

## THE NEEDS ASSESSMENT FOR UNIVERSITY BUSINESS INCUBATORS IN SOUTH-EASTERN EUROPEAN COUNTRIES

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The higher education systems in the South-Eastern European countries represent an important factor for generation of essential knowledge and skills that give students advantageous position in the labour market. However, the higher education systems in this region are lacking suitable links between the practical needs of the students and capacities of the real sector. The establishment of university business incubators has been recognised as valuable strategy that would help enhancing the students' entrepreneurial skills and would corroborate with the current state of the economy. In this context, we intend to assess the students' needs, their capacity for generation successful business ideas and the willingness of the potential stakeholders to participate in the process of design and implementation. For this purpose we have carried out a survey on representative samples of students in two universities: "St. Kliment Ohridski" (Macedonia) and "Aleksander Xhuvani" (Albania). Furthermore, a comparative analysis of the results is used in order to draw useful conclusions and recommendations with respect to the types of supporting services and phases of incubation that the model of university business incubator should have to provide. The methodology of analysis includes standard methods for statistical inference and cross tabulation analysis. In our view, the adoption of the model of university business incubator as a standard in the higher education institutions may have large positive impact on the labour markets performance since the increased awareness for self-employment opportunities will stimulate the entrepreneurial climate and induce creation of new jobs.

### Keywords

Business incubator, Entrepreneurship, Higher education, Labour market.

## 1. Introduction

The South-Eastern European countries (SEECs) for more than two decades struggle with depressed labour market conditions that affect all domains of the social life. In particular, they face relatively high unemployment rates coupled with emerging alternative forms of labour market adjustment such as employment in the informal sector, emigration and inactivity. In addition, the SEECs labour markets are affected by striking segmentation, meaning that certain social groups such as: youths, less educated workers, and women, face a much higher risk of unemployment and/or non-participation than the rest of the labour force. The prevailing long-term unemployment has significantly contributed to an erosion of skills and motivation of unemployed workers, making them less employable over time. Due to

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the insufficient labour demand and poor employment prospects, a considerable part of unemployed workers called 'discouraged workers' stops looking for jobs and quits the labour force [1].

Under these circumstances the higher education has faced a challenging task to become a generator of competitive and marketable skills for students in order to promote greater employability. During the period of transition we have witnessed a number of reforms in the sphere of the higher education that ultimately aimed at giving the students advantageous position in the labour market. However, the insufficient demand on the SEECs labour market prevents the policy makers from getting relevant feedback of the reforms efficiency. In this context, there exist various strategies for establishing suitable relationship between the practical needs of the students and capacities of the real sector of the economy, among which are the university business incubators (UBI). The role played by universities has been widely recognised in linking research, technology, capital and know-how to leverage entrepreneurial talent, accelerate development of new technology-based firms and speed up the commercialisation of technology [2].

According to our knowledge, the models of UBI have so far received a little attention by academics and policy makers in SEECs as an alternative development strategy that might be valuable in helping to develop local economies, promote technology transfer, create new enterprises and generate jobs [3]. In order to succeed, the UBI have to provide services according to the needs of its clients i.e. the incubatees. Therefore, this paper considers the students' opinions as a basis for building an appropriate model of UBI. For this purpose we have carried out a survey on representative samples of students in two universities: "St. Kliment Ohridski" (Macedonia) and "Aleksander Xhuvani" (Albania). The paper is structured as follows. In section 2 we present the literature review as a theoretical background regarding the types and performance of university business incubators. In section 3 we consider the modalities of the concept of university business incubator in SEECs with respect to the potential stakeholders, supporting services and phases of incubation. The results from the empirical research and the corresponding comparative analyses are presented in section 4. Finally, in section 5 we conclude and present our recommendations regarding the appropriate model of university business incubator in SEECs.

## 2. Theoretical background

According to the National Business Incubators Association (NBIA), the business incubation is defined as 'business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services [4].' However, in the incubator literature we cannot find a consistent definition of the notion of business incubator despite the apparent similarities between different definitions. Critical to the definition of a business incubator is the provision of management guidance, technical assistance and consulting tailored to newly established and growing companies. Having in mind that the business incubator can encompass almost anything from distinct organisations to amorphous structures, in this context we adopt the concept of business incubator as organisation dedicated to the support of emerging ventures [5], [6].

