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INNOVATIVE COMPONENT OF CHINA COMPETITIVENESS

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Abstract: *The topicality of the research theme is that China, as a major player, has a leading role in the spreading scientific and technical progress. China's innovative development is affecting its competitiveness in the world. Thus, it is necessary to study the main indicators of China's innovative and technological potential. The purpose of the research is to analyze the current trends of innovations in China and to determine their role in shaping China's international competitiveness. The subject of the research is China's innovative economy.*

Keywords: *China's competitiveness, an innovative component, the Global Innovation Index, research institutes, innovative development strategy*

INTRODUCTION

In the conditions of globalization and technology development, the question of innovation introduction in order to consolidate the position of any state in the world market of high-tech and information-intellectual products is coming to the fore. Since the XXI century is considered the time of information and communication, digital technologies permeate all spheres of human activity.

At the stage of international technology trade development, China is increasing its production and technological capacity. Its gradual transition from a plagiarist to an innovator indicates that China is claiming the role of the world leader in innovations.

MATERIALS AND METHODS

The works of the following scientists are dedicated to the innovative development of China: O. Moroz, T. Jokush, L. Lijian, L. Antonyuk, O. Khomenko, N. Bezrukov and others.

The following research methods are used: the method of analysis to identify development trends of the components of the China's Global Innovation Index, the statistical method - to track the dynamics of foreign direct investment (FDI) in China's economy, the number of researchers and the cost of research and development projects (R&D). As a result, we have determined that the Global Innovation Index is 54.82 points. We analyzed the current trends in China's innovative development.

RESULTS

China, as a leading country in the world, has an important role in conducting modern scientific and technological research. The mechanism for promoting innovation development in China is to support state-owned enterprises with innovative technologies, a targeted program to encourage technological innovation through preferential taxation of enterprises with innovative technologies, and to provide preferential credits for introduction of these technologies into production. There are also industry technology centers that together with research institutes, are engaged in scientific development in order to bring them into production to enhance the competitiveness of major industries. If to analyze the main indicators of China's innovative development, namely: The Global Innovation Index - 54.82 points (14th place out of 129, 2019), high-tech products' exports - 32% of industrial exports (2018), we see that China's innovation potential is high enough to claim the status of an innovation leader, since China is a major competitor for the USA, Japan and Sweden. China holds a high position in the separate components of the Global Innovation Index (Figure 1).

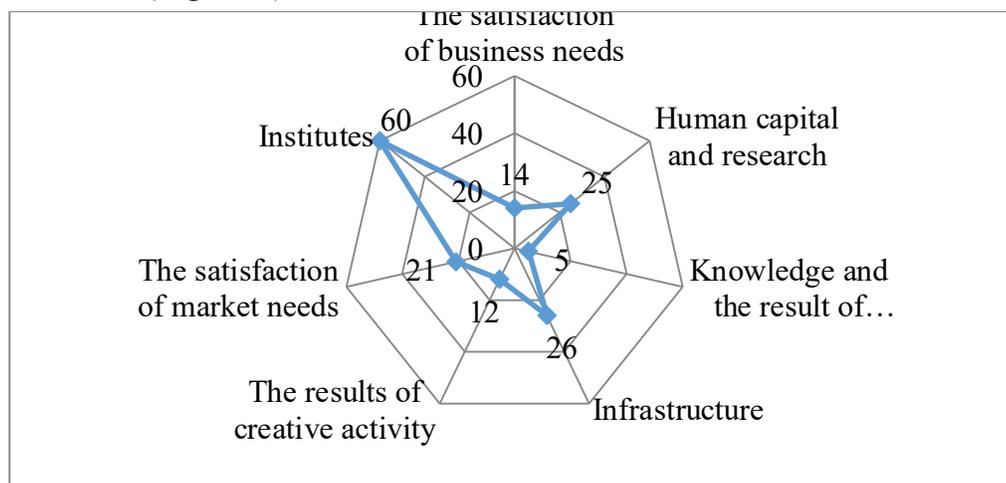


Figure 1: Components of China's Global Innovation Index (ranked)

Source: formed according to [4]

The key role in promoting and stimulating innovative development belongs to the Government of China, which has developed and implemented a number of programs. The basic documents regulating the priority spheres of the Chinese economy development according to the innovative model are the Medium- and long-term Science and Technology development program 2006-2020 and the long-term strategy "The Roadmap of the Science and Technology development by 2050" [2]. These programs formed the basis of the Thirteenth national five-year plan, in which the strategic priorities for China's innovative development are in line with the trends of the Fourth Industrial Revolution.

In 2015, the Chinese government approved the innovation development strategy "Made in China-2025" as a part of the long-term innovation development strategy and the Thirteenth national five-year plan [2].

