

Radosław WOLNIAK
Politechnika Śląska
Wydział Organizacji i Zarządzania
rwolniak@polsl.pl

Michalene Eva GREBSKI
Northampton Community College – Monroe Campus, USA

FUNCTIONING OF THE BUSINESS INCUBATOR CENTRE IN GLIWICE

Abstract. The aim of the paper is to present the functioning of the Organizational Model of the Business Incubator Center in Gliwice in the context of its functioning and model of financing. In the paper there is the description of main definition related to business innovation-based incubators, and functioning of the academic business incubators. Then on the basis of theoretical background we describe and analyse functioning of TECHNOPARK GLIWICE.

Keywords: incubators, business incubators, academic entrepreneurship, innovations

FUNKCJONOWANIE INCUBATORA PRZEDSIĘBIORCZOŚCI W GLIWICACH

Streszczenie. Celem publikacji jest przedstawienie funkcjonowania Centrum Inkubatora Przedsiębiorczości w Gliwicach w kontekście jego działalności i modelu finansowania. W artykule zdefiniowano podstawowe pojęcia związane z inkubatorami opartymi na innowacjach biznesowych oraz z funkcjonowaniem inkubatorów przedsiębiorczości akademickiej. Następnie, na podstawie teoretycznych podstaw, opisano i przeanalizowano działanie Inkubatora TECHNOPARK GLIWICE.

Słowa kluczowe: inkubatory, inkubatory przedsiębiorczości, przedsiębiorczość akademicka, innowacje

1. Introduction

Nowadays the problems of business and academic entrepreneurship is very important in the context of business grow and innovativeness. Until 1989 Silesia was a very economically active region with a large number of coal mines and steel mills. The economic development was driven by central planning and not by the demand of the market. The price of the product was determined by the production cost. Many companies were subsidized by the central government as needed to make them operational. There was mandatory employment at that time. The government owned and operated companies were creating as many jobs as needed to keep everyone employed. There was no incentive for innovation due to the lack of competition between the government owned enterprises. The social programs operated by the company increased and often doubled the company employment. After 1989 the socialistic system of government-owned enterprises were changing and transferring into free market driven economy.

Due to closure of many government-owned enterprises, unemployment in the Silesia region became very significant. The available well-educated workforce in the Silesia region and existing infrastructure created opportunities for innovative enterprises to open new high technology businesses. A number of business incubator centers were created to stimulate economic development in the Silesia region.

The aim of the paper is to present of the Organizational Model of the Business Incubator Center in Gliwice in the context of it's functioning and model of financing.

2. The Business Innovation-based Incubators

There are many definitions of innovations used in the literature and practitioners in the field. One of the interesting definitions using in documents of European Commission is the following: "Innovation is a change that creates and adds value, and provides a competitive advantage here and now"¹. To innovate implies a very sharp understanding of the reality, and high degree of creativity. We can create innovation by applying creativity and imagination to create, scout and find novelties which user would perceive as having added value, therefore it provide a wider, sometimes completely new market for them².

¹ The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010.

² Wolniak R.: Innovation in the context of economic situation in the EU countries. *Zeszyty Naukowe Akademii Morskiej*, nr 24, Szczecin 2010, s. 141-147; Wolniak R., Skotnicka-Zasadzień B.: The use of value stream mapping to introduction of organizational innovation in industry. *„Metalurgija”*, Vol. 53, Iss. 4, 2014, p. 709-712; Wolniak R.: Metody i narzędzia Lean Production i ich rola w kształtowaniu innowacji w przemyśle, [w:] Knosala R. (red.): *Innowacje w zarządzaniu i inżynierii produkcji*. Oficyna Wydawnicza Polskiego Towarzystwa Zarządzania Produkcją, Opole 2013, s. 524-534.

The concept and practice of business incubation was established in the advanced countries about 50 years ago³. The inventor of nowadays innovation concept J. Schumpeter, who first emphasis on the importance of innovation within the economic cycles, considered entrepreneurship with a specific emphasis on innovation. In his view, innovation deals with⁴:

- new products,
- new production methods,
- new markets,
- new form of organization.

The incubation is a process which tends to be activated whenever there is a strong need to support entrepreneurs in developing their own business⁵. The process, or parts of it, is put in place whenever there is a need of nurturing would-be entrepreneurs to think over and further develop the business idea and transforming it into a viable and sustainable activity⁶.

