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IMPROVED MANAGEMENT OF SOCIO-ECONOMIC DEVELOPMENT OF THE REGION

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ПІДВИЩЕННЯ ЕФЕКТИВНОСТІ УПРАВЛІННЯ СОЦІАЛЬНО-ЕКОНОМІЧНИМ РОЗВИТКОМ РЕГІОНУ

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ УПРАВЛЕНИЯ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИМ РАЗВИТИЕМ РЕГИОНА

The article focuses on the analysis of the problems of improvement of management systems socio-economic development of the region. The issues of quality assessment information using tools of quality control are studied. The basic approaches and ways of creating quality information for decision making are considered. The ways of improving the management of socio-economic development of the region are suggested.

Key words: socio-economic development, region, quality management system, quality information, information system, information technology.

Проведено аналіз проблем удосконалення систем управління соціально-економічним розвитком регіону. Досліджено питання оцінювання якості інформації з використанням інструментів контролю якості. Розглянуто основні підходи та шляхи формування якісної інформації для прийняття рішень. Запропоновано шляхи вдосконалення управління соціально-економічним розвитком регіону.

Ключові слова: соціально-економічний розвиток, регіон, система управління якістю, якість інформації, інформаційна система, інформаційні технології.

Проведен анализ проблем совершенствования систем управления социально-экономическим развитием региона. Исследован вопрос оценки качества информации с использованием инструментов контроля качества. Рассмотрены основные подходы и пути формирования качественной информации для принятия решений. Предложены пути совершенствования управления социально-экономическим развитием региона.

Ключевые слова: социально-экономическое развитие, регион, система управления качеством, качество информации, информационная система, информационные технологии.

Statement of the problem. The effectiveness of decision-making processes in the management of socio-economic development of the region is dependent upon the quality of the information. Public servants have to assimilate masses of data and convert that data into information. Information is most important resource for an organization. Developments in computer technology made possible for public servants to select the information they require, in the form best suited for their needs and in time they want. This information must be accurate, concise, timely, complete, well presented and storable. Therefore it is necessary to use quality management systems in the decision-making process which are based on the concepts of ISO 9000 and TQM (total quality management).

Analysis of recent research and publications. The issues of information support of regional management investigated in the works of national and foreign scientists: Bakaev A.A., Bersutsky J.G., Bersutsky A.J., Bryllyuen L., Wiener N., Glushkov V.M., Ashby W. Ross, England J., Kalyuzhnyy R.A., Kastler H., Kolmogorov A.M., Korogodin V.I., Lepa M.M., Martin N., Nykytov V.A., Nicolis G., Porokhnya V.M., Sytnyk V.F., Ursul A.D., Shamrai V.A., Shannon K.

Allocation of the unsolved earlier parts of the overall problem. Despite the fundamental research information support of regional management, the problem of quality of information used for decision making not enough researched. One of the important problems

is the definition of basic information product characteristics that determine the quality of management information. Therefore, formation and development of quality management systems in information systems of government are particularly relevant.

The objectives of the article. The aim of this work is to study the information about government activity and providing suggestions for its improvement.

The object of this work is to study the formation of information quality in the regional management.

The subject of research is theoretical concepts and practical approaches to the formation of information quality in the regional management.

The main material. The study of the nature and characteristics of the information used in the information systems of state authorities, substantiation of principles of formation of information resources in regional management, researching information problems of administrative activity in conditions of informatization shows that the efficiency of information systems is largely associated with the quality of information used for decision making. To achieve high information quality we must create a system of quality management for information that will allow her to work in accordance with the requirements ensuring consumers – users of information systems and consumers information product.

The standards reflect the concept of practical importance of quality in the production of goods and services. Requirements for quality systems define international standards ISO 9000. For example, the standard ISO 9001:2008 "Quality management systems – Requirements" states requirements which explain when an organization must demonstrate that it is capable of effectively and efficiently meeting customer, statutory, and regulatory requirements. Nowadays modern methods of quality management are combining total quality management (TQM) and Lean Six Sigma technologies.

