

ACADEMIC ENTREPRENEURSHIP – THE ROLE OF ACADEMIC BUSINESS INCUBATORS IN POLAND

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ABSTRACT Developing relations between academic community and business environment is crucial for creating knowledge needed for the economy. Academic Business Incubators perform this function making better use of the potential of universities and transferring research results to the economy. The main aim of this research article is to present the role of Academic Business Incubators operating in Poland. The research methodology is an analysis of the literature of the subject in the field of academic entrepreneurship and analysis of existing data and documentation on the practical aspects of the Academic Business Incubators in Poland. The research shows that vast majority of incubators focus on cooperation only with local institutions. The cooperation with foreign scientific and business units may contribute to development of innovation projects. Also, supporting the development of Academic Business Incubators by Higher Education Institutions may be an important factor for students as it increases the attractiveness of studying at a given institution.

Introduction

Institutions operating on the higher education service market are facing an increasing need to develop entrepreneurship attitude among their students. Nowadays, it is necessary for Higher Education Institutions to promote entrepreneurship and to activate students in this area. The integration of business and science is crucial for the further rapid development of economies of a country. Such integration can occur as cooperation in the form

of education, consulting and training, research and development activities or organizing internships for students. The article presents academic entrepreneurship with the great attention to the Academic Business Incubators (ABIs) operating in Poland.

In accordance with the aim of this article, only ABIs regulated by The Act on Higher Education were taken into consideration.

Literature review

Higher Education Institutions (HEIs), including universities, have a huge impact on achieving national economic and social goals through building intellectual and social capital in the country. Higher education carries out two main functions: education and research, affecting the attitudes of individuals and society as a whole. The mission of higher education in Poland is to improve the quality of life of Polish citizens by creating, expanding and disseminating knowledge, developing their skills for individual and general use, and increasing the quality of public services (Ernst & Young Business Advisory, 2009, p. 3). In addition to it, the mission covers also creating links between the national academic community and the global academic and intellectual community, as well as national and foreign companies and public institutions.

The cooperation between HEIs is specified in the initial part of the Act on Higher Education. HEIs shall co-operate with the socio-economic environment, in particular by conducting research and development for business entities on the basis of organizationally and financially independent economic structures, including the establishment of a special purpose vehicle (SPV), referred to in Article 86a, as well as through the involvement of employers' representatives in the development of study programmes and teaching processes (The Act on Higher Education of 27 July 2005, art. 4, point 4).

With a view to fostering the optimal use of the intellectual and technological potential of HEIs and the transfer of research findings to the economy, higher education institutions may establish academic business incubators and technology transfer centers (The Act on Higher Education of 27 July 2005, art. 86, point 1). An academic business incubator shall be established with the aim of supporting the economic activity of the academic community or staff and students of a higher education institution (The Act on Higher Education of 27 July 2005, art. 86, point 2).

Academic entrepreneurship regards the entrepreneurship of students, doctoral students, as well as academic staff and administrative staff. A channel for knowledge transfer and innovation is the establishment of enterprises by university staff, its students, and doctoral students, in or near the university. On the other hand, a HEI is an organization that also should be well organized and managed. In the didactic process it educates future staff for the economy, administration, science, culture and art. In the field of research activities, the institution collects data with the purpose of creation new knowledge and innovation.

Nowadays, more and more universities take orientation towards entrepreneurship. HEIs want to increase their competitiveness and strengthen their position through:

- increasing the attractiveness of its educational offer,
- applying for funds from the EU (grants for research and cooperation with other entities),
- intensifying cooperation with entrepreneurs in the field of internships for students and conducting joint research.

An entrepreneurial higher education institution is one that seeks to achieve a strong international competitive position on the educational and research market, benefits from the commercialization of its research activities and works for the environment (Pluta-Olearnik, 2009, p. 21).

The European Commission conducted the research on innovative industry with a great attention to creating new innovative companies in European Union (EU) countries (European Commission, 2002). According to the results, the main factors that hamper the creation of new firms were pointed: poor entrepreneurial culture (two-thirds of respondents) and the lack of training in entrepreneurial skills prevents people starting up a business (confess nearly half of respondents). This implies a great need for development an educational offer to support entrepreneurship among young people. European universities' management board is aware of importance of the technology transfer, not only because of the additional revenue but also because of creation an image of academics who support entrepreneurship and run their own business.

The European Commission (2002) state key factors that should appear to contribute most strongly to entrepreneurial success:

- fostering awareness of entrepreneurship among researchers and professors,
- availability of seed capital funds at the institutions' disposal,
- having the use of physical infrastructures such as a business incubator,
- possessing the resources to assess the capability of technical ideas to move to market,
- actively networking with investors, CEOs and business schools.

