~ ~ ~

УДК 004.91:658.5

## The Information Model of the Controlling Meta-System in the Entrepreneurial Activity Management

Tatiana Ye. Viktoruk\*

Siberian State Technological University 82 Mira st., Krasnoyarsk, 660049 Russia <sup>1</sup>

Received 5.08.2011, received in revised form 12.08.2011, accepted 19.08.2011

The author of the article incorporates insights from the field of management and sheds new light on the evolving role of the information model of the controlling meta-system in the management of entrepreneurial activity.

Keywords: management, controlling, innovations, informatization, industrial enterprises, management, meta-system, enterprises of timber complex.

It has been historically proved that the entrepreneurship remains the main component of the economic system of the society that is called a civilized one. Therefore, the conversion to market relations challenges our society with a lot of complex tasks among which the development of the entrepreneurship fulfils an important function.

The development of the entrepreneurship plays an essential part in achieving economic success. It is the basis of an innovative, efficient and productive economy of development. Nowadays more and more business entities such as educational, health care institutions have an opportunity to show initiative and creative abilities, thus to reduce the gap between the potential and actual development. An innovative economic development is impossible under the conditions of the artificial constraint of the constructive creative power, the freedom of the

business initiative and the mobility of all the required production resources.

Thus, the entrepreneurship as an economic agent and a special creative type of economic behavior constitutes an integral feature of all success achievement factors.

But, to date many Russian organizations are facing the problems of financial insolvency, low liquidity and unprofitability of the activity. The main reason of this is the inefficient application of the management system functioning principles in the new economic environment.

The age of the information economy has led to the complication of the internal environment of modern organizations. Under these conditions the dynamism of the market relations, growing uncertainty, complexity and the novelty of the environment require searching for new organization management approaches, tools and methods. In the modern economic environment,

<sup>\*</sup> Corresponding author E-mail address: tviktoruk@narod.ru

<sup>©</sup> Siberian Federal University. All rights reserved

the integrated methodology and the tools based on this methodology are required which would facilitate the modernization of the organizational, economic, technological and information structure of organizations for the solution of the basic problems of development. The system of controlling can be offered as such a tool.

At the present time, many Russian companies need an integrated methodical and tool basis for supporting the main functions of management - planning, control, account, analysis and the coordination of different aspects of company management. This is, for example, confirmed by the growing interest from many national organizations to account and planning software in the organization. However, just the implementation of programs, though most advanced and expensive, cannot clearly reflect the mechanism of organization in general, and its business processes in particular. Up-to-date methods of management remain insufficiently used and the managers lack the required tools even for making operation plans. And such tools, used by the managers and analysts, differ from one department to another within the same organization and that makes it particularly difficult to receive information required for the management and coordination of its activities. In such case, controlling can solve the problem of integrating the management information within a single organization.

One of the most efficient methods of the controlling introduction under conditions of scarce resources is a step-by-step modification of a company's information and control flows. Its application means a sequenced carrying out of a number of steps, the efficiency of each step can be assessed immediately after the implementation.

Let us single out four stages: goal-setting, the introduction of a management account and accountability in a company, the introduction of planning procedures, the introduction of control mechanisms and procedures.

Stage one – the goal-setting. At this stage the goals of the controlling introduction in a company are defined, the main goal being to make a company more competitive. At the present time the application of efficient account, analysis and planning systems is essential in achieving success. The introduction of such systems alongside with smooth-running supply and transportation mechanisms increases profits of both individual corporations and of entire industries, what reduces time, required by the management to make balanced tactical and strategic decisions, increases the quality of the decisions made, reduces companies' inventories; the working out of well-founded criteria for the assessment of specialists and departments efficiency, the decrease of the transaction costs level; the reliable determination of the production cost of each single product, singling out of any types of costs in a company, the simplification of the company's departments cooperation.

The goals selection is determined by the tools of the controlling, upon which the times of the controlling meta-system elements introduction depends.

Stage two – the introduction of the management account and accountability. At this stage it can solve such tasks as a management's timely receiving of the current information about the company's operation (in a friendly format); the improvement of interaction between the departments, the reduction of time to take managerial decisions due to the decrease of uncertainty, the improvement of the personnel motivation, the output increase, the decrease of the operations labor input, the reduction of the inventory amount and the demand in resources; the optimization of the production capacities utilization, the company's resources consumption optimization.

With this aim the company's structural diagram is made where the departments' incoming and outgoing information flows are shown, and also the databases, existing in the departments («as they are»). Furthermore the main requirements for the management accounting system are specified («the right way»). In particular:

- the users of various information;
- the periodicity and format of the departments' incoming information flows. The following principle must be realized: the less information should be provided as one moves up the hierarchy ladder;
- the periodicity and the format of the outgoing information flows.

