

The Development of Management and Strategic Management Accounting in Agriculture

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Abstract: The study reviews the development of strategic management accounting in the system of strategic management of agriculture. The following aspects are being presented: models of management and strategic management accounting, accounting matrix of interactions between subsystems and functional tools of management accounting and the conceptual model of the strategic subsystem development. The model of differentiation of management accounting into subsystems of operational and strategic management accounting is proposed. Conceptual solutions for the development of strategic management accounting in agriculture are developed. It is hereby concluded that strategic management accounting is a modified form of management accounting which focuses on study of both internal and external environment, data collection, its processing, design and transfer of strategic managerial decisions to the management system as well as monitoring and evaluation of their execution efficiency. The importance of the developed methodological aspects and conceptual solutions in development of strategic management accounting is defined for the theory and practice of management accounting in agriculture.

Key words: Strategic management accounting, strategy, stages of reproduction control, qualimetric units of measurement, balanced indicators, practice

INTRODUCTION

Globalization of market economy, Russia's accession into the World Trade Organization, recent year's aggravation of recession, complication of competition in agricultural markets, changes in economic and political situation in terms of economic sanctions and economy management methods in the country imply the need for restructuring of economic relations between business entities, management system in agriculture as well as improvement of its functions quality and methods of internal management in agricultural organizations.

Agriculture is a complex, multi-sector system dependent on soil and climatic conditions, the use of both labor, material resources and land, biological assets, systems of crop rotation, selection achievements, the results of breeding activity, etc. Hence, in modern conditions of economic development there is almost no way to manage farming companies or their segments of activity effectively. This process will necessarily require mastering the science of management and establishment

of rational management system basing on management accounting development and considering specific agricultural features in economic entities. No wonder that IAS 41 "Agriculture" characterizes agricultural activity as biological asset's (plants, animals) transformation management. Therefore, understanding of production management essence, rational organization provision and practical use of economic methods in agriculture are urgent problems their solution depending on the development of the theory and practice of production management (Klychova *et al.*, 2015).

Thus, various domestic and foreign scientific and educational literature works on management so far define the essence of production management as: science; art; process; mechanism; targeted action, etc. (Ober-Chris, 1973; Komyshev, 2002; Meskon, 2016).

This is connected with the absence by now of well-developed control theory in economic science both domestic and foreign. In this regard, representatives of economic science will need a lot of time and effort to develop and create the acknowledged management theory, summarizing and disclosing specific theoretical

principles defining the management basics, its goals, objectives, functions, object and subject of knowledge as well as method, methodological techniques, management procedures and the conceptual basics for its further development.

It is well known that scientific method of management unites a huge mass of different interconnected fields of knowledge, based on the methodological principles of knowledge and transformation of reality. These principles in the works of different economists differ significantly both by the content of their definitions and by their number. This gives rise to multipolar definitions of management in works of different researchers. The reason for this is as well the fact that management is an organized (artificial) open system and every specialist construes this system, its form, content, composition elements and linkages between them in accordance with his own understanding.

MATERIALS AND METHODS

In our opinion, there should be both a scientific and practical approach to the definition of management. As a scientific category, management is a complex organized system consisting of specific elements, relations between them as well as a set of interrelated and interacting tools for the development of its content and form and having properties of certain functions implementation. On the economic level and in practice, management is a process of manager’s activity aimed at implementing a set of management functions. They consist in settlement of issues and achievement of economic and financial development goals of a certain economic entity. Herewith, management function will mean an expedient activity of a manager, aimed at a certain part of a management object for understanding of its content with the aim of the set goal achievement. Thus, management functions are objectively necessary for the effective management of the company and the segments of its activity. Therefore, we can assume that the main, independent (but interrelated) functions of management are as follows: forecasting, planning, accounting, control, activity organization, analysis and control of business processes (Alborov *et al.*, 2015a).

Each of these functions can manifest itself in management activity both in the narrow and expanded form within the time and space related aspects depending on the model of management system applied, relative differentiation of its subsystems in a particular company, its philosophy and mission, i.e., the management policy and activity of the definite economic entity (Klychova *et al.*, 2014a, b; Harrison, 2011). Thus,