Strengthening cooperation between HEIs and business entities is one of the key elements of economic policies in the individual EU countries.

The concept of academic entrepreneurship is often understood as the creation of technology companies, so called spin-off (formal relationship with its home university which usually paid some contribution for development of new company) and spin-out (lack of formal relationships with its home university; usually does not use the university's contribution, except for intellectual property, as a result of the scientific work of its university staff) by academics.

Banerski et al. (2009, pp. 29–38) emphasize that for further expand of higher education market and the whole economy of Poland it is essential to:

- a) transform the HEIs educational offer towards entrepreneurship, innovation, and commercialization of technology;
- b) effective teaching and promotion of academic entrepreneurship dependent on professional training programs adapted to national legal, economic and institutional conditions;
- c) intensify cooperation between HEIs and academics with the business community;
- d) develop infrastructure for academic entrepreneurship, including institutions and programs, preparation of management teams and services for starting new companies;
- e) introduce clear rules for the management of intellectual property.

The development of institutions supporting entrepreneurship is necessary for the construction of the whole ecosystem of innovation and knowledge transfer.

Method

The research methodology is an analysis of the literature of the subject in the field of academic entrepreneurship as well as analysis of existing data and documentation on the practical aspects of Business Support Institutions (for example Academic Business Incubators) in Poland. The desk research method mainly concerned quantitative data.

Results

Business Support Institutions occupy a crucial role in the field of technology transfer and knowledge commercialization – developing the innovative character of Polish economy. Centers for innovation and entrepreneurship (as one of Business Support Institutions) have become an important stimulator for supporting the development of entrepreneurship and modern economy. First centers were established in Poland in the late 1990s. There are many organizations within the framework of Polish system of Business Support Institutions. Bąkowski, Mażewska (2015, p. 8) distinguish three main types due to the area of activity and scope of given support:

1. Entrepreneurship Centers – exemplary institutions: training and business consulting centers, pre-incubators, business incubators.
2. Innovation Centers – technology parks, science and technology parks, technology incubators, technology transfer centers, academic business incubators, innovation centers.
3. Financial institutions – regional and local loan funds, credit guarantee funds, seed capital funds, business angel networks.

Entrepreneurship Centers are mainly focused on promotion and incubation of entrepreneurship, providing business services especially for micro and small enterprises to stimulate the development of peripheral regions or those affected by the structural crisis.

Task for Innovation Centers is directly related to promotion and incubation of innovative entrepreneurship, technology transfer and providing pro-innovation services, activating academic entrepreneurship and cooperation between science and business.

The third group of institutions is aimed at facilitating access to finance for new businesses and small businesses without credit history, providing financial services tailored to the specific nature of innovative business activities.

According to the research carried out by Polish Business and Innovation Centers Association in Poland (2015, p. 11), there are 681 active centers for innovation and entrepreneurship. The following types of centers can be marked:

- 42 technology parks,
- 24 technology incubators,
- 24 academic business incubators,
- 42 technology transfer centers,
- 47 innovation centers,
- 103 capital funds,
- 81 local and regional loan funds,
- 58 credit guarantee funds,
- 7 business angels,
- 207 training and advisory centers,
- 46 business incubators.

Figure 1 presents the growth of centers of innovation and entrepreneurship in Poland in a given time schedule.

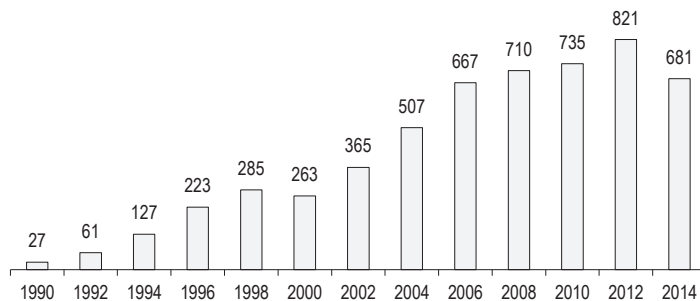


Figure 1. Dynamics of development of centers of innovation and entrepreneurship in Poland between 1990 and 2014

Source: own elaboration based on the data presented in the report by Polish Business and Innovation Centers Association in Poland – Bąkowski, Mażewska (2015), p. 11.

Access to EU funds has made it possible to implement a number of large infrastructure projects that create and develop centers for innovation and entrepreneurship in Poland (a significant increase in the number of centers since 2004).

Business Incubators are one of type of institutions providing services for supporting and developing entrepreneurship in Poland. The incubators may belong to Entrepreneurship Centers and to Innovation Centers as it depends on the form of support and the range of offered services. They are defined as organizational and real-estate based centers for entrepreneurship with the main aim at supporting the development of small businesses (including startups), by offering accommodation and needed business support. The basic task of such incubator is to assist in the creation process and help the company in the early stage of development. Business incubators may offer low rent rates, business training, advisory and information services, as well as access to common technical and service infrastructure (Guliński, Zasiadły, 2005, p. 29).

