THE POTENTIAL OF ACADEMIC ENTREPRENEURSHIP IN UNIVERSITIES OF VISEGRAD GROUP COUNTRIES

Agnieszka Barcik, Piotr Dziwiński, Marcin Jakubeć
University of Bielsko-Biała
Management and Transport Faculty

Abstract: The paper presents selected results of the survey on academic entrepreneurship which was carried out within the Visegrad Fund Project in four universities in member states between October 2016 and February 2017. The results reveal the level of entrepreneurship’s awareness among university employees and students as well as their attitudes towards entrepreneurial activities. The paper also examines the principle incentives and barriers of setting up the business in Visegrad Group (V4) countries. It also discusses the perception of business attractiveness of Visegrad Group countries among surveyed university employees and students. The first part of the paper is dedicated to the theoretical background of the work which includes the concepts of academic entrepreneurship and business attractiveness as well as the macroeconomic environment of the Visegrad Group countries. The second part presents the brief description of the Project, methodology, goals and major assumption of the Project as well as some of the detailed results obtained. The paper ends with brief conclusions.

Keywords: academic entrepreneurship, business environment, Visegrad Group

DOI: 10.17512/znpcz.2017.3.1.02

Academic entrepreneurship and business environment – introductory remarks

The academic entrepreneurship is a relatively new concept in the management science. The so-called entrepreneurial university was described for the first time in 1983 by Etzkowitz in the discussion on the application of American academic science in commercial environment (Etzkowitz 1983, p. 198-233). Since then, the concept has been developing in various countries and is now a significant part of a modern economy (Bąk 2016).

The question of academic entrepreneurship is focused primarily on the economic and social dimensions of this phenomenon (Holienka 2014, p. 41-50). It is believed to play major role in resolving the problem of unemployment but it also contributes to creation of other jobs (Skowron-Grabowska, Mesjasz-Lech 2016, p. 22-28). The academic entrepreneurship however apart from typical features of entrepreneurship involves additional and distinctive element. It is essentially correlated with university employees and students. One of the simplest definitions of academic entrepreneurship can be expressed in the following way. It is a situation in which a university scientist, most often a professor, sometimes a PhD student or a post-doc researcher, sets up a business company in order to commercialize the results of the research. It is also the potential definition of the
classical entrepreneurship enriched with the qualifying adjective “academic”, which stresses that the findings and innovations introduced by the entrepreneur originate from the research conducted at university (Franzoni, Lissoni 2006, p. 2). The concept of the academic entrepreneurship can also be defined as the process in which an individual or group of individuals linked through their work to a university or research center use knowledge created in their research to set up business ventures (Miranda, Chamorro-Mera, Rubio 2017, p. 113-122). The above presented approaches understand academic entrepreneurship as a specific type of entrepreneurship. They strongly relate academic entrepreneurship to the process of transfer of knowledge and technology and its commercialization in the formalized way. The transfer may include: creation of spin-off companies, spin-on companies, licensing, selling technology etc. The academic entrepreneurship may also be approached in a different and more broader way. The term of the “academic based entrepreneurship” is adequate here. It includes all enterprises created by the academics and students and not only the ones which are based on exploitation of technology created at university (Osiri et al. 2014, p. 39-61). This in turn refers to all possible entrepreneurial actions which can result in any financial reward. This category is much wider and includes much more activities which are not in scope of typical transfer of technology (Bąk 2016, p. 45).

