breeding prevails in the Vologda Region, which is facilitated by the natural and climatic conditions and the location of the region in the risky farming zone. The main producers of milk are agricultural organizations, the effectiveness of which decreases annually, which is confirmed by the indicators in table 1.

costs, the place where costs arise. Such centers in dairy cattle breeding are: a dairy farm, a calf, a livestock brigade, a dairy cattle breeding workshop, young cattle feeding workshop, and a livestock breeding workshop. A head is appointed in each center, whose managerial decisions are aimed at fulfilling planned targets for the maximum production of milk, offspring, gain and cost reduction for its production. The actions of the cost center head are recorded in job descriptions.

Cost planning is carried out through budgeting, the implementation of which is fixed by the internal regulation or the budgeting process regulation. Unfortunately, the survey showed that only 1.8% of agricultural enterprises have this situation and use it actively. For each cost center, the economic service develops a budget, which is communicated to its head, who is responsible for its implementation. The budget fixes controlled indicators, such as the volume of produced milk, the number of litter obtained, the established limits for feed, electricity, water, etc., which are calculated according to production program, animal feed ration and established standards for different types of material resources. After the reporting period, the head of the center generates a report of a certain form, which reflects the values of actual indicators (in kind and in value) and determines the deviation. The planning cycle can be different and depends on management goals, most often thus cycle makes a month. The calculation of the resulting deviations is the basis for making a decision on stimulation or discouraging employees and cost calculation.

Internal management reports and budgets are formed in a form convenient for users, with varying degrees of aggregation and depend on manager requirements. Their main task is to provide the

management process with operational accounting information. According to 68% of respondents, they use independently developed forms of internal reporting at enterprises that meet the requirements of objectivity, timeliness and comparability. Production reports and the calculation of milk and weight gain are among the most sought-after by managers.

Management accounting is automated everywhere and is carried out using the software 1C - Accounting. Report and budget indicators for each cost center are interlinked to calculate deviations.

The study of managerial accounting use among agricultural organizations of the Vologda Region engaged in milk production showed that only 84% of their total number use its individual elements.

The reason for the limited distribution of cost management accounting is the discrepancy of its essence, tasks and the possibilities of its application. The introduction of management accounting at an enterprise should be initiated by organization head, since it is not mandatory, the accounting and analytical service will not increase the volume of accounting work voluntarily. But very often top managers are not interested in its use because of ignorance of operational information accumulation possibilities through the restructuring of traditional accounting without any financial costs. The implementation of management accounting requires the accounting department to be completely independent and have a lot of knowledge, both from a methodological point of view and in respect of software adjustment. Unfortunately, not always an accountant can deal with this competently.

As the study showed, another problem is the lack of the budgeting mechanism understanding [6]. The effect of this technology use is achieved only if an organization develops a real budget for each cost center, the employees of the center are interested in fulfilling controlled budget indicators (production volumes or cost levels), the deviations of actual data from the plan are systematically calculated, decisions are made to reduce costs, and bonuses to employees. In this case, management accounting provides operational information in the context that managers need and

allows you to calculate the cost using alternative methods. We can say that each cost center is a self-supporting unit that also seeks to reduce the cost of production. Increased efficiency is achieved by the rational use of available resources, and prompt response based on accounting information.

4. Conclusion

Supply chain management is a major concern in many industries as companies are aware of the importance of integrated relationships with suppliers and customers. The pressure of global competition and the need for broad inter-organizational cooperation forces companies to take action to improve supply chains, so that they are flexible and responsive to change. Thus, the study of practical experience in cost management application within the dairy farming industry of the Vologda Region (Russian Federation) showed that cost management is not fully maintained, only some of its elements are used randomly or chaotically.

In our opinion, scientists, the Institute of Professional Accountants, and the Ministry of Agriculture of the Russian Federation should pay attention to:

- 1) the development of guidelines for the organization of management accounting of costs, taking into account the characteristics of the dairy industry;
- 2) a proposal for a unified regulation on cost budgeting;
- 3) the introduction of a standard methodology to develop the forms of internal reporting, the calculation of controlled indicators and deviations;
- 4) the use of alternative methods of certain types of material resource valuation included in the cost at fair value to reflect the real amount of costs;
- 5) advanced training conduct in management accounting for the employees of accounting and analytical service.

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