



## Digital Economy: Sustainable and High-Quality Economic Growth

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**Annotation**— The article notes that the digital economy is developing in all countries of the world, as well as the need to develop the digital economy in Uzbekistan, to accelerate the transition to a digital economy. The impact and contribution of the digital economy to the quality of sustainable economic growth is taken into account.

**Abstract**— Information and communication technologies (ICTs) are becoming increasingly important for businesses, consumers and governments in all sectors of the economy and around the world. The importance and opportunities of participation in e-commerce and value chains, distance learning and social networks, smart cities and e-governments, etc. are endless. World practice shows that the development of the digital economy can contribute to economic growth and improve the quality of economic growth. The need for a transition to a digital economy can be traced back to the role played by the world's leading countries. Today, the share of the digital economy in developed economies is 60-70%. 2/3 of all financial resources and labor are involved in this field. All developed countries of the world community are making strategic investments in the development of information technology, information infrastructure, the formation of information resources, the study of economic and social features of the new economic system. The digital economy has been the subject of software development at the national, international and regional levels for more than 20 years, with the goal of maximizing the transition to a new economic system.

**Keywords**— Digital economy, economic growth, sustainable development, information and communication system (ICT), quality of economic growth

### I. INTRODUCTION

The main task of economic change in the Republic of Uzbekistan is to implement structural changes and sustainable economic growth, taking into account the competitive advantages of the republic. In this regard, it is necessary not only to ensure high growth rates, but also to ensure a qualitative change in favor of the processing industries in the economy, which means the need to look for new sources of growth. Including:

- growth of production of non-raw materials for export and import substitution;
- development of new sectors of the economy and expansion of the field of innovation;
- implementation of priorities such as improving the investment climate and expanding investment attraction;
- The study of the problems of sustainable and high-quality economic growth and ways to overcome them is relevant, first of all, for countries with low economic structure, especially Uzbekistan.



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Building a new economic system requires, on the one hand, the traditional factors of economic growth - the accumulation of material resources, natural increase in the number of able-bodied people, technological progress and productivity growth, on the other hand, an effective combination of human, natural and physical capital.

## II. MATERIALS AND METHODS

The study used comparative economic analysis, sample observations, statistical and multivariate methods of econometric analysis, multivariate analysis.

## III. LITERATURE REVIEW

The study of the question of the relationship between economic growth and directions of development is characteristic of economists of various schools and individual researchers. The relationship between the dynamics and growth rates of the economy was studied by J. Schumpeter, and the problem of state policy of stimulating national development was considered by F. List. Institutional economists, developing the approach of J. Schumpeter, noted the important role of the technological factor in economic growth, described the relationship between basic technologies and the nature of the economic development of society.

In Uzbekistan, various aspects of economic growth are reflected in the scientific works of I.I. Iskandarova, A.M. Kadyrova, N.M. Makhmudova, A.F. Rasuleva, G.K. Saidova, S.V. Chepel, I.S. Tukhlieva, T.Sh. Shodieva, M.M. Irmatova, D.V. Trostyansky and others.

A number of questions remain in the position of measures reflecting only certain stages in the cyclical development of advanced states, but they did not concern transition economies, while others proceed from the national and social characteristics of individual CIS countries and do not provide answers to the most important problems of the quality of economic growth of transformation systems.

Important aspects of this problem and, in particular, the content of the quality of economic growth, the ratio of the quality of growth and economic development, the determination of priorities of state policy regarding the problem of optimal growth, etc., remain insufficiently studied.

## IV. RESULTS

In order to take advantage of the development of the national economy, it is necessary to create a qualitatively new mechanism to ensure the potential and real opportunities of Uzbekistan in ensuring high rates of economic growth. Of course, this process also consists of certain shortcomings and problems. Among the important problems in the development of new strategic directions, their economic aspects are not sufficiently studied, which requires the use of economic growth priorities, its indicators and models of use in forecasting practice.

