



НАУЧНО-ТЕХНИЧЕСКИ СЪЮЗ ПО МИННО ДЕЛО, ГЕОЛОГИЯ И МЕТАЛУРГИЯ
SCIENTIFIC AND TECHNICAL UNION OF MINING, GEOLOGY AND METALLURGY
НАУЧНО-ТЕХНИЧЕСКИЙ СОЮЗ ПО ГОРНОМУ ДЕЛУ, ГЕОЛОГИИ И МЕТАЛЛУРГИИ

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THEMATIC TOPICS

1. **Contemporary technologies, systems and methods in open cast quarrying of coal, ore, industrial raw materials, ornamental rocks and building materials. Mineral processing and recycling.**
2. **Drilling and blasting technique, transport and work safety. Ventilation of the deep opencast mines.**
3. **Information technologies, computer systems, software products in geological prospecting, mine surveying and mining activity.**
4. **New machines and equipments – drilling, excavator, means of transport, spoil and reclamation machinery. Methods and devices for electrification and automation facilities of the processes. Repair activities.**
5. **Draining, stability and consolidation of slopes in opencast mines and quarries. Quarries waste dumps and tailings pools.**
6. **Ecological monitoring. Recycling and waste utilization. Reclamation of broken lands.**
7. **Economy, organization and management of the technological processes and production work in the open and underwater mining of minerals. Markets and realization of the products.**
8. **The mining legislation and his harmonization with European normative base. Education, qualification and specialization of mining experts of opencast and underwater mining minerals.**



THE APPLICATION OF THE INFORMATION SYSTEMS WITH POSSIBILITY AND PARTICIPATION IN SOME INDUSTRY PROCESSES

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ABSTRACT

In this paper the application and the role of information systems and technologies in production processes in the EU members countries and candidates members for EU will be shown. In modern conditions the successful implementation of goals and objectives of the enterprise depends on its effective use of information resources. Information resources are the basis for activities of enterprises in EU, they define their strategic success. Information support of the enterprise depends not only on the availability of information resources and opportunities and implementation of information innovation, streamline information flows of the company, the issues of its effective information interaction with market players as Bulgaria, Ukraine, Macedonia, Serbia, Croatia etc.

Keywords: *information, resources, knowledges, data, providing, method, system, innovations, estimation, infrastructure, space, enterprise, product, forming, informative streams.*

INTRODUCTION

The functioning of enterprises in EU members (Bulgaria) and potential members (Ukraine, Macedonia, Serbia etc.) in the conditions of market economy requires managers and professionals the ability to see perspectives, make informed strategic marketing decisions that will promote the growth of their competitiveness. One of the basic concepts of normal business is management activities. Management as a philosophy of modern business, quality management and economic decision-making directly related to the presence of complete, timely and accurate information about market demand for goods, consumer tastes, market conditions, competitors' actions, etc., as well as the performance object management. Significant amounts of information associated with prompt payments, search and providing relevant information for managers making decisions requiring the need for new, modern information technology.

In modern conditions the successful implementation of goals and objectives of the enterprise depends on its effective use of information resources. Information resources are the basis for activities of enterprises in EU, they define their strategic success. Background information support of business formed under the direct influence of factors of external and internal environment and focusing the company on growing information resources used for management.

Information support of the enterprise depends not only on the availability of information resources and opportunities and implementation of information innovation, streamline information flows of the company, the issues of its effective information interaction with market players. Information support of the enterprise depends not only on the availability of information resources and opportunities and implementation of information innovation, streamline information flows of the company, the issues of its effective information interaction with market players as Bulgaria, Ukraine, Macedonia, Serbia, Croatia etc..

