
Intelligent Specializations as an Opportunity for Regional Development on the Example of the West Pomeranian Voivodeship

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Abstract:

Purpose: The aim of this paper is to analyse the legal provisions on smart specialisations and to indicate how the selection of appropriate specialisations can contribute to regional development and to the competitiveness of regions.

Design/Methodology/Approach: In order to achieve the assumed aim of the work, the following research methods were used in the article: critical analysis of the literature on the subject, the method of comparative analysis - the provisions of the European Union legal acts and Polish legislation as well as internal documents of the West Pomeranian Voivodeship and selected regions were analyzed.

Findings: Each voivodeship has identified its smart specialisations related to its geographical location and socio-economic potential, which will enable it to achieve development and a better competitive position compared to other regions.

Practical Implications: The economic development of modern regions is based on knowledge and innovation. One of the solutions supporting these activities is to stimulate growth based on smart specialisations – strategic areas with the greatest potential to generate added value.

Originality/Value: The work covers current and important issues for local and regional governments, fills the research gap in the field, combining theoretical issues with practical insights.

Keywords: Region, regional development, smart specialisations.

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1. Introduction

Smart Specialisation (IS) is a tool of the European Union that obliges the regions of the Member States to identify those areas in which they want to specialise and increase their competitiveness. According to the European Commission's Innovation Union, smart specialisation "means identifying the unique characteristics and assets of each country and region, highlighting their competitive advantages, and pooling regional partners and resources around a vision, achieving their future.

It also means strengthening local innovation systems, maximising knowledge flows and spreading the benefits of innovation across the regional economy." [https://smart.wzp.pl/sites/default/files/pliki/inteligentne_specjalizacje_w_ojewodztwa_zachodniopomorskiego.pdf].

A significant part of the European Union funds in the 2014-2020 financial perspective has been allocated to the development of smart specialisations of regions and it is planned to undertake similar solutions in the 2021-2027 perspective. The topic of smart specialisations in the context of the regions appeared in 2010 in the Europe 2020 strategy, in which the European Commission encouraged the development of national and regional research and innovation strategies for smart specialisation in the context of better targeting of the Structural Funds and the application of a strategic, integrated approach to exploit the potential of smart growth and the knowledge-based economy in all regions.

The concept of smart specialization assumes that you cannot specialize in everything, you have to define your own strengths; What is the best in the region and how does it have the potential to build its competitive advantage? [https://smart.gov.pl/images/Krajowa_Inteligentna_Specjalizacja_-_za_nr_2.pdf].

The aim of this paper is to analyse the scale of the phenomenon and to try to find an answer to the question of what impact smart specialisations have on the development of regions.

2. Literature Review

In 2010, the European Commission (European Commission, 2014). adopted the Europe 2020 Strategy – A Strategy for smart, sustainable and inclusive growth. The Strategy identifies 3 priorities:

- smart growth, i.e., development based on knowledge and innovation;
- sustainable growth, i.e., the transition to a competitive, low-carbon, resource-efficient economy;
- inclusive growth, i.e., fostering an economy with a high level of employment and economic, social and territorial cohesion.

Not only individual countries, but also regions focus on the development of a knowledge-based economy (Budziewicz-Guźlecka, 2014). In order to implement the above priorities, each of the regions and Member States of the European Union, including Poland, has been obliged to develop a smart specialisation strategy (Jędrzejowska-Schiffauer *et al.*, 2019; Kadłubek *et al.*, 2022; Noja *et al.*, 2021).

Activities undertaken as part of the National Smart Specialisation (KIS) are broadly in line with the EU's Europe 2020 growth strategy.

The framework for innovation policy in Europe is based on the concept of smart specialisation developed by Foray *et al.* (2020; 2012). In addition, the idea of smart specialisation has been significantly influenced by some previous studies, such as Rodrik's (2004) and Hausmann (2003).

