



The New Dimension of University – Business Partnerships

ABSTRACT

RESEARCH OBJECTIVE: The goal of the article is to identify the most significant factors that influence the general trends towards the new dimension of university-business partnerships.

THE RESEARCH PROBLEM AND METHODS: The authors state that modernization processes are essential for social development based on two paradigms: the new paradigm of development policy and the knowledge-based economy paradigm. Authors based their assumptions on the rational choice theory, as well as network institutionalism. The preliminary results of the research were based on 23 individual in-depth interviews with representatives of research institutions, universities and entrepreneurs' associations, in four cities in Poland (Cracow, Poznan, Warsaw, Wrocław).

THE PROCESS OF ARGUMENTATION: The new goal of development policy is not only the growth of GDP per capita, but also the raise of living standards. Many of the premises are planted in the modern understanding of global economy, based on knowledge-based economy paradigm, according to which the key ability is to implement research into service and production processes (Błaszczuk et al., p. 70), and university-business partnerships might be the right instrument to achieve that to a greater extent.

RESEARCH RESULTS: On the basis of the preliminary research results presented in the article the authors have come to the conclusions that there are three specific levels, within which processes of social change take place, in case of university-business partnerships: 1. culture/customs, 2. legal regulations, 3. access to financial support.

CONCLUSIONS, INNOVATIONS, AND RECOMMENDATIONS: The processes of social change in the context of the new paradigm of development policy have already started – there is a significant need of each of the actors to undertake cooperation, as it is a prerequisite of innovative growth. However, the conditions to start it are not yet sufficiently developed. Hence, there is a strong recommendation that the course of development policy was strongly based on the creation of improved conditions for cooperation.

→ **KEYWORDS:** **NEW PARADIGM OF DEVELOPMENT POLICY, KNOWLEDGE-BASED ECONOMY PARADIGM, UNIVERSITY-BUSINESS PARTNERSHIPS**

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STRESZCZENIE

Nowy wymiar partnerstw między nauką a biznesem

CEL NAUKOWY: Celem artykułu jest identyfikacja najistotniejszych czynników wpływających na generalne trendy w kierunku nowego wymiaru partnerstw między nauką a biznesem.

PROBLEM I METODY BADAWCZE: Autorzy uznają, iż procesy modernizacji są zasadnicze dla rozwoju społecznego na podstawie dwóch paradygmatów: nowego paradygmatu polityki rozwoju oraz paradygmatu gospodarki opartej na wiedzy. Aby zdefiniować współpracę, autorzy oparli swoje założenia na teorii racjonalnego wyboru, a także instytucjonalizmie sieci. Przeprowadzili 23 pogłębione wywiady z przedstawicielami instytucji badawczych, uniwersytetów, zrzeszeń przedsiębiorców oraz administracji publicznej w czterech miastach w Polsce (Kraków, Poznań, Warszawa, Wrocław).

PROCES WYWODU: Nowym celem polityki rozwoju nie jest wyłącznie wzrost PKB *per capita*, ale poprawa standardów życia dzięki lepszemu edukacji, redukcji ubóstwa, dbaniu o środowisko. Wiele przesłanek nowego paradygmatu polityki rozwoju jest zakorzenionych we współczesnym rozumieniu globalnej ekonomii, opartym na paradygmacie gospodarki otwartej na wiedzę, zgodnie z którym podstawową umiejętnością jest wdrożenie badań w procesy produkcji i usług (Błaszczuk i in., s. 70), a partnerstwa między nauką i biznesem mogą być właściwym instrumentem, aby to osiągnąć w pełniejszym wymiarze.

WYNIKI ANALIZY NAUKOWEJ: Na podstawie wstępnych wyników badań zaprezentowanych w artykule autorzy wskazali, iż procesy zachodzących zmian społecznych odbywają się na trzech poziomach: 1) kultura/obyczajowość, 2) regulacje prawne, 3) dostęp do wsparcia finansowego.

