

Digital Economy in the 21st Century: An Introduction to the Institutional Approach

The 21st century is the age of prime of the digital economy. Each next decade of the 21st century starts a new wave of digitalization of economic systems, thus determining the internal specifics of their functioning and the conditions of their global competition. During the first decade (2000–2010), the telecommunication infrastructure was created – development and preparation for practical application of digital technologies and their pilot implementation into the economic practices of households and entrepreneurial structures. The initial experience of new technologies' application was accumulated, and sustainable practices of implementing digital economic processes formed. A motive for market players who used digital technologies was receipt of competitive advantages from higher speed, precision, and quality of the economic result.

This prepared a social environment for further technological progress. The information society was formed – its specifics include high level of media literacy, high demand for hi-tech and hi-tech products (goods and services), flexibility of behavior in market, striving for optimizing individual economic practices (at the level of households) based on the leading technologies, openness and acknowledgment of the value of new knowledge, information and technologies, positive treatment of globalization and readiness to use its capabilities, and susceptibility and inclination for support for innovations.

The second decade (2010–2020) stimulated further dissemination of digital technologies. Hi-tech entrepreneurship was formed based on the formed telecommunication infrastructure and as a response to the existing demand. In the course of its development, application of digital technologies turned from voluntary to mandatory – forced under the pressure of competition. As a result, high technological barriers of entrance formed in a lot of sectorial markets.

Governments around the world adopted national programs and strategies of economic systems' digitalization. The Fourth industrial revolution received official support and government financing. Digital competition passed from the corporate level (micro-economic) to the national (macro-economic). An international ranking of digital competitiveness appeared, and global competitiveness index received an addition “4.0”.

This stage-by-stage character of the digital economy's development in the 21st century reflects its institutional nature – essence and perspectives of the digital economy's development are determined by successfulness of institutionalization of progressive economic practices. The basic social institutions of the digital economy of the 21st century are information society, telecommunication infrastructure, hi-tech entrepreneurship, and e-government.

The uniqueness of the digital economy, as an evolutionary form of economic systems, consists in its formation in the conditions of ready market relations. That's why, unlike the previous forms of economic systems, the transition to which had been started by government, digital transformations took place under the pressure competition, not regulation – by own initiative of market players. The modern market nature of the digital economy, in which the elements of free competition and government regulation are combined, hinders its study from the positions of the neoclassical (based on the “pure market concept”) and from the positions of neo-Keynesian (envisaging strong state regulation and limitation of market liberties) economic theories.

The mixed economy of the 21st century, with progressive market relations and moderate de-regulation, in which the digital economy formed and is developing now, has no place in the traditional fundamental concepts and “ideal” models. That's why its research from the positions of the existing approach to studying economic systems, which is based on the positions of the neoclassical and neo-Keynesian theories, causes multiple gaps and contradictions, hindering the formation of a comprehensive concept of the digital economy.

For solving this problem, the authors of this book develop and use a new – institutional – approach to studying the digital economy, which allows overcoming the gaps and solving the contradictions in its research and forming a systemic view of its essence and prospects of development. The book consists of eight parts, each of which describes the institutional view of the 21st century digital economy.

Part I develops and substantiates a scientific concept of 21st century digital economy. The digital economy is defined as a modern type of economic system, and the principles of functioning and the priorities of its development are determined. Classification of breakthrough digital technologies is performed, and the prospects of their application in economy are given.

Part II is devoted to the process of the digital economy's institutionalization in the 21st century. It defines the essence and logic of the process of digital transformation of sectorial markets and outlines the current tendencies of economy's digitalization in developed and developing countries. The main stages of economy's digital modernization are distinguished.

Part III determines the meso-level institutions of the 21st century digital economy; outlines the problems and perspectives of regional economy's digitalization; develops the institutional model of the digital economy formation in a modern region. Management of a modern region based on digital technologies is studied.

Part IV distinguishes the macro-level institutions of the digital economy in the 21st century; considers state institutional regulation of the process of economy's digital modernization; determines the role of financial institutions in support for the digital economy; presents a view of the 21st century digital economy from the positions of developed and developing countries.

Part V dwells on the global institutions of the digital economy in the 21st century. It determines the barriers and opportunities for development of international trade in the digital sphere; considers the existing and perspective international institutions of support for economy's digital modernization; offers and tests a scientific and methodological approach to provision and evaluation of global competitiveness of the digital economy.

Part VI contains the overview and analysis of case studies of institutions of the digital economy in the 21st century. It dwells on the problems and prospects of economic cooperation between Russia and Mexico; substantiates the innovative critical success factors for public-private partnerships in infrastructure projects of developing countries by the example of Zambia; presents a prediction mechanism of the territorial socio-economic processes in formation of the information systems; outlines the specific economic security regulations in the context of pathological crises of digital transformation of agricultural organizations.

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