

UNIVERSITY BUSINESS INCUBATORS AND THEIR IMPORTANCE FOR BEGINNERS

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Purpose: The article aims to assess the knowledge and interest in the offer of university business incubators by students of faculties offering theoretical and practical knowledge about starting and running a business.

Design/methodology/approach: A questionnaire plus the Pearson correlation coefficient and the T-Czuprow dependence coefficient were used to examine the relationship between the study variables.

Findings: Students are well acquainted with the offer of university business incubators, while not sufficiently aware that these entities can provide them with support at the stage of setting up or developing their business activity.

Practical implications: Intensifying activities promoting the activities of the surveyed institutions at universities could activate entrepreneurial thinking and the involvement of academic youth.

Originality/value: The article highlights the important role of university business incubators in supporting young entrepreneurs, which makes it a valuable source of information for those interested in starting their own businesses.

Keywords: university business incubators, entrepreneurship, business, students, academic entrepreneurship, technology transfer.

Category of the paper: research paper.

1. Introduction

In the conditions of the Polish economy, the concept of incubation has many meanings, but in relation to business, we can treat it as a support in the process of setting up and developing a business by ambitious people who are entering the business world. An incubator is a place where these people can receive support. The creation of incubators is aimed at developing new, high-potential enterprises so that they can successfully face the competition. Therefore, it would be necessary to verify how popular the services of these institutions are among young people who will soon start their own businesses.

2. Literature review

There are various categories of incubators: academic, technological, social and research. These institutions' main objectives include assisting in starting a new business, eliminating local and regional differences, creating entrepreneurial behaviour, supporting socially excluded people and bridging technological gaps (Aernoudt, 2004). Given the functions performed by incubators, two scopes of the incubation process should be indicated: pre-incubation (at this stage, an idea for a business is born, and then it is improved) and incubation (this stage begins with the establishment of a business) (Marszałek, 2009).

The term "university business incubator" (UBI) has been adopted to refer to a separate type of business incubation path, the main purpose of which is to prepare for the creation of a business entity in the vicinity of a scientific institution (Szopik-Depczyńska, Depczyński, 2013). As the name suggests, these institutions are located within or near academic centres. Thanks to this, students, graduates, PhD students and university employees can initiate the process of establishing a business, thus enriching the didactic process with a chance to start practical operations in market conditions. The operation of incubators at universities leads to the activation of students in entrepreneurship (Jankiewicz, Lis, 2006). Therefore, university business incubators fill the gap in support of knowledge and technology transfer processes because their offer is addressed to the academic community. Thus, Universities participate in building a knowledge-based economy and generating economic growth in the regions where the discussed entities are located.

Some selected definitions of university business incubators are presented in the following table.

Table 1.
Definitions of the university business incubator

Author	Definitions of the academic business incubator
Xu, 2009	An institution that provides physical space within the university to promote the development of university spin-offs.
Brezdeń et al., 2010	An institution whose task is to provide broadly understood support for start-ups. Its purpose is to market and protect (incubate) newly established enterprises. The effect of this institution's activity is the development of small and medium-sized enterprises, the creation of new jobs, and thus the improvement of the region's economic situation and its inhabitants.
Barbero et al., 2012	A university institution that supports young start-up businesses through tangible and intangible services.
Ładyga, 2012	An institution that supports entrepreneurship in the broad sense of the word among young people, facilitating the implementation of business ideas. Through financial, technical, organisational and advisory support, it helps young people start their own businesses and motivates them to continue their activities.
Jamil et al., 2015	Institutions that provide the right environment that facilitates revenue generation by providing financial, legal and technical support for mutually beneficial interaction between universities, business representatives, government and community.

Cont. table 1.

Robles, 2017	Non-profit organisations operate in order to increase economic development by initiating many projects and creating jobs. They help in the early stages of development of start-up companies.
Siemieniuk, 2017	Institutions that focus mainly on the pre-incubation phase. They are created in the vicinity of universities, and their goal is to shape a place for the development of enterprises and gain experience so that they can later function independently on the market.
Narayanan, Shin, 2019	An organisational form which aims to facilitate entrepreneurship.
Dániel, Porkoláb, 2021	Dedicated business incubators create a link between universities, businesses and government, generating a significant impact on the local economy.

Source: Own elaboration based on the subject literature.

Based on the definitions provided in the table above, the characteristics of university business incubators can be distinguished, such as assistance for start-ups, promoting the development of entrepreneurship, leading to marketisation of activity, legal protection, technical and organisational support, striving for regional development and reducing local unemployment. To conclude, university business incubators can be defined as non-profit institutions that support academic entrepreneurship at the pre-incubation stage by providing appropriate conditions for conducting business activity initiated by students, graduates or researchers.

