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Organizational Tools for the Accounting and Analytical Subsystem of the Functionally Advanced Management System for Special Purpose

Organizational components of a functional management system for special purposes are discussed in literature, thematic manuals and guidelines. Yet, issues specific to organizational support are not emphasized there, especially the organization support for the accounting subsystem.

The objective of the study is to highlight the essential aspects of the organizational support to the accounting subsystems in the volatile economic environment.

The starting point in building up the organizing structure for the accounting and analytical subsystem is scrutinizing the accounting functions in a company. The next problem is identification of the areas where functions' performance can be enhanced. Another important problem is distribution of accounting tasks between the accounting personnel. The accounting function, once implemented, changes not only the methodology but the organization of accounting.

The structural components linked with each other and supplied with resources required for accounting functions form the organizing structure of the accounting and analytical subsystem. The main objective of the above organizing structure is distribution of accounting-specific tasks between units and task performers in a way to make the subsystem's operation more effective. This organizing structure differs from the conventional one by newly created units, units combined due to centralization of accounting functions, rational specialization of units through improved forms of tasks distribution and networking, changed links of units, changed system of units' subordination.

The most important feature of this organizing structure is highly efficient information processing and control, performed by the accepted methodology.

Training of accounting staff is of prime importance for the accounting and analytical subsystem. Qualifications of the personnel performing accounting and analytical functions in a company need to be changed in view of maximizing the efficiency of accounting.

Keywords: *functionally advanced system for special purpose, accounting, accounting and analytical subsystem, tools, organizing structure.*

Problem setting. Organizational components of a functional management system for special purposes are discussed in literature, thematic manuals and guidelines [1–9]. Yet, issues specific to organizational support are not emphasized there, especially the organization support for the accounting subsystem, which still remains out of scientific focus. No works could be found, devoted to organizational support for accounting in the volatile economic environment, with comprehensive analysis of the related issues. Studies on the functions of accounting at company level tend to address only selected aspects of organizational support of the functionally advanced management system for special purpose. Almost all the company managers surveyed by us believe that they have the necessary facilities, equipment, and staff. If so, high performance of tasks related with accounting and analysis would require only accounting professionals, with no other organizational support. The limitation of this approach is obvious: recruitment of professionals performing the tasks of accounting and analysis, although necessary, fails to solve the problems of organizational support to the accounting function in a functionally advanced management system for special purposes.

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Results. In view of the above objective, the notion of organizational support for the accounting subsystem needs to be defined. It is defined as a set of methods and tools for interaction between company operative units and individual task performers for effective solution of the accounting problems.

A universal method for building up management structures has not been yet devised, their building being typically based on heuristic methods.

The starting point in building up the organizing structure for the accounting and analytical subsystem is scrutinizing the accounting functions in a company, to group tasks of management personnel with descriptions of their implementation process. Simply put, accounting functions constitute a set of problems solved by company management units and accounting personnel.

Accounting functions cover registration, collection, transmission, processing of information and use the produced results. Investigation of accounting functions, therefore, covers information aspects of accounting, use of primary data, information flows, scopes of processed information and outputs. Because the process of problem solution in accounting constitutes a set of standard procedures and their information support, it enables to set up the sequence of their execution depending on logical and technological linkages in the accounting subsystem. Ultimately, this investigation will give an idea about the structure of accounting functions performed at various management levels.

The next problem that needs to be solved by investigating the accounting and analytical functions is identification of the areas where functions' performance can be enhanced. When accounting tasks are not clearly fixed for company units or employees, some of them may fall out of sight, with another not solved fully or duly in time.

Another important problem to be solved in investigating accounting and analytical functions at company level is determined by the specifics of the effective solution of accounting problems; it is a distribution of accounting tasks between the accounting personnel. The accounting function, once implemented, changes not only the methodology but the organization of accounting.

The unstable economic environment has immediate effects for accounting and analytical functions performed by management personnel, change the management structure and links between company units. When certain accounting functions are transferred to computing machines, with the subsequent reduction in handwork, this trigger change in accounting and analytical functions, with the ensuing change in company management.