The most important factors determining the quality of economic growth in Uzbekistan are the beneficial effects of economic growth that meet certain criteria. At the same time, it is recommended to take into account directly the growth of income consumed by the population and not left for the future in order to make calculations. In this regard, Uzbekistan's transition to a digital economy will provide the necessary additions to improve and stabilize the quality of economic growth.



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The impact of digital technologies is evolving significantly, both globally and locally. On the one hand, the digital economy as a new industrial complex is a rapidly growing part of the global economy in the traditional sense, and the development of new technologies in recent years has led to the emergence of huge markets for mobile communications, Internet services, online gaming industry and more. On the other hand, new technologies have a changing impact on some aspects of the activities of established business entities, mainly due to the replacement of tax mechanisms with digital elements, as well as modernization (e.g., existing software).

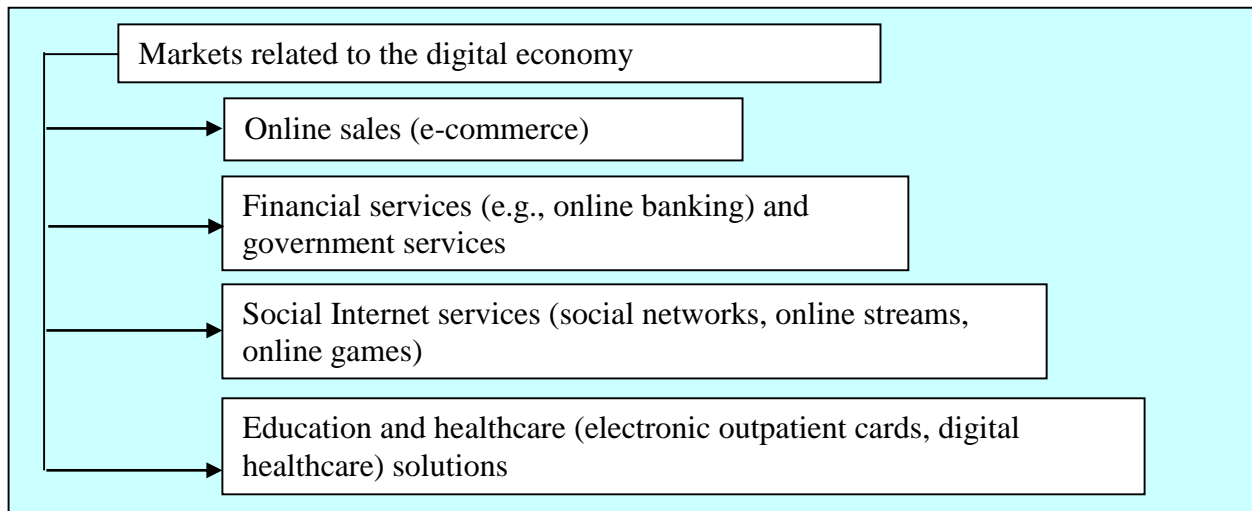


Figure 1. Markets related to the digital economy

The digital economy is growing at a rapid pace - 10% per year, which is three times the global economic growth. In 2015, the global digital economy generated \$ 24 trillion in e-commerce. dollars, which accounts for 30 percent of all global transactions, most of which were carried out using mobile devices. In most developed countries, the digital economy accounts for about 4-7% of GDP. Ireland (11.9%), Korea (9.6%) and Japan (8.1%) are in the top three. The lowest rates are in Austria (3.8%) and Norway (3.9%).

Experts understand that the digital economy understands that it can contribute to economic growth and sustainable development, but not all countries in the world can move in the same direction at the same pace. After analyzing digital changes in 50 countries, which account for 90 percent of global gross domestic product and 78 percent of the world's population, Huawei compiled the 2016 global connectivity index.

