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**RESEARCH INTO DEVELOPMENT
POTENTIALITIES OF ACADEMIC
ENTREPRENEURSHIP IN POLAND**

ANETA SOKOL, PH.D.

Faculty of Management and Economics of Services
University of Szczecin, Poland

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Abstract: The issue of academic entrepreneurship is becoming a more and more fashionable topic which functions on the research and business cooperation plane at the institutional level and business incubators supporting private ventures of students and research personnel. The interactions of universities with economy, business use of research projects results as well as the transfer of innovations and technologies are becoming the basis for the government's strategy at the central, local, university management level and the object of activities for numerous organisations. Considering this context, the article discusses development potentialities of academic entrepreneurship in Poland.

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**The origins of academic
entrepreneurship**

The 20th century was the time of groundbreaking discoveries in the field of science, significant technological achievements, social changes and fast economic growth of many countries. These processes covered both the world of science and business. The present paradigm developed from these transformations stresses particular participation of knowledge and innovations in creating growth. It is necessary to mention that academic institutions are generators of knowledge while its commercial aspect is reflected in creating and selling innovative products by companies.

For the first time the term intellectual entrepreneurship was used by Chia (1996). He wrote in his article that this kind of entrepreneurship refers to stimulating students' imagination by teachers. Then in 1997 Cherwitz with the University of Texas at Austin said that the idea of academic entrepreneurship is to support the education of students who use their knowledge in order to develop the field of science and community they live in (Karas, 2006, p.12).

Academic entrepreneurship (Law on Higher Education) has two meanings. The first approach assumes its wider perspective and defines it as any and all kinds of commitment to business by a university, its students, PhD students and research workers. What is more university education, knowledge, innovations are goods of top quality which can be invested in businesses established by representatives of the academic community. On the other hand, academic institutions are those kinds of companies which should be well-organised and well-managed. The knowledge resulting from research becomes an instrument generating innovation of all economies. Consequently, a university can make it available free of charge or for a fee by means of legal tools: a licence or implementation agreement, a sale of a patent, services or expert evaluation regarding the economy, analytical services, putting libraries and specialist equipment into use. The second meaning of academic entrepreneurship clearly refers only to commitment of academics to creating new undertakings.

Academic entrepreneurship is interpreted differently depending on the country. For example, in the United States this kind of entrepreneurship relates to direct businesses foundation supported by the private sector while in Europe

academic entrepreneurship has a wider meaning. The idea involves activities concerning the support of a research-economy relation and all activities related to establishing businesses which originate from within a university (Bednarski et al., 2009, p.34).

At the same time academic entrepreneurship changes the common pattern of thinking that running your own business and all commercial activities contradict the research laws and they are unsuitable for academics.

There are some initial conditions related to science, research and education necessary for the development of academic entrepreneurship which provides: results of scientific-research activities, skilled labour force, flexible opportunities for training courses, potential entrepreneurs among students and academics, the support system concerning programs and institutions supporting the transfer of technologies and the initial phases development of a new company, a local community which consists of small and medium-sized enterprises specializing in business services for venture capital groups, supports innovation, entrepreneurship, potential cooperating companies and buyers (Matusak, 2006).

The development of academic entrepreneurship depends on external and internal conditions of the region where a university operates with its research and experimental capacity. A university does not have any influence on the external conditions which play a significant role. The most important are: political conditions, national and local traditions, legislation, research and development expenses, incentives for inventors and innovators, institutions supporting entrepreneurial processes, governmental institutions and programs facilitating formation as well as conducting business.¹

**Advantages and market barriers of academic
entrepreneurship development in Poland**

Establishing academic entrepreneurship is an advantageous phenomenon for the whole economic development. The advantages promoting its development are: a wider supply of innovative ideas for the economy which generate new forms of business, originating new

¹ More in: Innowacyjna przedsiębiorczość akademicka - światowe doświadczenia, PARP, Warszawa 2005, p.69

technology companies which develop products and services of high potential and create new jobs for people holding a degree, self-employment of academics and students, a positive influence on unemployment reduction and creating cooperation networks of companies with the research and development field, which in the long run results in a rise in profits of the participating companies (Stawasz, 2007).

