ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF ARTIFICIAL INTELLIGENCE

ISSN: 2692-515-x, Impact Factor: 9.23

American Academic publishers, volume 6, issue 01,2026

Journal: https://www.academicpublishers.org/journals/index.php/ijai

REGIONS IN FOREIGN COUNTRIES DURING THE INNOVATIVE DEVELOPMENT OF THE INDUSTRY EXPERIENCE IN BUSINESS DEVELOPMENT

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Abstract. The article highlights the fact that the introduction of innovation into industry and the subsequent transfer of production to a high-tech process, in turn, have had a significant impact on business development, based on specific analyses from the experience of foreign countries.

Keywords: Innovation, business, industry, mechanism, modernization, diversification , complex development, regional industry, foresight center, R&D center

Introduction

A study of foreign literature shows that, despite the fact that different countries have different directions in terms of regional development and the deployment of productive forces, there are few differences between them. The goal of implementing regional economic policy is to solve the following issues:

– to stimulate the development of economically backward regions;

– transfer a large part of the tasks of the central government to local government bodies ;

– restriction of industrial production in large cities ;

– placement and development of production forces in the newly acquired region .

One of the most popular ways to implement regional policy is to establish regional development funds. For the first time in this regard, the Regional Coordination Fund was established under the European Union in 1975. In several other countries, special funds have been established to implement the socio-economic development of individual regions. These include the Southern Treasury in Italy, which is aimed at developing the infrastructure of the southern region at the expense of state subsidies, the State Program for Acceleration of Development of Individual Regions in Bulgaria, and the Central Fund for Regional Development, which consists of three target funds in Hungary.

An important feature of the regional policy of many foreign countries is that it considers not large administrative units (state, province, province), but specific cities and municipalities as regional development centers, including 9 agglomerations and 17 cities in the underdeveloped

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South-West regions of France, 12 industrial development areas and 26 industrialization nuclei in Italy, and 300 settlements in Germany.

The experience of the Dutch and Belgians in this area is particularly noteworthy. It should be noted that the law on urban and rural development planning was first adopted in Belgium in 1915. Regional policy in many countries can be applied differently, depending on their internal capabilities and conditions. In particular, in China, where the birth rate reduction policy is extremely strict, there is no limit on the number of children per family, especially in the Xinjiang Uyghur Autonomous Region, where the population density is low.

Literature review. Japanese economist Tomako Shiroyama's monograph "Modern Global Trade and the Asian Regional Economy " states that the main driver of regional development is directly related to industrial development[1] .

Also, M. Armstrong, in J. Taylor's book "Regional Economics and Policy", recognized the importance of the university-business principle in the complex and innovative development of regions. [2]

In the industrial sphere, M. Porter's ideas on the relationship between the level of development of an industrial sector and its market share are **of great importance** . He believed that the level of development of an industry and its market share should not be considered the main indicators of the activities and profits of industrial enterprises. He emphasized that such indicators are not reliable indicators that accurately indicate the potential cash flows and demand for financial instruments, and that the strategy of competitive struggle plays a special role in the effective activities of industrial enterprises. [3].

The fact that industrial models consist of several stages indicates their complex internal structure. According to S.Yu. Glazev, the main technological units constitute the core of the technological structure. Technological innovations that participate in the creation of such nuclei are called the main factor. In the carrier networks, mobile industrial sectors arise in connection with the spread of innovations. In turn, such sectors include those that intensively consume the main factor and are best adapted to its use. They play an important role in the spread of new technological innovations and the mass modernization of production[4].

Modern communication, robotics, new technological discoveries, etc. are considered factors of the new technological revolution. In developed countries, the products of the fifth technological revolution account for a large part of GDP.

process that leads to the production of the best products and technologies based on the practical use of ideas and discoveries , and if innovation is aimed at obtaining economic benefits, then it leads to the emergence of a new product on the market and additional income. [5]

N. Rosenberg and LE Birdsell, S. Rastvortseva attribute the economic development of Western industrial countries to the fact that continuous exploration of opportunities and adaptation to changes that positively affect further growth were achieved through innovation[6].

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Research methodology : This study used economic-statistical, economic-mathematical, systems-analysis, complexity, scenario, functional analysis, and expert assessment methods.

In addition , the research process effectively used the methods used and recommended by the Japanese scientist Tomako Shiroyama for the development of regions, in particular, for the innovative development of industry . That is **,** the main emphasis in the development of regions is on the organizational and economic aspects of the complex and innovative development of industry. To develop a mechanism and ensure the development of all regions based on this mechanism Of course, in the development of a particular region, it is important to first of all take into account the socio-economic development of this territory, as well as to thoroughly study the internal and external factors affecting industrial development.