Table 1. Huawei 2016 global connectivity index

<b>Distribution of individual countries by groups</b>		
<b>Management</b>	<b>Flexible</b>	<b>Beginners</b>
United States	China	Nigeria
Singapore	Russia	Bangladesh
Sweden	Brazil	Pakistan

In the table above, the first group was led by the United States, Singapore and Sweden. Among the second group are China (23rd place), Russia (26th place) and Brazil (30th place). At the end of the ranking and the third group we can see the occupations of Nigeria, Bangladesh and Pakistan.



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Expanding access to open and global Internet will increase economic growth, create new jobs, and boost e-commerce opportunities. Such incentives may be facilitated by special measures taken by governments at the national and international levels.

In the implementation of econometric modeling and forecasting of macroeconomic indicators that ensure the sustainable development of the economy, we aimed to use a non-traditional method, primarily based on current demand (taking into account the impact of the pandemic on the economy). To do this, it is expedient to look at the econometric model of the impact of GDP on GDP, total income of the population - AUD, pollutants - ECO, investment in fixed assets - AKI and the number of people in the economy - IBS. In this case, first of all, the correlation between the selected factors and their outcome factor is determined (Table 2).

Table 2. Correlation coefficient between the gross domestic product of the Republic of Uzbekistan and selected factors

	YIM	AUD	EKO	AKI	IBS
YIM	1				
AUD	0,994268	1			
EKO	0,715102	0,553242	1		
AKI	0,923653	0,719142	0,056988	1	
IBS	0,837416	0,664469	0,560006	0,629314	1

From the data in Table 2, it can be seen that the resulting factor is strongly correlated with the selected factors ( $r_{YIM, AUD} = 0.9943$ ;  $r_{YIM, ECO} = 0.77151$ ;  $r_{YIM, AKI} = 0.9237$  and  $r_{YIM, IBS} = 0.8374$ ) and it was found that there was no multicollinearity between the interaction factors. According to the results, the factors were selected correctly relative to the outcome factor.

It is now advisable to determine this regression equation using the Eviews program, which is currently popular. This is because it is also convenient to work in this program and also shows whether the defined equation is adequate by allowing the equation to be tested on the basis of several criteria at the same time (Table 3).

Table 3. The regression equation between the gross domestic product of the Republic of Uzbekistan and the selected factors and its verification by criteria

Dependent Variable: YIM	
Method: Least Squares	
Date: 05/04/20 Time: 16:56	
Sample: 2010 2019	
Included observations: 10	

Variable	Coefficient	Std. Error	t-Statistic	Prob.
			$t_{\text{жад}}=2,262157$	
AUD	0,982808	0,300244	3,273364	0.0219
EKO	-17,3884	49,46768	-0,35151	0.0324
AKI	0,729039	0,36063	2,021571	0.0992
IBS	0,059217	0,024881	2,380017	0.0039
C	10459,36	2314,3	4,519449	0.0406

R-squared	0.996006	Mean dependent var	228663.8
Adjusted R-squared	0.992810	S.D. dependent var	141655.6
S.E. of regression	12011.26	Akaike info criterion	21.93193
Sum squared resid	7.21E+08	Schwarz criterion	22.08322
Log likelihood	-104.6596	Hannan-Quinn criter.	21.76596
F-statistic	311.6988	Durbin-Watson stat	2.042282
Prob(F-statistic)	0.000004	$F_{\text{жад}}=5,192168$	



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Based on the data in Table 3, we first look at the values of the regression equation in the t-Statistic column to verify the significance of the parameters. Since  $t_{AKI} = 2,0216$ ,  $t_{jad} < t_{critical}$  this condition is not satisfied, so these parameters are insignificant. To make sure of this, it would be appropriate to check with both MAPE and TIC criteria (Figure 2).

According to the Mean Absolute Percentage Error-MAPE, - the forecast accuracy is high, - the forecast accuracy is good, - the forecast accuracy is satisfactory and - the forecast accuracy is unsatisfactory / Tayl coefficient (TIC) varies in the range. As a result, since  $MAPE = 3.976 < 10$  and  $TIC = 0.016 < 1$ , the forecast accuracy is high and all selected parameters are important.

