

## ECONOMIC DEVELOPMENT OF THE COUNTRIES OF THE WORLD AND THE USE OF INFORMATION TECHNOLOGIES

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**Abstract:** Economic development is a crucial aspect of the growth and progress of countries around the world. The use of information technologies has become an essential tool in achieving economic development, as it enables countries to improve their productivity, efficiency, and competitiveness. This paper examines the relationship between economic development and the use of information technologies in different countries.

**Key words:** Economic development, Information technologies, Productivity, Efficiency, Competitiveness.

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**Introduction.** Economic development is a complex process that involves various factors such as political stability, social welfare, and technological advancement. In recent years, the use of information technologies has emerged as a critical factor in achieving economic development. The integration of information technologies in different sectors such as agriculture, healthcare, education, and manufacturing has transformed the way businesses operate. This paper aims to explore the relationship between economic development and the use of information technologies in different countries.<sup>1</sup>

To assess the level of ICT development in countries and regions of the world, various indicators were used<sup>2</sup> (GDP growth rates, GDP per capita, GDP per 1 employed person, the volume of production of high-tech products per capita, the volume of production of ICT goods and services in absolute terms and per capita. But in addition, we analyzed the data of the rating tables for the countries of the world compiled by reputable international organizations and scientific institutes based on complex (integral) indices characterizing the degree of readiness of the countries of the world for the information economy. Among the indices analyzed by us , we note:

- “Readiness index for the network economy” ;
- “Innovation Index” (Global Innovation Index) ;
- “Global IT Industry Competitiveness Index”;
- “Information and Communication Technology Development Index”

**The Networked Readiness Index** is a comprehensive indicator that characterizes the level of development of information and communication technologies (ICT) and the network economy in the countries of the world. The index was developed in 2002 and

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<sup>1</sup> JIN, Sangki and CHO, Cheong Moon. Is ICT a new essential for national economic growth in an information society? Government Information Quarterly. 2015. Vol. 32, no. 3, pp. 253–260.

<sup>2</sup> Kelly K. New Rules- for the New Economy: 10 Radical Strategies for a Connected World//Penguin USA, 1999. 226. Kelly K. What technology

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was previously published by the World Economic Forum and INSEAD International Business School as part of a special annual series of reports on the development of the global information society.

The index measures the level of ICT development by 62 benchmarks, grouped into four main groups<sup>3</sup>:

- Technologies.
- People.
- Management.
- Influence.

Table 1

## The networked index<sup>4</sup>

No	Country	Index
1	The USA	80.30
2	Singapore	79.35
3	Sweden	78.91
4	Netherlands	78.82
5	Switzerland	78.45
6	Denmark	78.26
7	Finland	77.90
8	Germany	76.11

**The Global Innovation Index (GII)** is an assessment of the innovation activities of 131 countries and economies of the world, based on more than 80 indicators. The Global Innovation Index is made up of 82 different variables that characterize in detail the innovative development of the countries of the world at different levels of economic development.

Available resources and conditions for innovation (Innovation Input)<sup>5</sup>:

- institutions;
- human capital and research;
- infrastructure;
- development of the domestic market;
- business development

<sup>3</sup> Global ICT Development Index. ITU [online]. 2018. [Accessed 1 June 2019]. Available from: <https://www.itu.int/net4/ITU-D/idi/2017/index.html>. IEF Downloads. Index of Economic Freedom Data, Maps and Book Chapters [online].

<sup>4</sup> [www.cia.gov](http://www.cia.gov)- central Intelligence Agency

<sup>5</sup> <http://epp.eurostat.ec.europa.eu> — Statistical Office of the European Union (Eurostat)

**Table 2**  
**Global Innovation Index 2022<sup>6</sup>.**

<b>№</b>	<b>Country</b>	<b>Index</b>
1	Switzerland	64,6
2	The USA	61,8
3	Sweden	61,6
4	The UK	59,7
5	Netherlands	58
6	South Korea	57,8
7	Singapore	57,3
8	Germany	57,2
82	Uzbekistan	25,3

**Hypothesis 1.** Is there any connection between ICT and Economic growth.

For analyzing this, I have read various articles, many authors, such as Yuriy Bilan “ICT and economic growth: links and possibilities of engaging”, Ian William Marsh “We see ICT spillovers everywhere but in the econometric evidence: a reassessment”.