This research has largely provided the framework for the idea of smart specialisation, which since 2014 has been recognised as one of the key elements in the implementation of the Europe 2020 strategy promoting smart, sustainable and inclusive growth (COM(2010) 2020), quoted from Kogut-Jaworska and Ociepa-Kicińska, (2020).

The European literature indicates that each region must have sufficient regulatory and administrative capacity to enable the implementation of the required policy framework (Weller and Rainnie, 2022; Thalassinou *et al.*, 2019). This topic is particularly relevant given that the The Smart Specialisation Framework covers all EU regions and its implementation is one of the preconditions for access to the Structural Funds quoted from: (Kogut-Jaworska and Ociepa-Kicińska, 2023).

The aim of establishing smart specialisations is to transform the national economy towards an economy that efficiently uses resources, including natural resources, and to create innovative socio-economic solutions to support this transformation.

Smart specialisations at regional level must take into account:

(https://smart.gov.pl/images/Krajowa_Inteligentna_Specjalizacja_-_za_nr_2.pdf) existing scientific and business potential in the area of R+D+I (research, development and innovation), current opportunities for the development of the economy, existing cooperative links within the areas of specialization, development trends and market niches in which the region has or may have advantages in competing with other regions.

Smart specialisations serve as a compass for investment in research and innovation, and through the active involvement of auctioneers in the process of defining specialisations, they enable more effective implementation of solutions technological advances to the market and increase the chances of a faster return on investment in B+R+I.

3. Research Methodology

Current legal acts, both at the European and national level, concerning regional specialisations, including in particular smart specialisations, have been analysed. The study covered the West Pomeranian Voivodeship, indicating how the identification of smart specializations has been modified over time, as a result of socio-economic changes in the country and the world.

4. Results

Since 2016, the West Pomeranian Voivodeship has been identifying smart specialisations that will be its advantage over other regions and will enable its faster development. These specializations have evolved over the years and take into account the socio-economic changes that are taking place not only in the region, but also on the domestic and international market.

Table 1 contains the first smart specialisations that were identified as early as 2016. They resulted from 5 regional specializations. Smart specialisations included:

Table 1. *Smart specialisations of the West Pomeranian Voivodeship in 2016*

Smart specializations	Brief characteristics
Large-scale water and civil structures	To a large extent, it was an extension of the scope of activity of the shipbuilding industry, as it focused, m.in, on the implementation of projects for the economic exploitation of the sea.
Advanced Metal Products	It has been identified on the basis of the activities of companies in the metal and machinery industry. It is based on many years of experience of the West Pomeranian industry
Wood & Furniture Products	originates from the bioeconomy. It included activities related to forestry, timber harvesting and recovery of recycled wood, as well as the production of furniture and other wood and furniture products.
Environmentally friendly packaging	has been defined on the basis of the bioeconomy, strongly linked to food processing and the chemical industry. Challenges such as food safety, health, access to raw materials and materials, and international supply chains mean that new technologies for food packaging are constantly being developed.
Chemical & Materials Engineering Products	It included both the production of standardised materials, products and chemical intermediates as well as waste management and biomass production.
Modern agri-food processing	It included both agricultural activities, animal husbandry and fishing, as well as services supporting plant and animal production, as well as broadly understood food production, including the production of food with a high degree of processing.
Multimodal transport and	The choice of this sector was dictated by the high level of development of the transport and logistics industry in the province, as

logisticsa	well as the favourable location of the region and the developed infrastructure providing road, water and rail connections.
Information Technology-Based Products	It includes IT services, telecommunications, electronics, optoelectronics, and the production and repair of computers, their parts and peripherals. The sector is horizontal in nature and is strongly related to the development of other industries in which the use of information technologies is crucial from the point of view of adapting products to the expectations and requirements of customers, more broadly in (Drab-Kurowska, Drożdż, 2021; Budziewicz-Guźlecka, Drab-Kurowska, 2017).