WNIOSKI, INNOWACJE, REKOMENDACJE: Proces zmiany społecznej w kontekście nowego paradygmatu polityki rozwoju już się rozpoczął – każdy z aktorów uczestniczących rozumie potrzebę podejmowania współpracy jako niezbędnego elementu innowacyjnego rozwoju. Jednakże warunki do jej rozpoczęcia są wciąż niewystarczająco sprzyjające. Stąd rekomendacją jest, aby obierać taki kierunek polityki rozwoju, by tworzyć sprzyjające rozwiązania do podejmowania współpracy.

→ **SŁOWA KLUCZOWE: NOWY PARADYGMAT POLITYKI ROZWOJU, PARADYGMAT GOSPODARKI OPARTEJ NA WIEDZY, PARTNERSTWA UNIWERSYTET – BIZNES**

Introduction

There are some unequivocally observable trends towards a significant social change in the context of the knowledge-based economy paradigm. These trends are most probably on the rise not only as a result of increased access to knowledge and information. It seems to be, to an even greater extent, a result of an understanding that is becoming more common that it is the interdependencies among different entities involved in the creation and transfer of knowledge that cause these changes.

The goal of the article is to understand whether societies experience any substantial social change in the context of knowledge-based economy, and to identify the most significant factors that influence the general trends towards the new dimension of university-business partnerships.

The research conducted was based on theories of modernization, to analyse the configuration of changes among structure, agencies and institutions, focusing not only on the economic, but also social (cultural) and political alterations. To define cooperation, authors based their assumptions on the rational choice theory, as well as network institutionalism.

The authors conducted 23 individual in-depth interviews, between February and September 2017, with the representatives of universities and other scientific institutions, as well as entrepreneurs' associations, and public administration, in four cities in Poland (Cracow, Poznan, Warsaw and Wroclaw).

The results presented in the article are preliminary, the final results are to be published in a separate publication.

The new paradigm of development policy – towards social change

Nowadays all activities regarding pro-innovation systems and policies and their objectives, tools, methods and effects, should fit into the broadly understood development policy paradigm, which consists of the following contexts (Hausner, 2014, p. 75):

1. Economic:

- economic and spatial competitiveness,
- concentration on the demand side understood as a proper identification of needs, effective allocation of financial and technological resources;

2. Social:

- innovation – extended by knowledge, education and information,
- mobilizing and using long-term resources and development factors: human, social, relational and financial capital.

3. Institutional and organizational:

- applying modern methods of public management,
- supporting the coordination network, with particular emphasis on institutions promoting innovation.

Development policy is thus systemic rather than linear. Many different players are involved, and the policy often takes place over extended periods of time. Successful development may entail a transfer of knowledge and technology – for instance, from a university or research centre to a company. The effects of this interaction should be the creation of new ideas, new products, new processes and everything what we understand and describe as innovation.

Therefore, innovation requires the development, over time, of adequate networking and knowledge transfer mechanisms, which are crucial to exploit the potential of

science-industry links. Well-functioning network systems in particular serve to ensure the free flow of information across interfaces between different actors. Such systems may include technical components but, above all, they are networks of individuals. Proximity is an important feature of most network systems, and policy-makers rightly devote resources to attempts to create self-sustaining local and regional innovative initiatives, often in partnership agreements centred around universities or large multinational technology firms (Innovation Policy Studies, 2012, p. 3-4).

The approach to development policy described above, understood as public policy, should be strongly connected with the social dimensions of innovation. This aspect of social change as a deep, institutional, social, economic and technological transformation, could be called a new paradigm. The terms 'social change' have been used to describe these fundamental transformation and modernization processes. Social change, as the authors define it in the article, is defined precisely as a major, long-term institutional, economic and technological change in the way societal functions are fulfilled (Geels, 2002, p. 1257-1274).

Additionally, due to the large number of different players involved in social change and the interdependencies between these actors, none of them can steer social change on their own. In order to manage this type of evolution process, a holistic perspective is needed. Central to this approach is the idea that organisations are not innovating in isolation but in the context of a network of interactions (Lundvall, 1992; Smits & Kuhlmann, 2004, p. 4-32).