From the historic point of view, the oldest business incubator was created in United States in the 1950s as response to plant closure in Batavia and New York. On the other side, the first university business incubator was established in Europe by the University of Berlin in 1983 aimed at facilitating the transfer of research findings to industry [6]. Business incubators proliferated in developed countries in the early 1980s, whereas in developing countries they are a quite recent phenomenon [7-9]. The earliest incubation programs focused on a variety of technology companies or on a combination of light industrial, technology and service firms

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– today referred to as mixed-use incubators. However, in more recent years, new incubators have emerged targeting specific industries.

A business incubator's main goal is to produce successful firms that will leave the programme financially viable and freestanding. Besides this, incubators may have other differing goals, including economic development and generation of new jobs, property venture development, development of export production, diversifying rural economies, providing employment for and increasing wealth of depressed inner cities, fostering entrepreneurship in transition countries and transferring technology from universities and major corporations.

Business incubators vary in the way they deliver their services, in their organisational structure and in the types of clients they serve. The services delivered by the business incubator are normally developed by incubator management and offered both in the business incubator and through its network of contacts. Incubators usually provide clients access to appropriate rental space and flexible leases, shared basic business services and equipment, technology support services and assistance in obtaining the financing necessary for company growth [4]. Some authors intend to consider incubators differently i.e. as a facilitation method such as university programmes which also serve as a training programme for graduate students [10].

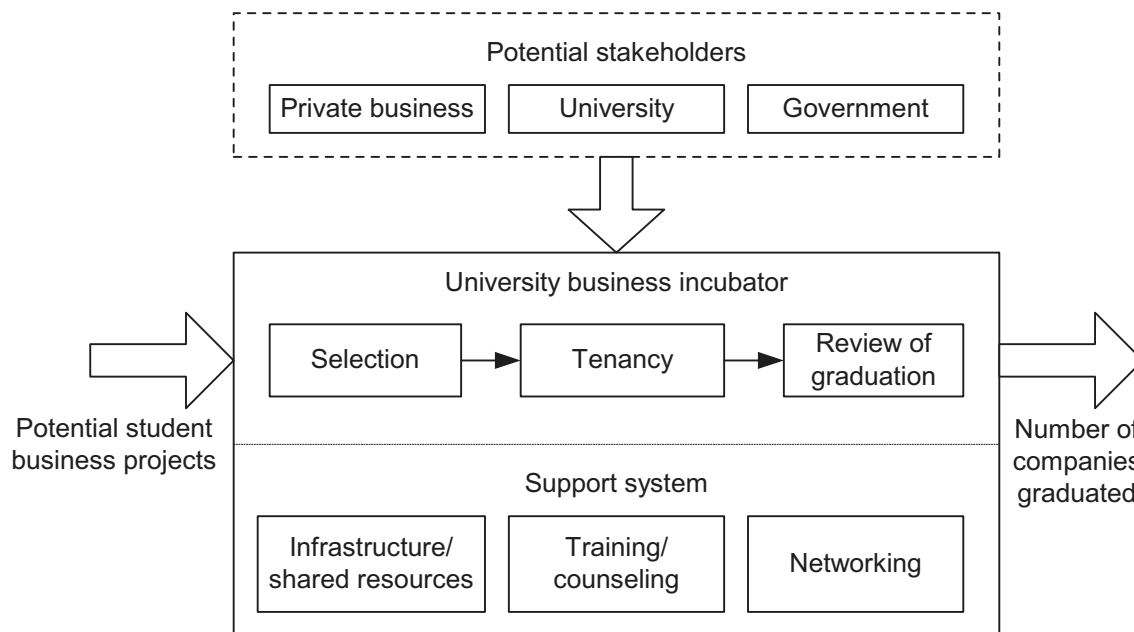
Incubators can be differentiated according to several criteria such as: their mandate (for profit or non for profit), the type of sponsorship (private, public or mixed), their focus (mixed use or niche), geographic area (rural, urban, suburban) etc. In this context, the most comprehensive review of different types of incubators is provided by Barbero et al. [11] who despite the heterogeneity distinguish four incubator archetypes: basic research, university, economic development and private incubators.

### **3. The concept of university business incubator**

A university business incubator is a particular type of incubator which has a purpose to bring together various stakeholders in order to offer a variety of services to the students who have potentially successful business ideas and help their start-ups to get established and evolve to the point where they can operate independently. Generally, the university business incubators are viewed as cooperation between the government, local business leaders and entrepreneurial universities in order to promote the development of research/technology based firms in their region [12]. To our knowledge, such type of business incubator in SEECs has still not been established hence, in our effort to develop a suitable model of UBI we address the experiences from similar types of incubators in developed countries and use the best proven practices around the world.