There are two forms of operation of university business incubators (Marszałek, 2009):

- As a university-wide unit - the university can exercise direct control and supervision over the incubator's activities; it operates based on the regulations approved by the university senate;
- As a commercial company or foundation, appropriate legal documents regulate functioning.

University business incubators are most often university-wide units focused primarily on the pre-incubation process, i.e. the stage in which substantive and financial support is the most important until market stability is achieved. The market success of the companies supported by the incubator is the primary goal of their operation. The incubation period lasts about 3 years, although in reality, this time is determined by the achievement of the enterprise's independence. Of course, the discussed institutions collect fees from incubated companies, although this is done gradually, and the start of covering the costs usually takes place after a few months of operation.

The most important functions of university business incubators include the following: (Matusiak et al., 2005; Lockett et al., 2002):

- Promoting and supporting academic entrepreneurship (information and promotional campaigns);
- Supporting young entrepreneurs in their quest for rapid growth in their business;
- Seeking to commercialise ideas for new products and technologies;
- Making office space, university laboratories and research equipment available on preferential terms, along with other tangible and intangible facilities;

- Providing advisory services (e.g. technological and patent consulting) and training services;
- Legal and accounting services;
- Intermediation in financial support (e.g. help in obtaining seed capital necessary to start a business, as well as grants, subsidies or loans);
- Providing databases on researchers and inventors, ideas, patents and technologies.

As emphasised by N.A. Hassan (2020), the role of university business incubators is not limited to the provision of services for companies starting their own business. First of all, incubators strengthen the culture of entrepreneurship because their functioning consists not only in educating students and developing research but also in building tools that increase innovation, entrepreneurial thinking, organisation development and raising people's living standards.

Thanks to the operation of university business incubators, scientific institutions and entrepreneurs benefit. The table below contains exemplary arguments for the involvement of both parties in UBI activities.

Table 2.

Benefits resulting from the functioning of university business incubators

Benefits for universities	Benefits for entrepreneurs
<ul style="list-style-type: none"> • Improving the image of the university. • Making the educational offer more attractive. • Improving relations with the community. • Opportunities to increase income (students and researchers) from cooperation with local business and transfer of technological solutions. • Possibility of obtaining funds from entrepreneurship support programmes. • Increasing the demand for R&D results. • Strengthening links between the university and business communities by transferring technological achievements and research results to the market. 	<ul style="list-style-type: none"> • Opportunity to test business ideas in a market reality, • Using the legal personality of the incubator. • No need to register the company physically. • Consulting services are available. • Possibility to study the market in order to achieve positive economic results. • Possibility of using well-prepared laboratories with computer systems made available by universities. • Saving time and significantly reducing the costs associated with setting up a company. • Conducive environment to conduct business and take the risk of being in business. • The possibility of taking advantage of various forms of support for enterprises (in particular those that enter the market).

Source: Matusiak, 2001; Hassan, 2020; Ładyga, 2012.

In Poland, business incubators began to be established, similarly to other innovation centres, in the early 1990's. Together with the changes taking place at universities, their number has significantly increased. The functions performed and the services provided by incubators include common space with technical equipment, management support, networking, access to knowledge and financial capital, which encourage starting the business activity. In connection with the above, the development of these institutions should be in the interest of the state, regions and universities.

3. Methods

The survey was conducted among students of the Faculty of Economics, Finance and Management of the University of Szczecin. 335 students from two fields of study took part in the study, i.e. management (285) and entrepreneurship and investments (50 students), of which as many as 62.4% of respondents are considering starting their own business. These fields of study were selected for the study because of their profile partly related to setting up and running a business.

Entrepreneurship and investments is a practical field of study. The content of education in the field of study includes issues in the management discipline and quality science, economics and finance, as well as related disciplines. The students have an opportunity to learn practical skills with regard to starting and running their own business, developing a family business or pursuing the career of a local leader - a creator of economic ventures and initiatives undertaken within the local community. The practical profile enables education in line with the expectations of employers and with the participation of practitioners - entrepreneurs, managers and specialists. Graduates of the field of study are prepared to establish and develop their own enterprise, take over a family business, work in managerial and specialist positions in small and medium-sized enterprises, in consulting companies and other organisations such as institutions supporting entrepreneurship, acting as a leader of local entrepreneurship, e.g. in the countryside, in a small village. The field of study is implemented in cooperation with entrepreneurs and local business support institutions. Students have the opportunity to learn about the functioning of business in practice, including thanks to numerous visits by students to small and medium-sized companies, innovative forms of teaching are also implemented: theory combined with practice, meetings with entrepreneurs, decision-making games, case studies, work in small teams, creating original projects and many others.