Analysis and results

Among developed countries, Japan's experience in this area has a special advantage. As a result of the consistent implementation of long-term programs aimed at a specific goal, Japan has become one of the most developed countries in the world in a historically short period of time.

Japan's regional economic policy is based on the limited land and natural resources, the need to harmonize human activities with natural conditions, and the need to create equal living conditions for the population of different regions of the country. In general, the development of regional programs at each stage of the country's socio-economic development is determined by the different goals and objectives set for society and the state, their scale and implementation capabilities. In Japan, a fast, flexible and convenient method of attracting material and financial resources and production capacities to underdeveloped, "decentralized" regions has been established.

The division of China into three major regions (East, Central and West) and the fact that each of the provinces in it has a significant share in the country's GDP, and the economic diversity of these three major regions, are of particular importance in the comprehensive development of the regions in China. The Eastern Region plays the role of the Central Region, consisting of 10 coastal provinces and three centrally-run cities: Beijing, Shanghai and Tianjin. This is a major industrialized region in China, and it is this region that is currently receiving the highest investment flows.

The eastern region has become a region mainly focused on exports. A striking example of this is Guangzhou province. Shanghai is also a region mainly focused on exports. Tianjin has developed electronics, mechanical engineering, chemistry, and pharmaceuticals. Also, in this region, A-320 airliners are assembled under license from the Airbus concern.

In the central region, there are 10 There are 1 province and 1 city under the central government, Chongqing. Although this region is larger than the Eastern Region, it is slightly behind in terms of population and industrialization. China's regional economic policy is implemented in stages:

– the first stage falls on the 1980s-1990s, and at this stage, the development of the Eastern region was considered a priority;

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– the second stage covers the years 1990-2000, and this stage involves the development of the Central region;

– the third stage falls on the beginning of the twenty-first century. At this stage, attention is paid to the development of the Western region. The role and significance of the means of regulating regional development in the regional economy are determined within the framework of the results. The results obtained are of interest to government bodies at the federal, regional and city levels. In order to implement a regional policy that ensures effective management of regional development, it is necessary to use a wide range of means and methods of regional development.

According to the experience of developed countries, extensive innovative activity is carried out by large businesses. In the European Union, 80% of large enterprises and only a third of small enterprises are innovatively active. 56% of R&D in the EU , 63 % in the USA, and 74% in Japan are allocated to domestic expenditures. In developed countries, the share of industrial enterprises implementing technological innovations in the total number of industrial enterprises ranges from 43.7% to 69.7% 29F29F [1]. Therefore, it is appropriate to study world experience in stimulating innovative activity in the development of regional industry.

The United States has been a world leader in industrial and innovative development for many years. It is from a regional perspective that this country has the greatest experience in industrial development. Silicon Valley is one of the most striking examples. In the 1970s, an information mechanism for the dissemination of new ideas and technologies was developed in the country. This activity was carried out by the National Center for Scientific and Technical Information and the Consortium of Federal Laboratories. It collected data on the results of scientific research of all state institutions. This center included more than 300 federal scientific centers. 30F30F[2]

In the 1980s, the search for new areas of application of discoveries and support for modification by private enterprises at the expense of their own internal resources regulatory legal acts were adopted on . According to this document, each state structure with a scientific research department must spend at least 0.5% of its budget to expand the scope of application of technologies to other sectors was. 31F31F[3]

In addition, the following financial instruments are available in the regions to support innovation activities in the United States: applied:

Tax incentives for large companies: corporate income tax is reduced by 20% of increased expenses for scientific research. The amount of such increased expenses is compared to the average level of the previous three years. is determined.

20% income tax exemption for expenses on fundamental scientific research programs

[1]Promyshlennaya politika i podderzka eksporta v SShA [Electronic resource]. – The mode is friendly: http://www.nc cg.ru/site.xp/049054057055124.html

31Promyshlennaya politika i podderzka eksporta v SShA [Electronic resource]. – The mode is friendly: http://www.nc cg.ru/site.xp/049054057055124.html

32http://iresras.ru/zhurnal-ekonomika-severo-zapada-problemy-i-perspektivy-razvitiya/vypuski.html

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carried out by universities under contracts with enterprises included.

Tax rate on the income from the sale of their shares decreases.

Accelerated depreciation for machinery and equipment: the depreciation period is set at 5 years (3 years for equipment in ITTKI). 32F32F[4]

Region industry in innovative development three The spiral (T r i p l e Helix) model is widely used, this theory was proposed by the American scientist Henry Iskovis, a professor at Stanford University. It emphasizes the interaction between universities, enterprises and the state as the basis of the innovation system. It also emphasizes the role of universities in the innovative development of regional industries .

In a knowledge-based society, the interaction between universities, industry and government is strengthen the task.

