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Formation of Ukraine's Smart Economy in the Context of Global Challenges

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Abstract: The formation of market mechanisms and the transition of a business from resource-based to market-oriented thinking led to the need for a profound rethinking of management and analytical technologies of diagnosing the efficiency of functioning and development of economic entities. The issues of social and environmental responsibility are the most relevant today in terms of meeting not only the goals of one socio-economic level but also from the perspective of the goals of the higher level of development. The purpose of the article is to study the scientific literature on the smart economy and determine the key elements affecting the formation of a smart economy and the development of Ukraine in the context of global threats. Based on historical and logical methods the analysis of scientific developments, which methodologically and conceptually influenced the formation of the concept of the creative economy. With the help of methods of analysis and synthesis, the components of the creative economy have been described and the world tendencies of the creative sector have been defined. The results of the analysis allowed to offer as key elements that are prerequisites for the formation of a smart economy in Ukraine, namely: intellectualization, informatization, innovation, investment, integration, social responsibility, and ecological transformation. The conclusion notes that the formation of a smart economy of Ukraine is influenced by global processes in the world. And it is these features emphasize the need to increase attention to the transformation of management processes on the intensive use of intelligent technologies for effective decision-making, contributing to the growth of public welfare, improving innovation and competitive positions, and the formation of the smart economy of Ukraine.

Keywords: smart economy, intellectualization, innovation, global transformation.

Introduction

Ukraine's entry into the global economic community depends on the development of a competitive environment. It is competition, which is a driving factor, forces enterprises, and their stakeholders to improve their own activities, which contributes to the growth of their success in the market and endurance in the struggle to obtain the commitment of consumers. The concept of the smart economy is becoming increasingly popular in academic research and strategy papers. This concept is

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used in a wide range of contexts: the introduction of Internet technology, economic growth, strategic planning, intelligent design, urban development.

Research Problem

The scientific literature continues to search for ways to understand the coming rise of society in transformation. An indicator of this is the emergence of various theories of post-industrial society, information society, network society, knowledge society, smart economy.

Research Focus

Modern conditions of civilizational development of the economy are firmly combined with the intensive use of information technology, organizational capabilities, intellectual resources, which are the basis for the formation of competitive advantages and the well-being of companies. That is why the emergence of the concept of a smart economy has aroused increased interest among researchers.

Research Aim and Research Questions

The article aims to carry out a theoretical analysis of the scientific literature on the smart economy and identify the key elements influencing the formation of a smart economy and the development of Ukraine in a changing world.

Research Methodology

General Background

The methodology of the study consists in the systematization of scientific views on the understanding of the concept of a smart economy. This allowed to formulate the author's vision of the essence of a smart economy and to highlight its components, which will help in the formation of the smart economy of Ukraine in modern conditions.

Literature review

Problems of transformational change and the effective development of the economy are in the focus of research of many scientists. A reflection of this is the emergence of various theories: post-industrial society, information economy, knowledge economy, green economy, smart economy, etc. Depending on the field of research and based on their own views, researchers justify different components relating to the smart economy.

Smart economy is a concept of both the present and the future, aiming to embody the idea of sustainable growth. It focuses on creativity, innovation, scientific research, high technology, and environmental protection (Apostol et al., 2015).

The smart economy is an area where new economic phenomena occur. The standard scheme that has worked for centuries is no longer functioning properly, and new forms of economic relations are emerging (Kim et al., 2016).

The smart economy is an environment for facilitating e-business and commerce, as well as new opportunities for entrepreneurs (Karagliu & Naikamp, 2012).

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A study of smart cities states that the smart economy “includes factors related to economic competitiveness, such as innovation, entrepreneurship, brands, labor market productivity and flexibility, and integration into the (between) national market” (Gifinger et al., 2007).

The economy becomes smart through more dynamic operations, competitive performance, and innovative entrepreneurial activity (Balachanu et al., 2017).

The research conducted has shown that there is no generally accepted definition of a smart economy in science. The lack of a clear concept of a smart economy does not allow a sufficiently clear understanding of the specifics of a smart economy and the development of strategically directed actions to strengthen and promote the establishment and development of a smart economy in the country. In addition, the issue of a smart economy has been little researched by domestic scientists, so this concept needs additional economic discussions and justifies the relevance for Ukraine.

Research Results

In modern conditions, the formation of the country's economy is under the influence of global configurations, rapid technological configurations, liberalization of trade, and public consumption. Globalization has been a tool for the formation of world markets for goods, labor, and capital, and has expanded the information space. Informatization has created new capital-intensive and fast-growing markets for information and communication technologies and media. Along with this, enterprises are becoming increasingly free and flexible in their behavior and interaction with stakeholders, in taking the initiative, organizing, and implementing economic activities.

According to Kalenyuk & Yuninets (2020), the emergence of the Smart-economy phenomenon is due to the increasing pace of intellectualization of the global economy. A characteristic feature of the concept of Smart-economy is the combination of the processes of intellectualization, institutionalization, ecologization, and socialization in one system.