The ISO 9000 family of standards has been developed to assist organizations, of all types and sizes, to implement and operate effective quality management systems. The ISO 9000 series of standards is the international standard for quality management. The objective of this series of standards is to aid supplier quality assurance and to provide a common, authoritative and widely accepted standard by which to evaluate and compare the potential of firms to meet acceptable levels of quality and reliability. The word potential is vital here, since it looks at the system and not the product. Quality management systems can assist organizations in enhancing customer satisfaction. Customers require products with characteristics that satisfy their needs and expectations. These needs and expectations are expressed in product specifications and collectively referred to as customer requirements. Customer requirements may be specified contractually by the customer or may be determined by the organization itself. In either case, the customer ultimately determines the acceptability of the product.

The quality management system approach encourages organizations to analyze customer requirements, define the processes that contribute to the achievement of a product which is acceptable to the customer, and keep these processes under control. A quality management system can provide the framework for continual improvement to increase the probability of enhancing customer satisfaction and the satisfaction of other interested parties. It provides confidence to the organization and its customers that it is able to provide products that consistently fulfill requirements. Quality is seen as the degree of customer satisfaction. Quality metrics reflect characteristics of a product.

Quality of information has many specific features that distinguish it from material objects. On the one hand, information is a reflection of reality, but on the other - information is recorded on physical media. The first component is difficult to quantify in terms of quality and require qualitative approaches, and the second - meets all requirements of the facility, which is the result of the production process. Also in relation to the first component, the main

issue is the relation between information and reflection of reality. However, there is no consensus as to what is the nature of this connection.

The terms "data" and "information" do not mean the same thing. Data is the raw material in the production of information. Information, on the other hand, is facts or conclusions that have meaning within a context. Raw data is rarely meaningful or useful as information. To become information, data is manipulated through tabulation, statistical analysis, or any other operation that leads to greater understanding of a situation. For data manipulation we use information systems [4]. For the user of information system is important to obtain information that would meet its requirements. User's requirements are reflected in product specifications. For assessment of information quality we can use quality metrics.

The development of the science of information is a shift from quantitative approaches Shannon and Wiener to the qualitative characteristics of information. If the first approach is concerned the theory of communication on the basis of technical means, the second - on the study of social information, its qualitative aspect. At present there is no universally accepted definition of information. Most often information is defined as messages, news, data, facts, the signals and so on. Such definitions indicate the various parties notion of information that allows reveal only some of its aspects

Information technologies, including Internet-based information systems, are playing vital and expanding roles in government administration. Information technology can help all kinds of public administration bodies improve the efficiency and effectiveness of their governance processes, managerial decision making, and workgroup collaboration. This benefit occurs irrespective of whether the information technology is used to support product development teams, support processes, transactions, or any other activity. Information technologies and systems are an essential ingredient for governance success in today's dynamic global environment [9].

There is a classification of information systems. When information system applications focus on providing information and support for effective decision making by managers, they are called management support systems. Providing information and support for decision making by all types of managers and business professionals is a complex task. Conceptually, several major types of information systems support a variety of decision-making responsibilities: management information systems, decision support systems, and executive information systems. Management information systems (MIS) provide information in the form of reports and displays to managers and many business professionals to support decision making. Decision support systems (DSS) give direct computer support to managers during the decision-making process. Executive information systems (EIS) provide critical information from a wide variety of internal and external sources in easy-to-use displays to executives and managers. For example, top executives may use touch-screen terminals to view instantly text and graphics displays that highlight key areas of organizational and competitive performance.

Several other categories of information systems can support either operations or management applications. For example, expert systems can provide expert advice for operational chores like equipment diagnostics or managerial decisions such as loan portfolio management. Knowledge management systems are knowledge-based information systems that support the creation, organization, and dissemination of business knowledge to employees and managers throughout a company. Information systems that focus on operational and managerial applications in support of basic business functions such as accounting or marketing are known as functional business systems. Finally, strategic information systems apply information technology to a firm's products, services, or business processes to help it gain a strategic advantage over its competitors [8].