University-business-government **.** The efforts to promote cooperation and innovative development among these three institutions are not carried out at the whim of the state, but at the mutual will of the three institutions. In addition to their traditional tasks, each of the three institutions also fulfills the tasks of the other in a certain sense.

The above activities were carried out from a territorial perspective and were controlled within the states. In the United States, the importance of universities in the innovative development of regional industries has taken a special place. According to Henry Iskowis, a university is not only an educational institution, but also an institution that applies the accumulated knowledge in practice. In 1846, William Barton Rogers Bergan - the idea of a long-term relationship between university and industry became the main focus of this activity.

As a result, 150 universities that occupy high places in world rankings have become the basis of the US national innovation system. Brown, Harvard, Yale, Columbia, Pennsylvania, Princeton are among them. Also, Berkeley, Stanford, Massachusetts Institute of Technology, and the University of Wisconsin have become major scientific and educational centers. In the successful development of the triple helix in the United States, amendments to the patent and trademark legislation, called the Bayh–Dole Act of 1980, are of great importance. This document allowed universities, small businesses, and non-profit organizations within a given territory to assume the rights and obligations to manage discoveries financed from the state budget (Table 1.) .

This model, i.e., the commercialization of technologies, was an important step in the development of the innovation infrastructure of universities and the technology transfer system. According to the calculations of the American association AUTM (Association of University Technology Managers) , the cost of state funding of scientific research in the United States from 1991 to 2009 amounted to 588 billion dollars.

Table 1

Obligations of higher education institutions[5]

	Research funded by grants Informing the state about any grants

[39] http://iresras.ru/zhurnal-ekonomika-severo-zapada-problemy-i-perspektivy-razvitiya/vypuski.html

[5] http://iresras.ru/zhurnal-ekonomika-severo-zapada-problemy-i-perspektivy-razvitiya/vypuski.html

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	Determining the name of the discovery
	Patenting discoveries
	Providing information on organizations financing developments
	Pursuing an active policy on technology commercialization
	Not granting the right to use discoveries to unauthorized third parties from government organizations
	Selling discoveries primarily to industry and small businesses

As a result, 249 thousand discoveries were made, of which 51 thousand were patented. By 2009, 38,030 active licenses were used in practice, 6,272 startups were created, and 300,000 additional jobs were created. The main tasks of the university were identified as cooperation with industry , financing research at the expense of industry , and commercialization of technologies . Thus , – Highlight the active participation of local (regional) government bodies in the development of universities and in creating a positive environment for innovative enterprises as an important element of the triple spiral . possible.

From the experience of the United States, it can be observed that the most important steps for the innovative development of the region's industry are to establish a well-established mechanism for the commercialization of innovative products based on state support, and to pay special attention to the transfer of leading technologies from the state system to the private sector for secondary use and distribution. was · 34F34F[6]

In the 1980s, the main focus of research and development in Germany was on large industries in the regions. Regions were divided into high and medium-level innovation potential · 35F35F [7]In 2006, the Strategy for Innovation and Technological Development was adopted in Germany. The strategy focused on innovation , and the decision to establish agreements was made based on the following criteria: private business should finance the main part of the R&D located in one region, the results of the activities should be of significant social importance, and finally, the participants in the agreement should have sufficient scientific and production potential and an industrial base. necessary.

Thus, according to the German experience, the development of long-term development programs for key sectors in the industrial complex has become the main mechanism for supporting innovative activity in industry. If in the USA - the basis for the formation of the triple helix - double helix, i.e.

– formed in the form of a university-business, in Europe
this double spiral is based on the idea of a state-business. In Germany, institutions that received state funding for scientific research were required to:

– translating research into practical economic results;

– patenting the results of scientific research;

– expanding investors' opportunities to obtain financial benefits;

[6]http://iresras.ru/zhurnal-ekonomika-severo-zapada-problemy-i-perspektivy-razvitiya/vypuski.html
[7]Kuntsman M. V. (2016). Economic safety. M.: MADI, 152. 24-27 p.

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– implement the project results in the economy within two years (otherwise the right to it will be lost).

includes the following components: was:

– formation of clearly focused clusters in the region: biotechnology, information technology, chemistry, energy and resource conservation;

– Restructuring the personnel training system, changing the nomenclature of specialists in accordance with the selected leading scientific development areas;

– the formation of scientific and technological centers, the allocation of areas equipped with equipment for such centers to conduct scientific research for graduates of higher educational institutions.

According to international experience in cluster formation, it is important, first of all, to establish industrial zones in the region, and this process It is necessary to pay special attention to the development of personnel potential in the activation of the industrial complex. This will strengthen the activities of creating innovative enterprises in the development of the industrial complex in the region.