Source: In-house analysis based on the "List of smart specialisations West Pomeranian Voivodeship 2016" <https://smart.wzp.pl/inteligentne-specjalizacje/wykaz-inteligentnych-specjalizacji-pomorza-zachodniego>

In the following years, the process of identification of the IS in the West Pomeranian Voivodeship resulted from the provisions of the Regional Innovation Strategy of the West Pomeranian Voivodeship for the years 2011-2020. One of the three strategic objectives of that document was "Development of regional specialisations based on the endogenous potential of the voivodship" (por. Brańska, 2016).

In 2022, the document "Smart Specializations of the West Pomeranian Voivodeship" was adopted, which is appropriate for the new regional program "European Funds for West Pomerania 2021-2027" (<https://rpo.wzp.pl/fepz>). The designation of key economic areas for Western Pomerania was preceded by an extensive dialogue with representatives of various institutions and environments, including the business sector, business environment and science.

The main objective of the adopted document is to characterize the West Pomeranian economic growth areas and to identify space for searching for economic niches. This opens up the possibility of exploring the region's innovation potential and, in the next steps, transforming its industrial and R&D infrastructure to meet emerging industries and international trends.

Table 2 contains a list and a brief description of the current ISs of the West Pomeranian Voivodeship, thanks to which Western Pomerania wants to achieve faster development and gain a higher competitive position among other regions.

Table 2. *Current smart specialisations of the West Pomeranian Voivodeship (2023)*

Smart specializations	Brief characteristics
Technologies and services of the future	It covers areas related to the implementation of digital innovations and creative solutions and technologies that permeate all spheres of life and contribute to the economic growth of the entire region. They also deepen the level of innovativeness of enterprises, which allows them not only to maintain but also to strengthen their market position. They influence the development of industrial intelligence, expand production capacities and bring facilitation, efficiency and safety to the functioning of companies.

Smart Manufacturing Methods products and machinery	It consists of a number of related departments that are considered to be of exceptional economic importance to the region. It is particularly associated with metal processing, metallurgical, machine, electrotechnical and electronic industries. The opportunities created by Industry 4.0 mean that specialization has a significant growth potential, contributing to the dissemination of the principles of green economy and sustainable development in the region.
Chemical products for sustainable development	It is a multi-sectoral field that covers a wide range of industries and processes and products. The scope of its activities includes, m.in, the fuel segment, the production of chemicals, chemical products, construction chemicals, rubber and plastics, as well as plant protection products, medicines, pharmaceuticals, cosmetics, packaging, fertilizers, clothing, textiles, paints and varnishes. The multitude of connections and applications in various economic sectors means that specialization plays a key role in the West Pomeranian economy.
Next-generation natural processing	It refers to a wide spectrum of bio-based fields related to the food industry (m.in. health food and its supplementation), wood processing, agriculture, forestry, hunting, fishing, animal husbandry and the furniture industry. Among the representatives of this IS there are, m.in representatives of companies producing furniture and wood products (wood semi-finished products), dairy plants, sugar factories, fruit and vegetable processing enterprises, breweries and vineyards.
Blue economy and green transport	It covers areas related to the sea and integrated transport, including intermodal transport. These include industries such as inland and maritime shipping, renewable energy, shipbuilding and offshore industries, port services, and branches that make up a modern chain of operations ensuring the efficient flow of people and goods. The specialization has an impact on the economy of Western Pomerania due to the built potential, which consists of clusters operating in its area (Budzewicz-Guźlecka, Diseases, 2023), companies and their know-how, the educational and scientific offer of secondary schools and universities tailored to the needs, and a functioning network of cooperation and partnerships.
Tourism and quality of life	It is an important area of the economy of the West Pomeranian Voivodeship. Operating on the basis of the special natural values of the region, the specialization brings together companies from the tourism sector and accompanying industries. It has strong links with areas relating to the development of culture, sport, environmental protection, agriculture, transport, health and rehabilitation. It is both an accelerator of socio-economic activation and regional development, as well as an important tool for deepening integration processes.