There are three stages of incubation:

- pre-incubation,
- incubation,
- post-incubation.

We describe those phases in the table 1 and table 2.

Table 1

The three phases of the incubation process

Phases of incubations process	Characteristic
Pre-incubation	The phase relates to the overall activities needed to support the potential entrepreneur in developing his business idea, business model and business plan, to boost the chances to arrive to an effective start-up creation. It usually implies a first assessment of the idea, training, and direct one-to-one assistance necessary to put the client in the conditions to write a fully complete business plan. University-affiliated incubators are usually pre-incubators.
Incubation	The phase concerns the support given to the entrepreneur from the start-up to the expansion phase. Typically this is a mid-term process, lasting usually for the first three years of activity of the newly established company, which are the years in which it is safe to say whether the new venture is successful and has a good chance to develop into a fully mature company. The actions activated generally are access to finance, direct coaching and mentoring services, as well as hosting services and specific training. Therefore physical incubation, although a very important service, is a subset of the overall incubation process.

³ Allahar H., Brathwaite C.: Business incubation as an instrument of innovation: the experience of South America and the Caribbean. "International Journal of Innovation", Vol. 4, No. 2, 2016, p. 71-85.

⁴ The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010; Anderson B.B., Al-Mubarak H.: The Gateway Innovation Center: exploring key elements of developing a business incubator. "World Journal of Entrepreneurship, Management and Sustainable Development", Vol. 8, Iss. 4, 2012, p. 208-216.

⁵ Xavier W.S., Martins G.S., Lima A.A.: Empowering It entrepreneurship: what's the contribution of business incubators? "Journal of Information Systems and Technology Management", No. 5, 2008, p. 433-452; Monsson Ch.K., Jørgensen S.B.: How do entrepreneurs' characteristics influence the benefits from the various elements of a business incubator? "Journal of Small Business and Enterprise Development", Vol. 23, Iss. 1, 2016, p. 224-239.

⁶ The Smart Guide to Innovation Based Incubators, European Commission. Luxembourg 2010; Chiara C.: A service incubator business model: external networking orientation. "IMP Journal", No. 3, 2015, p. 237-285.

Post-incubation	The phase relates to the activities to be carried out when the company has reached the maturity phase, and therefore is ready to walk on its own feet. It is the time when, If it has been physically incubated, the company will leave the incubator. Various services might still be needed by the SME for example to increment its sales or improve its productive processes, such as internationalization services or innovation introduction through scouting and detection activities. Incubators positioned as “post incubators” sometime rename themselves as “accelerators”.
------------------------	---

Source: Own work on basis: The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010.

According to European Commission definition an incubator is a place where the incubation activities are carried out, and where the would-be entrepreneurs can find suitable place, in terms of facilities and expertise, to address their needs and develop business ideas to transform them into sustainable realities.

An incubator may still be an incubator even if it doesn't provide physical incubation services, and concentrate on virtual incubation. Virtual incubation in that case applies to “incubators without walls” and to e-platforms of online services deployed by incubators with physical premises.

Table 2

Activities in the phases of incubation process

Phases of incubations process	Activities
Pre-incubation	Start-up creation: <ul style="list-style-type: none"> • innovation assessment, • business plan elaboration, • business modeling, • training.
Incubation	Early stage: <ul style="list-style-type: none"> • coaching and mentoring, • hosting, • training, • commercialization, • advanced business planning.
Post-incubation	Expansion: <ul style="list-style-type: none"> • innovative diagnostic, • internationalization support, • technology commercialization, • clustering, • business development.

Source: Own work on basis: The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010.

According to Business Incubator Association, critical consideration in the definition of an incubator includes the provision of the following⁷:

- management guidance,
- technical assistance and consulting tailored to young growing companies,
- access to appropriate rental space and flexible leases,

⁷ Business Incubator Model. Business Road Map 2020. Deloitte Consulting, http://www.macro-project.net/cms/uploads/bi_model_030712_for_edc.pdf.

- shared basic business services and equipment,
- technology support services,
- assistance in obtaining the financing necessary to company growth.

Academic incubators are based in universities and research centers and provide support to those business ideas which either are elaborated by students or are spin-offs of R&D activities⁸.