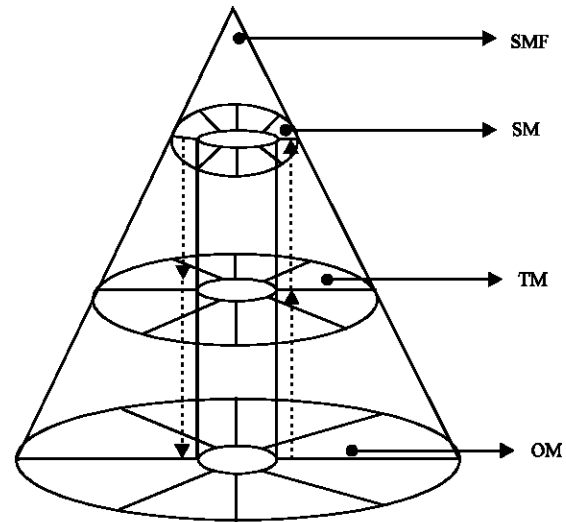


Fig. 1: Stairstepping and differentiation of management system by subsystems; SMF: Subject of Management by the Functions; SM: Strategic Management; TM: Tactical Management; OM: Operation Management

depending on tasks to achieve goals, the management system can be differentiated into subsystems of operational, tactical and strategic management. In this respect, the company forms a multi-step form and hierarchy of management decisions making their implementation and execution. The uppermost level of this stepped structure serves for the making strategic decisions ensuring long-term cost-effective operation of the company, the middle level is reserved for tactical decisions with respect to strategic priorities and the last-the lowest level is for operational decisions directly determining the company activity at the empirical level, i.e., the level of structural subdivisions-segments of activity (Fig. 1).

Figure 1 shows a diagram of the hierarchy of the management system in the form of a pyramid. Acceptance, transmission and execution of management decisions within this system follow the pattern of the cone pyramid. The core of this pyramid is a communication process between accounting and audit analysis information. Direct and feedback relations, coordination and subordination links between management subsystems (SM-Strategic Management, TU-tactical management, OM-Operation Management), its subject, object and the main functions (Alborov *et al.*, 2015; Kontsevaya and Shurmina, 2008; Zlobina, 2006) are carried out on the basis of information communication process.

RESULTS AND DISCUSSION

Basis for implementation of management decisions is strategy of company development, i.e., rules and guidelines for solution of operation and tactical objectives for strategic goals achievement. Strategic plan formation finalizes strategy development. The strategy uses estimation characteristics (benchmarks) reflecting quantitative and qualitative aspect of the criteria required for planning target indicators in implementation of the approved projects of management decisions and for monitoring and evaluation of economic entity operation results.

The strategy development includes prediction of problems to be solved or their vision; formulation of targets, setting of tasks; definition of criteria and indicators for evaluation of results; determination of means to achieve goals; risk management and force majeure as well as measures for their neutralization. Strategy and strategic plan of the company can be realized in the strategic management process by focusing attention not only on internal factors of micro-environment but also on external factors of macro-environment influencing the development of the economic entity. For this it is necessary to constantly engage in internal and external monitoring of the company environment, perform collection, interpretation and information consolidation of the industry, the activity, market, competition and other factors (Klychova *et al.*, 2014a). Operational and production as well as strategic accounting management serves information basis for all of this activity. Currently, there are many definitions of management accounting and they significantly differ among themselves. However, the most reasonable definition of the management accounting system and its subsystems is found in the works of the famous economists such as Upchurch (2002), Harrison (2011), Drury (2010), Richard (2000), Horgren (2004), Horgren (2007) and Anthony (1996).

Studying the researches of these researcher, we have arrived at a conclusion that strategic management accounting is a modified form of management accounting focused on the research of both internal and external environment, data collection, its processing, development and transfer of strategic management decisions to the management system as well as for monitoring and evaluation of their execution. Operational, statistical and accounting information is used in strategic management accounting as well as data from information systems, marketing, monitoring, external environment-macro environment and internal-microenvironment. It is expedient to organize tracking and scanning of external and internal environment of the entity on the basis of

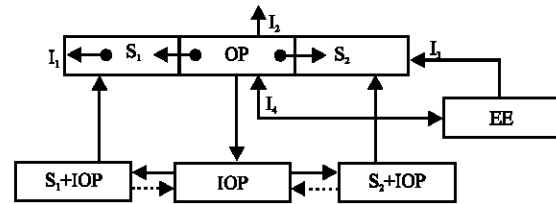


Fig. 2: Model of structure and management accounting subsystems interrelation

the SWOT analysis, strategic controlling, management analysis of enterprise potential, its business activity and competitiveness features, taking into account risks and uncertainties in time and space aspects (Klychova *et al.*, 2014a, b).

Structurally, the management accounting in the economic entities can operate in the form of relatively differentiated organizing system, divided into subsystems relevant to information needs of management: operational management accounting and strategic management accounting. Operational management accounting is carried out in the primary subdivisions (segments of activity) of the company; it is combined with operation and production accounting (Fig. 2).

Symbols on Fig. 2: S_1+S_2+OP field-management accounting in a broad sense; area S_1+S_2 -strategic management accounting; OP field-operation and production (management) accounting. Point I_1 means information provision to the company system of internal management, I_2 information support of financial statements development for external users (information of OP field is used both in management and financial accounting), I_3 strategic management accounting of external information in conditions of uncertainty, risk, inflation, significant changes in tax policy, etc., I_4 operational interpretation of external information to meet new information requirements of the company management, EE -External Environment of the company, IOP -Information of Operation and Production accounting.

