

ECONOMIC INFORMATION SYSTEMS: ITS VALUE, COMPONENTS, PLACE AND ROLE IN THE MANAGEMENT OF THE ECONOMIC OBJECT

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The article deals with the meaning of an economic informational system. The place and role of an economic informational system in the network of economic object management are detected. The structural model of economic informational system basic components is suggested and described on the basis of scientific material generalization.

Information systems are intended for management of economic processes in economy. To understand what an economic information system represents, it is necessary to define its role and a place in management of economic object. The requirement for management arises when it is necessary to coordinate the actions of any team members, united for achievement of their mutual aims (maintenance of stability functioning of an economic object in the conditions of a competition; reception of the maximum profit; aspiration to enter an international market, etc.)

Receiving the information from the environment, the subject of management forms the purpose of manufacture and develops requirements for accepted decisions (for this purpose it has employees of administrative personnel who formulate the strategic and operative purposes; develop corresponding plans). The main task of the object of management is the performance of these plans, in other words, maintenance implementation of an activity for which the given economic system (the object of management) was created.

The stream of the directive information enters into direct communication to the subject and the object of management. Feedback is accounting information on the execution of plans and decisions. The directive information is created by administrative personnel according to the purposes of management and the information on the environment. The accounting information is formed by the object of management and reflects an internal economic situation. It takes into account the degree of influence on an economic situation of the environment: delays

of payments, infringement energy supply, weather conditions, political situation in a region, etc.

The environment influences on the subject of management, because administrative personnel decisions also depend on a variety of external influences: a market condition, a rate of inflation, tax and customs policy, size of interest rates, etc.

The information system of economic object is the interaction of information streams of a straight line and feedback, a set of means of processing, storage and transfer of data; interrelation of all members of administrative personnel. The information system is a part of a contour of the management object.

The basic difference of economic information systems from other information systems (technical, ecological, medicine etc.) consists in the fact that they process only the economic information. In other words, the economic information system is the system which is used for storage, search, processing and delivery of the economic information by inquiries of users.

The place of economic information system in a management contour is illustrated by the following movements of the information. In economic information system the information from the object of management can be formalized, that can be presented by a quantitative (mathematical) kind, systematized according to the accepted criteria, processed by means of the computer.

All economic objects are complex systems because they have hierarchical structure and numerous interrelations between the object of management and the subject of management. And participants of management can set tasks

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that are not the same as the system's purpose at all.

This phenomenon is called the discrepancy (inconsistency) of the purposes or an inconsistency of management criteria. The process of management is characterized as multifunctional which is demonstrated by its basic functions implementation in the process of management: planning, controlling, analyzing and regulating.

In the conditions of external influences the economic system tries to keep quality of integrity which characterizes its ability to resist the negative influences of the environment. Thus, the organizational-economic models are used, and they can give the information about an image of object, and the problem of adequacy of these models and object gets great value. Any model always differs from object in details, but it must reflect its basic essence. Models are subdivided on functional (which describe dependence «an exit from an input») and structural (which reflect also the structural organization of an object).

The economic information system is a difficult, hierarchical system. It is a model of an object which reflects real processes, occurring in an object, through a prism of information technology. A variety of economic objects leads to a great number of economic information systems which can be classified according to different signs. Economic information systems of the enterprise are distinguished among themselves by means of the level of application and administrative division, by means of sphere of application — economic information systems are used in banks, in stock markets, in insurance, in taxation systems, in industrial enterprises and organizations, accounting and statistical economic informational systems. As well as any complex system, economic information system consists of separate elements - subsystems of different levels.

These elements cooperate with each other and they form the structure of economic information system, which has two parts: providing and functional.

The providing part of economic information system consists of the following kinds of maintenance: information support and technical, program (mathematical), linguistic, methodical, organizational, legal maintenance.

Information support is the total combination of data, which is presented in the special form by means of computer processing.

The information is necessary for administrative personnel as raw materials to an object. But it is formed as a result of specific "raw materials" (the initial data) processing. These data reflect the concrete economic-financial facts; the state of system; the processes proceeding in an object; they have material carriers (documents, signals from gages, magnetic elements of memory, etc). The economic information system deals with two types of information: external (in view of communication with an external world) and internal (circulating between administrative personnel and an object of management).

Specific features of the external information are its nearness, discrepancy, insufficiency. It is the information on the state of markets and competitors, on forecasts of interest bearing rates and the prices, on a tax policy, on the general economic situation, etc. The external information is of likelihood character and its direct computer processing is difficult. However, today the management of difficult objects demands the employment of such information, and it leads to special systems creation - expert, capable to give most precise forecast on the basis of the nondeterministic and incomplete information.

The internal information arises in the system of management and reflects a state and development of the object in different intervals of time. Its features are more precise and suitable for computer processing.