Table 2

Specific features of the complex and innovative development of regions in foreign countries [8]

State	Work done	Result
USA	– entrepreneurship universities were established; – a natural movement of young researchers to find employment in industrial enterprises was implemented; – u n i v ye r s it e t - ishl a b " exit " long - term the idea of relationships was done.	– Massachusetts Institute of Technology was founded; – Innovative development of the region was achieved based on the triple helix; – Business centers, science and technology parks, business incubators, and other innovative infrastructure facilities have been established within universities .
China	– The National Program for the Medium and Long-Term Development of Science and Technology for 2006-2020 was adopted; – had a strong impact on strengthening the innovative capabilities of industrial enterprises.	– - there has been a transition from catch-up development and imitation to private innovations, from individual technological development to systemic innovations, from improving the activities of individual scientific research institutions to creating a nationwide innovation system.

[8] Author's development

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Germany	– The bulk of the budget surplus was spent on research and development; – 20% of the total budget was spent on science and education.	– 2/3 of scientific results began to be obtained from universities.
Japan	– technoparks were formed; – extensive programs have been implemented to establish technopolises; – depreciation rates were increased; – A preferential tax system on imports was introduced.	– technopolises were established in backward regions; – The launch of regional economic councils and the inclusion of representatives of scientific research institutes and business associations in their composition further developed the country's innovation sector.
Republic of Korea	– The first five-year plan for 1962-1966 was adopted; – export-oriented sectors were supported; – chaebols‖66 – large industrial associations were created; – preferential state loans were allocated; – Direct state assistance has been strengthened in the regions.	– The textile, food, automotive, shipbuilding, electronics, and chemical industries have developed innovatively; – Biotechnological industries have developed rapidly; – Free economic zones were created for shipbuilding, electronics, and other industries.
France	– the infrastructure for production and scientific development has been reformed; – According to the characteristics of the regions, special regional strategies have been developed; – participated as a stimulating and guiding force in the development of state management of the economy; – Those launching new industries were given a subsidy of 25% of the capital raised; – in regions specializing in agriculture, heavy industry enterprises with more than 10 employees, export volume	– In this, the state, based on mineral raw materials resources, formed advanced industrial sectors in the regions; – scientific research centers were established – university laboratories were developed; – Independent commercialization of R&D results by scientific research institutes has become an effective practice; – The development of high-tech industrial enterprises has resulted in the formation of poles of competitiveness.

According to the experience of foreign countries, various means of state stimulation served

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as the basis for the innovative development of industry:

– there is no single approach to the formation of regional industry in an innovative form, but in the innovative development of the regional industrial complex, innovation centers have been established that stimulate the transition of traditional industrial sectors to a multi-sectoral innovative form; - there are tax and other benefits for enterprises that produce innovative products and actively participate in the innovative potential of the region;

– world experience has shown that the industrial complex is the core of innovative development and the basis for the development of the entire economy. Therefore, first of all, it was necessary to create an environment to activate the process of developing high-tech industries in the region. In many countries, the increase in innovative activity was achieved through state support;

– industry of the complex innovative process state by has become active as a result of strong support. Direct financing, allocation of grants and various subsidies, state orders and purchases are implemented increased;

– in all the countries considered, it is important to activate the processes of high-tech transfer, to create a system to encourage integration between research centers, universities and private enterprises;

– Innovative activity is organized through the implementation of regional innovative infrastructures. Increasing production efficiency involves the formation of a connection within a region, from the extractive enterprise to the enterprise delivering the product to the buyer;

– world experience has shown a significant positive effect in the innovative development strategy of increasing the share of expenditures directed at R&D&I to 3% of GDP, the volume of investment to 30%, achieving at least 60% of young people receiving a bachelor's degree, and state financing .

Conclusion

1. It should be noted that the demand for a long- and medium-term development strategy in the development of the region's industry has sharply increased. This is due to the achievement of macroeconomic stability and the creation of conditions for the transition from operational methods of economic management to forecasting the future.

2. A regional economic system is a type of complex system with certain economic spatial dimensions.

The specific features of the structure of the regional economic system are determined by the functions of the economic system, that is, their type, the degree of participation in the division of labor, specialization, their impact on the surrounding natural environment. The regional economic system, as an integral subject of the evolutionary process, ensures its own interests. It has the ability to produce, exchange, distribute and consume products, as well as regulate its own development.

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3. Innovations are new knowledge, and the adoption of technologies is a new result for enterprises. The best way to improve production efficiency is to establish a motivation system by implementing R&D and innovation processes together and based on synergy effects.

4. According to foreign experience, the provision of various benefits, including tax incentives, by the state to enterprises is one of the most effective tools for attracting new investors to the country (region) for the implementation of innovative projects.

5. The experience of many countries has shown the special importance of the industrial sector in the socio-economic development of regions, as well as the important role of innovations in the development of this sector. It has been established that cooperation between industry, educational institutions and the state is important in this direction (China, France, Japan, USA, Germany, etc.).

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