Studies in the management field of study aim to acquire specialist knowledge in the discipline of management sciences, economics and related disciplines, shaping a critical understanding of economic and organisational processes, as well as developing the ability to use methods and techniques necessary to solve problems and make decisions within the organisation. In addition, the studies are aimed at preparing graduates for the implementation of their own entrepreneurship, career development of specialists and managers in management structures. In the area of social competencies, the studies are aimed at shaping ethical and social sensitivity, commitment and a sense of responsibility in the work environment and beyond, awareness of the need and development of personal development and lifelong learning skills. The study programme includes general managerial education (useful for running own business and managing teams of people) and specialist management education. The knowledge acquired in the management discipline is of an applied nature and includes primarily theories and concepts describing and explaining the formation, functioning, transformation, development

and cooperation of organisations, primarily business entities but also public and non-governmental sector organisations. The graduate is prepared to work as an analyst and specialist, manage a small team of people in business and other organisations, and run their own business.

The degree of studies is the criterion that divided the research group into two groups, which are almost equal in terms of quantity - 52.5% were first-cycle students, and 47.5% were second-cycle students. In addition, 72.5% of the respondents are full-time students, and the remaining 27.5% are part-time students. 69.3% of respondents were female, while 30.7% were male. The research aimed to assess the knowledge and interest in the offer of university business incubators. It was also verified which areas of activity of business support institutions were indicated by students interested in using the services of the surveyed institutions. Students could choose from the areas of support most often offered by business environment institutions, namely: training and workshops, consulting and individual consultations, promotion and advertising, obtaining grants for starting a business, assistance in applying for EU funds, access to current economic information, as well as various meetings and business and integration trips.

The questionnaire was sent to students by e-mail (students received a link that took them to the questionnaire). In addition to the key substantive part, the questionnaire contained significant additional elements, such as the study's title, the purpose of the study and other explanations for the respondents. The questionnaire form used mainly closed and semi-closed questions, as it limited the percentage of people who resigned from answering the question. In addition, these types of questions made it easier to classify and analyse the data. A part of the survey form was also a metric, thanks to which it was possible to obtain the necessary information about the individual characteristics of the respondent, such as: gender, field of study, year of study. Collecting this data made it possible to analyse them in terms of selected characteristics of the surveyed students.

Pearson's correlation coefficient and T-Czuprow dependence coefficient were used to examine the relationships between the data being processed. Pearson's coefficient (r_{xy}) is a linear correlation coefficient that determines the level of linear dependence between random variables. Its value falls within the closed interval $[-1, 1]$. The greater the absolute value of this coefficient, the stronger the linear relationship between the variables. The numeral one (1) indicates a positive relationship, while the negative one (- 1) indicates a negative relationship between the characteristics. 0 indicates the absence of a linear relationship (Zelias, 2002). The T-Cuprow coefficient (T_{xy}) is, in turn, a dependency coefficient that is used to measure the strength of the relationship between two nominal variables. It assumes values from the closed range $[0, 1]$. The closer the value of this coefficient is to unity, the stronger the relationship between the examined characteristics (Domański, 2001).

4. Results

The surveyed group of students was asked to answer the question of whether, in the case of planning or conducting business activity, students would like to take advantage of the offer of university business incubators. Students had the opportunity to indicate interest (or disinterest). As many as 70.75% of students are familiar with the offer of UBI, and 45.67% of respondents are interested in taking advantage of it. Students (in particular students of economics) should be familiar with the offer of entities that at some point, may become one of the strategic partners facilitating the start or continuation of their own business.

The survey also asked which areas of activity of business support institutions students would most like to use when planning to run a business. The figure below lists the percentage share of business support areas among students who expressed interest in using university business incubators' services.



Figure 1. Areas of activity of business support institutions in the opinion of students who are interested in using the services of university business incubators.

Source: Own study based on own research.

The areas of activity that were of the greatest importance among students interested in using the services of university business incubators were counselling and individual consultations, as well as obtaining financial resources, including grants, which were indicated by 73.20% of the respondents. Receiving non-returnable cash at the beginning of the business, i.e. at the time of its greatest capital intensity, is a great advantage of this type of financing. The next important area for the respondents are training and workshops (71.90% of responses), which should be an integral part of the functioning of any company that wants to develop and constantly raise its prestige on the market. Other areas of business support institutions indicated as important are assistance in applying for EU funds (69.28% of responses) and promotion and advertising

(67.97% of students). It is worth noting that every company starting its activity should conduct appropriate promotion in order to appear on the market. Assistance in obtaining business contacts was important for 64.71% of students. Access to information turned out to be the least important area of functioning of business support institutions for the surveyed group of students (39.87% of answers).