Management accounting, being a major independent management function (management) of the company, i.e. management of all stages of the aggregate product reproduction and investment activity of the entity can function effectively in the subsystems of specialized information support at all hierarchical levels of the internal management of a definite economic entity (Table 1).

The intersections of lines and columns on Table 1 show the functions of management accounting in the management system of the reproduction stage of the aggregate product and investment processes.

Table 1: Matrix of interrelations between subsystems of management accounting and its functional tools (monitoring, analysis, budgeting, etc.) in the system of the company management

Management accounting subsystems	Stages of the aggregate product reproduction and investment activity				
	Supply	Production	Sales	Investments	
				Non-current assets	Financial investments
Operation and production (management) accounting	OP	OP	OP	OP	OP
Strategic management accounting	S ₁ +S ₂	S ₁ +S ₂	S ₁ +S ₂	S ₁ +S ₂	S ₁ +S ₂
Tools (functions) of management accounting:					
Budgeting (B)	-	B	B	B	-
Control (K)	C	C	C	C	C
Analysis (A)	A	A	A	A	A
Planning (P)	P	P	P	P	P

So, Operation and Production (management) accounting (OP) is an information base for operation management. It provides operation management with the data on the internal environment and partly external macro environment relating to all stages of reproduction and investment processes. While in operation and production (management) accounting such tools as budgeting, control, analysis are used. Strategic management accounting (S₁+S₂) is the data base for strategy, strategic plan, strategic decisions development and their implementation in the definite company. Strategic accounting provides strategic information management of tactical and strategic information on reproduction stages of the company aggregate product, its investment activity and external macro environment. Thus, the strategic management accounting uses all these tools (budgeting, control, analysis, planning) which are both functions of management accounting and control.

In general, management accounting (S₁+S₂+OP) along with other types of accounting reveals the content of management objects and subjects of management knowledge through the development of useful and relevant information about them in order to develop and implement theoretically substantiated management decisions.

Supervision objects and objects of knowledge indicators in strategic management accounting can be represented by: natural measures; money measures; work measures; qualimetry measures; energy units (Alborov *et al.*, 2015a, b; Klychova *et al.*, 2015). The need to use the last two type of meters in strategic management accounting occurs due to such effects as soil and climatic conditions, inflation, disparity of prices and others, rendered on indicators of economic and financial activity of an agricultural company. In addition, only real analysis of performance indicators of the company's specific activity can give an objective characteristic of agricultural production efficiency in current market conditions.

Therefore, it is necessary to use various meters in agricultural management accounting, control and analysis

in order to calculate balanced indicators for integrated assessment of agricultural production efficiency. This system of balanced indicators embrace all units characterizing the efficiency of all types of resources used in agriculture as well as indicators of agricultural production outcomes and sales (crop yields, productivity of farm animals, unit cost, marginal revenue, profit). All these indicators are currently known and are calculated in the traditional units of measurement. However, there occurs a need in agriculture to use additional indicators which characterize the quality of the lands used (arable land, hayfields, etc.), the complexity of agricultural labour, labour intensity, the hazard level of work, etc. For evaluation of these indicators qualimetry units of measurement (points, averaged coefficients) can be used. Energy units in agriculture can be used to assess the agricultural production, since it essentially represents the energy for humans and animals.

Energetic feed units in agriculture are currently being used to evaluate feed at developing feed rations for animals as well as the costs of producing the strategic types of products (e.g., grain) to evaluate the aggregate cost of labour performance (materialized and live labour) and the labour intensity of a particular product manufacturing (the same by the aggregate cost of labour) in energetic units. In this regard, there is a need to make more active steps to improve the system of management accounting in agriculture and to develop its subsystems: operational production (management) accounting and strategic management accounting. A comprehensive, systematic approach to the development of methodical provisions, the tasks of organizing and streamlining the practical operation of management accounting systems into its sub-functions (Govdya, 2016; Kontsevov *et al.*, 2015) is required for achievement of this challenging goal.

Special attention in our opinion should be paid to the development of the strategic subsystem of management accounting being an information base for strategic management. It all depends on the purpose understanding of such development, knowledge of

Table 2: Conceptual model of strategic management accounting development

Parameters	Process of strategic accounting development			Content of strategic management accounting and aspects of its development	
	Form of strategic management accounting and aspects of its development				
	1	2	3	1	2
Purpose, objectives development policy of strategic management accounting	Development instruments: organizational, methodological; standard (development of standards, accounting policies); technical; information technology; software; control and analytical	Composition of elements of form (structure); accounting system; tools of management accounting; accounting objects; equipment; licensed programs of accounting automation; documents; registers; reporting	Communication: direct; inverse; horizontal; vertical; coordination; subordination	Functions: budgeting (planning); control; analytical; information; prognostic; estimating comparative; social	Technological aspects of method development foundations, methodology and practices: principles; assumptions; principles; methods; techniques; requirements; methodology; rules
Direction of development	Structure-method of accounting organisation		Information-accounting result		

strategic management accounting functions, its principles, methods (methods), mechanisms, composition of elements and connections between them as well as other structural aspects of development with the goal of creating relevant, significant and qualitative data on the object.