Very impotent term in the case of business incubators are innovation-base incubators. In this case the entrepreneur can be seen as the agent of change who's scope is to develop innovation process within the organization. He should create value from an innovative idea in a context of change and uncertainty and the market is the trigger for it to happen. Innovation-based incubators work in the intersection between the sets of innovation and entrepreneurship supporting entrepreneurs to profit from added value of innovative ideas. Innovation-based incubators support innovative business projects which could be either technologically-oriented or non-technologically oriented⁹. The differences between demand-pull innovation and technology-pull innovation there is in the table 3.

Technology incubators is a variant of more traditional business incubation schemes, assist technology-oriented entrepreneurs in the start-up and early development stage of their firms by providing workspace (on preferential and flexible terms), shared facilities and a range of business support services¹⁰.

Table 3

Activities in the phases of incubation process

Types of innovation	Characteristic
Demand-pull innovation	<ul style="list-style-type: none"> • originates from the intention to satisfy the needs expressed by the market • generates incremental innovation • usually fits into already existing markets and their environment
Technology-pull innovation	<ul style="list-style-type: none"> • originates for R&D activities and form competitive advantage provided by new technologies • generates more radical innovations • generates new markets

Source: Own work on basis: The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010.

The advantages of the business incubator are wide and wearied. The incubators have big impact on business and local communities. We can use various indicators to measure the functionality and impact of particular incubators. Those indicator can include the following¹¹:

- business creation and survival,
- business growth and markets served,

⁸ The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010.

⁹ Caiazza R.: Benchmarking of business incubators. "Benchmarking: An International Journal", Vol. 21, Iss. 6, 2014, p. 1062-1069; Calza F., Dezi L., Sciavone F., Simoni M.: The intellectual capital of business incubators. "Journal of Intellectual Capital", Vol. 15, Iss. 4, 2014, p. 597-610.

¹⁰ Technology incubators. OECD Innovation Policy Platform. OECD, 2010, <http://www.oecd.org/innovation/policyplatform/48136826.pdf>.

¹¹ Business..., op.cit.

- businesses created by minority or low-income individuals,
- cluster development,
- environmental footprint,
- financial performance,
- markets development for products and services,
- investment in client companies,
- jobs created and safeguarded,
- local economic diversification,
- regional regeneration and social inclusion,
- tax and national insurance contributions.

In Poland, the problems of entrepreneurship and especially academic entrepreneurship are new. The development of local environment for innovation and entrepreneurship also plays an important role, consisting of small and medium-sized enterprises, entities offering specialized business services, and potential customers of offered products and services. Particular importance in this respect gains a support system, including institutions, organizations and various assistance programs¹². These are science parks, technology transfer centers, technology parks and incubators of academic entrepreneurship¹³.

The network of the Academic Business Incubators in Poland is the largest network incubators in Europe, which in turn of the last years has emerged in many polish academic institution. Now in Poland there is located the network of 48 incubators at universities located through the whole country. Incubators have released on the market more than 5000 companies so far, more than 1600 companies operates currently in polish Academic Business Incubators¹⁴.

Functioning within the framework of the Academic Business Incubators allows organization to obtain various types of support, including¹⁵:

- the right to use the trademark of the Academic Business Incubator,
- assistance in promotion and advertising, with the help of marketing agencies,
- organization of business meetings and assistance in finding business partners,
- organization of conferences, trade fairs to promote companies in the ABI.

¹² Siemieniuk Ł.: Academic Business Incubators as an institutional form of academic entrepreneurship development on Poland. Institute of Economic Workings Papers, Toruń 2015.

¹³ Rudowicz E.: Akademycki inkubator przedsiębiorczości w SGGW. "Agricola. Pismo SGGW", nr 62, Warszawa 2005; Ochwat T.: Model wsparcia i koordynacji współpracy pomiędzy biznesem a sektorem nauki, realizowany przez Śląski Park Przemysłowo-Technologiczny i Rudzki Inkubator Przedsiębiorczości. Prace Naukowe. Uniwersytet Ekonomiczny, t. Projekty lokalne i regionalne – współpraca: nauka – biznes – samorząd. Przykłady i studia przypadków. Katowice 2013, s. 85-98; Jankiewicz S.: Pre-inkubator studencki jako instrument rozwoju przedsiębiorczości oraz wzrostu konkurencyjności gospodarki polskiej. Prace i Materiały Wydziału Zarządzania Uniwersytetu Gdańskiego", nr 2, 2006, s. 199-208.