In the study conducted on a group of students of the Faculty of Economics, Finance and Management, it was also decided to verify whether the independent variables (gender, field of study, degree and mode of study) have an impact on the dependent variable (desirable areas of support for people who are interested in using the services of university business incubators). The table below shows the percentage of students' answers to the question about the dependent variable. The following four criteria were taken into account: gender, field of study, degree of study, and mode of study. In addition, the following table presents the values of correlation coefficients between the independent variables and between the independent and dependent variables.

Table 3.

Percentage of students who answered the question regarding the desired areas of support by gender, field of study, degree of study and mode of study

Criterion		Desirable areas of activity of business support institutions by students who are interested in using the services of university business incubators [in%]						
		Training and workshops	General and individual consultations	Promotion and advertising of the company	Subsidy for starting a business activity	Assistance in applying for EU funds	Information - access to up-to-date business information	Various business and integration meetings and trips
Gender	Female	75,63	73,95	66,38	75,63	69,75	39,50	63,87
	Male	52,94	73,53	73,53	58,82	67,65	41,18	67,65
Field of study	Management	73,44	71,09	66,41	73,44	71,09	35,94	62,50
	Entrepreneurship and investments	56,00	84,00	76,00	64,00	60,00	60,00	76,00
Degree of study	I	77,78	71,60	70,37	76,54	70,37	40,74	70,37
	II	62,50	75,00	65,30	66,67	68,06	38,89	58,33
Mode of study	Full-time	70,25	70,25	72,73	74,38	71,07	42,98	67,77
	Part-time studies	71,87	84,37	50,00	62,50	62,50	28,12	59,37

Source: Own study based on own research.

Table 4.

Values of Pearson's correlation coefficients between independent variables and values of T-Czuprow dependence coefficients between independent variables and the dependent variable

Criterion		The value of the Pearson correlation coefficient r_{xy} between the individual variants of the criteria (independent variables) when answering the question regarding the indication of the desired areas of business environment institutions by students who are interested in using the services of university business incubators	The value of the T-Czuprow T_{xy} relationship between the criteria (independent variable) and the indications of desired areas of activity of business environment institutions by students who are interested in using the services of university business incubators (dependent variable)
Gender	Female	0,5917	0,0508
	Male		
Field of study	Management	0,1621	0,0740
	Entrepreneurship and investments		
Degree of study	I	0,8544	0,0284
	II		
Mode of study	Full-time	0,7467	0,0602
	Part-time studies		

Source: Own study based on own research.

5. Discussion

The above lists show that in the case of the “degree” and “mode of study” criteria, there is a strong linear relationship, and in the case of the “gender” criterion, a moderate relationship between independent variables in response to questions regarding the indication of areas of business environment institutions desired by students among students interested in using the services of university business incubators. This means that first- and second-cycle students and full-time and part-time students answered very similarly. There were no significant differences between the answers of men and women. At the same time, very low values of the T-Czuprow index indicate that gender, field of study, degree and mode of study do not affect the answers provided by students. However, it can be observed that the values of the Pearson correlation coefficient for the “field of study” criterion are not as high as for the other criteria. Such areas of activity of business environment entities as general and individual consultations, promotion and advertising, assistance in access to current information, as well as the organisation of meetings and business and integration trips are more desirable by students of the Entrepreneurship and investments field of study. This may result from the practical profile of studies in this field. Students very often have the opportunity to learn about the offer of the discussed institutions thanks to field classes (e.g. as part of the following subjects: basics of business economics, entrepreneurship, setting up and functioning of a small company, business problems in practice, financing small companies, small business support system), during which visits of students to enterprises and business environment entities take place.

The results of the conducted research indicate that students are well acquainted with the offer of university business incubators, and at the same time they are not sufficiently aware that these entities can provide them with support at the stage of setting up or developing their business activity. Intensifying activities promoting the activities of the surveyed institutions at universities could activate entrepreneurial thinking and the involvement of academic youth. Regardless of the field of study, profile or degree, students should be provided with the opportunity to acquire the knowledge and skills necessary to run a business on their own account. Practical information in this regard can be provided to them, for example, during training conducted by representatives of such entities as, e.g. university business incubators, especially since training and workshops are one of the most preferred areas of support by students who are interested in using the services of these institutions. The academic staff should also intensify activities aimed at increasing the interest of students in the offer of university business incubators to a greater extent.

6. Summary

Business incubators help the smallest entities survive, especially in the initial phase of functioning on the market. This is done by providing production space or various types of technical and office services. With the increase in market stabilisation, young enterprises operating under the name of an university business incubator may seek further support from business environment institutions, including in the technology transfer discipline. One of the basic goals of business incubators is to support small and medium-sized businesses, regardless of the sector of the economy. Thanks to this, they can be treated as an element of the labour market policy because they contribute to counteracting unemployment. Due to the wide offer of support for novice entrepreneurs, university business incubators should be treated as one of the key factors for the growth of entrepreneurial spirit, as well as an important element of the state's innovation policy.

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