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Modeling of business processes of industrial enterprise on the basis of modern information systems with the account of theoretical and legal approaches to the analysis of information security

This article analyzes the development of the concept and modeling of business processes of industrial enterprises. Information security over the past two decades is the subject of current research in various fields of knowledge. However, features of the general information security structures remain open enough that hinders the process of realization of the systems of information security and adversely affects the formation of the state information policy, so the attention is paid to these features, the classification analysis was performed.

Development and introduction of methods to study the dynamics of functioning of complex systems, which include industrial interprises is one of the most difficult problems of modern science. It should be noted that all known approaches to modeling the LC of the product in the IIE company belong to the methods of modeling techniques AS, where one of the fundamental concepts is– model[1–4].The aim of the article: although the model is somewhat simplistic image of the real system within the system imposed limitations and assumptions, practical implementation of the enterprise process modeling involves the two relatively complex tasks.The first problem is linked with the concept of choice modeling, thatis the definition of model type (or maybe models), which would be adequate on substantive research within limitations imposed on the system. The second problem is directly linked with the development model of enterprise within the chosen concept through existing or developed their own methodologies for analysis and design of complex systems. The problem is compounded by the fact that the concept of representation systems, processes and phenomena in the form of models, as noted earlier, is so common that almost impossible to establish a classification scheme that affected to all possible approaches to modeling methodology. Models can be categorized as: static and dynamic, deterministic and stochastic, discrete and continuous, analog or character, and others. This classification is not exhaustive, such a model can consist of discrete and continuous components. Thus, using the classification model may include as least one of the 24 different categories.Thus the problem of choosing the correct type of model industrial enterprise that would adequately describe production processes are rather complicated and complex. The solution lies in research and analysis of the management structure of the company which will outline the subject area and define the concept of modeling.The theory of designing advanced information management systems represented two approaches - the structural and process. The structural approach is based on the use of organizational structure as a basis for the simulation of production processes and management processes. At present, almost most of the domestic enterprises a functional management structure. Such management organization based on the

principle teylorovskomu consistent implementation of labor operations. The main drawback of this approach is linking to the organizational structure, which is to maintain competitiveness in the current economic environment must constantly change, focusing on satisfying customer requirements. In this situation, functionally-oriented management system begins to not work effectively due to the following reasons [4]:1. Employees of structural subdivisions are not focused on tasks targeted enterprises and their vision processes usually do not go beyond their unit.2. Most of the actual production processes at the plant includes many features that go beyond individual units. Due to the vertical hierarchy of information exchange in terms of functionally oriented business development management decisions is too long, leading to the loss of market position.According to analysts' estimates the interaction between units is as follows: 20% of -execution and 80% -the transfer of its results next performer (division).

Second, process-oriented approach to business management allows for maximum flexibility and speed of production management restructuring business processes that are the basis of this approach.Under the principle of process approach the production of goods, services and management now regarded as a set of interrelated processes and each process - a whole set of directed operations, transforming "inputs" process "outputs" and have their "suppliers" and "consumers". The implementation of this principle radically changes the approach that has emerged, the management, the basis of which, as noted earlier, is a hierarchical organizational structure. Process approach involves:detection and identification of existing processes;analysis and, if necessary, design new or redesignexisting processes;establishing clear responsibility for processes (as opposed to features and elements);organization resource provision processes, definition of internal and external suppliers and customers;identification of performance criteria fulfillment processes, buildingmeasurement systems and analysis of process parameters.

The above problem solved by modeling business processes using the process (functional) model enterprise. In a variety of literature on modeling of processes and systems [3] can be found differences in the interpretation of the names and functional models. Sometimes referred to as a process, sometimes procedural or models of system behavior.The functional model of the system is a set of subsystems and functional relationships that describe the order of interaction of subsystems within the system submitted during its operation [6].It should be noted that the use of a process approach to modeling the operation of enterprises, functional model is somewhat declarative description in terms of the information environment of the enterprise and its organizational structure, as it represents only a hierarchical structure of business processes.Detailed analysis of the operation of businesses provides for the structure and content of information flows, organizational and technical systems that are responsible for the execution of business processes.Thus, the model of the modern industrial enterprise policy is focused on the constant changes in the markets in a highly competitive and implements process-oriented approach, can generally be represented by a set of functional, organizational and informational models where organizational model describes the composition and structure of units and services company, and information model describes the flow and content of information that exist in the

functional and organizational models.Having defined the concept of modeling, necessary make research of modern methodology of analysis and design of complex systems, which will help develop models of enterprise.Ones of the most powerful analysis and design methodologies is methodology of SADT - Structured Analysis and Design Technique-Technology of structural analysis and design, been offered in 60-ies.The basis of the approach SADT include a graphical description language (modeling) systems, characterized by the following properties [1]:graphic language - full and expressive method capable of visually represent a broad range of business, industrial and other processes and operations of enterprise on any level of detail;graphic language provides accurate and concise description of objects, convenience of use and interpretation of this description;graphic language facilitates interaction and understanding of system analysts, developers and staff of subject is a means of "information communication" many experts and working groups involved in same project in the process of discussion, criticism and approvals of results;languagecan be generated by a number of software tools.In the late 70-ies was proposed and implemented Program computer integrated manufacturing support program ICAM, aimed at increasing the efficiency of industrial enterprises with a wide introduction of computer (informational) technology.Implementation of the ICAM program require create adequate methods of analysis and design of production systems and ways of information exchange between professionals involved in these problems.To meet this need in the framework of ICAM was developed IDEF (ICAM Definition) methodology, which is based on the principles of SADT and allows you to explore the structure, parameters and characteristics of industrial technical, organizational and economic systems.General methodology of IDEF consists of private methods based on graphical representation of systems that allow it to reduce time responding in a production environment with fast and constant changes of business processes by providing tools for enterprise professionals for:adequate perception and understanding available nowadays environment;develop proposals for possible changes in the environment;testing alternative solutions;prediction of the impact of future changes;successful implementation of changes in the company.