These classes of information systems are used in government. The experience gained business management system is used in the system of government. This is especially true of

information systems that are able to solve problems business management and public administration. It is important that these systems provide qualitative information for public servants.

Information quality (IQ) (also called Quality of information or QoI) is a multidimensional concept that encompasses critical relationships among multiple attributes, such as timeliness, accuracy, Relevance/appropriateness, availability/accessibility, reliability or objectivity, completeness, Level of detail/conciseness, The presentation of information , Value of information and others. Together, these attributes contribute to the validity of the information. Quality information is the cornerstone of sound agency decision making and inspires trust in the justice system and in the law enforcement entities that use information. Such information enables agencies to perform their jobs efficiently and effectively [10]. It is various aspects of the information and the accuracy and validity of the actual values of the data, data structure, and database/data repository design. Traditionally, the basic elements of information quality have been identified as accuracy, completeness, currency, reliability, and context/meaning [6].

Timeliness of information reflects the length of time between the information's availability and the event or phenomenon it describes. Timeliness is a concept that material should be sufficiently current to ensure that any determination based on the record will be accurate and fair [3]. Information must be on time for the purpose for which it is required. Information received too late will be irrelevant.

Accuracy is the degree of closeness of a measured or calculated quantity to its actual (true) value. Information needs to be accurate enough for the use to which it is going to be put. To obtain information that is 100 % accurate is usually unrealistic as it is likely to be too expensive to produce on time. The degree of accuracy depends upon the circumstances [11].

Relevance/appropriateness is how suitable a resource might be to an individual's needs. Relevance can be measured in terms of system performance or from the point of view of the user: the system view of relevance is that it is a measure of how well an information object matches a query, given the representation of the object and the system capabilities; a user view of relevance takes into account a deeper knowledge of the user's needs beyond what is stated in the query [5]. Information should be relevant to the purpose for which it is required. It must be suitable. What is relevant for one manager may not be relevant for another. The user will become frustrated if information contains data irrelevant to the task in hand.

Availability/accessibility is the property of being accessible and usable upon demand by an authorized entity [2]. Availability refers to ensuring the timely, reliable access to data and information services by unauthorized users. It also refers assurance that information, services, and IT system resources are accessible to authorized users and/or system-related processes on a timely and reliable basis and are protected from denial of service [7].

Reliability or objectivity deals with the truth of information or the objectivity with which it is presented. We can only really use information confidently if you are sure of its reliability and objectivity. Data reliability is the accuracy and completeness of computer-processed data, given the uses they are intended for [1].

Completeness refers to the extent that relevant records are present and the fields in each record are populated appropriately. Information should contain all the details required by the user. Otherwise, it may not be useful as the basis for making a decision. Ideally all the information needed for a particular decision should be available. However, this rarely happens; good information is often incomplete. To meet all the needs of the situation, you often have to collect it from a variety of sources [1].

Level of detail/conciseness. Information should be in a form that is short enough to allow for its examination and use. There should be no extraneous information. Clearly there is a trade-off between level of detail and conciseness.

The presentation of information is important to the user. Information can be more easily assimilated if it is aesthetically pleasing.

Value of information. The relative importance of information for decision-making can increase or decrease its value to an organization. Validity refers to whether the data actually represent what you think is being measured. Validity encompasses the entire experimental concept and establishes whether the results obtained meet all of the requirements of the scientific research method [10].

The above properties are general properties. There are also information properties that belong to the group of quality properties. They are: purposefulness, effectiveness, fixity, invariance, frailty, broadcast, reproducibility, multiplicativity, variability, multipotency. There are also special properties: adequacy, pithiness, sufficiency, stability, topicality, targeting, nonadditivity, noncommutativity, nonassociativity, concentrations and performance. Information also should be available within set cost levels that may vary dependent on situation. If costs are too high to obtain information an organization may decide to seek slightly less comprehensive information elsewhere.