Many scholars identify the concept of a “smart economy” with the innovation economy based on Industry 4.0 and various networks, the spread of technology, and its incorporation into the economic system (Galperina et al., 2016; Rajput & Singh, 2019). The sharing economy (the sharing economy) is addressed in the works of Akande, Cabral & Casteleyn (2020), Geisinger et al. (2019).

There are views that the smart economy is combined with the definitions of green economy, green economy, green industry, smart circular economy used to describe the modern efficient economy (Boloceanu et al., 2017; Wang et al., 2019; Christophersen et al., 2020; Merino-Saum et al., 2020).

It should be noted that most scholars consider the concept of a smart economy in terms of building a smart city, all components of which depend on smart technology, function and are managed based on the provisions of economic feasibility, permanence, and social responsibility (Gifinger et al., 2007; Kanter & Litov; 2009). According to the research, smart cities include services and support for entrepreneurship and innovation ecosystems within a smart economy, learning and incubation environments to support entrepreneurship and productivity, tools to support company integration in local and global markets, ICT platforms, open data, urban laboratories and other solutions (Toth & Estergar-Kiss, 2019).

The study by Gifinger et al. (2007) described that the smart city, smart economy, innovation and enterprise, and startups are closely related. Startups can foster innovation, they offer newer, better, and

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more efficient solutions, technologies, and business models to solve problems in cities than technologies available in the marketplace (Cooper et al., 2018).

The smart economy uses IT solutions to achieve efficiency and identify problems; it uses collected data to make decisions, allocate resources efficiently, and enable collaboration across domains (Kanter & Litow, 2009).

Brunekienne & Cinquienne (2014) attribute the following characteristics to the main components of the smart economy, which together reveal its specificity: innovative economy, knowledge economy; learning economy; digital economy; competitive economy; green economy; network economy; socially responsible economy.

Tota & Esztergar-Kiss (2019) study refers to the smart economy as e-business and commerce, productivity enhancement, production and delivery of ICT-enabled and advanced services, ICT-enabled innovation, new services, products, and business models. It also creates smart clusters and ecosystems (e.g., digital business and entrepreneurship). In their view, the smart economy means interconnecting local and global markets, leading to international integration along with the physical and virtual flow of goods, services, and knowledge.

Innovation and innovation become part of the concept of a smart future based on sustainability and environmental protection, a thorough level of scientific research, and creative approaches to processes (Apostol et al., 2015; Kezai et al., 2020).

Some scholars include the following components of the smart economy: e-economy and innovation (measured by new startups, research and development, employment and innovation activity), productivity and efficiency by GDP, and local and global connections (exports, which can be measured by international turnover). A necessary component of smart cities includes the innovativeness and modernity of the businesses located there, the entrepreneurial activity of the local population, as well as the number of new start-ups, the spread of e-commerce, e-business services, the availability of websites, etc. (Gifinger et al., 2007).

The informational liberalization of economic actions is accompanied by their globalization. In fact, enterprises shape their development strategy in a global context. The wide availability of information sources creates the preconditions for the intensive generation of new knowledge, which means the emergence of new technologies, markets, materials, and other innovations.

Discussion

Summarizing the results of the study of scientific literature, we propose to understand under the smart economy an orderly ecosystem based on the use of innovation, creativity, digitalization, and creating conditions for safe living conditions.

Reality shows that the formation of a new reality in the context of global problems is determined by the processes of innovation, informatization, integration, the increasing role of knowledge and innovation, social and environmental responsibility as leading features of the modern model of economic development (see Fig. 1).

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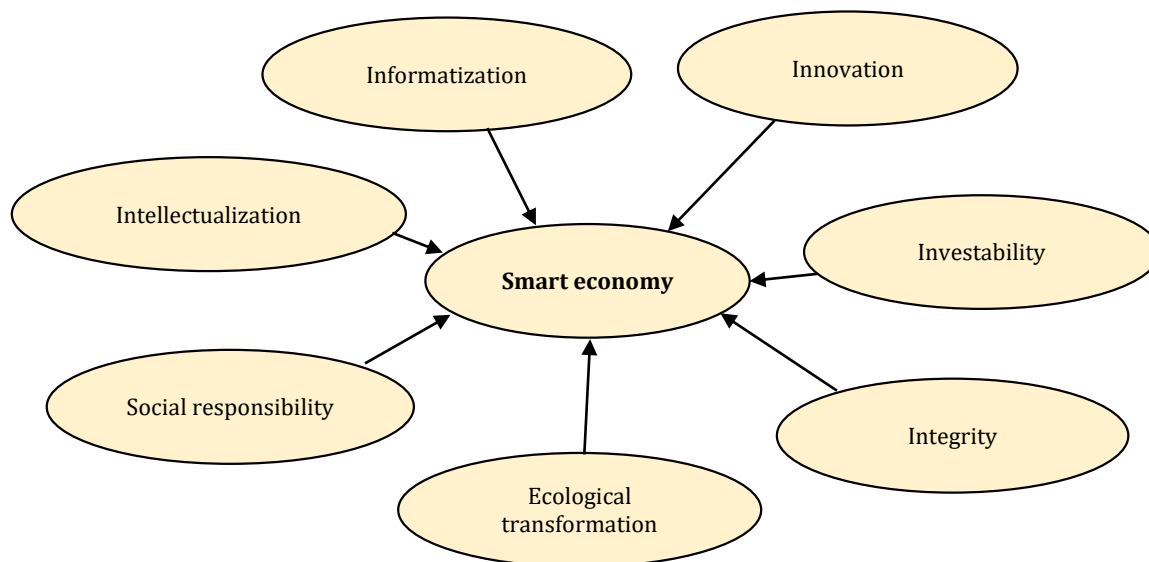