The main barriers for the development of academic entrepreneurship in Poland are: the imperfections of legal regulations, limited access to financial resources and skilled management, a lack of appropriate academic community awareness especially among the university human resources management. We can mention the following barriers:

- organisational, within a university - internal taxation of research conducted for commercial customers, emphasis on didactic services not on research tasks, being organizationally unprepared to undertake commercial tasks and to cooperate with businesses, bad organization of technology transfer centres, especially at technical universities;
- mental, cultural, psychological, social - a negative attitude to take the risk, negative attitudes in scientific circles, a lack of encouragement from the university management;
- financial limitations - a lack of initial capital and creditworthiness, high rates of leasing commercial facilities.

Research into the conditions of academic entrepreneurship development in Poland

As the issue is topical at the moment, two universities in Szczecin conducted the research whose aim was to evaluate opportunities to start and conduct entrepreneurial activities. The group was chosen rather at random on the basis of their availability without determining any initial conditions that is why we cannot call it a representative sample. The research was conducted in the winter of 2009 by means of a questionnaire and a direct interview. The form contained partially some questions which had already been used in the nationwide research by a group of researchers who issued a report concerning the development of academic entrepreneurship in Poland in 2009. The reason for using the same questions was the need to produce a reliable comparative analysis. The main research areas accumulated on three levels in relation to opportunities and risk of those subjects.¹

One of the problems examined by the research group in the nationwide research was the measurement of intention to run a company which is or is not dependant on a university. As the research shows there is little interest to conduct either. Only a quarter of the academics compared to almost half of the students were interested in running their own business. As far as the possible intention of getting involved in conducting a company dependant on a university, there were no significant differences between the

students and academics. The intention was confirmed by 51% of the students and 31% of the academics (Bednarski et al., 2009). These proportions differ from those obtained in the nationwide research in which the results were similar. The main problems hindering the development of academic entrepreneurship for either a student or an academic worker are: a lack of essential knowledge about running his own company, a lack of competence and a lack of sources of finance.

The results obtained in the nationwide research indicate that academics do not start business as it is hard to combine it with research work. Also a lack of idea for a kind of business and a lack of know-how are major problems. Another obstacle to the development of academic entrepreneurship is the bad economic situation in Poland, the fact pointed by 68% of the respondents.² The main hurdles in developing academic entrepreneurship are: the bad economic situation in Poland, not enough consumers for my products/ services/ ideas, excessive bureaucracy, no source of finance to start your business (Table 1).

The research shows that 77% of the respondents claim that a university has some regulations regarding the management of the research results and property (or at least they think it is appropriate to say so) and two thirds of the respondents think that a university cooperates with companies and institutions on a commercial basis. The most interesting is that 80% argue that their research can be successfully applied in practice. The question about fitting research to current problems in companies, institutions and on the market was challenging. The nationwide research demonstrates that 79% of the respondents acknowledged that their research is possible to be used and be adjusted to Polish economic realities. For example, working conditions change frequently, which influences potential chances of applying the research results. For some scientific workers variability might be a problem as a research process sometimes requires a long period of time.

Another research problem was the business activity evaluation of the institutions supporting the development of entrepreneurship. The analysis of the data gathered proves that chambers and commercial associations received the highest score in the scale from 1 to 5. Next were the following: academic business incubators, entrepreneurs' incubators and career centres.

In summary, there is a great variability of potential and activity of institutions supporting innovation. Yet there is a small number of those which specialise in supporting innovations and technology transfer. According to the representatives of business communities, the main obstacle to the development of cooperation activities are: failing to match the needs of scientists with the needs of the market, a lack of system of information exchange concerning the research and development sector, the information exchange system containing an offer of scientific circles and entrepreneurs' demand does not work.

