Methods of Planning Econometric Modeling of Communication and Information Services

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Abstract

The article discusses the service sectors, econometric models for the development of communication and information services for the population, in particular, methods of indicative planning of econometric modeling, and also makes proposals and recommendations based on the results obtained.

Keywords: service sector, econometric modeling, simulation model, communication and information services, economic calculations, static and dynamic parameters, synthesis, optimization, indicative planning, heuristic methods, economic and mathematical methods, regression equation.

Introduction

In the economy of our country, scientific research based on econometric modeling of production processes is becoming increasingly important in improving the mechanisms of promising and high-tech production of enterprises, increasing the efficiency of the use of production capacities.

The issues of the development of the socio-market mechanism based on the use of modern information and communication technologies in our country are debatable and of great scientific interest. An important feature of this direction is that it is focused on linking the solution to the problem of forming a market for intellectual products and services with the conceptual issues of using e-commerce in improving the quality and management mechanisms in this area.

The Action Strategy on five priority areas for further development of the Republic of Uzbekistan for 2017-2021 identifies important tasks for the "introduction of information and communication technologies in the economy, social sphere, and management system". Effective implementation of these tasks requires more effective use of e-commerce in the market of intellectual products and services in the country and expansion of the economic assessment of its effectiveness, further improvement organizational and economic mechanisms of e-government.[1][1]

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[1] Annex No. 1 to the Decree of the President of the Republic of Uzbekistan No. 4947 dated February 7 , 2017 "Action Strategy on Five Priority Areas of Development of the Republic of Uzbekistan for 2017-2021 ". Lex.uz.

The use of modern information technologies in socio-economic processes, the development of technological processes, the mobility of these technologies, the level of skills of employees in the use of technologies and other factors. The impact of social factors on employment is accompanied by the emergence of personal characteristics (mobility, motivation, desire for innovation, desire for professional development, desire to meet qualification requirements), which are formed as a result of achieving a high level of well-being of labor resources.

Although communication and information services in Uzbekistan are not as developed as e-commerce in developed and developing countries, there are a number of indicators: attention at the government level, growth in the number of Internet users, improvements in hardware and software, as well as online shopping and other indicators, it is possible to predict a high level of development of this sector in the near future. In the context of the global development of the digital economy, the modernization of the economy, innovative development, building a knowledge-based economy are among the main tasks of today and the near future.

In the economy of our country, scientific research based on econometric modeling of production processes is becoming increasingly important in improving the mechanisms of promising and science-intensive production of enterprises, increasing the efficiency of the use of production capacities.[2] [5]

In recent years, the Government has placed great emphasis on communication and information. The Ministry of Information and Communication Technologies has been established in the country, and the Strategy for the Innovative Development of Communications and Informatization is being implemented. For this reason, new scientific, technical and intellectual activities are being developed in our country. Most intellectual products are developed by highly qualified specialists of the Academy of Sciences, research institutes, higher education institutions. educational institutions, as well as regional unitary state enterprises of informatization, and communication and information services are provided on a contractual basis.[3] [2]

Communication and information services developed or being developed in state bodies, research institutes and higher educational institutions are mainly formed by the method of indicative planning, the implementation of informatization processes is observed.

Indicative planning methodology is an important component of indicative planning methodology.

In recent years, Uzbekistan has been taking consistent measures to develop the digital economy, gradually introducing e-commerce systems for the exchange of electronic documents and services for individuals and legal entities in government agencies and other organizations. At the same time, an analysis of the real state of affairs in the field shows that policy documents are scattered due to the lack of a single information technology platform that ensures integration into a centralized data system.

In the process of the study, indicators of the distribution of the employed population by the main types of economic activity are used in the calculation of indices. They include the

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[2] Mukhitdinov Kh.S., Nosirov B.N. Communication and information services to the population of the region.
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[3] PF-6079 State Program "Development Strategies of the Republic of Uzbekistan until 2035"
5.10.2020

following 11 main economic activities: agriculture, forestry and fisheries; industry; construction; trade; transportation and storage; accommodation and meals; communication and information services; financial and insurance activities; education; health and social services; arts, entertainment and recreation. Activities that are not part of the main economic activity are summarized as other types of services, and the Ditrix method is used in the calculations based on the number of items for a total of 12 types of economic activity[4].

Dietrix's study of the relationship between economic growth and structural change is based on the *NAV (norm of absolute value) and is based on the Liliyen index.*

The norm of absolute value is the simplest indicator for measuring structural changes. This index is calculated using the following formula:

$$NAV_{s,t} = 0.5 \sum_{i=1}^{n} |x_{i,s} - x_{i,t}| \qquad (1)$$

In here $x_{i,s}$ as well as $x_{i,t}$ s and t at a moment in time i - Network (or employment) share of gross domestic product.

NAV ranges from zero to one, so it's very easy to interpret. This shows that the change in content is exactly equal to the movement of the share of industries in the economy as a whole. If the structure remains unchanged, the index will be zero. If the change in all sectors is maximum, it means that the entire economy has completely changed and the index taken together is equal to one.

The Lilia Index is an important indicator of structural changes in a number of areas of economic research. The Lilia index is widely used in the literature on the determinants of structural unemployment as a measure of structural changes in the composition of employment. Indirectly, it measures the degree to which sectoral shifts in the composition of the product (economy) affect the demand for labor.

Lilian has developed an index that measures the standard deviation of the network's growth rate from *period t - 1* to period *t.* For each region of the country, the Lilian index measures the structural change in demand for the difference in network share growth.

Based on the structural changes in the degree of the Lilien index,   *the modified Lilien index* (MLI *)* is calculated as follows:

$$MLI_{s,t} = \sqrt{\sum_{i=1}^{n} x_{i,s} \cdot x_{i,t} \cdot \left(ln \frac{x_{i,s}}{x_{i,t}} \right)^2} \qquad (2)$$

A low level of MLI means a low rate of structural change in the economy, and a high level of MLI means a high rate of change.

The method of indicative planning is a set of methods for developing, justifying and analyzing the timing of the system for calculating forecasts, programs, plans and planned indicators at all levels. The indicative method of planning is a specific method, a technical method, with the

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[4] Nosirov B.N. Imitation Model of Development of Communication and Information Services for The Population of The Region. Journal of Eurasian Research Bulletin. Vol.5, Febr 2022. Pg. 131,https://geniusjournals.org/index.php/erb/article/view/653

help of which planning problems are solved and the numerical values of forecasts, programs and plans are calculated.

Due to the differences in the structure of indicative planning tasks, several methods are used to develop forecasts, programs and plans. These include: expert (evaluative) or heuristic methods; methods of socio-economic analysis; methods of direct engineering and economic calculations; balance sheet method; economic and mathematical methods and models; Methods of Structural Analysis and Synthesis.

Thus, the use of information technologies in economic calculations with a rational approach allows the company to increase the area of information flows, accelerate information flows, reduce losses and secure its activities.

Based on the above information and indicators, it can be said that in this area, the automation of modern national innovation systems, the use of high technologies is one of the key factors in the digital and innovative development and improvement of a particular industry.

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