
Editorial

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The objective of this special issue is to present the most recent research about new approaches to innovation and its contribution to competitiveness at enterprise, regional and national levels.

The relationships between innovation and the competitiveness of enterprises, industries, and countries are an important topic for both, academic research and economic policy. However, over the past ten years, a 'paradigm shift' has taken place in the way the innovation is understood and interpreted. Nowadays, innovation cannot be limited to the traditional set of product, process, organisational and marketing innovations implemented in enterprises. There are new forms of innovations as the traditional concept has been extended to include innovation in the public sector, social aspects of development, and ecological innovations. Therefore, the question is how such innovations contribute to competitiveness at the enterprise, regional and national levels?

Given these considerations, this issue of the journal focuses on the relation between innovation and competitiveness and contains empirical and policy-oriented contributions.

The issue consists of the extended versions of selected papers presented at the World Economy Research Institute Conference on 'New forms of innovation and their impact on competitiveness: enterprise, industry and country perspective' (conference web page: <http://www.sgh.waw.pl/weri-conference>).

This issue contains six articles that discuss the following topics:

- different approaches to the competitiveness of countries and regions
- the interdependencies between innovation, technology development and competitiveness in Central European countries
- social innovations and innovations in green technologies and their role in improving competitiveness
- selected aspects of policy supporting innovation and competitiveness at the national and regional levels.

The first paper in this volume focuses on competitiveness and innovation seen from regional perspective. Murat Akpinar, Özge Can and Melike Mermercioglu in their empirical paper 'Determinants of competitiveness in European regions: a test of the emerald model' assess the impact of seven dimensions of the emerald model on regional competitiveness. These dimensions include educational attractiveness, an ability to attract and retain talented people, R&D and innovation potential, the attractiveness of a location's entrepreneurial ecosystem, advancement in producing environment-friendly

goods and services, the level of agglomeration and specialisation of clusters, and knowledge dynamics. Using the dataset for 97 NUTS-1 regions in Europe, authors prove that in the long-term ownership attractiveness is the most influential dimension of the model, followed by talent attractiveness, educational attractiveness, R&D and innovation potential. The study contributes to the literature by revealing the varying influences of the individual dimensions of the emerald model. It offers the ranking of the dimensions of regional competitiveness that can be used as a roadmap for policy makers and regional development agencies in prioritising their goals and allocating resources.

Another perspective on innovation and competitiveness is used in the paper ‘A multidimensional approach to the environment for entrepreneurship in selected CE countries’ by Marina Dabić, Jadranka Švarc and Emira Bečić. The paper presents the results of empirical research conducted at country level with a focus on the emerging economies of Central Europe represented by Poland, the Czech Republic, Hungary, Slovenia and Croatia. The article identifies the differences among these Central European countries and shows that their national research and innovation systems have become rather diverse systems in terms of the size, enterprise composition, research intensity and structural configuration. The in-depth analysis of these countries’ performance regarding the business environment reveals that entrepreneurship in these countries is hindered by too much bureaucracy, over-regulation, and high labour costs. This impedes growth, innovation and reforms in private-sector companies and public policies. The authors conclude that necessary reforms in these countries can be facilitated by an efficient use of European structural and investment funds and the application of smart specialisation strategies.

The next article in this volume narrows down the analysis of innovation and competitiveness to one country from Central Europe, i.e., Poland. The focus of the paper ‘Innovation and sustainable competitiveness: evidence from Poland’ by Marzenna Anna Weresa is on sustainable competitiveness seen from macroeconomic perspective. Apart from productivity improvements, environmental and social issues are taken into account. The paper shows that in 2000 to 2014 Poland’s competitive position understood in this broader, sustainable way improved slightly. Social and environmental pillars of sustainable competitiveness in Poland have been further examined using the index of revealed comparative technological advantage (RTCA) based on patenting statistics in the field of human necessities and environmental management. The analysis of RTCA changes in these two technology fields shows that innovation performance and sustainable competitiveness in Poland are interrelated, with the growing role of social aspects of sustainability.

Three empirical articles on innovation and competitiveness presented above are followed by another three papers discussing these issues from policy perspective.

Paweł Pietrasieński and Katarzyna Bitka in their article ‘Collaboration, co-production, coopetition and coordination: a case study of European ‘bridge organisations’ in Silicon Valley’ analyse the organisational structure and operational strategies of governmental and quasi-governmental agencies supporting the expansion of high-tech firms in Silicon Valley. This analysis uses the so called 4Cs (collaboration, co-production, coopetition and coordination) public governance model in order to categorise European bridge organisations. The data on the functioning of these organisations come from interviews conducted in Silicon Valley in 2014 with the Presidents/CEOs or representatives of the organisations. Selected aspects of European bridge organisation, such as the development of their internal structures, sources of

financing, and domestic and local partnerships are studied in-depth. A categorisation of these organisations based on the 4C model shows that scientific collaboration is more likely to emerge in those bridge organisations that are closely linked to domestic institutions. The paper also concludes that co-production with local partners is usually the strategy of young bridge organisations that do not have the resources to do more work in-house. Coopetition is usually the preferred choice of entities such as chambers of commerce and employer organisations, while the coordination is an emerging trend at both the national and regional levels.

Collaboration and coordination are also analysed in the next paper by José Pablo Nuño and Judith Cortés Zurita, however, these issues are seen in the context of regional competitiveness strategy. Their paper ‘A model of collaboration and innovation for economic and social development: the case of Puebla, México’ is a case study showing how regional authorities can use the theoretical framework of competitiveness known in the literature as the Porter’s diamond to boost innovation and competitiveness at regional level. A model of collaboration, innovation and shared value is studied in the paper using the example of SINTONIA, which is an Institute for Collaboration and Competitiveness created in 2012 at UPAEP University in Puebla, Mexico. The authors show that activity of SINTONIA as a neutral broker coordinated collaboration among industry, the government, universities and civil society, thus contributing to progress in transforming Puebla area and Mexico as a whole into a service-oriented society.

The topic of economic development strategies for regions is also touched upon by Stelian Brad, Bogdan Mocan, Emilia Brad and Mihaela Mocan, the authors of the last paper in this volume. Their paper entitled ‘Economic development of peripheral/lagging zones through smart innovation’ introduces the concept of smart innovation as a means of supporting accelerated economic development in lagging areas. Smart innovation helps to activate passive endowments, rearrange local resources, eliminate the control of a few local leaders, thus increasing flexibility and enhancing connectivity with external systems. This concept is tested in practice using the example of a development strategy for Romania’s Bistrita-Nasaud (BN) county (NUTS III) from 2014 to 2020. The main contribution of this paper is the introduction of a concept of smart innovation and related creativity principles to handle the agenda of economic development strategies for regions that face structural, social, economic and institutional gaps.

This volume of the *IJTIS* contains six original articles, which present different approaches to innovation and competitiveness, test them empirically or apply to policy analysis. We hope that the empirical and policy perspectives of innovation and competitiveness presented in this special issue of the *IJTIS* can shed some new light on these two phenomena and will stimulate further debate on ways of boosting innovation and shaping the competitiveness of countries and regions.