Those more informal methods may be more frequent for some science fields like: humanities, social sciences – where technology transfer is usually not the case (Abreu, Grinevich 2014, p. 408-422). The broader approach may also include any entrepreneurial activities performed by the university employees and students which are not directly linked to their scientific background (Daroń, Wójcik-Mazur 2014, p. 31-43). Such a broad and general approach was the object of the research which allowed to examine the entrepreneurial attitudes of university employees and students as well as their experience in this regard. It also allowed to determine the motives, incentives and barriers for running a business as perceived by the surveyed academics and students. The other term which also requires to be explained is the business attractiveness which was the object of the research too (Pabian 2015, p. 7-16). More specifically the research was to reveal the business attractiveness of Visegrad Group countries. Business attractiveness itself can be considered as a significant factor which affects the competitiveness of the country or region (Kadłubek, Krzywda, Krzywda 2017, p. 68-81). The assessment of business environment which then affects its attractiveness for potential entrepreneurs is subject to numerous analysis carried out by many national as well as internationally accepted institutions, which results have usually the form of composite indices reflecting the quality of the business environment (Bruothova, Hurny 2016).

The aim of the research was to investigate the perception of business attractiveness of individual member states of Visegrad Group by the academics and students who come from these countries. The perception of business attractiveness of the own country as well as neighboring countries by the academics and students plays significant role in creation of entrepreneurial attitudes and development of start-ups established in cross-border environment (Kościelniak 2016, p. 65-73).
Visegrad Group countries are an excellent example of the cross-border cooperation which might also include the cross-border entrepreneurship.

The concept of business environment which influences the perception of attractiveness of a given market can be defined as a set of economic, legal and institutional conditions which affect the entrepreneurs’ behavior in positive or negative way, but usually cannot be controlled by them. Business environment may also be explained as business conditions which promote or hinder the creation and development of enterprises (Demjanová 2009, p. 58-66). The importance of a well-functioning legal and regulatory system in creating an effective market economy is now widely accepted (Łęgowik-Świącik, Kowalska, Turek 2016, p. 46-55). Poor contracting and regulatory environment can raise the cost of doing business with knock-on effects to employment, output, investment, productivity, and living standards (Besley 2015, p. 99-120). It is also worth noting that the barriers to doing business vary across regions and countries (Ślusarczyk 2016, p. 7-22).

The business environment is an essential element for the development of the enterprises. A favorable business conditions are important prerequisite for long-term competitiveness and growth of any market economy (Kočišova, Tartál’ová 2010, p. 17-33). It’s an environment in which the authorities encourage and protect competition, create clear and stable rules, effectively ensure compliance for all market participants, minimizing administrative burdens and requirements to entrepreneurs. Small and medium-sized enterprises play a significant and essential role in all countries with a market economy. They also have extraordinary significance in the development of the economy in Visegrad Group countries for creating new jobs and in regional development. However, micro and small enterprises which might be the subject to academic entrepreneurship are very sensitive to the quality of the business environment.

Macroeconomic environment of the Visegrad Group countries

Macroeconomic environment is the general background in which all organizations operate. It consist of political, economic, social, technological, legal and eco-environmental spheres. The organization cannot control factors trends within these spheres, and it is usually not able to influence them. The situation in which organizations are able to influence macroeconomic factors, take place when the political parties and governments are lobbied by them (ScienceDirect 2009).

The analysis of organization environment has significant role in process of preparation before taking decisions and action. Decisions will be better on every level of organization, if responsible person will understand how organization works in its environment and how field of his work fits into environment. By this understanding, the number of more informed decision will increase. Decision should base on business awareness. Making plans for uncertain future is easier and more effective after analysis of the organization and the major factors which are likely to impact on performance. People on every level in the organization, should be involved because strategy falls to all parts of an organization. To analyze the
business environment, the variety of environmental analysis tools may be used as for example balanced scorecard, BCG analysis, market research, Ansoff’s matrix.

In order to foster the involvement in entrepreneurship, policy makers need to understand the factors leading young individuals towards enterprising efforts (Holienka 2014, p. 49). The above mentioned factors constitute both advantages and disadvantages of setting up a business. Apart from economic and legal circumstances the personal attitudes and motives also need to be taken into account.