Accounting and analytical functions are grouped by computerized and handmade ones by the assumption that a computer is a perfect and reliable tool for information processing, but only a human is capable for taking relevant decisions on the basis of the processed data. Distribution of accounting and analytical functions between computer and man need not to be seen as an isolated event but as a continuing technological process that strikes the dynamic balance between the components of a management system.

Only a comprehensive study of accounting and analytical functions in terms of their capacity for full-scale processing of information, relevance of elementary accounting functions to the accounting objectives and rational distribution of functions between computerized and "handwork" parts of a management system can lay the basis for building up the organizing structure of the accounting and analytical subsystem of the functionally advanced management system for special purpose. Applications of advanced computer technology for information processing and decision making won't be possible without re-organization of management as a whole and the accounting unit in particular.

The structural components linked with each other and supplied with resources required for accounting functions form the organizing structure of the accounting and analytical subsystem. They should be determined with due regard to all the functions of the subsystem, enhancement of productivity and quality of work of the management

personnel. The main objective of the organizing structure of the accounting and analytical subsystem is spatial and temporal distribution of accounting-specific tasks between units and individual task performers, setting up the interactive hierarchy of the structural components, which will make the subsystem's operation more effective. The organizing structure of the accounting and analytical subsystem differs from the conventional one by newly created units, units combined due to centralization of accounting functions, rational specialization of units through improved forms of tasks distribution and networking, changed links of units, changed system of units subordination.

The most important feature of the new organizing structure of accounting at company level is more efficient information processing and control, performed by the accepted methodology of accounting and analysis.

Being a component of company management with accounting-related specifics, the organizing structure of the accounting and analytical subsystem is nevertheless built by a number of more general principles: functional structuring of accounting is based on rational forms of task distribution between units and networking; apart from purely functional units, the unit for information processing is included; units and individual performers are linked via the unit of information processing.

Because building up the organizing structure for accounting functions is a difficult and time-consuming process, a tool should be developed for building organizing structures of special purpose, considering company specifics and constraints imposed by technologies for effective accounting and analysis. This tool can involve building up organizing structures through synthesis of individual structural components.

Building up the organizing structure for accounting brings forth radically new principles and methods in which conventional formats of documents are not acceptable. The following documents need to be made up and used: the plan of links between accounting problems; the functional and technological plan for accounting; the structural and information plan of accounting, the plan of accounting organization in a company.

The above documentation will ensure compliance with the system approach to building up the organizing structure of accounting at company level with due regard to the information processing technology. The plan of links between accounting problems will show causal links of problems with their solution hierarchies. Some functional and technological plans for problem solution in accounting show spatial and procedural solutions of individual problems in accordance with technological processes of their solutions.

Structural and information plan of accounting problems shows their distribution between units and performers, with information links in the time cycle. Building of structural information plans should be preceded by compilation of the nomenclature of accounting and analytical tasks with distribution by units and performers.

The consolidated working document, the project of accounting organization in a company, is made up of the plans of links between accounting problems. This may entail the need in establishing new units or reorganizing existing ones, revision of accounting and analytical functions of units and performers, bringing the staff in conformity with the new organizational structure etc.

The above mentioned working documents should be linked to each other, and development of the organizing structure of the accounting and analytical subsystem needs to be regarded as part of works on building up the organizing structure of company management. Once the above requirements are met, this will allow for the system approach to building up the organizing structure of accounting.

The aforementioned adjustments in accounting will not change the organizing structure hierarchy. The essential novelty is that the units on information processing are incorporated in the existing structure. However, the organizing structure remains unchanged at various operative phases of the accounting and analytical subsystem.

The diagram given in Fig. 1 seems to be typical for the early phases of implementing the subsystem for accounting and analysis.