The use of these types of information depends on management level. The external information is more interesting to the highest level; at the operative level the internal information is used; at the average level — both external, and internal. Both types of information form the information base, which is the base of the economic information system. This base consists of two parts: extra machine and intramachine.

The extra machine part of the information base is the information which operates with the economic information system without technical means (documents). On the contrary, the intramachine information consists of files and machine. This part of information base is created either as a large number of independent files, or as a database. Files, which create a database usually, are dependent from each other and the structure of one file is defined by the structure

of others. Files from a database are processed by means of a special software – control systems of databases.

Technical maintenance is a personal computer, office equipment, the equipment of networks. It's a kind of information technology, which depends on technical equipment (manual, automated, removed) and influences on gathering, processing and information transfer. Computer facilities development isn't necessary on a place. Computers are equipped with such communication devices as high-speed modems, great volumes of memory, scanners, devices of recognition of a voice and a hand-written text.

The software is in the direct dependence from technical and informational support, and it implements such functions as accumulation, processing, analysis, storage, computer interface. It includes a set of programs, which implement the functions and tasks of information system and provide steady work of complexes of technical means. There are general systems and special programs into a software structure, and also instructive-methodological materials about the application of the software means.

They regulate activity of the personnel of information system. In the course of the management maintenance problems decision of this kind, interaction of workers of administrative services and the technological personnel with the technical means and among themselves are defined. Organizational maintenance is implemented in various methodical and supervising materials on the stages of working out, introduction and operation of the information system. Moreover, it is formed during predesigned inspection, technical projects and feasibility report drawing up on designing, decisions working out in the course of designing, a choice of automated problems, typical design decisions and packages of applied programs. What's more, it is reflected in technical documentation, and in the course of introduction of system and its operation is corrected and replenished in the process of expansion of solved problems circle.

Software is a set of mathematical methods, models and algorithms of the information processing, which is used for the decision of functional tasks and in the course of designing works automation. The software includes the similars of processes of management, methods

and means for the decision of typical problems of management, methods for optimization of investigated administrative processes and decision-making (methods optimization, mathematical programming, the mathematical statistics, the theory of mass service).

The linguistic maintenance unites a set of language means for formalization of a natural language, construction and a combination of information units during dialogue of users with computer aids. The linguistic maintenance includes information on languages for the description of structural units of the information base (documents, indicators, requisites, etc.); languages of management and a manipulation of the information base's data of the information system; language means of information retrieval systems; language computer-aided design facilities of the information system; dialogue languages of a special purpose and other languages; system of terms and the definitions, used in the course of working out and functioning the automated information systems.

Legal maintenance represents a set of rules of legal relationship law regulating during the creation and introduction of the information system. At the stage of the development of the information system legal maintenance includes the statutory acts connected with the contractual relations between the developer and the customer, with legal regulation of various deviations during this process, and also the certificates, which are necessary for maintenance of process of working out the information system by various kinds of resources. Legal maintenance at the stage of information system functioning includes definition of their status, their legal status and the competence of the information system's links in the organization, the rights and duties and responsibility of the personnel, an order of creation and information use in the information system, procedures of its registration, gathering, storage, transfer and processing, an order of acquisition and the use of computing and telecommunication techniques' and other means, creation and use of the software.

Ergonomic maintenance as a set of methods and means used at different stages of the development and functioning of the information system is intended for creation of the optimum conditions of high-quality, highly effective and faultless activities of the person in the informa-

tion system for its fastest development. Into the structure of the ergonomic maintenance of the information system the following components are included: a complex of the documentation containing ergonomic requirements to workplaces; information models; personnel activities conditions; a set of the most expedient implementation ways of the requirements and implementing ergonomic examination of their fulfilling level; a complex of methods of the methodical documentation; the means providing a substantiation and the formulation of requirements to level of preparation of the personnel as well as to the system formation of selection and preparation of the personnel to the information system; the complex of methods and techniques providing high personnel activities efficiency in an information system.

The considered providing subsystems of the information system, as a rule, are similar by structure to the information systems of various economic objects.

The functional subsystems entering into the information system, depend on the type of prima-

ry activities of objects (economic, industrial, administrative, marketing, logistical, etc.), on their spheres of functionally orientation (making production of this or that kind, rendering services transport, financial, bank, insurance, etc.), on the levels of administrative activity (nation-wide, regional, municipal, etc.). At designing the information system the requirements of workers of an average control link (experts-managers) are considered because they implement their functions on the concrete sites of administrative activity (financial, industrial, investment, logistical, etc.) and they are active participants in the organization of the information process, too. The structure, the order and the principles of the functional subsystems interaction depend on the purpose of economic object functioning. The main principles of the allocation of independent subsystems, complexes of problems and separate calculations are considered to be their relative independence, i.e. the presence of the object of management, the presence of a concrete set of functions and problems corresponding to them with an accurately expressed purpose of functioning.

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