Universities are assumed to have two major dimensions of importance to technology-based firms. First, they are perceived as a source of research and skilled employees and, second, they foster university-technology entrepreneurship linkages as a means of attracting and supporting the development of firms [12]. Moreover, the evidence from the developed countries shows that university link to the incubator reduces the probability of new venture failure [13]. In particular, the UBI should provide a number of support services for students' business projects and assist them toward becoming sustainable business entities. The potentially successful business projects should pass through several phases starting with selection, tenancy, reviewing of graduation and eventually leaving the incubation process.

The incubation process model is often considered as a black box, where the relationship between the input and outcomes might be explained by applying a number of rival theories [14]. In this context, we simplify the theoretical explanation of complex organisational structure and provide a conceptual framework of the UBI as presented on Figure 1.



**Figure 1** A model of University business incubator

From Figure 1 we can notice that our model of UBI generally consists of three building blocks: potential stakeholders, supporting services and phases of incubation. In what follows we separately analyse each of these elements.

### **3.1 Potential stakeholders**

In the case if incubators are directly affiliated with universities, tenants gain access to the universities' research groups and activities, technology transfer offices, libraries, computing facilities and related educational services [12], [15]. Alongside the universities as potential stakeholders in the university business incubator may appear the government authorities and private businesses. Therefore, in order to meet the interests of all potential stakeholders, we recommend that personnel should have mixed background ranging from academic, local government and business area. The management function should be delegated to a person who has considerable experience in the domain of business advising. The role of the incubator managers is important since he must built high quality relationships with client firms, as well as he needs to initiate network contacts among residents and remove obstacles to enhancing network connections [16, 17]. In this context, UBI would help strengthen interactions between university and industry, promote research commercialisation, and give opportunities for university staff and students to better utilise their capabilities [18].

Particularly susceptible partner in this model of incubation are local government authorities that can contribute to the functioning of the UBI by providing a variety of services such as premises and other logistic support. In return, the benefits of a well-managed UBI for the government can be viewed in the fact that incubators help overcome market failures, promote regional development, generate jobs, incomes and taxes, and demonstrate political commitment to small businesses.

Private businesses may also cooperate with the business incubator in finding potential partners, engage in research-based technology, developing new products etc. In return, businesses can benefit from UBI by developing opportunities for acquiring innovations, supply chain management, and helping them meet their social responsibilities.

### **3.2 Supporting services**

According to experience from several successfully established UBI their main goals include providing variety of services such as office space, shared facilities, business consulting, access to capital, networking and, resources, so that the companies within the incubator learn how to develop and grow their business in order to be competitive in a market economy. Furthermore, the proposed model of UBI may allow two types of incubation i.e. physical and affiliate incubation. Students involved in full incubation would receive physical space, whereas affiliate businesses would receive all of the services except physical space. Students in the affiliate program may not be ready to occupy physical space in the incubator or the nature of the business may not warrant physical space.

Since, all beneficiaries of the UBI will be enrolled full time students, the university may gradually incorporate the UBI activities as an extracurricular programme [10]. Once accepted into the UBI programme, students will be required to participate in variety of activities that we shortly describe. First, as part of the learning process, programme staff needs to be able to review the financials of the company with the student in order to assist in their growth and strategic planning. Second, students have to select and attend relevant seminars to his/her business offered by the university. If the student needs specific course which is not offered, it would be provided by outside consultants. Third, periodically all UBI tenants will meet to hear a guest speaker, network and discuss their ongoing business endeavours. In this way, the incubatees will strengthen social support as a highly valued component of incubator membership [17]. Finally, each tenant will be required to meet with the UBI director individually according to a previously prepared schedule.

### **3.3 Phases of incubation**

Process of incubation consists of several phases starting from selection, tenancy, review of graduation and eventually exit from the incubation and starting post-incubation period. The phase of selection is one of the most sensible parts of the incubation process since it largely determines the outcomes of the incubation and overall incubation performance [14]. In order to make correct selection decision, the process of selection should be done by a competent committee consisting of several experienced members. The applicants should have opportunity to apply on a regular basis once or twice a year, whereas the projects will be evaluated according to a number of indicators.

The period of incubation or tenancy should be limited with or without possibility to be extended after the reviewing of graduation. As successful businesses will be classified those who demonstrate potential ability to operate in a market environment without supporting services from the UBI.