To achieve this goal have been resolved following objectives:

- The essence of information and for activities of industrial enterprises in Bulgaria and Ukraine and the necessity for activities of the enterprise and its main objective;



- The possibility of development of information support on national and regional levels on the example of the Bulgarian company "Bulahro AD machines in the city of Stara Zagora;
- Analyzed the structure and dynamics of market information products and services in Bulgaria and Ukraine;

Functional-based approach methods

The paper used: system-structural analysis (features and the role of information resources in modern enterprises, the analysis of market information products and services in Bulgaria), procedural and situational approaches (with the justification necessary for activities of the enterprise, while developing a coherent organization of information support enterprise development), functional-based approach (the development of fundamental approaches to the formation of enterprise information space), dynamic methods, theory, simulation and optimization method (the construction of information and control system, the formation of decision support systems), graphical methods, methods for expert evaluation, system analysis and modeling (in developing ways to evaluate and select information innovations).

A database study are the results of research on building enterprise Bulgaria "AD Bulahro machines in the city of Stara Zagora. Statistical and factology base were: statistical data of the Bulgarian government, the official materials of the ministries and departments of the economic block.

Scientific novelty of the results

The main scientific result of research is to develop fundamental approaches to building information-control system, formation of enterprise information space and the sequence evaluation and selection of information innovations that are based on the principles and methods of information theory and information systems and enterprise management. Scientific novelty of research results is as follows:

- proposed sequence of formation of information and control systems for industrial businesses, which allows you to build a hierarchical access to administrative information and optimize their management structure and its information flows;
- fundamental approaches to industrial enterprise information space based on his selection of functional and content structure and structural decomposition of the production process as an object of management;
- forms and directions for activities of industrial enterprises in Bulgaria using the proposed decision support system based on the formation of information databases and complex simulation models for enterprises;
- received further development;
- methods and forms for activities of the enterprise;

The practical significance of the results

Developed in the paper approaches, methods and results are methodical base for activities on the basis of principles and methods of information resources management, information and innovation development. In results that are most practical importance, are:

- recommendations for the development of enterprise information infrastructure based on the proposed implementation of a regional information-analytical framework to support their development, thereby ensuring consistency and improvement of information exchange of the market of the Republic of Bulgaria;
- recommendations on the evaluation and selection of information innovations that can solve the problem of a multidimensional comparison of software products and evaluate risk factors for the decision on the choice of information innovation.

The special role of information and information resources of modern Bulgarian, Ukrainian and FYROM enterprises due to their direct participation in any economic processes and the ever increasing level of information the market environment and society in general. The current stage of economic development



requires the use of scientifically-based methods of data collection, analysis, processing and use of information and its interrelated forms, which should promote the potential of enterprise information resources and consistent implementation of its directions of development. Under the provision of business information refers to a set of forms, methods and tools of information resources needed to implement and suitable analytical and administrative procedures to ensure stable operation of the business, its sustainable development perspective.

At the time, the primary role in this process are information and Internet technologies that are still classified as "high technology", but actually has a base that is essential for modern developed economies. The increase in turnover in foreign trade, particularly in the global fate of cumulative export is one of the main factors characterizing the sophistication and competitiveness of national economy, which necessitates the study of industrial development prospects of each country through use of new technologies in foreign offices and industrial centers abroad. It is proved that the search for answers to these and similar questions directly affecting the different aspects of evaluation and selection of information products or services offered and identify factors that determine the "quality system" of information resources. It should be noted that at present no methodology of quantitative and qualitative assessment of information resources, and forecasting needs of society in them. This reduces the efficiency of information as information resources, and increases the duration of the transition from an industrial to an information society.