The main priorities are:

- 1) To increase the productivity of China's innovation potential;
- 2) To promote the deepening of information and industrialization integration;
- 3) To strengthen fundamental science in industry;
- 4) To prioritize the quality and branding of the country;
- 5) To develop «green» production;
- 6) To promote an innovative progress in ten key sectors - new generation information technology, robotics and production automation, aerospace, high-tech ocean exploration equipment, the latest transportation technologies in rail and road, energy-efficient technologies, agricultural innovations, new materials and biomedicine;
- 7) To restructure the manufacturing industry;
- 8) To develop the services sector;
- 9) To increase the level of production internationalization.

The main organizational forms of infrastructure support for innovative business development are the China National High-Tech Industrial Development Zones or techno parks. China's techno parks include a manufacturing area and a science center [6, p. 37]. Due to this, scientific and entrepreneurial potentials, venture capital are concentrated in one place. Because of their interaction, significant development is obtained in the fields of engineering science, based on which many high-tech companies grow.

In 1990, the state plan of the priority implementation of scientific and technological achievements began to come into force, the sources of financing were

mainly state credits, capital investments, own funds of enterprises, public savings, the funds of industries or provinces [6, p. 38]. This greatly resulted in the development of innovative entrepreneurship in existing and newly created techno parks.

In addition to the preferential conditions provided by the central government, local administrations and Zone Management Committees are also developing additional preferential offers to encourage and attract national and foreign investors.

At this stage, an effective system of institutional support for China's innovation activity is the creation of special economic zones (Shenzhen, Xiamen, Shantou, Sichuan, Shaanxi, Sichiang - Uygur Autonomous Region, etc.) [5]. These zones provide preferential conditions for investment, which has led to large FDI attraction and receiving advanced technologies (Figure 2).

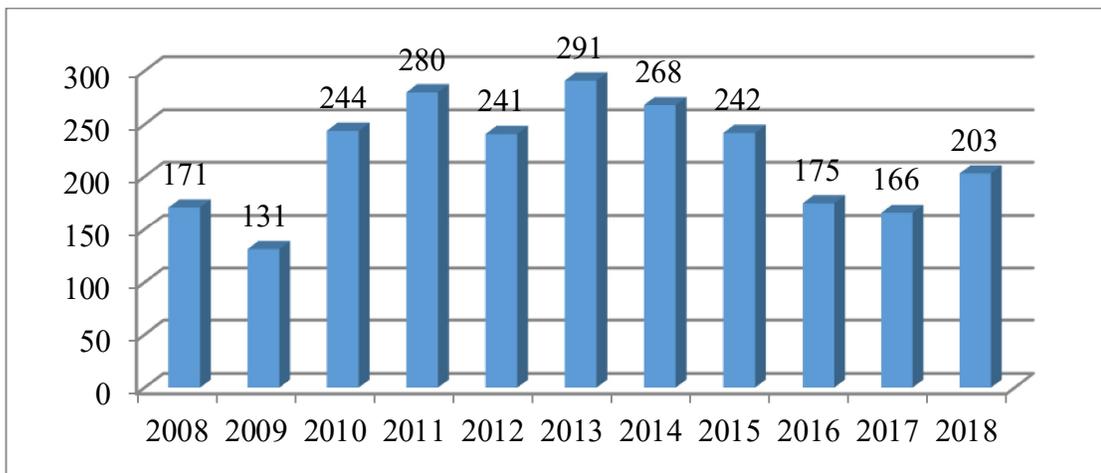


Figure 2: FDI Volume in China's economy (Billion USD)

Source: formed according to [3]

Today, the level of informatization of the eastern regions of China, thanks to the functioning special economic zones, equals Japan's indicators and approximates the USA level [5].

The government of the state directs its policy towards innovative and economic leadership in the XXI century, also through the reform of education, science and technology. Nowadays raising the level of education is one of the key tasks for the government of China. Thus, according to the Human Development Index, China is one of the countries with the highest HDI, ranking 86th place in 2018. The number of researchers in the R&D sector has been steadily increasing every year (Figure 3). This is evidence of stimulating the development of advanced research in China.