The holistic approach to the new paradigm of development policy in the context of social change can be described by mutual relations. Apart from describing the structural elements of development policy, we can analyse the evolution of this kind of public policy into four phases:

1. Exploration or pre-development phase.
2. Take-off phase.
3. Acceleration or entrenchment phase.
4. Stabilisation phase.

In the case of social change, which occurs in the context of development policy, more is at stake than a mere succession of technologies. It is rather a change of the whole system of interactions. System changes often involve a change in technological models, namely changes in the established set of procedures, the definition of problems that are considered relevant and the strategies to solve them (Dosi, 1982, p. 147-162).

In this context of creation of social change many authors emphasized a crucial role of the formal and informal networks, cooperation or partnership. Formal and informal partnership should be seen as a continuum, where formal cooperation, clustering and networking are perceived as alternative, and often complementary, modes of cooperation. It now seems quite probable that more informal partnering through network and cluster is a way for many partners to increase their sophistication and become stronger and more competitive, thus gradually preparing for more formal partnership (Williams & Vonortas, 2015, p. 48).

University-business partnerships – new forms of cooperation and its increasing role

The change of the development policy paradigm indicates that the key element of participation of all actors in a state, participation in building social capital, moves societies towards sustainable growth. Hence, it is required that the subjects from the public sphere open to cooperation with the external environment and that is why cross-sector partnerships seem to be the right instrument to achieve these goals. However, it is still an ongoing process that requires not only great changes in strategies, but above all – structural or very often cultural changes, especially in case of states with a complex political, social and economic transformation in their background.

The authors based the issue of cooperation on the J.S. Coleman's (1994) rational choice theory, which fundamental parts are elements such as: methodological individualism and maximization of profits and optimizing processes, but also concept of institutions and system, concept of social optimum and system balance, as well as concept of social capital. The reason for this amplification is belief that individual behaviors are part of institutional and systemic frames and context. The institutional environment (like: market, moral norms, legal regulations, tradition) have impact on individuals' behaviors, and these behaviors have impact on the system.

Additionally, according to the new institutional economics theory, the institutions may influence the behaviours and acts of individuals and organizations, which in turn decide on the competitive leverage of states. The institution's goal becomes the creation of such conditions for economic entities so that they contribute to the preferable global achievements of states. However, good governance becomes something more than the mere GPD increase. Partnerships might play important roles both in social and economic dimensions. It is a very important factor that can generate changes and increase the dynamics of these changes, and in this way stimulating enterprises' success stories and providing stable development of the whole economy (Gilejko & Towalski, 2002, p. 9).

In general, partnerships may be perceived as a method of governing complex relations and interactions in modern network societies (Rajca, 2014, p. 93). Not only do they decrease the costs and risks of the public sector, but also support the idea of a conscious, chosen inclusion (self-inclusion). The authors conclude that partnerships are dynamic relations where both sides base their decisions and actions on common goals, which they achieve through mutual sharing of such spheres as: responsibility in performing tasks, costs of cooperation, risks. This definition concerns also university-business partnerships, and we are now experiencing their most dynamic time.

Cooperation between academia and business is one of the priorities in state innovation strategies. One of the mechanisms that support the development of academic entrepreneurship is the creation of public and private partnerships in the field of research and the development. All activities supporting the innovative development of states should occur equally on political, economic and social level.

Nowadays the key concern of the research and development sectors worldwide is the cooperation with private sector. The latest EU strategies unequivocally emphasize the meaning of sustainable social development, where exploitation of scientific potential as an instrument that would intensify the international competitiveness of Europe becomes a priority. There is a strong need for concepts and solutions that would lead to effective cooperation improving economic outcomes and increasing social benefits also beyond those from the economic sphere.

Research results

The subjective scope of research has been chosen on the basis of two main differentiators: (1) the biggest investments of the newly established research centres in Poland in the field of high-tech research and development, (2) biggest academic centres in Poland, in the same cities where the above-mentioned R&D centres have been located.