¹⁴ Internal materials of Career Services Centre of the University of Białystok, Białystok 2014.

¹⁵ Siemieniuk Ł.: op.cit.

3. Organizational Model of the Business Incubator Center in Gliwice

TECHNOPARK GLIWICE was established in 2004 by three partners, city of Gliwice, Politechnika Śląska and “Specjalna Strefa Ekonomiczna”. The main objective of the TECHNOPARK is to assist in the creation, development and promotion of modern high-tech enterprises. TECHNOPARK is also assisting in transferring innovative technologies from Politechnika Śląska and other research institutions to small and mid-size enterprises.

Another goal of TECHNOPARK is also to assist students, graduates and faculty from Politechnika Śląska in implementing their business ventures. TECHNOPARK GLIWICE is located in a modern facility in close proximity from Politechnika Śląska. The personnel of TECHNOPARK GLIWICE is offering very specialized training and mentoring programs for future entrepreneurs. TECHNOPARK GLIWICE maintains ongoing cooperation with institutions of higher education as well as different research and development companies. TECHNOPARK GLIWICE is trying to encourage undergraduate, graduate and PhD students to develop their own business ventures. Presently there are 16 companies in the TECHNOPARK GLIWICE facility. The model of operation of TECHNOPARK GLIWICE is shown in Figure 1.

TECHNOPARK GLIWICE is operating an ”in house” business incubator center to assist companies in the beginning stage of operation. To become a tenant and use the services of the business incubator center, the company needs to be accepted and sign a contract with TECHNOPARK GLIWICE. The procedure for admission as a new tenant is as follows¹⁶:

- Company must fill out an application.
- Application is reviewed by two independent reviewer appointed by TECHNOPARK GLIWICE.
- The company must development of a detailed business plan.
- Business plan is reviewed by reviewers appointed by TECHNOPARK GLIWICE.
- Assessment of the company needs and matching of the company needs with the resources of the business incubator center is done.
- TECHNOPARK GLIWICE provides a decision of acceptance.
- A contract is negotiated.
- A contract is signed.

There is also the opportunity to join a “virtual incubator” which allows the client to register a company using the address of TECHNOPARK GLIWICE without having to lease a physical space.

¹⁶ Internal materials of TECHNOPARK GLIWICE. Gliwice 2016.

All employees at the business incubator center have participated in internships at other incubators in order to gain experience and learn effective practices in assisting start-up companies.

The business incubator, TECHNOPARK GLIWICE, does not have a standardized detailed procedure for providing assistance to start-up companies. The procedure and method of assistance to start-up companies varies dynamically and is adjusted to the client company's needs. TECHNOPARK GLIWICE assists companies at the beginning/incubation stage. It does not provide any assistance to companies in the post-incubation stage. The companies in the post-incubation stage can stay in TECHNOPARK GLIWICE by paying full rent, or by becoming a partner of TECHNOPARK GLIWICE. At the present time, there are six companies in the post-incubation stage which have become partners of TECHNOPARK GLIWICE.

The incubation stage is usually three years. However, the timeframe is flexible and can be adjusted by a lease agreement between the client company and the business incubator center. During the first year in the business incubator center, the client company is receiving the biggest discount on rent and other services. During the second and third years, the discount is getting smaller. TECHNOPARK GLIWICE is periodically receiving funding to lower the cost of the rent.

There is no established procedure or model of cooperation between TECHNOPARK GLIWICE and a university. Cooperation between companies in TECHNOPARK GLIWICE and a university is initiated by the company as needed and as fit. Walk-in clients with an idea for a new business can register at the business incubator center. It is the inventor's responsibility to develop a detailed business plan and conduct a market analysis for the product or service. TECHNOPARK GLIWICE does not assist clients in either the preparation of a business plan or market analysis. The inventor is required to present a business plan to the personnel of the business incubator center. During that presentation, the personnel of TECHNOPARK GLIWICE ask questions. Those questions are usually focusing on the risks and threats that the inventor should consider and expect. At the meeting, the sources of funding for the development and implementation of the invention are also being discussed.

