

# Information Analytics as an Instrument of Strategic Management

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**Abstract**—In the article, information analytics is considered as an independent scientific and practical sphere of activity, located at the intersection of informatics, mathematics and the actual analytics that has been formed in the conditions of the information society. The history of formation and development of information analytics in the information society is studied in the work; and a model for training specialists in the information and analytical sphere in the domestic higher education system for civil service and business structures is being developed. Information analytics in the information society is understood in the article as a modern tool of strategic management, which contributes to the qualitative adoption of managerial decisions.

**Keywords**—*information; information society; information analytics; information management; analytical activity; strategic management; applied informatics; information and analytical work; public administration*

## I. INTRODUCTION

At the turn of the 20th and 21st centuries, the outlines of an information society or knowledge society, which comes to replace industrial society, and which is based on the principles of free access to information. In this new type of society, the main surplus product is created in the information sphere; most of the able-bodied population is involved in the information sector of the economy; It has a developed information structure that provides an opportunity for each individual to receive any information of interest to him anywhere and at any time. The consequences of the growing pace of informatization of the society are the intellectualization of the professional activity of almost any specialist, the virtualization of communications and the mediaization of the information space.

The main product and strategic resource of a new type of society are information and knowledge. The growth dynamics of this product is simply amazing. Some time ago,

the amount of knowledge has changed very slowly over the course of an entire generation, but since 1900 it has doubled in 50 years, then since 1950 the doubling was occurring every 10 years, since 1970 it was every 5 years, and since 1990 it doubled yearly [1]. At this moment, the pace of increase in the volume of information and knowledge still grows, and experts can no longer go to predict how the volume of information circulating in the society will increase in the coming years. In this situation, the problem of information (including knowledge) management for enterprises and organizations of various levels is placed in the forefront, said problem consisting of adequate and prompt tracking, professional processing and analysis of the most powerful information flows. Consequently, the problem of information management, and the adoption on the basis of its processing of qualified management decisions to improve the various spheres of society, becomes extremely relevant.

## II. HISTORY OF FORMATION AND DEVELOPMENT OF INFORMATION ANALYTICS

The modern stage of the development of anthropogenic civilization inexorably forms a new model of society's life, changing people's lives and creating new professions. In an atmosphere of rapid growth in the market for analytical information, intellectual products, methodics and software, more attention is paid to a person who works not only with digital, but also with semantic content. It is in such specialists in the conditions of the knowledge society that state and commercial structures are interested. In this situation, information analytics turn into a highly demanded profession. The profession of the analyst becomes the profession of a person who "manages the information", a specialist who collects and interprets certain information on the basis of which he makes objective (analytical) conclusions [2]. Information analytics assumes the process of semantic data processing, as a result of which disparate data is transformed into finished information products.

Information analytics at present is a complex of procedures and forms of socio-political communication, without which a modern political-administrative process with all its components is inconceivable [3]. This is a product of a set of constructive trends that characterize the development of the human community in the context of globalization and informatization. Until now, there was no unambiguous definition of the concept of "information analytics", which would be recognized by all specialists in this field. One of the most precise definitions is formulated by H.A. Slyadneva: "Information analytics is engaged in the production of new knowledge based on the processing of available information in order to optimize decision-making. Modern information analytics is a complex activity that relies both on natural intelligence and on computer technologies of operating information arrays, methods of mathematical modeling of processes, etc." [4].

The universality of information analytics leads to the effect of multi-activity genesis of analytical services in the entire information infrastructure, and in all spheres of activity where powerful information flows were concentrated and processed to make socially significant management decisions, both at the tactical and the strategic levels. Therefore, information and analytical services began to be created in the structure of federal and regional authorities, in ministries and departments, in the media, in business, in political parties and movements. A common distinguishing feature of these services was organic inclusion in relevant areas of activity, functional and organizational - activity symbiosis with their social institutions and specific organizations. Analytical services in their purposes are called upon to carry out information support of management in the relevant spheres.

In business, information analytics provides the definition of risks, the formation of strategies for its development, analysis of the "behavior" of competitors, acts as the most important tool in decision-making, facilitates the search for ways to maximize profit.

In politics, information analytics provides efficiency in the implementation of political influence, facilitates the retention of power, monitors and makes managerial decisions to monitor and manage the political situation.

In the sphere of public administration, with the help of information analytics, the strategic management of society and the satisfaction of its needs and livelihoods are realized. With its help, various socio-political and economic programs for the development of the country and individual territories are developed and implemented, the programs already implemented are monitored and adjusted, and the effectiveness of managerial influence is monitored.

At the same time, the need for effective activity in the conditions of intensive development of the information society led to the creation of the foundations of the information and analytical activity (IAA) system, which refers to the process of semantic data processing. It can be represented in the form of some sequence of independent stages, the cumulative description of which gives an idea of it as a whole.

In Western European countries and in the United States, the formation of information analytics occurred through the gradual introduction of elements of information and analytical activities into the information structure of society. Unlike them, in Russia the formation and development of information and analytical activities (as a special type of activity) occurred in a short time, in an atmosphere of maximum intensification of all processes of society and the need to quickly solve many social, economic and foreign policy problems.