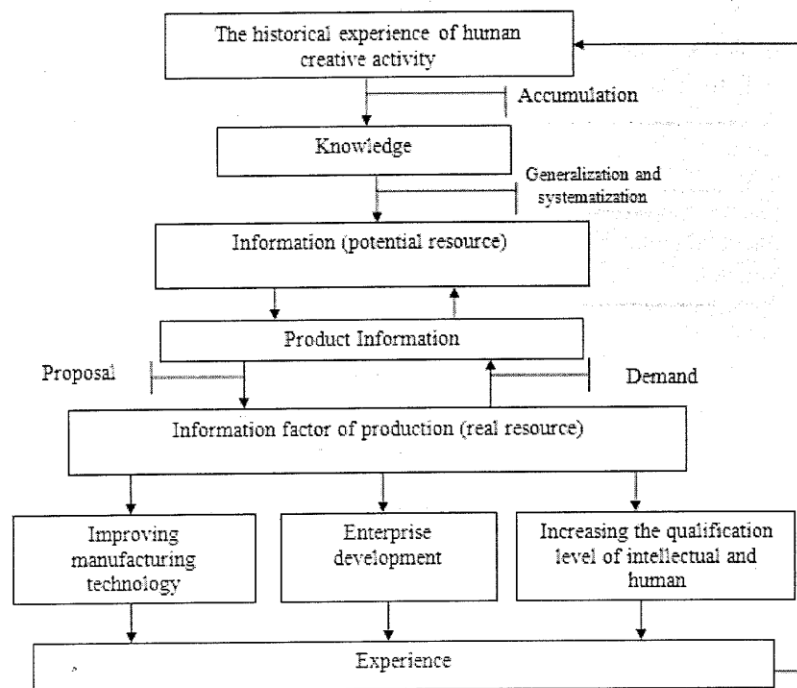


Fig. 1. Reproductive cycle of information resources

Building sustainable market information services in Bulgaria began in mid-50's were at this period the main suppliers of information services were entirely information services of academic, professional, scientific and technical societies, government agencies, educational institutions. The present period of modern information market in Bulgaria is characterized by rapid development and dynamic growth. Such active dynamics caused primarily the development of modern high information and communication technologies as well as general trends go to the global information society.

In Bulgaria today is rapidly forming the market of information products and services. In recent years a much stronger technical and technological base of information is increasing sales volume of information, computers, telecommunication equipment. Contribution of industries of information and communication



technologies and the amount of information and communication services in the Bulgarian GDP today is already about 6%. Market information and communication technologies, a major market segments and greatest information products and services in general has kept growth. Ukraine has also seen rapid growth of information technology, as evidenced by the following data: in 2005-2007 there is market growth of 20-25%, and 2008. the figure increased five times. This is due to the fact that Ukraine is not saturated either consumer or corporate market. Services market today is still not well developed, but its growth rates are large, as more consumers willing to pay high price for quality services and service.

Note that all the latest in IT-products enter the Bulgarian market in conjunction with other countries. Also quite actively developing retail networks, are coming to market of new producers, which in turn leads to increased competition.

In Bulgaria, the first stage of deployment of a national WiMAX network based on Cisco Mobile WiMAX technology and architecture of IP NGN. Network is based on technology Cisco © Mobile WiMAX and Cisco solutions for access and aggregation. By the end of 2009 Max Telecom plans to have coverage of its network in the home to 90 percent of the population, and Bulgaria to provide residents with fast and secure mobile access to advanced services. Bulgaria's first broadband mobile communication network is utilized to service in ten cities including the capital of Bulgaria - Sofia and two ski resorts taps. Bulgarian market is ready for broadband and WiMAX technology will offer high quality, competitive, reliable and secure subscriber services.

Performance information of the enterprise depends on the information of its interaction with various actors in the market of information products and services, public information support business development and formation of its information space.

The analysis of main directions of development of Bulgaria markets of information products and services, which allowed to identify the main components of their structure and features of this information products and services. It is determined the information needs of the market and level of development of advanced information technologies. The proposed sequence of stages of development and implementation of regional development programs enterprise information infrastructure of Bulgaria, which is aimed at providing some of the important tasks of the effective interaction of market information, improving information support enterprise development in the region and the formation of their information infrastructure.