TECHNOPARK uses its own internal funds while assisting the clients. Akcelerator Technologiczny Gliwice is providing seed-funding for supporting innovative projects in their early stage of development (proof of principle and proof of concept). That early stage of development is normally associated with the largest risk.

The purpose of funding from Akcelerator Technologiczny Gliwice is risk mitigation. After lowering the risk, private funding is more likely to become available. Akcelerator Technologiczny Gliwice is equally supporting all inventors, including universities, research and development institutions and individual investors. The amount of funding can be up to 750 000 zł. After funds are accepted, Akcelerator Technologiczny Gliwice is becoming a partner and can own up to 35% of the company's shares.

As needed, additional funds can be secured from Polish or European Union (EU) funds and private funds for example, Akcelerator Przedsiębiorczości Akademickiej Santander Universidades. Akcelerator Przedsiębiorczości Akademickiej Santander Universidades will pay stipends to graduate and Ph.D. students for up to three years after graduation. Stipends will also be available to faculty. They will allow the Ph.D. graduates and faculty to continue working on the implementation of innovative technologies.

TECHNOPARK GLIWICE is also assisting inventors in identifying investors in both the Polish and international markets. The business incubator center is also assisting the inventors in preparing an effective presentation to potential investors, that is, the development of soft skills for selling the invention to investors. The TECHNOPARK GLIWICE is also conducting training workshops which focus on identifying funds to pursue entrepreneurial ventures. Those workshops are offered on an ongoing basis, every two to three months. The tenant companies in TECHNOPARK GLIWICE have the opportunity to showcase their invention at different national and international science and industry fairs.

The tenant company in the business incubator center in Gliwice, Poland (TECHNOPARK) can request assistance from faculty and students from Politechnika Śląska. There is an ongoing coordination between TECHNOPARK and Politechnika Śląska. Students and faculty provide assistance to companies in TECHNOPARK during the incubation stage. Engineering students have completed many projects as part of the capstone design project. Those projects were supervised by faculty at Politechnika Śląska. This is not a structured or coordinated involvement.

Individual faculty members are providing assistance to companies during the incubation stage. However, there is a lack of coordination between those projects.

4. Model of Financing of the Business Incubator Center in Gliwice

There are a number of different sources of funding available to support the economic development of the Silesia region. Those are the profit from TECHNOPARK as well as subsidies for economic development from Polish and EU sources as follows.

A) Seed funds from “Akcelerator Technologiczny Gliwice” working in cooperation with National Center for Research and Development.

Seed funds are available for companies in early development stage (proof of principal and proof of concept). The purpose of the funds is to support analytical analysis of the invention, analysis of the proposed technology, building a prototype, market analysis, cost of protecting intellectual properties and additional testing, if needed. If verification of the invention is positive the “Akcelerator Technologiczny Gliwice” can purchase up to 35% of the company

shares (up to 750 000 zł). Then the company becomes a partner of the TECHNOPARK. The funds are available to sponsor innovative projects in the following areas¹⁷:

- Electronics.
- Mechatronics.
- Electrical, Mechanical and Material Engineering.
- Nanotechnology.
- Composites.
- Machine Design.
- Environmental Engineering.
- Recycling.

This funding is very competitive. After reviewing approximately 100 proposals, 15 proposals are selected for future financial support.

B) Funding from “Bridge Alpha” sponsored by National Center for Research and Development

Funding is available for commercialization of research projects. The funding can also cosponsor research promoting economic growth.

C) Project “Akcelerator Przedsiębiorczości Akademickiej Santrander Universitates”

Akcelerator Przedsiębiorczości Akademickiej provided fund for current undergraduate, graduate, and PhD students as well as faculty. The funds can provide a stipend for conducting research, attending national and international conferences, and other forms of professional development. “Akcelerator Przedsiębiorczości Akademickiej” is a joint venture between 3 partners: Politechnika Śląska, Western Bank [WBK], and TECHNOPARK GLIWICE. The goal of the projects is to support innovative projects and ideas all the way to full commercialization.