The assessment of the performance of business incubators has been stressed as a critical element to its success [14, 19]. In the literature can be found a number of different performance measures ranging from simple (such as: venture survival rate, employment and sales growth, cost per job etc.) to more complex models for evaluation of an incubator [11]. With an effective assessment the incubator may continually improve its functioning, attending and exceeding the expectancies of all the players involved in the process. For this purpose we propose a set of indicators for the assessment of UBI performance such as: indicators of pre-incubation process, indicators of selection process, indicators of residence period, indicators of the graduate companies and indicators of the management of the incubator.

## 4. Empirical analysis

In order to build an appropriate model of university business incubators for SEECs we have undertaken needs assessment among students as final UBI beneficiaries. The needs assessment was based on a survey carried out on representative samples of students in two universities: "St. Kliment Ohridski", Macedonia (UKLO) and "Aleksander Xhuvani", Albania (UNAX). These universities are located in neighbouring regions and are involved in a number of cross-border cooperation programmes that promote the economic growth and European integration of both countries. In the university "St. Kliment Ohridski" we have in total interviewed 578 students from six different faculties: Faculty of Economics, Faculty of Education, Faculty of Technical Sciences, Faculty of Administration and management information systems, Faculty of Law and Medical higher school. On the other side, in the university "Aleksander Xhuvani" we have in total interviewed 350 students from four different faculties: Faculty of Economics, Faculty of Education Sciences, Faculty of Natural Sciences and Faculty of Human Sciences. The size and structure of the samples according to various relevant attributes are presented in Table 1.

**Table 1** The size and structure of the samples according to various attributes

	University "St. Kliment Ohridski"	University "Aleksander Xhuvani"
Sample size	578	350
Degree of studies		
Undergraduate	516 (89.27%)	295 (84.29%)
Postgraduate	62 (10.73%)	55 (15.71%)
Year of studies		
1	227 (39.27%)	67 (19.14%)
2	91 (15.74%)	64 (18.29%)
3	139 (24.05%)	164 (46.86%)
4	121 (20.93%)	55 (15.71%)
Gender		
Male	218 (37.72%)	123 (35.14%)
Female	360 (62.28%)	227 (64.86%)
Place of living		
Town	454 (78.55%)	259 (74.00%)
Village	124 (21.45%)	91 (26.00%)

Source: Authors' calculations

From Table 1 we can notice that although different in size, the structure of the samples is relatively close with respect to the major attributes such as: degree and year of studies, gender and place of living of the surveyed students.

According to our analysis, respondents in both universities have mixed overall opinion regarding the prevailing business climate. This finding is consistent with the generally perceived economic progress in SEECs that are still lagging behind more developed transition countries. Moreover, the majority of the surveyed students are not familiar with the concept of UBI (about 63% in the university "St. Kliment Ohridski" and 88% in the university "Aleksander Xhuvani"), whereas 24% of the respondents in the university "St. Kliment Ohridski" and only 8% in the university "Aleksander Xhuvani" declared that have heard and know the aim of the UBI. In addition, we have attempted to identify the profile of those respondents who are familiar with the concept of UBI by using cross tabulation analysis. We have revealed that these students manifest more entrepreneurial attitudes compared to those who are not familiar with the concept of UBI. Namely, the majority of them have

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concrete ideas for starting their own businesses; they think that universities create incentives for starting own business; and universities should be linked with the business community. In order to support these hypotheses we have carried out Chi-square tests and in all cases we have rejected the null hypotheses of independence between the rows and the columns at 1% level of significance.

