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A.T. Shermukhamedov

Tashkent Branch of the Russian University of Economics after G.V. Plekhanov
Doctor of Physical and Mathematical Sciences, Professor

Yo. Ilkhamova

Institute for Advanced Studies and Statistical Research of the State Statistics Committee
Candidate of Economic Sciences, Associate Professor, Applicant
Republic of Uzbekistan

STATISTICAL DATA PROCESSING IN THE DIGITAL ECONOMY

Abstract: Recently, software tools or information systems designed to automate the work of statistical data processing have become widespread, which allow collecting, storing and processing heterogeneous data sets using a single information base. These systems are guided when performing management functions based on internal and external statistical data. The advantage of such systems is the adaptation of the information base and system functions to the operating conditions of the enterprise. The article deals with the use of statistical packages STATISTICA, SPSS, Deductor in organizations.

Key words: digital economy, statistical work plan, data warehouse, information systems, unified statistical register.

Language: English

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Introduction

The determining factor of production in the digital economy is digital data, a distinctive feature of which is the need to process large amounts of information. The collection and provision of statistical data based on a digital analytical platform, as well as the establishment of a unified regulatory and reference information for all categories of information users is extremely important. As you know, software is oriented when performing management functions on the basis of internal and external statistical data of enterprises [1,2,3,4]

Currently, statistical packages have become widespread, which can be easily connected to the existing information processing system at the enterprise.

Analysis methods. When writing the article, methods of synthesis and analysis were used.

Discussion. In Uzbekistan, the following statistical packages were disseminated: STATISTICA; SPSS; Deductor. The STATISTICA application package is a universal data analysis system

developed by StatSoft, built on a modular basis, each module performs a certain set of functions and can be used independently. Key features of the package makes it possible to present a graphical interpretation of the results (in 2D, 3D graphs, pictograms or graphs developed in our own design):

- supports all standards of modern office applications (import of data from spreadsheets, including their MS Excel, export of diagrams to MS Office applications, etc.);

- allows expanding the capabilities of the package due to the built-in programming language Statistica Visual Basic.

The STATISTICA package can be used in various fields of activity:

- In banking (for analyzing credit risks and predicting financial indicators);

- Trading activities (for comparative analysis of suppliers and forecasting the consumption of goods and resources);

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- Marketing research (to study the seasonality of demand, classification of goods by consumer properties);

- Production activities (for predicting the need for material resources, identifying causal relationships between technological parameters, analyzing the reliability and durability of products);

- Sociological research (for the analysis of public opinion polls).

In addition, the STATISTICA package is the basic statistical package at the Tashkent University of Economics, the Research Institute for Advanced Studies and Statistical Studies of Uzbekistan.

SPSS (Statistical Package for Social Science) is a statistical package developed by SPSS Inc, designed to run on the MS Windows operating system.

This package is used to process and analyze sociological data.

The main features of the package:

- Implements a set of mathematical methods for statistical data processing;

- Provides access to geographically distributed data and allows you to combine several databases;

- Generates non-standard reports that allow evaluating data from different points of view - configures the interface and procedures for working with data using the built-in scripting language;

- Supports communication with most data formats and data exchange with other MS Windows applications.

The Deductor application package is a statistical package developed by Base GroupLabs and consists of 3 parts: Deductor Warehouse multidimensional data warehouse, Deductor Studio analytic application and Deductor Viewer end-user workstation.

Deductor Warehouse is a multidimensional data warehouse that accumulates all the information necessary for analyzing the subject area.

Deductor Studio is a program that implements the functions of importing, processing, visualizing and exporting data.

Deductor Studio includes a full set of mechanisms that allows you to get information from an arbitrary data source, carry out the entire processing cycle using the Processing Wizards (cleaning, transforming data, building models), display the results in the most convenient way (OLAP, diagrams, trees ...) and export the results to the side. This is fully consistent with the concept of extracting knowledge from databases.