In addition to all mentioned the above, it is necessary to clearly highlight the aspects that contribute to the development of form (structure) and content of strategic management accounting. The components of development technology and its instruments of management relating to the accounting system on the whole as well as to its subsystem of strategic orientation that is of strategic management accounting shall also be clearly understood (Ivashkevich, 2015). Based on the abovementioned, the concept of strategic management accounting development can be presented in the form of a verbal and graphic model (Table 2).

This model makes it clear that strategic management accounting progressive development process will only be possible with the achievement of harmonization and setting in motion all aspects of form and content of strategic management accounting. There is no and cannot be any simple solution to this problem.

CONCLUSION

As we have already pointed out above, it is necessary to develop a complex solution of issues on improving all aspects of methodology, method, techniques, organization and practices of management accounting. This should take into account the peculiarities of each company, information needs of its management by hierarchical levels of internal management in agricultural economic entity. By implementation of management accounting and its subsystem of strategic direction special attention shall be paid to the level of

professional training of accounting personnel, updating of their professional knowledge and formation of modern science-based organization of work for implementation of strategic accounting procedures.

REFERENCES

Alborov, R.A., S.M. Kontsevaya and S.R. Kontsevaya, 2015a. Improvement of management and its accounting and valuation functions in agricultural production. *Bull. Izhevsk State Agric. Acad.*, 4: 19-26.

Alborov, R.A., S.M. Kontsevaya and S.V. Kozmenkova, 2015b. Prerequisites and simulation of management accounting development in agriculture. *Intl. Accounting*, 15: 37-51.

Anthony, R., 1996. *Accounting: Situations and Examples*. 2nd Edn., Springer, Berlin, Germany, Pages: 560.

Drury, K., 2010. *Management and Production Accounting*. Unity Publishing House, Beijing, China, Pages: 1424.

Govdya, V.V., 2016. Organisation of management accounting in agricultural units: Methodology and practice. *Econ. Entrepreneurship*, 9: 650-655.

Harrison, R., 2011. *Management Accounting*. SPB Publishing, Russia, Pages: 592.

Horgren, C.T., 2004. *Accounting: Managerial Aspect*. Springer, Berlin, Germany, Pages: 415.

Horgren, C.T., 2007. *Management Accounting*. Piter Publishing House, Russia, Pages: 1008.

Ivashkevich, V.B., 2015. Problems of management accounting and controlling theory. *Intl. Accounting*, 7: 2-14.

Klychova, G.S., A.R. Zakirova and N.Z. Safullin, 2014b. Organization of cost accounting of fur farming in controlling concept. *Mediterr. J. Social Sci.*, 18: 219-222.

- Klychova, G.S., A.R. Zakirova, Z.R. Zakirov and G.R. Valieva, 2015. Management aspects of production cost accounting in horse breeding. *Asian Social Sci.*, 11: 308-312.
- Klychova, G.S., L.N. Safiullin and A.R. Zakirova, 2014a. Information-analytical support of cost management in horse breeding. *Mediterr. J. Soc. Sci.*, 5: 193-196.
- Komyshv, A.L., 2002. *Basics of Document Support of Management*. Mir Publishers, Izhevsk, Russia, Pages: 131.
- Kontsevaya, S.M. and G.F. Shurmina, 2008. Strategic accounting and efficiency evaluation of production management systems in a company. *Econ. Agricultural Process. Enterprises*, 2: 28-29.
- Kontsevoy, G.R., S.A. Zlobina and I.A. Mukhin, 2015. Peculiarities of management accounting in agricultural production. *Intl. Accounting*, 37: 16-32.
- Meskon, M.H., 2016. *Fundamentals of Management*. Williams Publishing House, Philadelphia, Pennsylvania, Pages: 672.
- Ober-Chris, J., 1973. *Enterprise Management*. Progress Publishing, Moscow, Russia, Pages: 279.
- Richard, J., 2000. *Accounting: Theory and Practice*. University of Strathclyde, Glasgow, Scotland, Pages: 160.
- Upchurch, A., 2002. *Management Accounting: Principles and Practice*. Springer, Berlin, Germany, Pages: 952.
- Zlobina, O.O., 2006. Improving the economic management mechanism in the poultry management system. *Socio Econ. Tech. Syst. Res. Des. Optim.*, 6: 1-21.