Source: In-house analysis based on "Smart specialisations of West Pomerania, 2022" https://smart.wzp.pl/sites/default/files/pliki/inteligentne_specjalizacje_wojewodztwa_zachodniopomorskiego.pdf

Decisions on smart specialisations are not taken from the top down, but are the result of in-depth analyses of endogenous economic advantages and cooperation with socio-economic partners. It is thanks to their identification and selection that each

region, including the West Pomeranian Voivodeship, can become a leader and accelerate its development.

5. Discussion

The main drivers of innovation and potential B+R and opportunities for the development of smart specialisation include, but are not limited to: (https://bip.rbip.wzp.pl/sites/bip.wzp.pl/files/articles/projektinteligentnespecjalizacje_wojewodztwazachodniopomorskiego.pdf)

1. Companies & Universities & Units B+R+I operating in the area of specialization, which create and implement solutions (including pilot solutions) at the highest world level, and the projects they implement are an inspiration for further ideas for innovations. The specialization has the ability to use the knowledge, technology and organizational potential to successively expand the business and launch new services and technological solutions.
2. The key to the specialization is a focus on innovation, know-how, a pro-development attitude of the management staff, undertaking new prospective initiatives and challenges, as well as a properly selected team of specialists. A characteristic feature of IS is its market reputation and recommendation system, leading to further orders and business development.
3. The services and products created by IS are spreading to global markets and in many cases are provided to large international corporations looking for newer and newer solutions.
4. Products and services related to specialization play a key role in solving many societal and economic challenges.
5. The specialization focuses on development in innovative technological areas. Fields and technologies of tomorrow based on, m.in artificial intelligence and business process automation, are being developed, which are the future and the basis for the functioning of companies and have a global impact.

Despite the identification of factors influencing innovation, there are also barriers that accompany the implementation of smart specialisation strategies. They are often directly related to the ability of key stakeholders to build inter-organisational networks, which corresponds to their strategic needs and the receptive capacity of companies to use scientific knowledge. Papamichail i in. (2019)

They showed that the main barriers stemmed from the limited capacity of local companies to acquire university knowledge and play a leading role in the development of action plans for the implementation of smart specialisations. This argument was based on the fact that companies are unable to use scientific knowledge, which is critical to achieving the objectives of the Islamic State in a collective and systematic manner (Kogut-Jaworska and Ociepa-Kicińska 2023).

6. Conclusions

Identifying one's own strengths, unique resources and determining what the region is best at and in what it has the potential to build a competitive advantage is the idea of smart specialization. Striving to intensify the smart and sustainable growth of Western Pomerania, conducive to social, business and digital inclusion of its inhabitants and entrepreneurs, requires further support by the Regional Government for the development of growth areas of the region's economy.

In accordance with the assumptions of the economic policy of Western Pomerania based on European funds for the years 2021-2027, the regional priority will continue to be to support the dynamic development of enterprises operating in the area of smart specializations, both those that compete with their products and services on foreign markets, constantly investing in modern technologies and increasing their competitiveness, as well as those whose development is based on the natural resources and potentials of the region.

This will be a challenge in terms of ensuring sustainable and dynamic development of the region. Therefore, great emphasis will also be placed on supplementing investment support for enterprises with a number of measures to strengthen the economic environment. The share of companies from the areas of smart specializations in West Pomerania in the value of industrial production shows that there is still a lot of development potential in this area.

The process of identifying and monitoring smart specialisations of the West Pomeranian Voivodeship is a component of the monitoring system of the Regional Innovation Strategy of the West Pomeranian Voivodeship 2030 (https://smart.wzp.pl/sites/default/files/pliki/inteligentne_specjalizacje_wojewodztwa_zachodniopomorskiego.pdf).

Directly constituting its specialization component, the task of which, as stated in the strategy, is to identify, verify and evaluate smart specializations of Western Pomerania and to monitor their development at the strategic level, in order to achieve a higher competitive position in relation to other regions.

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