We performed the first verification step based on correlation and regression analyses combined with exploratory graphical analyses:

I have researched 40 different countries, with different income levels.

Y=GDP per capita

X1= Global Competitiveness Index (2019)

X2= ICT Development Index (2019)

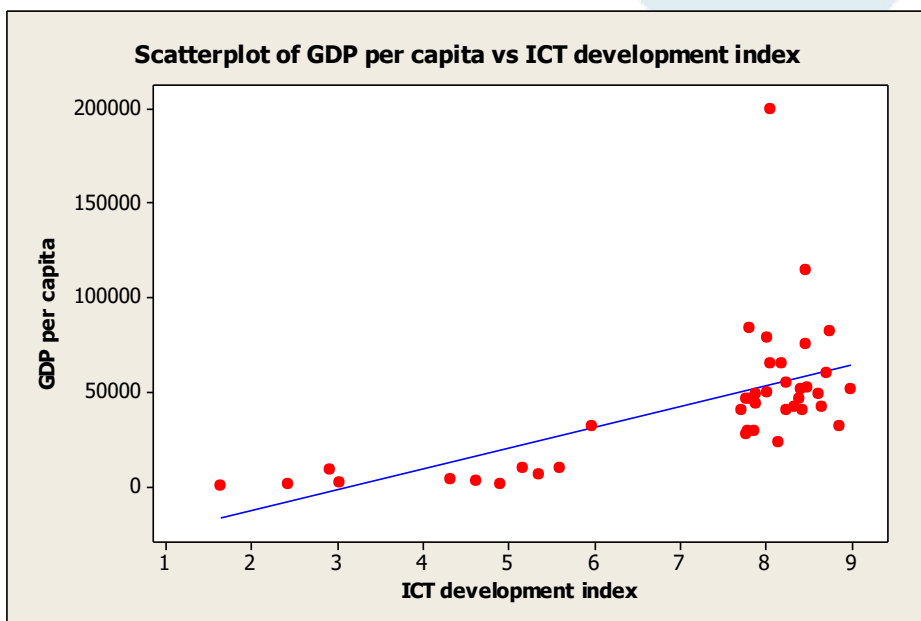
X3= Network readiness index(2019)

In MS Excel, I have done correlation analysis.