Findings and recommendations

The results of the research conducted in Poland indicated that the scale of problems connected with academic entrepreneurship were similar. The authors of the nationwide report pointed to many problems which should be tackled in order to change the unfavourable situation.

¹ "...The research conducted on a nationwide representative sample n=454 people at 44 universities in Poland chosen at random..." "...The sample was divided proportionally in accordance with the following criteria - the university status of a respondent: student - 45%, PhD student - 5%, assistant professor - 35%, associate professor - 15%; school: college - 50%, academy - 4%, university - 46%; region: macroregion according to GUS..." Bednarski, G., Gryzik, A., et al. (2009).

² Ibidem, p 78

The researchers agreed that it is necessary to increase creativity and economic activity of the academic community taking into consideration varied groups of students and academics. As far as the student community is

concerned, the activation of tasks in the presented areas should take place in the educational process with the use of such tools as (Bednarski et al., 2009, p.117):

TABLE 1. THE LEVEL OF BELIEFS CONCERNING THE KNOWLEDGE ABOUT ESTABLISHING A COMPANY IN POLAND (%)

Specification	I	II	III	IV	V	VI
Difficulties in combining research work and running business	40	27	33	63	18	19
Costs of running business	41	28	30	70	18	12
General lack of knowledge about conducting business	27	17	56	50	16	34
Not enough consumers for my products/services/ideas	39	28	33	54	22	24
Bad economic situation in Poland	60	22	19	68	17	15
No idea for a kind of business to conduct	30	19	51	40	19	41
Difficulties in obtaining the right of ownership for my ideas	31	32	38	57	17	26
Lack of knowledge regarding legal conditions of my research results commercialisation	33	20	47	55	16	29
No funds to start business	47	23	30	65	18	17
Excessive bureaucracy	54	22	24	76	13	10

Note: I- rather hard/definitely hard, II- neither hard/nor easy, III- rather easy/definitely hard, IV- rather possible/definitely possible, V- neither possible/nor impossible, VI- rather impossible/definitely possible

Source: Bednarski, A., Gryzik, K. et al., 2009, p.77.

- running minor projects in small groups based on real conditions, both theoretical and practical projects aimed at learning creative realization of joint undertakings, working in teams, a sense of responsibility, reliability, etc.;
- stimulating the initiative of students to develop their own unconventional ways of accomplishing tasks with the use of varied techniques;
- stressing independence and the logic of thought, an ability to match facts and solve problems rather than remember lengthy parts of miscellaneous material automatically;
- promoting students' initiative not only for the achievements in their field of study but also in other fields not necessarily directly connected with their subjects, e.g. voluntary work, sports;
- promoting work on a thesis by a few students;
- supporting/stimulating students' initiative both in terms of research and in the areas where social skills are necessary;
- promoting students who are involved in a professional life, especially those who can combine work with good results at university;
- increasing the number of practical subjects in conducting business and carrying out simulations of monitoring business activity in small groups in which a process of strategic and innovative thinking is developed;
- more stress on direct work with a student who is interested in developing entrepreneurial activities; the lecturer acts as an academic entrepreneurship animator then;
- enabling students starting their own company to conduct it on the premises of the university at the first stage and ensuring factual support related to running business.

What is more, the researchers agreed with J. Cieślik and draw significant conclusions with reference to academic entrepreneurship (Cieslik, 2008). First, entrepreneurship as a subject taught at university may contribute to students' success as they are potential entrepreneurs. Second,

teaching the subject should be aimed not only at economics students but also at students of other fields of study.

As far as academics are concerned, an action to promote not to hinder entrepreneurial skills must be taken by involving them in economic processes such as promoting an active attitude of research workers who are oriented towards innovation, developing know-how, free training courses and consultancy, working for a company, conducting business, initiative not only in their own fields of interest but also in public, social and administrative areas, undertaking research, designing inventions to cover market needs and working in varied research groups at university which act as incubators for research and development projects, provide ideas and cooperate with industries.

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