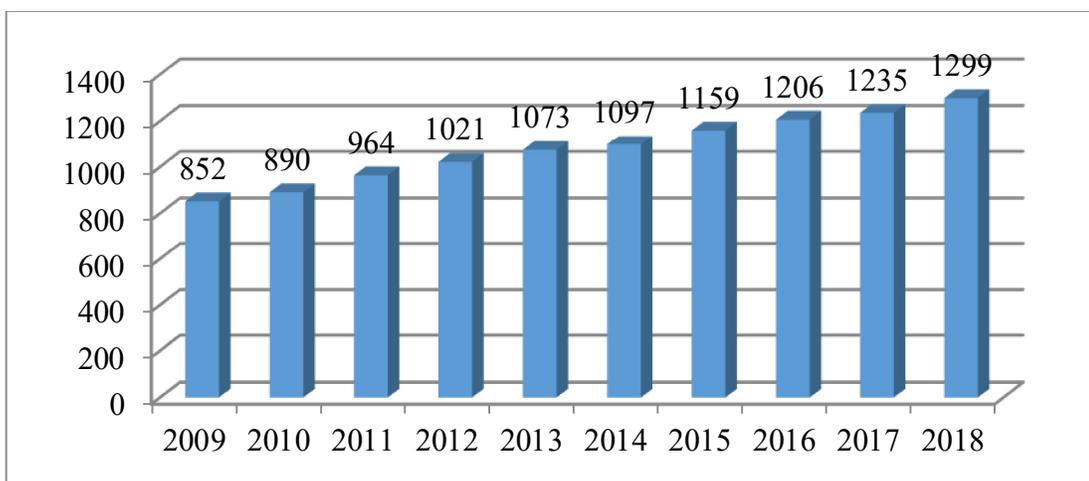


Figure 3. Dynamics of growth in the number of researchers in the R&D sector (per million inhabitants)

Source: formed according to [3]

Therefore, the Government of China sees its further innovation and economic development precisely through the development of intellectual resources within the country, creating necessary conditions for the modernization of education because of the technology market development.

There are three sources of technological innovations in China:

- 1) Obtaining new foreign technologies through foreign trade, including the transfer of copyrights and their licensing, as well as the import of high-tech means of production;
- 2) Receiving foreign machineries in the process of FDI attraction;
- 3) Owning technological innovations, obtained by the growth in national costs on R&D (Figure 4).

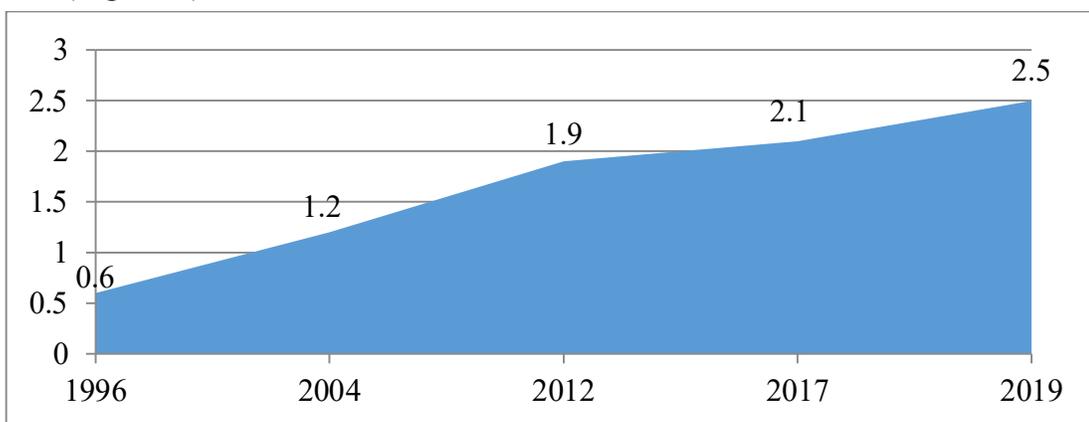


Figure 4: R&D costs (% of GDP)

Source: formed according to [3]

Smart cities development is one of the advanced technologies of Industry 4.0. Their key tasks are to function as a single system, to improve people's life quality, institutes activity and, consequently, economic well-being of citizens. The government of China elaborated a series of mega-projects concerning city-transformers creation, which will deepen globalization in the country and change completely people's life. Many city-centers, like Shanghai and Shenzhen have gone the way from small provinces to the status of metropolis, so one of the government's priorities is the construction of new investment-attractive cities [1]. The Chinese government plans to relocate approximately 250 million rural inhabitants to cities by 2050.

Thus, innovations and technologies, implemented actively in China in many economy sectors, especially industry and services, are of importance when developing economic, scientific and technological potential of the country to enter the global technology market.

CONCLUSIONS

China is one of the leaders in implementing modern technologies to develop the country's innovative economy. This is a decisive factor in establishing the position of a high-tech exporting country in the world. The state has created a favorable climate for innovations by means of the preferential tax regime, subsidies, large financing, investment promotion, preferential legislation in the field of business and other initiatives. The study of this topic is promising given that China is rapidly implementing a long-term strategy for scientific, technological and innovative development.

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