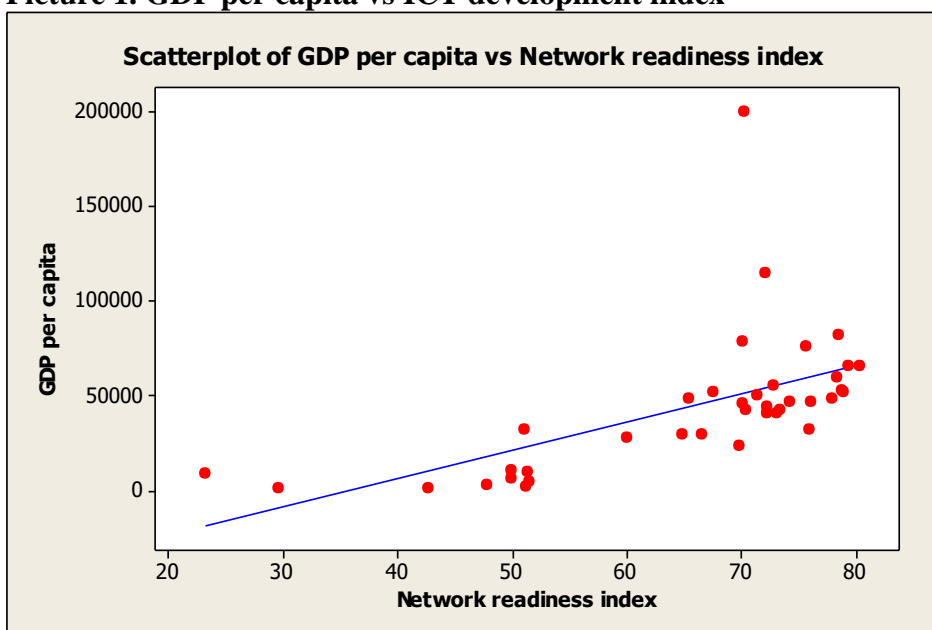
### **The results**

	<b>GDP per capita</b>	<b>Correlation</b>
Global Competitiveness Index	50,74	Moderate correlation
ICT Development Index	59,7	Moderate-strong correlation
Network readiness index	57,1	Moderate correlation

<sup>6</sup> <http://www.unesco.org/new/ru/unesco/themes/majorprogrammes/communication-information> - UNESCO website'



**Picture 1. GDP per capita vs ICT development index**

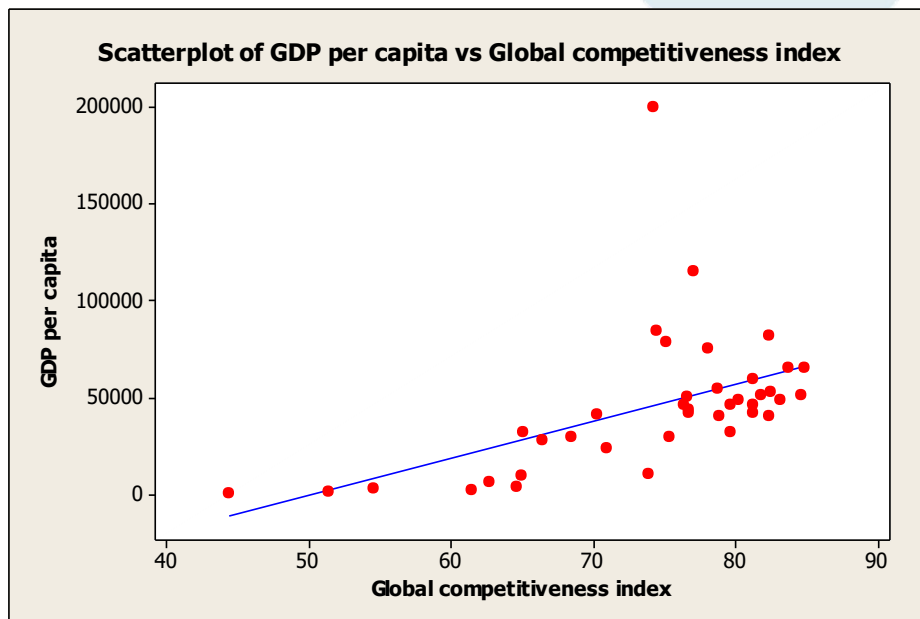


**Picture 2.1.4 Network readiness index**

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**Picture 2.1.5. Global competitiveness index**

In countries where IDI and ICT Use in GCI are approaching highs of 10 and 8 respectively, we recorded the highest levels of GDP per capita population. Conversely, countries with the lowest ICT utilization rates in economic sectors have the lowest GDP per capita. Coefficient determination allows us to conclude that there is a fairly close relationship between the research parameters IDI/" Use of ICT in GCI "and GDP per capita, as well as the reliability of the analysis results.

**Conclusion.** The integration of information technologies has become an essential tool for countries seeking to achieve economic development. The adoption of digital technologies has enabled businesses to increase productivity, efficiency, and competitiveness. Countries that have invested in information technologies have experienced significant growth in their economies. It is crucial for countries to continue investing in information technologies to achieve sustainable economic development.

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