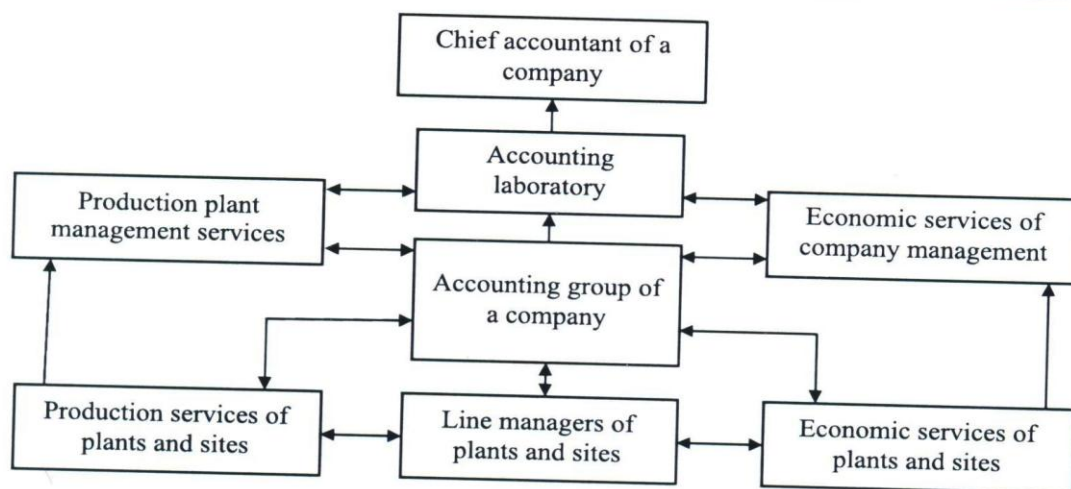


Fig. 1. Accounting and Analytical Subsystem for Management Systems of Special Purpose at Early Phases of Implementation

Source: developed by the author

This organizing structure of accounting is prevailing. Here there is no more urgent need for a radical restructuring, with the only one brand new unit, which is the accounting group of a company. Its objectives are: setting up accounting problems and constructing their algorithms; development of effective technologies for analytical processing of accounting data; storage and scrutiny of accounting and economic data.

The accounting group, engaged in centralized data processing, will be linked with the line management system and all the functional services, and with the system of company control. These links will be set through input data supply by the units, information processing and producing output data for these units and top management.

The important role in the organizing structure of the subsystem will be with the accounting laboratory, subordinated directly to the company chief accountant. Its significance as performer and coordinator of accounting works in a company will always be high, regardless of the management functions. This fact has been repeatedly emphasized by many leading scientists and experts in accounting. But the laboratory's significance will be increasing in the context of functionally advanced management system for special purpose, in parallel with the increasing scopes of accounting at company level. It results from radical functional change of the laboratory, with handing over a major part of technical work in accounting to the accounting group of a company and focusing on organizing and methodological tasks.

The laboratory of accounting has the following functions: adaptation of sectoral accounting methodologies to company specifics; development of own methodologies; development of a broader program for accounting and analysis in a company; making up individual, structural and consolidated plans of accounting and economic analysis; development of formats for accounting and analytical information.

Structure and functions of the laboratory of accounting in functionally advanced systems of special purpose may vary depending on the size and production profile of a company and staffing of managers.

Given the instability of functionally advanced systems of special purpose, accounting is still a function of economic and technical services, line managers of plants and production sites. However, the nature of accounting and analytical work in these units has substantially changed. Of the technical operations, these units have kept functions of input data preparation, along with the increasing scopes of accounting work performed on documentary basis. If the staff engaged at initial phases of accounting is not cut, the efficiency can be enhanced another way, through enhancing the accounting quality, analyticity and operational efficiency.

A more substantial qualitative change in the organizing structure of accounting can result from higher efficiency of accounting and analysis, with reasonably full coverage of relevant tasks and procedures. The diagram of the organizing structure, shown in Fig. 2, seems reasonably adequate for this phase of implementation of accounting functions.