The above mentioned macroeconomic factors play significant role in perception of the quality of business environment of a given country. The business environment thus reflects the economic conditions of a state (Buno, Nadanyiovaa, Hraskova 2015, p. 423-430). It creates one of the fundamental motivation for running a business and basic conditions for the development of micro, small and medium-sized enterprises. Quality business environment is one of the ways of sustainable economic growth therefore the governments of V4 countries should create the business environment (conditions) that will promote investment, job creation and increased productivity. The overall conditions for running a business have serious impact on the overall entrepreneurial attitudes and are reflected by the entrepreneurial behaviors of academic employees and students who were surveyed in the following research investigations.

Selected results of conducted research – perceiving of academic entrepreneurship by academics and students

Information about project

Four partner universities: University of Bielsko-Biała, Technical University in Ostrava, Alexander Dubček University in Trenčín and Szent István University, representing Poland, Czech Republic, Slovakia and Hungary carried out the project: Cross-border Bees in V4 Countries - Building of Educational Entrepreneurship Start-ups in V4 Group, covered by the Visegrad Fund. The project lasted five months (October 2016 – February 2017). It had scientific-educational character and was dedicated to students and employees of partner and other universities as well. The project gathered the representatives of business too. Within the project, scientific conference relating to Academic Entrepreneurship in International Context and workshops for students, concerning creating new business ideas in Visegrad environment were organized. The project gave the attended a possibility to exchange innovative ideas and experience in the scope of cross-border economy. Thanks to team work, students created new opportunities for setting up their own businesses, supported each other in being innovative and above all developed their passion. This passion should transfer ideas into real companies in the future.
Research methodology

Methodology of the project presents Table 1.

Table 1. Research methodology

<table>
<thead>
<tr>
<th>Research method</th>
<th>Questionnaire survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Analysis and assessment of the potential of academic entrepreneurship in selected universities, representing the Visegrad countries.</td>
</tr>
</tbody>
</table>
| **Research problems** | 1. Do students and employees have an experience of working in business?  
2. What factors decide that people start to run own business?  
3. What barriers stop running own business?  
4. Is the Visegrad environment attractive place for running a business?  
5. Which cross-border economic activities have the biggest chance to succeed? |
| **Research tool** | Questionnaire (10 questions + metrics; used closed and open questions and different scales). |
| **Interviewees** | Students (400 people) and employees (200 people) of partner universities. Total population 600 interviewees.  
Selection of examined population was done at random in each university. |

Source: Own elaboration

Results of the research

Results of conducted research are presented in figures from 1 to 20. Figures relate to formulated research problems, analyzing them in perception of employees and students of examined universities. Below, authors expressed comments relating to research results.

![Figure 1. Employment in business in Alexander Dubček University](image)

Source: Own elaboration
Figures from 1 to 4 concern experience of the interviewees of working in business. General results of three universities concentrate around 30%. The smallest experience in business represents the interviewees of Alexander Dubček University. All achieved results in this question are relatively low. Experience in business is important factor for both academics and students. Academics possessing experience in business can connect theory and practice during working at university. Experienced students are perceived better by potential employers on the market.

![Figure 2. Employment in business in Szent István University](source)

Source: Own elaboration

![Figure 3. Employment in business in Technical University in Ostrava](source)

Source: Own elaboration

![Figure 4. Employment in business in University of Bielsko-Biała](source)

Source: Own elaboration
Next group of figures, from 5 to 8, concerns possession of own business by employees and students of analyzed universities. Positive answers for this question are again relatively low. This time, the biggest score achieved the interviewees of Szent István University. Twenty percent of them possess own business. Lack of experience in business can be a consequence of not running own business by the representatives of surveyed universities.

**Figure 5. Possession of own business in Alexander Dubček University**
Source: Own elaboration

**Figure 6. Possession of own business in Szent István University**
Source: Own elaboration

**Figure 7. Possession of own business in Technical University in Ostrava**
Source: Own elaboration
Two next questions were dedicated to the interviewees who answered positively in the previous question. They concerned determinants deciding to start own business and main obstacles of running own business. Results are interesting and presented on the figures from 9 to 16. When it comes to Alexander Dubček University, the representatives of it marked following three main determinants as important to run own business: flexible working hours, a need to have own business and support from the business environment institutions.