The research concerned new dimension of partnerships of public and private organisations. Basing research on the rational choice theory, as well as the new institutional economics theory – both theories explaining cooperation and interrelations among different types of institutions – the authors conducted interviews with the representatives of four different groups of organizations, to analyse partnerships from perspective of all entities involved in the cooperation, to gain as broad scope of these interrelations as possible. These institutions were:

1. Universities (13): University of Wroclaw, Wroclaw University of Technology, Wroclaw University of Economics, Wroclaw University of Environmental and Life Sciences, Poznan University of Technology, Adam Mickiewicz University of Technology, Poznan University of Economics, Jagiellonian University, Krakow University of Economics, Warsaw University of Technology, SGH Warsaw School of Economics, University of Warsaw, Warsaw University of Life Sciences.
2. Research institutes (4): Wroclaw Research Centre EIT+, Centre for Advanced Materials and Technologies (CEZAMAT), Wielkopolska Centre for Advanced Materials and Technologies, AGH Centre of Energy.
3. Associations of entrepreneurs (3): BCC Lower Silesia, BCC Great Poland, Konfederacja Lewiatan.
4. Public administration – marshal offices (3): Wroclaw, Poznan, Krakow.

The conducted interviews were based on a four-parts scenario. In part one authors were aiming at establishing the basic elements that determine cooperation. The second part concerned types and models of cooperation. In part three authors asked questions related to cooperation processes, such as: stages, durability effects. In the last part authors asked the interviewees about the direction of observable changes (current and potential) – their assessment of the cross-sector partnerships.

The results showed that the key factors conditioning effective cooperation might be divided into three groups: (1) systemic conditions (legal regulations), (2) financial support (both public and private), (3) customs/culture.

The interviewees from each group of organizations indicated that there is a high need to prospect for legal solutions that will motivate all actors to undertake actions towards more effective cooperation. These should among others include: financial motivation (e.g. tax reliefs for entrepreneurs), clear regulations on IP shares, legally regulated differentiation of career paths for scientists (e.g. recognitions for cooperation with business), easier access to patent applications.

In case of financial support, the respondents indicated that there is a high need of both private and public investments into technology and knowledge transfer that would motivate each party to engage in cross-sector partnerships. The scientific institutions (universities, R&D institutes) pointed out that there is a need to financially support not only infrastructure and/or the very research, but also human resources that are involved in the processes of technology transfer (scientists, administration, representatives of incubators, technology transfer centres, other).

Another crucial boundary condition was the cultural aspect, both on the communication level, and on the level of understanding the idea of cooperation with people representing a completely different economic, social or cultural realm. One of the key conditions in this context was trust. It turns out to be a scarce resource, as well as will or experience in creating networks and relations, according to the interviewees and data explaining levels of social capital – where one of the indicators explaining the level of social capital is trust (Czapinski & Panek, 2015, p. 351).

When asked about the types and models of cooperation, all respondents replied that there are no dominating ones. In most cases of such partnerships, they are initiated and based on uncoordinated actions of actors that are effectively interested in knowledge and technology transfer in each group of respondents. There were no targeted strategies (formally approved) towards structured modes of cooperation with the external entities. In most cases such models are in the process of discussions and decisions.

Hence, when answering questions from part three of the interview scenario (cooperation processes), no respondent indicated systematized or structured activities and effects of cooperation.

In case of questions regarding assessment of cross-sector partnerships in Poland (university-business-public administration), all respondents described the pace of changes as slow, and the accompanying processes as complex.

To sum up, according to the respondents, the most stimulating conditions for cooperation are: favourable institutional environment (legal regulations), effective communication and reciprocal trust (cultural factors), and financial support (including increase in budgetary spending on the R&D sector).

Conclusions

According to the new paradigm of development policy, the university – business partnerships might form effective instruments of the observable social change, leading global interdependencies among different intermediaries towards significant qualitative growth.

There is a high need to open up the public sphere, gain more financial support instruments, increase diversity of relations and actors involved.

As the results of the research have shown, it is an ongoing process that requires not only economic, human and other resources, but a great awareness of these interdependencies, which seems to be gathering significance. Such a responsible cooperation may, to a great extent, contribute to a stable and dynamic modernization of state economies.

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