For the improving the quality of administration in the state power system is important to assess information that public servants use for the decision making. They can use ABC-analysis for assessment of information quality. ABC analysis is an inventory categorization method which consists in dividing items into three categories (A, B, C): A being the most valuable items, C being the least valuable ones. This method aims to draw managers' attention on the critical few (A-items) not on the trivial many (C-items). This method use The Pareto principle: 20 % of population owns 80 % of nation's wealth; 20 % of employees cause 80 % of problems; 20 % of items accounts for 80 % of firm's expenditure. The ABC approach states that a company should rate items from A to C, basing its ratings on the following rules: A-items are goods which annual consumption value is the highest; the top 70–80 % of the annual consumption value of the company typically accounts for only 10–20 % of total inventory items; B-items are the interclass items, with a medium consumption value; those 15–25 % of annual consumption value typically accounts for 30 % of total inventory items; C-items are, on the contrary, items with the lowest consumption value; the lower 5 % of the annual consumption value typically accounts for 50 % of total inventory items.

Steps for the classification of information attributes are: 1) find out the result of the evaluation of attribute of information in points; 2) list out all the attributes and arrange them in the descending value; 3) accumulate value and add up number of points and calculate percentage on total inventory in value and in number; 4) draw a curve of percentage items and percentage value; 5) mark off from the curve the rational limits of A, B and C categories.

Research of information quality was done in Chernihiv regional state administration. The totality of the properties has been divided into three groups: Group A, which is 20 % of the most influential properties; Group B – 30 % less influential; Group C – 50 % of properties which are less important. The analysis was conducted using expert methods, where each of the experts was evaluated each property. Next by average estimates of each property was conducted ranking of results. As experts were involved public servants. Studies show the Group A includes properties: presentation of information, timeliness, accuracy, relevance, adequacy, effectiveness. The group B includes pithiness, purposefulness, targeting, level of detail, reliability, availability, performance, sufficiency, completeness. The group C includes properties: fixity, invariance, frailty, broadcast, reproducibility, multiplicativity, variability, multipotency, stability, topicality, nonadditivity, noncommutativity, nonassociativity, concentrations.

The most common sources of information in public administration are: national level of government administration, local level of government administration, legislation governance,

appeals and results of control in public administration, problem and emergencies. ABC-analysis allows determine properties specific to each source of information. The research results are shown in Table.

Table

Information sources and properties of information

№	Information Sources	Properties
1.	National level of government administration	accuracy, relevance, effectiveness
2.	The local level of government administration	presentation of information, adequacy, accuracy
3.	Legislation governance	effectiveness, relevance timeliness
4.	Appeals	relevance, effectiveness, adequacy
5.	Results of control in public administration	accuracy, timeliness, relevance and adequacy
6.	Problem and emergencies	adequacy, relevance

Studying the properties of information shows that information for effective decision-making in public administration must to have properties such as: accuracy, relevance, effectiveness, presentation of information, adequacy and timeliness. Based on the analysis of quantitative and qualitative characteristics of information in the executive branch may be proposed definition of information in public administration, as a documented information on events and phenomena in the society, the state, the natural environment that meets the requirements of accuracy, relevance, effectiveness, presentation of information, adequacy, timeliness and selected to provide state-management functions.

Conclusions and suggestions. Information communication technology allows managers make decisions cheaper, faster and more democratic. Good information system is used to provide important information for decision making. The information technology may be used for the processing, storing or distribution of data. Data as a row material for the production of information and information as a result of this production must be qualitative. Quality management system provides a best solution for automating decision-making process. It provides a solution for identifying corrective actions, issuing risk assessments and identifying risks. Quality Management System establishes a vision for the public servants, sets standards, builds motivation, sets goals for employees, helps fight the resistance to change within organizations and helps direct the corporate culture.

We can use different methods to assess the quality data and information. One of the most effective methods is an assessment of information attributes. The proposed method of ABS-analysis allows determine the most important properties of information. These properties can be studied also with respect to different sources of information. The results of analysis will help to evaluate the information obtained to make decisions and select the most important and necessary information. Ultimately such analysis allows improving the quality of management decisions in the management of socio-economic development of the region.

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