In case of Szent István University main determinants of own business are: flexible working hours, existing of market niche and a need to run own business. Looking at answers of employees of this university, very important factor for them determining own business is discovered market gap.
Employees and students of Technical University in Ostrava asked about determinants of running own business replied: a need to possess own business, existing of market gap and innovative business idea being starting point to set up a business.

Results relating to University of Bielsko-Biała are as follows: flexible working hours, a need to possess own business and innovative business idea. Results concerning employees and students are very similar in case of this university.
As mentioned above, next four figures present information gathered during research, relating to barriers of running business in perception of employees and students of examined universities.

According to the representatives of Alexander Dubček University main barriers of running a business are: lack of funds for beginning capital, extended bureaucracy when it comes to set up own business and high risk of running a business.

Source: Own elaboration
Employees and students of Szent István University pointed out following obstacles to start own business: too much bureaucracy, high risk of running own business and lack of own infrastructure for a business.

No idea for own business, high risk of running own business and difficulty to reconcile doing business with working/studying at university were main barriers marked by the interviewees of Technical University in Ostrava.
Figure 15. Barriers of running business in Technical University in Ostrava
Source: Own elaboration

For the representatives of University of Bielsko-Biala main barriers of running a business were: lack of funds for start-up capital, high risk of running own business and no idea for own business.

Figure 16. Barriers of running business in University of Bielsko-Biala
Source: Own elaboration
Figures from 17 to 20 present assessment of attractiveness of Visegrad countries for running a business. The interviewees used six degrees scale.

Figure 17. Attractiveness of V4 countries in perception of employees in Alexander Dubček University

Source: Own elaboration

Results are following, employees of Alexander Dubček University consider Czech Republic as the most attractive place for running a business. Students of this university answered the same way.

In case of Szent István University, employees and students consider their country as the most attractive.

Figure 18. Attractiveness of V4 countries in perception of employees in Szent István University

Source: Own elaboration
The same situation concerns the interviewees of Technical University in Ostrava. They assessed their country as definitely attractive place for running a business.

![Attractiveness of V4 countries in perception of employees in Technical University in Ostrava](image1)

**Figure 19. Attractiveness of V4 countries in perception of employees in Technical University in Ostrava**

Source: Own elaboration

When it comes to University of Bielsko-Biała, situation is similar, but in case of employees. According to them, Poland is the most attractive place for running a business. Students of University of Bielsko-Biała considered differently. They marked Czech Republic the most often.

![Attractiveness of V4 countries in perception of employees in University of Bielsko-Biała](image2)

**Figure 20. Attractiveness of V4 countries in perception of employees in University of Bielsko-Biała**

Source: Own elaboration
Last question related to assessment of economic activities, which have the biggest chance to succeed in case of cross-border businesses.

General answers, according to all universities, are as follows:
- Tourism,
- Trade,
- IT services,
- Educational services,
- Transport and logistics services.

Conclusions

Conducted research leads to merit conclusions, concerning defined research problems. Based on population engaged in the research, conclusion relating to an experience of working in business can be expressed. Employees and students of all examined universities have small experience of working in business. They concentrate on working and studying at universities. But, in case of proper cooperation with companies, such experience is important for both academics and students. Similar situation concerns running own business by the questioned. Only a few percent of them run own business. This information should put stronger emphasis on development of academic entrepreneurship. Authorities of universities ought to create good conditions to its growth.