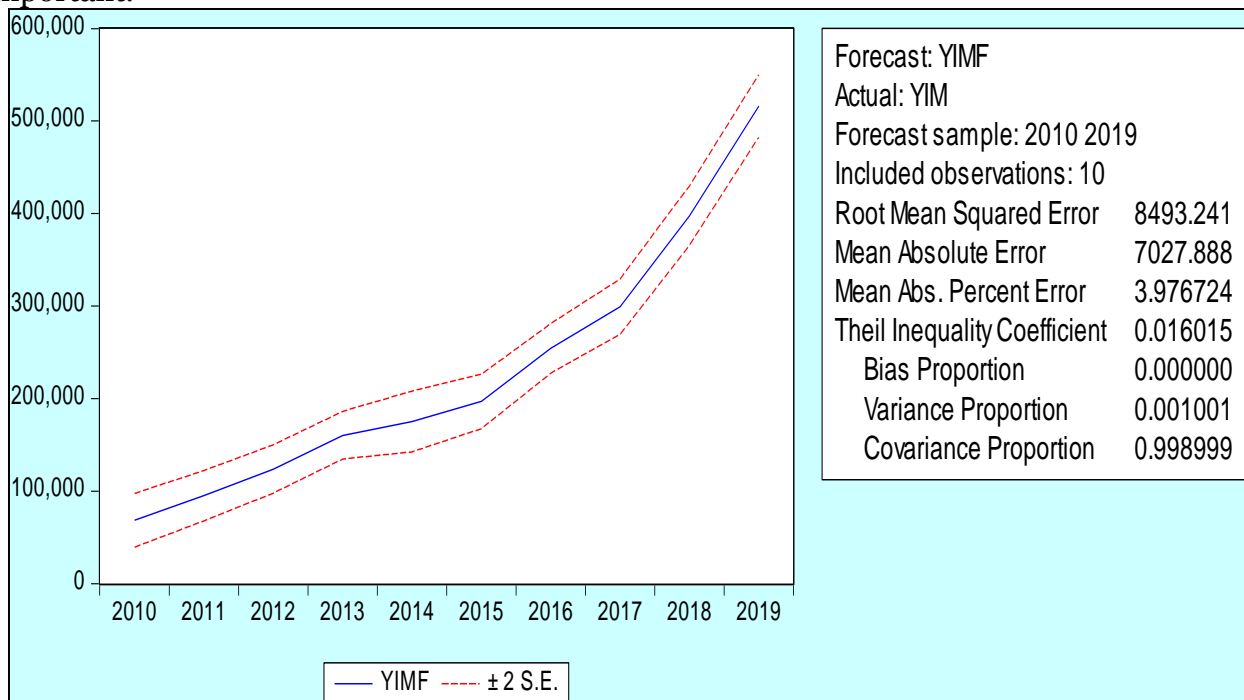


Figure 2. Test results using MAPE and TIC criteria.

## V. DISCUSSIONS

Uzbekistan is also working to introduce a digital economy. In particular, Uzbek scientists say: “Great work is being done in our country to develop the digital economy .... In the digital economy, digital data is a key element of production in all socio-economic spheres, and the gradual transition to such an economic system It will further increase, create new jobs, accelerate economic growth and ensure national independence.”

However, in the process of introducing the digital economy, special attention should be paid to the following:

- trade barriers;
- protection of personal data;
- transmitted data;
- new risks associated with payment mechanisms.

The concept of socio-economic development of Uzbekistan until 2030 provides for macroeconomic stability and sustainable economic growth, increasing the competitiveness of sectors, investment and export potential, creating favorable conditions for business development and protection, reducing labor market tensions, income growth and poverty. shortening is implied.



## VI. CONCLUSIONS

It should also be noted that the growth of the digital economy is associated with the development, improvement and growth of a number of markets that are directly related to digital and mobile technologies.

The production of new knowledge, the harmonization of digital economic activity with traditional will become a new economic force and therefore requires special attention.

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