Academic Business Incubator (ABI) is a specific type of incubator, which is usually located in the nearby of university or other HEI's environment. ABI is a part of entrepreneurial higher education institution. The main aim of such incubator is to support students and academics in practical market operations. In addition to usual incubators functions, ABIs carry out a number of specific activities oriented towards entrepreneurship education and commercialization of new products (services) and technologies resulting from research and development activities. Guliński and Zasiadły (2005, p. 29) state that such incubator offers opportunities for development through:

- access to university laboratories and research apparatus,
- technological and patent consultancy,
- direct use of the knowledge of researchers and students in the provision of advisory and training services,
- access to databases of researchers and inventors, ideas, patents and technologies.

The efficiency of an ABI depends on the set of competencies representing the advisory team in the incubator (responsible for training and advisory services) as well as management board (defining the strategic direction for an incubator).

First ABI in Poland was established in 1998 at the University of Warsaw. Nowadays, there are 80 business incubators altogether in Poland. In the report of Centers for innovation and entrepreneurship (Bąkowski, Mażewska, 2015, p. 56), authors differ three types of ABIs:

1. Academic Business Incubators established by HEIs.
2. Academic incubators operating within the technology parks and other Business Support Institutions.
3. The network of Academic Business Incubators operated by Academic Foundation Business Incubators (the most numerous group).

For the purpose of this article (academic entrepreneurship) only ABIs regulated by The Act on Higher Education of 27 July 2005 (founded by HEIs and those operating within the technology parks and other Business Support Institutions) were taken into consideration. Business incubators operated under the network were not discussed in this article because these incubators are subject to a foundation (a separate entity developing incubators within the network) and they are not regulated by the Act.

In accordance with the Act, an Academic Business Incubators may be established in the form of (The Act on Higher Education of 27 July 2005, art. 86, point 3):

1. Unit at the institutional level, shall operate on the basis of regulations to be approved by the senate of the higher education institution.
2. Business entity or a foundation, shall operate on the basis of the relevant documents regulating its status.

There are opportunities for the development of university-based entrepreneurial infrastructure and technology transfer, with the free choice the organizational and legal form that is appropriate to the needs of the HEI. The Law also allows university and graduate students to combine academic work and study with entrepreneurial status, and an ABI is created to support such activity. It can operate as an administrative department of the university or separately from the university, having legal personality, acting in the form of a commercial law company, association or foundation. The organizational forms of Academic Business Incubators are presented in the Figure 2.

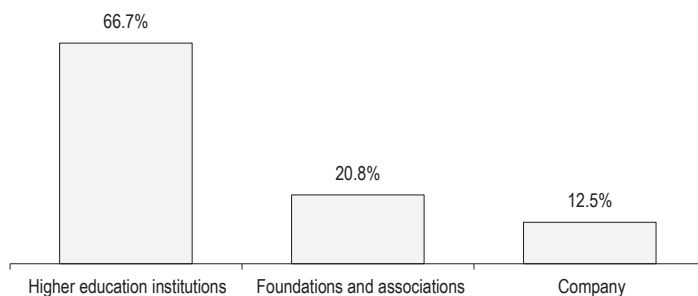


Figure 2. Academic Business Incubators in relation to organizational form in Poland in 2014

Source: own elaboration based on the data presented in the report by Polish Business and Innovation Centers Association in Poland – Bąkowski, Mażewska (2015), p. 58.

The largest group of ABI operates as a unit of higher education institutions (66.7%). These units are directly subordinate to the rector or vice rector. One of advantages of such subordination is relatively smooth flow of information between an ABI and the management board. On the other hand, lack of independence in decision-

making process causes the whole process to be lengthened. ABIs operating under HEIs are organizationally separated but not by budget. This can create some difficulties with their effective resources management.

The activity of academic entrepreneurship incubators is usually initiated by the academic community. The main function of ABIs is exploitation and commercialization of knowledge through spin-off companies, including the promotion of entrepreneurship among students and graduates leading to their economic activity (Bąkowski, Mażewska, 2015, p. 59). Young entrepreneurs often face lack of experience (knowledge) and funds needed for establishing and running a business from the very beginning. ABIs are intended to assist in the preparation of a business by analyzing and determining the market potential of a business idea as well as supporting a person to conduct an independent business, assessing the protection of intellectual property and developing commercialization strategies, evaluating the technical feasibility of the project, market demand and developing a business plan.