Further part of the questionnaire survey concerned factors determining running own business. Voice in this case took the interviewees who marked running a business in the previous part of the research. The representatives pointed out following determinants: flexible working hours, a need to have own business, support from the business environment institutions, possessing of funds to start own business, existing of market niche and innovative business idea being starting point to set up a business. The same group of the interviewees defined following barriers of running own business: lack of funds for beginning capital, extended bureaucracy when it comes to set up own business, high risk of running a business, lack of own infrastructure for a business, no idea for own business and difficulty to reconcile doing business with working/studying at university.

Each of Visegrad country is an attractive place for running a business, but of course, this is determined by many micro and macroeconomic factors and by advantages and disadvantages of each economy. Answers for the question relating to attractiveness of Visegrad countries for running a business should be analyzed together with special indicators.

The last discussed area in the research concerns cross-border economic activities, which have the biggest chance to succeed, in case of running a business. Employees and students featured following economic activities: tourism, trade, IT services, educational services and transport and logistics services.
Summary

Academic entrepreneurship plays and will play an important role in steering of national economies of Visegrad countries. According to theoretical and practical part of following article, academic entrepreneurship means promotion in academic environment entrepreneurial behaviors among employees and students, who develop their own businesses and become young entrepreneurs. Academic entrepreneurship is relevant area of activity of modern university, as a subject creating knowledge and new technologies for the economy. Following factors can stimulate development of academic entrepreneurship at universities (Jakubiec, Kurowska-Pysz 2013, p. 59):
1. Proper infrastructure: career office, academic incubator, center of technology transfer.
2. Motivating of academics and students to intellectual growth, improving quality of knowledge at university.
3. Development of research and lab infrastructure and intensification of cooperation with external units, like scientific-technological parks, other universities, clusters.
4. Creating of law and organizational conditions for employees and students to engage in business.
5. Effectiveness of university in applying for external funds.
6. Economy’s demand for knowledge, basic product of university.

In the paper there were presented selected results of the survey on academic entrepreneurship which was carried out within the Visegrad Fund Project in four universities in member states between October 2016 and February 2017. The results reveal the level of entrepreneurship’s awareness among university employees and students as well as their attitudes towards entrepreneurial activities. The paper also examines the principle incentives and barriers of setting up the business in Visegrad Group (V4) countries. It also discusses the perception of business attractiveness of Visegrad Group countries among surveyed university employees and students.

Review of literature and results of research let achieved the purpose of the paper and analyzed and assessed the potential of academic entrepreneurship in selected universities, representing the Visegrad countries.

Literature


POTENCJAŁ PRZEDSIĘBIORCZOŚCI AKADEMICKIEJ
W UNIWERSYTETACH KRAJÓW GRUPY WYSZEHRADZKIEJ

Streszczenie: W artykule przedstawiono wybrane wyniki badań przedsiębiorczości akademickiej, które przeprowadzono w ramach projektu finansowanego przez Fundusz Wyszehradzki w czterech uniwersytetach w państwach członkowskich, w okresie od października 2016 r. do lutego 2017 r. Wyniki przedstawiają poziom świadomości przedsiębiorczości wśród pracowników i studentów uczelni, a także ich postawy wobec działań związanych z przedsiębiorczością. W artykule przeanalizowano również główne aspekty zakładania i prowadzenia działalności gospodarczej w krajach Grupy Wyszehradzkiej (V4). Omówiono także postrzeganie atrakcyjności biznesowej krajów Grupy Wyszehradzkiej wśród ankietowanych pracowników i studentów uczelni. Pierwszą część artykułu poświęcono teoretycznemu kontekstowi pracy, który obejmuje koncepcje przedsiębiorczości akademickiej i atrakcyjności biznesowej, a także otoczenia makro-ekonomicznego krajów Grupy Wyszehradzkiej. Druga część zawiera opis projektu, metodologię, cele i główne założenia projektu, a także niektóre z uzyskanych szczegółowych wyników. Artykuł kończy się krótkimi wnioskami.

Słowa kluczowe: przedsiębiorczość akademicka, otoczenie biznesu, Grupa Wyszehradzka