The beginning of the third millennium was marked by large-scale transition to the new concept of development – global information society. Information is a valuable source of knowledge, a means of development to which everyone should have a full access.The states which are in the forefront of informationdevelopment, endeavor to overcome the digital gap both between countries and among individuals, and establish the values of freedom, justice and peace, recognized by the Universal Declaration of Human Rights.Ukraine does not stand aloof from these processes, trying to gradually enter into the world arena of information as a full participant.

However, intensive information development that causes the penetration of ICT in all spheres of public life, in addition to significant potential for self-organization and self-realization, has a number of new threats on a global scale, including - cybercrime and cyberterrorism, the erosion of national identity, disregard of the moral foundations of society, and a manipulation of consciousness.In such circumstances, prudent information policy is of strategic importance, which puts a

focus on of the function of information security, and theaim of building a legal state determines the priority of legal forms and methods of their implementation.

Thus, the theoretical and legal research on information security and its provisioning, including the state and legal components is important and necessary.

Selection and adaptation of scientifically developed methodological approaches, among which the active, functional, system, and classification approaches being the most helpful for the research on information security which serves as a function of the state:1) understanding the variability of information security and its functioning as a system comes from the fact that they have their own subsystems, and at the same time can be subsystems for some other systems, including government, legal, national security, etc; and, as a subsystem, information security and its enforcement acquire the distinctive characteristics of the systems to which they belong due to the nature of these systems;2) Characteristics of enforcement of information security as a state activity, functions of a state generally and each of its bodies separately become the most important in the state system; in the system of national security - as a countermeasure to threats to national security in the information sphere, creation of conditions for safe human existence, society and state in the information environment; in the legal system - as legal forms of its implementation, peculiarities of legal regulation, legal guarantees and legality;3) Each of the subsystems of the state and legal information security should be thought of as the system of the state activity, normative legal acts, tools and techniques, guidelines etc.4) an active vector of information security, its general andindividual aspects, combined with a systemapproach will help to form a coherent area of knowledge about the current information security which will reflect the natural features of this phenomenon, including: variability of displays, including inalienability of such of them as the information &technology, information&legal, informational&psychological security; supremacy of the humanistic paradigm of the information security over technical and technological, with a focus of meeting the needs and interests of the individual and society; dialectical nature of the information environment showcases the subjectivity of the optimal combination of positive and negative factors necessary for informational sustainable development; the continuity of the relationship of the information society with the purpose and performance of information security; the synergy of information security, which leads to self-organizing inalienability component of information security; subsidiarity in the ratio of state and non-state provision, which defines the limits for government interference in the information security of the person and society;Complexity in the selection of means and methods of information security, providing its sufficiency and optimal results;Globalism, transnationalism, and consolidation in the enforcement of the information security in the development of the global information society and full entry of all members of the global community in the global information space.The legal reflection of the proper level of information security is a set of legal conditions that ensure optimal functioning and development of actors in the information environment, a part of which, as a form of existence of law, is the information on possible, proper and prohibited in human behavior. It is possible to input the concept of "information and legal security" and associate it with the legitimacy regime in the information sphere and consideration

of legal information as a special subject of information relations, universal organizational tool, which is an important instrument of state enforcement of information security and, at the same time, object of protection.

The legality is the organizational and ideological foundation necessary to achieve such high goals as the development of civil and information society and the development of the rule of law. The legality in the information sphere of society's and state's life will actively foster these processes and will ensure the stable informational development of the society, effective interaction between members of society and the state, which in the essence is the purpose of enforcement of information security.The efficient effective information legislation is the legal guarantee of legality in the information sphere. The efficient effective information legislation must meet a number of requirements, including:it must be ensured at the level of concepts, principles, definitions that reflect the multidimensionality of information security;high level of legislative technique and terminology package that meets all requirements for the language of the law and the legal terminology;easement of information legislation;predictability of effective mechanisms for implementation;the institute of legal responsibility for violations in the information sphere must be developed and weighted;real life conditions, international standards, trends of society's development and balance of the interests of the state, society and individuals must be adequately reflected in the information legislation.

Conclusions.

IDEF methods [1] can reliably and efficiently completeengineering tasks at the plant during its development.They are designed both for stand-alone operation within the solution of specific problems in certain areas, and for work together as a conceptually integrated set of methods to support the development of the system.Admittedly, the content of conceptual provisions of Ukraine's information legislation meets international standards, but they are not fully implemented.

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