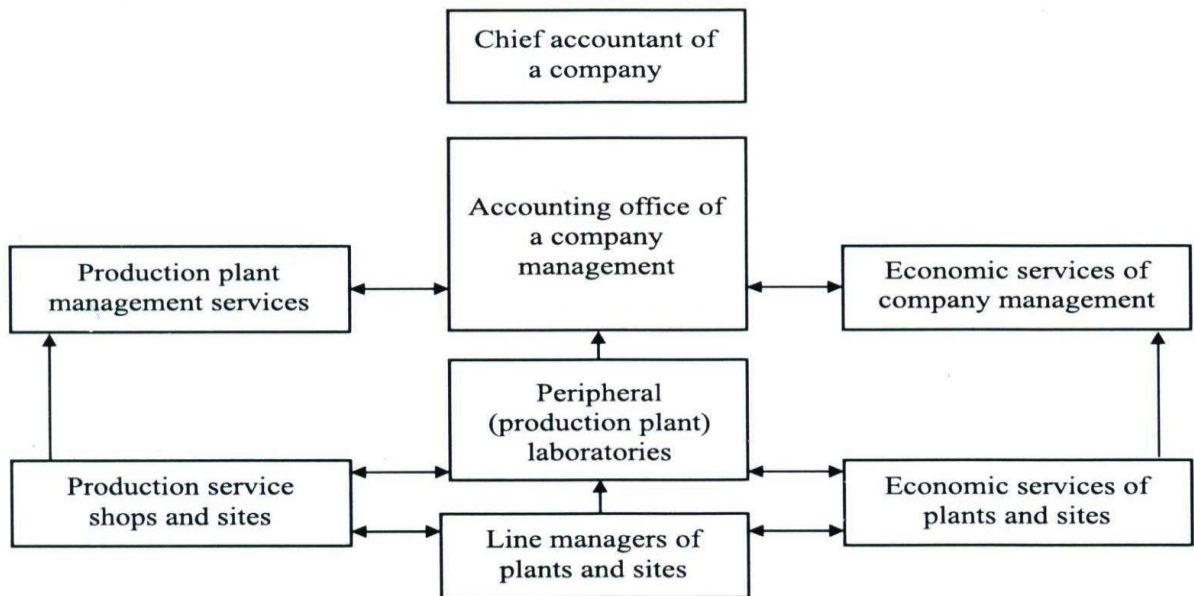


Fig. 2. Organization of the Accounting and Analytical Subsystem in Functionally Advanced Management Systems for Special Purpose at Higher Level of Implementation

Source: Developed by the author

The basis for building up the organizing structure of this type is laid by (i) the developed technical facilities incorporating peripheral laboratories that perform accounting and analytical calculations for plants and production sites, and the accounting office of the functionally advanced management system for special purpose, which makes computations for the whole company; (ii) skilled staff with competencies and qualifications in both accounting and information processing.

The distinctive feature of this type of the organizing structure is that the only focal point of accounting and analytical work at the company will be the accounting office at the department of functionally advanced management systems for special purpose, which will take on all the methodological and organizational functions. High efficiency of accounting will enable to reduce the staff performing accounting and analytical functions, with their re-allocation between units. The staff engaged in input data processing will be increased, whereas the staff engaged in accounting at plants, production sites and administrative offices will be cut, because these units will need small numbers of highly competent professionals.

The organizing structure of the subsystem of accounting and analytical support is formally established in a company by the regulation on structural units, where accounting tasks and procedures, rights, accountabilities and links, manuals and standards, job descriptions are fixed. In particular, implementation of accounting and analytical calculations will require "Regulation on Accounting Bureau of Functionally Advanced System of Special Purpose" and some adjustments in the provisions on existing units, as well as preparation of methodical and instructive documents for each task: task description, instructions on filling input documents, instructions for processing input data, instructions on work with output documents etc.

Changing technologies for problem solution in accounting radically change work tasks of various categories of personnel, resulting in the need to adjust job descriptions.

The performance of the accounting and analytical subsystem to functionally advanced management system for special purpose is wholly dependent on the professional competencies of staff. Neither the organizing structure of the subsystem nor the management tools will have the desired effect if the management personnel have no capacities and skills required to use the accounting methods.