A statistical ABI is 266.5 m² in floor area. The ABIs usually have a combination of infrastructure consisting of: office space, conference rooms, consultation rooms, and exposition space. In addition 40% of ABI have “open space” floor for rent at their disposal. When it comes to human resources, the average ABI employs 6.1 persons. The majority of incubators (80%) employs from 1 to 4 persons. Employees of 60% of ABIs focus exclusively on its operations, while others divide their work with other activities. Some of employees have to devote about half of their time to the business incubator, and 50% to other activities within the HEI. The average annual operational budget of ABI ranges between EUR 11,904.76 to EUR 119,047.62). The main source of income are donations/subventions from managing institution (38.1% of total income), grants and projects (20.8%) and revenues from space rent (18%) and registration and exploitation fees (14.1%) (Bąkowski, Mażewska, 2015, p. 61).

The structure of an ABI clients is presented in the Figure 3. The data shown below regards the structure in 2013.

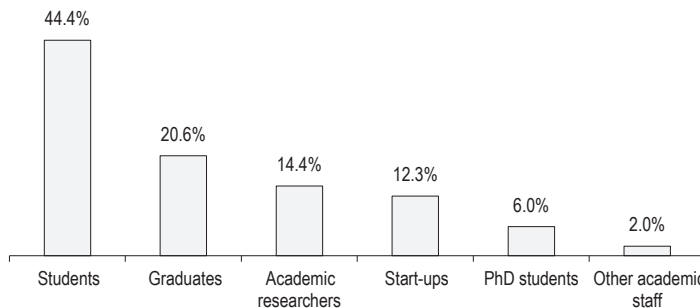


Figure 3. The structure of ABI clients

Source: own elaboration based on the data presented in the report by Polish Business and Innovation Centers Association in Poland – Bąkowski, Mażewska (2015), p. 66.

The great majority of clients are students and graduates. It is a good result due to the fact that ABIs perform their statutory tasks in the area of education and promotion of entrepreneurship and support for commercialization of new products and technologies among students.

The idea of supporting academic entrepreneurship implies that they are actively involved in educational processes using the following tools:

- promotional actions related to entrepreneurial activities,
- university business contests among students, doctoral students and young academics,
- organization of training and counseling for potential academic entrepreneurs,
- creation and development of academic centers of creativity,
- creating a wide network of external contacts with risk investors, alumni associations, others business support institutions.

The research shows that vast majority of ABIs provide their clients with consulting services in the field of: business planning, forming a company, as well as business management, and legal, financial and tax issues. They also organize training courses in market analysis and marketing. An average ABI runs 14 training courses, attended by 168 people in total. The range of consulting services was diverse. Some of the respondents organized 600 or even 782 advisory meetings (annually), while others set up only two (Bąkowski, Mażewska, 2015, p. 67). Every incubator collaborates with local companies, some of them with universities (80% of ABIs) and with Business Support Institutions (70%). Encouraging and supporting students to carry out joint market research for an ABI can be a good first step for students to start thinking about their own business.

For universities it is significant to cooperate and support ABIs as more and more students are willing to start their own business. Hence, the service performs by Academic Business Incubators established by universities may be a decisive factor for young people to take up studying at a given university.

Discussion

Academic entrepreneurship based on innovation is an important factor of the innovation policy of each country. It is worth to develop Academic Business Incubators to combine technical, entrepreneurial and business management skills to enable students start their own business. A long-term strategy of Higher Education Institutions of developing such incubators should be introduced to properly managed business activity of academics and students. Reorientation of universities to cooperate with the business community is a long-term process, requiring the change in the mentality of the academic community and relevant internal regulations. Transfer of knowledge from studies to business will be more efficient when support is provided from the national level (Siemieniuk, 2016, p. 155). By introducing appropriate support tools commercialization of academic knowledge will be possible on a broader scale. Direct financial support, technology transfer, business contacts and also suitable infrastructure are those factors which significantly affect the efficient cooperation between business entities and universities.

Conclusions

Majority of ABIs focus on cooperation with local institutions. It is important for ABIs to widen the relations with some international entities, as concentration only on local organizations creates relatively weak conditions for development of innovation projects. Cooperation with others abroad and taking advantage of their experiences is crucial to improve ABIs offer (Bojar, Ratajczak, 2012, p. 25).

By engaging academics to enhance collaboration with business, ABI may also expand the range of services and support. Using the knowledge and experience of academics and entrepreneurs (mentors) cooperating with ABIs may help to create a very good infrastructure for the quick testing of business ideas in safe conditions.

In spite of many difficulties and challenges, offering by ABIs professional support for students starting their own business seems to be important task as the main role of ABIs is to accelerate transfer of entrepreneurial knowledge to the business world. Nowadays, more and more students start to think about their own business when they study. The development of Academic Business Incubators established by universities (and other Higher Education Institutions) may be one of important step to attract students to a given university.

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