Figure 1. Key elements of development in the formation of the smart economy of Ukraine

Source: author's development

The universally recognized leaders are the countries that make significant efforts to accumulate intellectual resources and introduce them into the economy. The emergence of innovation shows the spread of new dominants in economic activity and the life of society.

According to the annual report "Global Innovation Index" of the World Intellectual Property Organization Ukraine in 2020 among 131 countries has the best indicators of innovation, which include primarily: human capital and research (39), business development (54), the results of knowledge and technology (25), the results of creative activity (44), in particular in such positions as shows the advantages in indicators of trademarks by origin (5), industrial designs by origin (8) and mobile app creation (15) (see Table 1).

Table 1

Ukraine's place in the Global Innovation Index ranking in 2020

Indicators	Index	Place in the rating
1. Institutions	55,6	93
1.1 Political environment	44,5	105
1.2 Regulatory environment	61,0	76
1.3 Business environment	61,2	104
2. Human capital and research	40,5	39
2.1 Education	56,9	23
2.2 Higher education	43,9	32
2.3 Research and development	20,5	44
3. Infrastructure	33,1	94
	58,8	82

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3.1 Information and communication technologies	20,2	95
3.2 General infrastructure	20,2	99
3.3 Environmental state		
4. Market development	42,1	99
4.1 Credits	35,3	86
4.2 Investments	23,8	121
4.3 Trade, competition, and market	67,2	45
5. Business development	29,5	54
5.1 Intellectual workers	39,0	47
5.2 Innovative connections	18,8	81
5.3 Getting of knowledge	30,6	59
6. Knowledge and technological outputs	35,1	25
6.1 Knowledge creation	41,6	23
6.2 Impact of knowledge	28,7	45
6.3 Dissemination of knowledge	35,0	32
7. Results of creative activity	29,9	44
7.1 Intangible assets	42,8	23
7.2 Creative goods and services	6,6	95
7.3 Online creativity	27,3	39

Source: Global Innovation Index (2020)

The basic principles of a smart economy should be based on technological and innovative factors rather than on resources. Then the smart economy will promote innovative and sustainable development, and this environment will create a favorable situation for social well-being. To achieve the desired goals in the formation of the smart economy of Ukraine it is necessary to focus on: entrepreneurship, productivity, competitiveness; research, training, investment attractiveness, and internationalization. Prerequisites for the formation of a smart economy should be the processes of digitalization, innovativeness, eco-transformation, broad support by investments.

It should be noted the need to intensify the attraction of investment as a source of development aimed at the implementation of innovative solutions, increasing productivity and efficiency of economic and economic tasks.

The dynamics of information technology development is reflected in the active automation and digitalization of all processes, in the open and constant availability of information. Life is moving into a virtual dimension, so it is necessary to make the fullest use of the functions of modern information technology, which are becoming inseparable elements in all spheres of society.

An important direction of global growth today is the increased attention to environmentally-oriented development of the national economy based on the greening of production at the state and global levels. The modern development of entrepreneurship cannot be effective without environmentally oriented goals, achieved through the policy of ecologization of activities. In addition, in our time greening has become a fundamental prerequisite for the formation of prerequisites for the transformation of the model of the country in the direction of sustainable development.

One of the actual elements of the formation of a reasonable economy in Ukraine is the functioning of all economic entities on the principles of corporate social responsibility, which embody a variety of

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values for stakeholders, enterprises, and society as a whole. That is why the efficiency of social responsibility implementation should be measured in maximization of obtaining all the mentioned values by the enterprise, society, and stakeholders: the value at the enterprise is practical, for the stakeholders - emotional, and for the society - social.

Consequently, the formation of a smart economy in Ukraine is affected by many factors caused by constant changes in technology and its use in all spheres of society. Important prerequisites for the formation of a smart economy include the stimulation of creative thinking and knowledge, characterized by digital technologies and digital business innovations, intellectualization of production, processes of globalization, and liberalization of markets, which lead to transformations in the composition of demand and consumption.

Conclusions and Implications

It should be noted that the formation of a reasonable economy of Ukraine is under the influence of global processes in the world. These features impose new requirements for the existence of the modern economy. First of all, in Ukraine, the transformation of management processes on the increasing use of reasonable technologies by all economic entities concerned to make effective decisions, contributing to the growth of public welfare, the formation of a smart economy become a priority. That is why the formation of a smart economy in Ukraine should take into account the potential and changes of each key element, new challenges, transformations of the global environment and lay down the appropriate tools to help in the formation of a balance between private and public interests.

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