Training of accounting staff is of prime importance for the accounting and analytical subsystem. It is impossible to disagree with many company managers who say that the volatile environment of today calls for training of staff on accounting of economic data, capable to organize all-inclusive accounting in a company. We believe that academic programs for accountants and analysts of economic information in technological HEEs should have stronger focus on the discipline "Accounting in economic sectors".

Practices of accounting and analysis at company level show a tendency towards specialization, with the following newly emerging functions of accounting: methodological development, system solutions, task setting, programming etc. As the specialization differentiates significantly the functions performed by personnel of the accounting and analytical subsystem, economists or accountants of economic information are replaced by accounting methodologists, system engineers in accounting, accounting programmers etc.

The main task of accounting methodologists is development of methodologies or instructions or customization of standard accounting methodologies or instructions, organization of accounting in view of business efficiency and quality enhancement. It is accounting methodologists who set up work tasks for other personnel in the subsystem. An accounting methodologist, therefore, needs to have good awareness of theories and practices of accounting, of principles and purposes of the market economy, of the capabilities of advanced computing devices etc.

Regarding system engineers in accounting, they are expected to solve broader system problems, such as building up information links between sets of accounting problems, formulation of the requirements to parallel functional subsystems of the advanced management system for special purpose etc. These work tasks require good awareness of information-related aspects of accounting and efficient data processing technologies.

Accounting programmers are the largest group of personnel in the accounting and analytical subsystem. They are responsible for development and control of task sets in the subsystem.

Task programmer in accounting needs to be good at accounting methods and practices of its organization at company level, at specifics of information support to accounting and analytical tasks of the functionally advanced management system for special purpose; needs to know more than one algorithmic language of programming, to have a good idea about capabilities of technical facilities to be used for problem solution etc. Practices show that accounting and analytical problems cannot be set correctly without appropriate knowledge of information and technical aspects.

Strict criteria are set for the competencies of engineers who develop software for accounting purposes. These professionals need to know essential accounting methods, to construct charts and programs implementing any algorithm, to make analytical comparisons of the capabilities of various programming languages for individual tasks, to know software installation and rational organization of computation process etc.

Qualifications of the personnel performing accounting and analytical functions in a company need to be changed in view of maximizing the efficiency of accounting. This refers to optimization of the personnel's effort within the subsystem, which encompasses the measures to bring the personnel's effort in match with the objectives of the subsystem and with the overall objectives of the special purpose management system. This means that the work of the personnel within the accounting and analytical subsystem needs to be based on comprehensive and coherent use of legal, economic, psychological and

other methods of influence on the personnel, to bring their effort in correspondence with the company strategy.

Conclusions. The structural components linked with each other and supplied with resources required for accounting functions form the organizing structure of the accounting and analytical subsystem. The main objective of the above organizing structure is distribution of accounting-specific tasks between units and task performers in a way to make the subsystem's operation more effective. This organizing structure differs from the conventional one by newly created units, units combined due to centralization of accounting functions, rational specialization of units through improved forms of tasks distribution and networking, changed links of units, changed system of units' subordination.

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**Організаційний інструментарій підсистеми
обліково-аналітичного забезпечення у функціонально розвинутих
системах управління спеціального призначення**

Розкрито основні, найбільш важливі сторони спеціального організаційного забезпечення підсистеми бухгалтерського обліку в функціонально розвинутих системах управління спеціального призначення за сучасних нестабільних умов функціонування економіки в Україні.

Ключові слова: функціонально розвинута система управління спеціального призначення, бухгалтерський облік, підсистема обліково-аналітичного забезпечення, інструментарій, організаційна структура.

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**Организационный инструментарий подсистемы
учетно-аналитического обеспечения в функционально развитых
системах управления специального назначения**

Раскрыты основные, наиболее важные стороны специального организационного обеспечения подсистемы бухгалтерского учета в функционально развитых системах управления специального назначения в современных нестабильных условиях функционирования экономики Украины.

Ключевые слова: функционально развитая система управления специального назначения, бухгалтерский учет, подсистема учетно-аналитического обеспечения, инструментарий, организационная структура.