The process of the formation of specialized institutions or units of various organizations engaged in information analysis in each of their areas is initiated by the course of domestic political, economic and social reforms undertaken in the early 1990s. Analytical services began to appear in all spheres of activity, where powerful information flows were concentrated, processed with the purpose of making socially significant management decisions [5]. That is why these services began to be created in government bodies, in the media, in business, in political parties and movements. A special role in this has been given to situational centers, which is an organizational and technical complex designed for information, analytical and communication support of management tasks in public authorities. Situational centers are used to support the adoption of managerial decisions based on monitoring of events and processes, analysis of their causes and consequences, as well as forecasting the development of the situation [6].

Thus, it can be argued that the system of strategic management of socio-political and economic processes in the information society assumes the existence of information and analytical units that support, accept and support management decisions.

Many Russian organizations and enterprises, understanding the importance of information as a strategic resource for the development of society, need services and personnel capable of meeting their information needs. The basis for the training of modern analysts, specialists in the information and analytical field of activity was laid by well-known scientists N.A. Slyadneva [7], G.F. Gordukalova [8] and others. First of all, this concerned the training of information and library analysts.

As the most important reasons for the lag of many domestic organizations and enterprises in the information society conditions, we note the following:

- Quite low professional and intellectual training of employees of organizations and enterprises (poor level of professional and general education, lack of experience, low creativity of thinking, etc.).
- Lack of a well-developed system for obtaining, storing, distributing and transforming information from external sources.
- Undeveloped system of vertical and horizontal communication within organizations and enterprises; and as a consequence, duplication of activities of divisions of organizations and enterprises.

- Absence of a system of codification, preservation, distribution and regular effective use of information received within organizations and enterprises (for example, lack of information on successfully implemented projects).
- Fuzzy distribution of functional responsibilities within organizations and enterprises.
- Ineffectiveness of management decisions made in them.

### III. PREPARATION OF INFORMATION ANALYSTS IN THE RUSSIAN SYSTEM OF HIGHER EDUCATION

A stable system of training information analysts in the Russian higher education is not yet developed. At the present time, we can talk about the training of universal analysts, subject matter analysts, industry specialization specialists, and narrow specialization analysts. The lack of a federal standard for the preparation of these specialists can be compensated by the standard 09.03.03 "Applied Informatics". So Bauman Moscow State Technical University is training bachelors in the field of training 09.03.03 "Applied Informatics", the profile of information analytics. Over the years, this direction has confirmed its relevance among applicants and employers.

The preparation is based on the implementation of three main components: 1) methodology of information and analytical work; 2) organizational support of information and analytical activities; 3) formation of skills and abilities, tools for its management. The curriculum is designed to provide fundamental training for students in mathematical and information disciplines in combination with a set of disciplines, focused on technology analysis of social processes. Selection and distribution of disciplines ensure the formation of graduates' competence that allows them to analyze the evolution of various processes and social phenomena, modern facts and events in order to prepare proposals for management decisions.

Graduates are focused on the work in analytical services and situational centers of state and commercial structures. At the same time, it was decided to prepare a general information analyst, in this matter we are in solidarity with G.F. Gordukalova, who argues that "the analyst is not an expert in the subject area being analyzed" [9, p. 98]. Deepening the subject area or improving information and analytical skills can continue in the magistracy.

The emergence of a new sphere of professional activity poses axiological, psychological, culturological, sociometric problems to society:

- There is a need for a social assessment of the importance of the new industry, which requires its positioning amidst a number of other close industries, the development of a scale of social evaluation, the construction of a system of social priorities, etc. taking into account the value of the goals that this activity allows to achieve;

- Emotional reactions, expectations, generally accepted norms of behavior in connection with this branch are formed;
- Value and socio-psychological reactions are translated into the field of cultural norms and traditions, national forms of social life, are included in the system of myths and rituals, etc.;
- Built priorities, assessments, prestige of the new industry make it possible to determine its sociometric parameters (the intensity of growth of social institutions associated with the new industry, the pace and scale of recruitment of professional professionals, users of its products) [10].

Nevertheless, the current state of information and analytical activity in the system of state power is not as effective as the development of the information society requires. Insufficient attention to information and analytical activities and analytical technologies can lead to errors in management decisions, and, as a result, to exacerbate many problems of social, political and economic, environmental problems, and even national security problems, which are particularly dangerous.

### IV. CONCLUSION

Proceeding from the above, it is possible to propose the following directions, which allow to change the situation for the better in the training of specialists in the field of information and analytical activity in the domestic system of higher education it is necessary to:

- form a system for training analysts who possess modern methods of information and analytical work that include computer and mathematical methods for analyzing social reality. Create a portfolio of standard analytical technologies for various levels and subsystems of public administration and local government, as well as business;
- develop a system of recruiting and social promotion of information analysts as an avant-garde subsystem of the intellectual capital of society, its national heritage. Identify a set of incentives for specialists in the field of information and analysis;
- complete the deployment of a system of distributed situational centers as the main analytical structures in the public administration system;
- pay special attention in the field of national security to the problems of development of analytical technologies, staffing, organization of monitoring complex and fateful social problems;
- prepare educational and methodological literature and information and computer support of information and analytical activities, to lay the infrastructure of the intellectual product market and analytical technologies; use foreign experience in organizing analytical work in government bodies; to establish cooperation with the world's analytical centers.

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