Deductor Viewer - end user workstation. Allows you to separate the process of building models from the use of ready-made models. All complex model preparation operations are performed by expert analysts using Deductor Studio, and Deductor Viewer provides users with an easy way to work with the finished results. The processors implemented in Deductor cover the basic need for data analysis and

the creation of complete analytical solutions based on DataMining.

It is necessary to eliminate duplication of statistical data in reporting forms. As you know, data collection is carried out within the framework of: the state plan of statistical work: tax, customs, banking and other statistics at the republican level in accordance with the legislation of the Republic of Uzbekistan, departmental statistics (in order to implement managerial functions), regional and viloyat (region) information systems. It is advisable to move from various forms of reporting to information flows: to a unified register of objects of observation, a unified data warehouse, the use of unified tools for the formation of primary statistical data and their transfer at a given frequency to a Unified warehouse, as well as an inventory of reporting forms, a data card. Improving the national data management system based on State Committee for Statistics of Uzbekistan (Uzkomstat) is the starting point for many ideas and initiatives for the development of statistical accounting. Such a system creates a modern infrastructure, where the formation and implementation of a unified methodological and technological basis for storing and processing data based on a family of data management standards is taking place. The basic component of the national data management system is a digital analytical platform for providing statistical, administrative data and normative reference information (NSI) [5,6,7,8,9,10,11,12].

The primary tasks of the digital analytical platform are the standardization of reporting collection procedures and the creation of a unified data warehouse, the formation of a unified system of regulatory and reference information (NSI). Currently, there is departmental and regional reporting, where government bodies collect data on a range of enterprises and organizations on the existing specific methodologies, create their own local data stores. The departmental approach gives rise to differing methodologies for collecting and processing aggregated data. A unified form of reporting indicators collected by the state from business is the most effective; it will cover all government bodies and will create a unified register of indicators and reporting forms. It will act as a tool to eliminate duplication at the indicator level. Based on the results of the assessment and analysis of the information posted in the Register, it is possible to establish the maximum permissible norms for the reporting burden for various categories of business. Optimization of the collection of reports and the creation of the Unified Register of Objects of Observation on the basis of the modernized Statistical Register of Uzstat made it possible to modernize the automated system of the general population of objects of statistical observation (AS GS OFSN), which gave the Statistical Register in

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Uzstat the status of a single and mandatory basis for collecting information in the country.

Information processing, the transition from numerous forms of reporting to information flows, and primary accounting and analytical accounting are automated at many enterprises and organizations.

The transition from manual filling of reports to the automated generation of primary statistical data at enterprises, based on primary accounting data, is nearing completion, and they are being prepared for automated transfer to a single virtual data warehouse. This approach can significantly improve the quality of statistical data, as well as speed up the process of their generation. It will be possible to generate more detailed information on types of activities and products, information that is so necessary for enterprises to conduct business and analyze markets. Subsequent connection to the digital analytical platform of alternative sources of information, including big data, will open up opportunities for data verification and information dissemination tools. A basic benchmark for a digital analytics platform is providing access to real-time data. Today, this landmark seems difficult to achieve, requiring a significant change in the reporting collection technology and revision of the regulatory framework.

A digital analytical platform should be created as soon as possible and put into operation by the end of 2021 year.

During its creation, key basic components could be used, as well as the available software, technological and hardware potential of the operating information and computing system of State Committee for Statistics of Russia (Rosstat), including a centralized data processing system, server facilities, data storages, and communication channels. As the analysis of the needs of authorities, local governments and respondents in the services of a digital analytical platform has shown, is huge. Based on the analysis of all the proposals received, together with the expert community, the development of the concept of a digital analytical platform has begun.

Conclusion

It is advisable to move from various forms of reporting to information flows: to a unified register of objects of observation, a unified data warehouse, the use of unified tools for the formation of primary statistical data and their transfer at a given frequency to the Unified warehouse, as well as an inventory of reporting forms, a data card.

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