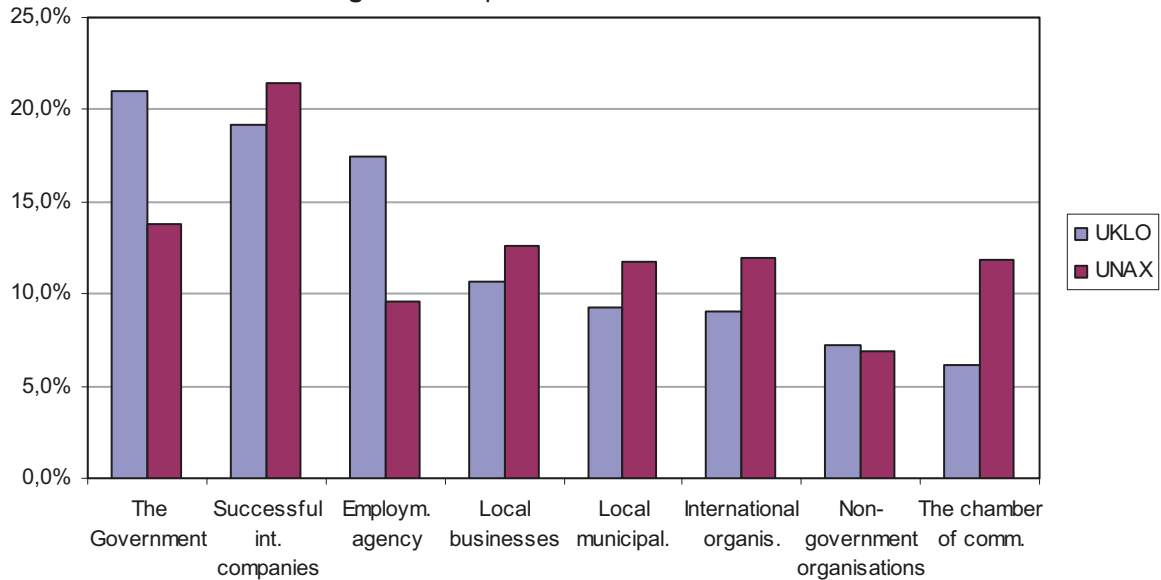
On the other hand, the respondents are generally optimistic with respect to the question whether UBI will contribute to easier implementation of the students' business ideas. For instance, among the surveyed students in the university "St. Kliment Ohridski", 46.5% think that UBI will contribute, 44.1% do not have opinion, and only 8.4% think that will not have impact on the implementation of the students' business ideas. Similarly, in the university "Aleksander Xhuvani", the share of the respondents that demonstrate positive attitude toward the idea of creation of UBI is 67.4%, whereas 32% do not have opinion and only 0.6% of the respondents are not optimistic. We further apply cross tabulation analysis in order to identify the profile of those respondents who think that creation of university business incubator will contribute to easier realisation of the students' business ideas. In this context, we notice that this category of students is characterised with greater entrepreneurial spirit compared to those who are not optimistic with this regard. Similarly as in the previous case, the majority of them have concrete ideas for starting their own businesses; they think that universities create incentives for starting own business; and universities should be linked with the business community. The formal Chi-square tests of independence show that in all cases we have to reject the null hypotheses of independence between the rows and the columns at 1% level of significance.

The cross tabulation between the level of familiarity with the concept of UBI and the level of optimism regarding the successful contribution of the UBI in easier realisation of the students' business ideas shows consistent pattern. Namely, students who are familiar with the concept of UBI manifest pronounced optimism, whereas those who are not familiar are rather indecisive with this regard.

We further consider the students' opinions with respect to the stakeholders in the UBI and the services they think the UBI has to provide to future incubatees. Regarding the potential partners, apart of the university, the government and successful international companies appear to be the most plausible stakeholders according to the respondents in the university "St. Kliment Ohridski". On the other hand, the respondents in the university "Aleksander Xhuvani" give accent to local businesses, municipalities and international organizations. This is graphically presented in Figure 2.

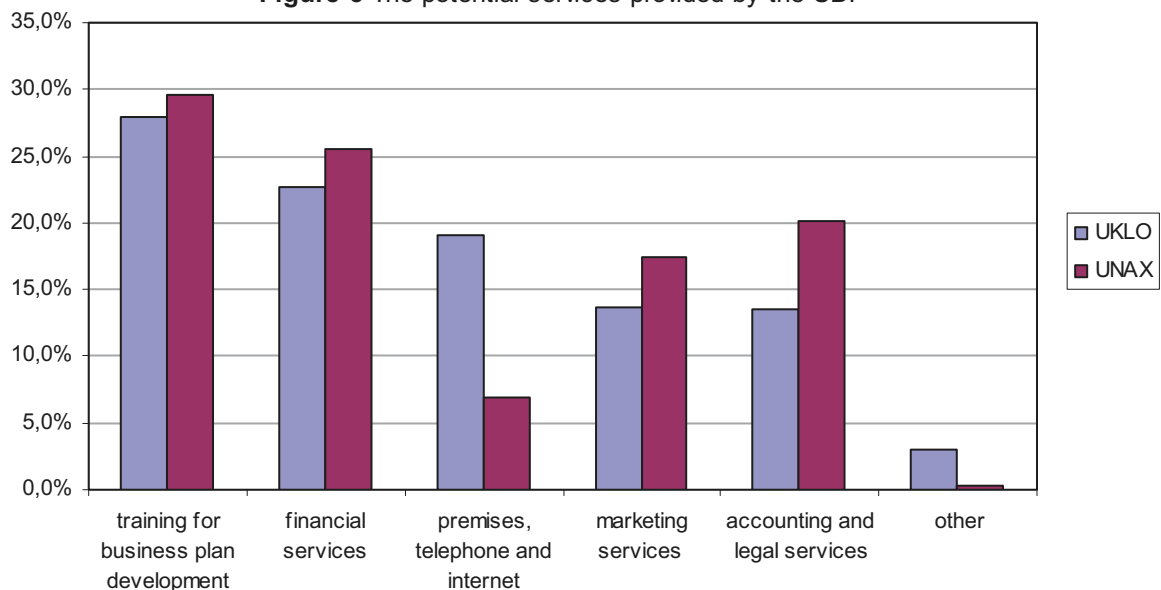
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**Figure 2** The potential UBI stakeholders