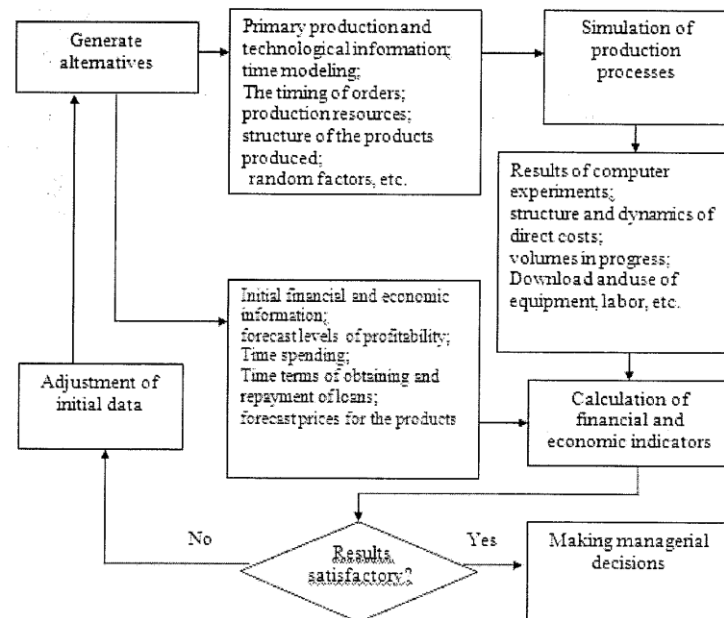


Fig. 2. Consistency management decisions with DSS at the "Bulgars AD machine - Stara Zagora"



Table 1.

Criteria	PP	PP-1			PP-2			PP-3			PP-4			PP-5		
		B	C	N	B	C	N	B	C	N	B	C	N	B	C	N
1. Versatility																
2. Integrating																
3. Modularity																
4. Sophistication																
5. Reliability																
6. Privacy policy																
7. Compliance with technical standards																
8. Qualification																
9. Cost PP																
10. Cost of service																
11. Economic efficiency																

Designation of priorities: B – high, C – average, N - is low.

The problem of designing an efficient structure of information and control systems company in the proposed deal on the basis of the evolutionary method using genetic algorithms. The functioning of such a structure of information and control systems to optimize enterprise management and information flow and its standard processes. One of the main criteria optimization criterion defined time performance of typical data processing procedures.

Given sufficient diversity of modern market information products and services as of the assessment team identified the following information innovations, like software, and proposes a way to value them. A multiple comparison procedure involves the use of both quantitative estimates and qualitative expressed in descriptive categories, which enhances the analysis by obtaining estimates for criteria that can not expose quantitative measurements. These estimates form the scale of measurement is the basis for decisions on selection of software. (Table 1). According to the principles of multidimensional comparison for each pair of software products designed indicators match and inconsistencies by building a matrix of risk.

Conclusions

The paper on the basis of studies carried out theoretical studies and practical solution to current scientific and practical tasks to improve information of the enterprise. Key findings and results that were obtained during the research, are as such.

– Determined that information for the enterprise should be based on the complex use of potential and existing information resources with their basic features.

– Courtesy of the general characteristics of information resources and formed the basic approaches to evaluation using an information approach, theories of information resources and economic information and implementation of these approaches.



– The organizational-economic model of a single regional information-analytical framework to support the development of industrial enterprises. Determined the effect of the functioning of this structure and the impact of information increase the activity of enterprises using economic and mathematical tools and methods of simulation.

– Under the proposed information environment for enterprises to understand the totality of information database and how the organization needed for management decisions, analyze, control and regulation of financial and economic activities.

– A decision support system, which is forming the basis of information databases and complex simulation models for enterprises. On the basis of this system model of decision making in production by building a set of management information about the production and use of industrial engineering resources.

– A sequence of forming information and control system of the enterprise by using an evolutionary method using genetic algorithms.

– It is definite, that the informative providing of activity of enterprise must be based on the complex use of informative resources potential and present taking into account their basic features of each EU country.

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