The required account forms are made to be used inside of the departments. They must conform to the following aims:

- the change of account registers must result from the events taken place;
- all essential changes, taken place in a company, must be reflected;
- all changes must be reflected at the moment they took place.

Stage three – the controlling planning procedures are introduced – a format for tasks and plans is developed for different departments with the involvement of all management levels. Besides, planning making techniques are identified. The planning must comprise the key indicators of a company's activity, and also marketing, overhead cost budgets and costs norms, profits, investment and financing programs.

The planning mechanisms must use the data of the introduced management account and must be composed in a similar format.

Stage four – the control procedures and mechanisms are introduced –to control the correspondence of the actual indicators to the planned ones; also an early warning system is developed.

Thus, the controlling meta-system must be regarded as a main link in the company's analytical apparatus and managerial decisions integration system. When introducing the controlling meta-system, it is necessary to thoroughly assess those instruments which will be introduced and to compare the complexity of the introduction, the necessity of the obtained relevant information and the adequacy of the obtained organization model to reality. The controlling organizational form should be chosen based on the criteria with account of the specific character of a concrete organization.

For a more detailed understanding of the fact that the ability to quickly and properly select required information is directly connected with the quality of taken managerial decisions in companies, it is necessary to make an interrelation between the relevant information and the controlling meta-system as tool for a company efficient management and long term existence. Speaking about the information which helps the controlling department in its actions and decisions, and consequently which directly influences the making of managerial decisions, it is necessary to mention, that information is not only a part of the controlling meta-system, but, first of all, the controlling as a meta-system needs to be understood as information as well but more concrete, allowing to provide the relationship: «primary documentation – the controlling department – end information - development and making of managerial decisions».

Often the company's general information flow system does not stand up to criticism: the documents circulate too slowly; nobody is responsible for a document entirely, everyone is responsible only for a part of the document. In such a case it makes no sense to incorporate the meta-system of controlling, which should work well into the system which works badly. In that

case the controlling system would work badly since it is based on the information from the common system.

Within the framework of the controlling meta-system introduction in companies, there must be a reorganization and optimization of the whole information flow system (all economic document circulation) in accordance with the companies' management levels. To deliver the relevant information in real time from the lower management level to the higher level and backwards with a possible treatment of these data, a certain class of tools is required. The controlling meta-system with the subsequent informatization can act as such tools.

The use of subsystems and management levels as the elements of the controlling meta-system architecture results in the company activities becoming more transparent and manageable, providing the company's management subsystems integration.

For a more complete and quality realization of the opportunity for the controlling metasystem informatization (as a tool for company management) it is necessary to adhere to the following principles of the information support system building:

- the simplicity and flexibility principle of interbudgetary interaction. For a reliable planning realization and a further reflection of the company's department interaction in the management account there emerges the need in a universal mechanism of the intrebudgetary interaction. The work with the system must be clear and simple for the functional managers of any level;
- the operational efficiency principle.
   Since based on the data contained in the system, the administrative personnel makes decisions relating to the search of the optimum variants to achieve the set

- goals, such data must be received by the personnel in real time.
- the preventiveness principle. The system must enable to diagnose problem centers and have mechanisms to eliminate them;
- the account rules adherence principle.
   The management account being one of the controlling components, must use the main accounting standards and principles, but nevertheless must be independent from the accounting data;
- single data input principle. The part of the data in the management account is taken from accounting. Thus to provide the relevancy of information and to minimize the work load for system data input, it is important that the data from the primary documentation and accounting operations are reflected in the management account;
- the management levels division principle.
   The system must provide the delegation of authority regarding recourse management to any level of management to achieve the set goals;
- the information model building principle.
   The system must provide an opportunity to build the controlling meta-system information model.

It is important that the informatization of controlling as a meta-system allows to develop a analytical system for the management account purposes, to introduce systems of budgeting and automated document circulation, to create analytical sections in accounting, which will allow to form all required data not only for the accounting but also for the management account, budgeting and the controlling meta-system.

Thus, the informatization of the controlling meta-system can help to redirect the companies' activities vector towards the sources of efficiency in all the main functional spheres of their activity.

## Информационная модель метасистемы контроллинга в управлении предпринимательской деятельностью

Т.Е. Викторук

Сибирский государственный технологический университет Россия 660049, Красноярск, пр. Мира, 82

В статье указывается на то, что на сегодняшний день информационная модель метасистемы контроллинга занимает важное место в управлении предпринимательской деятельностью.

Ключевые слова: управление, контроллинг, инновации, информатизация, промышленные предприятия, управление метасистемой, предприятия лесного комплекса.