With respect to the potential services that UBI should provide to its incubatees, the majority of the respondents in the university “St. Kliment Ohridski” pointed out the importance of training for business plan development, financial services and premises equipped with telephone and internet. On the other hand, the surveyed students in the university “Aleksander Xhuvani” besides emphasizing training for business plan development and financial services have also appreciated the other services such as: marketing, accounting and legal services. This is graphically presented in Figure 3.

**Figure 3** The potential services provided by the UBI



Finally, according to our empirical analysis, we found that about two thirds of the respondents in both universities declare that UBI should be located within the university. Regarding the duration of the incubation process, the majority of the respondents think that



the period of incubation should last at least one before ensuring sustainability of the businesses in the real market surrounding.

## 5. Conclusions and recommendations

According to NBIA, business incubators have proven to be effective tools for promoting economic growth throughout the world, but not all incubation models are suitable for all communities. In this paper we have made an attempt to assess the needs for university business incubators in SEECs and to formulate recommendations for building appropriate model of such type of business incubator. The incubation can make a number of contributions to the development of high-technology firms, which would not normally be available to non-incubated firms. When provided by the universities, incubators can facilitate the process of transferring know-how from the university to the business community and vice versa.

Having in mind the experience from developed countries and the information gathered from our needs assessment, we can formulate the following recommendations in order to help universities in the South-East European region that would like to develop business incubation programs:

- The UBI needs to be accommodated to the local entrepreneurial climate. Our analysis revealed that there exist positive association between the entrepreneurial attitudes of students and their optimism regarding the contribution of the university business incubators.
- In order to be successful UBI have to match their services to the needs of local entrepreneurs. According to our survey results, an appropriate model of UBI in the South-Eastern European region should, in the first place, provide training for business plan development, but also important are financial, marketing, accounting and legal services to potential incubatees and the businesses they operate with. This preliminary research can help to determine the optimal scope of services embraced by the incubation programme.
- Although the respondents in our study are rather optimistic regarding the success of the UBI, the universities should not expect an incubator to resolve persistent economic problems. UBI can play a vital role in a community's economic development efforts, but hardly can they turn around a local economy independently. Therefore, the university business incubation programmes have to be part of a larger economic development plan.
- The model of UBI as an economic development tool has to be flexible. Nowadays, there exist a number of different types of incubators that might be more effective at sparking economic growth than more traditional incubators such those that serve a variety of manufacturing or service clients. Therefore, when building the model of UBI, the creativity has to be combined with sobering considerations, like the existence of a sufficient market and the support of business, political and civic leaders.
- The real estate has not been proven to be a critical factor that drives the project of implementation of a UBI. The incubator's location is only one of many factors that will determine whether the project will succeed. Our analysis revealed that most suitably and naturally is to locate the UBI within the university, but participation of other stakeholders may help in finding more appropriate solution.
- The implementation of a UBI has to be accompanied with a solid financial plan. Creating an incubation program is not an inexpensive endeavour. From conducting the feasibility study to launching the incubator, the universities must piece together funds from a variety of sources. A well-developed financial plan that identifies the sources of needed

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funds for providing incubation services goes a long way in attracting investors and other supporters.

- Finally, the UBI has to be established on realistic goals. Namely, developing a successful incubation program takes time. While it's important to reach out to local leaders and entrepreneurs it should not be realistically to expect to create large numbers of jobs or graduate new firms within months of incubator's opening. The goal of the UBI has to be oriented toward ongoing support of the community and long-term success in promoting young and educated entrepreneurs.

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