5. Conclusion

The TECHNOPARK GLIWICE was established in 2004 to develop modern enterprises innovative and high-tech. The incubator was created according to state of the art in the field. Also the purpose of the incubator is to assist students, graduated from Politechnika Śląska to open and improve their business. The TECHNOPARK GLIWICE is operating as an “in house” incubator and assist organizations in the pre-incubation and incubation stage to develop their activities. One of the main problems with the incubator is that there is no procedure or model of cooperation between incubator and university. As a result potential of

¹⁷ Ibidem.

the incubator is not fully used, also students participate too little in the process of development of incubator and their organization.

Bibliography

1. Allahar H., Brathwaite C.: Business incubation as an instrument of innovation: the experience of South America and the Caribbean. "International Journal of Innovation", Vol. 4, No. 2, 2016.
2. Anderson B.B., Al-Mubarak H.: The Gateway Innovation Center: exploring key elements of developing a business incubator. "World Journal of Entrepreneurship, Management and Sustainable Development", Vol. 8, Iss. 4, 2012.
3. Bratnicki M., Sikorka K., Austen A.: Organizacja przyszłości jako inkubator i akcelerator przedsiębiorczości. „Inżynieria Maszyn”, z. 2, 2002.
4. Business Incubator Model. Business Road Map 2020. Deloitte Consulting, http://www.macro-project.net/cms/uploads/bi_model_030712_for_edc.pdf.
5. Caiazza R.: Benchmarking of business incubators. "Benchmarking: An International Journal", Vol. 21, Iss. 6, 2014.
6. Calza F., Dezi L., Sciavone F., Simoni M.: The intellectual capital of business incubators. "Journal of Intellectual Capital", Vol. 15, Iss. 4, 2014.
7. Chiara C.: A service incubator business model: external networking orientation. "IMP Journal", No. 3, 2015.
8. Internal materials of Career Services Centre of the University of Białystok. Białystok 2014.
9. Internal materials of TECHNOPARK GLIWICE. Gliwice 2016.
10. Jankiewicz S.: Pre-inkubator studencki jako instrument rozwoju przedsiębiorczości oraz wzrostu konkurencyjności gospodarki polskiej. Prace i Materiały Wydziału Zarządzania Uniwersytetu Gdańskiego", nr 2, 2006.
11. Monsson Ch.K., Jørgensen S.B.: How do entrepreneurs' characteristics influence the benefits from the various elements of a business incubator? "Journal of Small Business and Enterprise Development", Vol. 23, Iss. 1, 2016.
12. Ochwat T.: Model wsparcia i koordynacji współpracy pomiędzy biznesem a sektorem nauki, realizowany przez Śląski Park Przemysłowo-Technologiczny i Rudzki Inkubator Przedsiębiorczości. Prace Naukowe. Uniwersytet Ekonomiczny, t. Projekty lokalne i regionalne – współpraca: nauka – biznes – samorząd. Przykłady i studia przypadków. Katowice 2013.
13. Rudowicz E.: Akademicki inkubator przedsiębiorczości w SGGW. „Agricola. Pismo SGGW”, nr 62, Warszawa 2005.

14. Siemieniuk Ł.: Academic Business Incubators as an institutional form of academic entrepreneurship development on Poland. Institute of Economic Workings Papers, Toruń 2015.
15. Technology incubators. OECD Innovation Policy Platform. OECD, 2010, <http://www.oecd.org/innovation/policyplatform/48136826.pdf>.
16. The Smart Guide to Innovation Based Incubators. European Commission, Luxembourg 2010.
17. Wolniak R., Skotnicka-Zasadzień B.: The use of value stream mapping to introduction of organizational innovation in industry. „Metalurgija”, Vol 53., Iss. 4, 2014.
18. Wolniak R.: Innovation in the context of economic situation in the EU countries. Zeszyty Naukowe Akademii Morskiej, nr 24, Szczecin 2010.
19. Wolniak R.: Metody i narzędzia Lean Production i ich rola w kształtowaniu innowacji w przemyśle, [w:] Knosala R. (red.): Innowacje w zarządzaniu i inżynierii produkcji. Oficyna Wydawnicza Polskiego Towarzystwa Zarządzania Produkcją, Opole 2013.
20. Xavier W.S., Martins G.S., Lima A.A.: Empowering It entrepreneurship: what's the contribution of business incubators? “Journal of Information Systems and Technology Management”, No. 5, 2008.