



I INTERNATIONAL STRATEGIES OF BUSINESS INCUBATION: THE USA, GERMANY AND RUSSIA

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ABSTRACT

In this paper, we examine strategies of business incubation in the following countries: the USA, Germany, and Russia using both a comparative theoretical analysis of different performance criteria of business incubators and interviewing experts who work directly with startup companies. We find that there are more differences than similarities between the strategies of business incubation in these countries. The USA prove to be far ahead of Germany and especially Russia in supporting start-ups. The study might impact a business practice in the way of clarifying the most significant characteristics and general trends of business incubation strategies in the countries mentioned to take them into account in the process of launching and developing startup companies in one or another country.

Keywords: Incubators; Entrepreneurship; Start-ups; Acceleration program; Investments.

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ESTRATÉGIAS INTERNACIONAIS DE INCUBAÇÃO DE NEGÓCIOS NOS EUA, ALEMANHA E RÚSSIA

RESUMO

Neste artigo, analisamos as estratégias de incubação de empresas nos seguintes países: EUA, Alemanha e Rússia, usando uma análise teórica comparativa de diferentes critérios de desempenho de incubadoras de empresas e entrevistas com especialistas que trabalham diretamente com as Startups. Constatamos que há mais diferenças do que semelhanças entre as estratégias de incubação de empresas nesses países. Os EUA mostram-se muito à frente da Alemanha e especialmente da Rússia no apoio às novas empresas. O estudo pode impactar uma prática de negócios na forma de esclarecer as características mais significativas e tendências gerais de estratégias de incubação de negócios nos países mencionados para tê-los em conta no processo de lançamento e desenvolvimento de empresas Startups em um ou outro país.

Palavras-chave: Incubadoras; Empreendedorismo; Startups; Programa de Aceleração; Investimentos.

INTRODUCTION

Nowadays more and more startup companies seem to be emerging every day, but only a few of them manage to survive and make millions. Recent studies have shown that entrepreneurs who got their start at business incubators have a higher success rate, on average, than their competitors who go it alone (Amezcuca, 2010). The National Business Incubation Association (NBIA, 2011) states that 87 percent of the firms that have graduated from the incubators are still in business, which is pretty satisfying considering that 9 out of 10 startups usually fail. The general business problem is that every startup company is in need of particular kind of support from a business incubator. The specific business problem is that strategies of business incubation vary from one country to another and are different in the USA, Germany, and Russia. This article is aimed to examine the strategies of business incubation in the following countries: the USA, Germany, and Russia.

METHODOLOGY

As far as a research method is concerned, a qualitative one was chosen. The nature of the topic dictates the use of both a comparative theoretical analysis of different performance criteria of business incubators and interviewing experts who work directly with startup companies to get some opinion at first-hand. Previous studies on the topic and recent annual reports on the activity of well-known incubators in the USA, Germany, and Russia will be explored to define criteria for comparison of business incubators.

Study population, as was mentioned above, includes experts who are familiar with the startup companies and the differences in their performance in the specified countries. They can be men and women at the age of 25-60 that had experience of launching their own startup in some business incubator in the USA, Germany, and Russia or working in such incubators as mentors and experts. As for the type of sampling, nonprobability convenience sampling suits the best. The subjects are selected because they are easy to recruit for the study, and the researcher does not consider testing

the entire population. A priority in selection will be given to those experts who have theoretical and practical knowledge of specifics of incubators' activity in different countries. Although this sampling technique is criticized for possible sampling bias, this would not affect the following study because the researcher seeks for subjective personal opinions on the results of the comparative study. One inclusion criterion of the survey population is the accessibility of experts, so the geographic location of study is limited to Russia and the United States of America.

THEORETICAL BACKGROUNDS AND PROPOSITIONS

Definition of the Business Incubator

As the field of supporting startup companies and entrepreneurship and creating different institutions to reach this goal has been quickly expanding over the last decades, there is still no one standard and commonly accepted definition of business incubation or business incubator. Existing academic literature on the topic contains more than 30 definitions of the term adopted by industry associations and scholars in different countries, 'reflecting local cultures and national policies' (Bruneel et al, 2012). One should clearly understand that several reasons lead to the needlessness of creating one standard definition of this term: 1) the concept is constantly evolving (at least three stages of evolution could be mentioned); 2) it can be treated by different countries, societies and individuals in different ways; 3) a certain level of incomprehension can be reached by the fact that practitioners and academics consider the terms of 'business incubation' and 'business incubator' to be interchangeable, although they differ in their aims and origins.

One of the first definitions of business incubator that was given in the workshop 'Best Practices in Incubator Infrastructure and Innovation Support' (Helsinki, 1998) was defined as 'a place where newly created firms are concentrated in a limited space and which is aimed at improving the chance of growth and rate of survival of these enterprises by providing them a modular building equipped with all the necessary utilities (telephone, fax, computer) as well

as with managerial support and backup services'. Most of the first definitions considered a business incubator as a physical place for startups with attributes.

An alternative definition that is more widespread when referring to business incubators highlights other services offered by them. It was suggested by the US National Business Incubation Association (NBIA): 'Business incubation is a business support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with a set of targeted resources and services. These services are usually developed by incubator management and include the provision of management guidance, technical assistance and consulting tailored to young growing companies' (NBIA, 2011).

In the context of the present study a definition adopted by UKBI (United Kingdom Business Incubation) and German ABT will be used. It emphasizes the most important aspects of business incubation such as entrepreneur training, mentoring and visibility: business incubation is interpreted as a dynamic business development process which helps to reduce the failure rate of early stage companies and speed their growth. Thus, a business incubator is usually a property with small work units that provide an entrepreneurial and learning development, ready access to mentors and investors and visibility in the markets.

Criteria of Effectiveness of Business Incubators

The discrepancies in the definition of the business incubator and diversity of existing classifications of them contribute to the lack of the generally accepted list of appropriate criteria and indicators to measure business incubator's performance. The question of evaluating the effectiveness of business incubators has become quite significant to the scholars and practitioners for the last few decades.

Previous research has focused primarily on identifying suitable criteria that could be easily measured for each business incubator such as occupancy, jobs created and firms graduated (Allen and McCluskey, 1990); tenant revenues, number of patent applications per firm and number of discontinued businesses in comparison between

different types of incubators in the US (Philips, 2002). Mian (1997) was probably the first one who added management policies and their effectiveness as well as services and their value to the list of 'ordinary' outcomes. Chan and Lau (2005) extended the list by including assessment criteria of pooling and sharing resources, clustering (development of a pool of skill labor, externalities from logistics arrangement) and costing (existence of subsidies related to cost reduction). These are only a few examples of attempts made to propose the universal list of outcome criteria.

Perhaps the most comprehensive set of criteria was provided by Smilor (1987), who introduced ten factors essential to the efficient management of the incubator system. 1) On-site business expertise, 2) access to financing and capitalization, 3) in-kind financial support, 4) perception of success, 5) selection process for tenants, 6) concise program milestones with clear policies and procedures are factors related to the incubator itself, and 7) community support, 8) entrepreneurial network, 9) entrepreneurial education, 10) tie to the university are the ones that concern the business community in general. It is obvious that to be successful, the business incubator should not necessarily incorporate each of these factors. However, there exists a direct correlation between the successful development of the incubator and tenant companies' and the extent to which each of these factors is consciously implemented by the management of the business incubator. As the following paper is aimed at describing and comparing the performance of business incubators in different countries, we elaborate on some criteria of their effectiveness.

- **Selection process for tenants**

A significant number of scholars state that selection criteria are among the most important features of business incubators (Smilor, 1987; J. R. Lumpkin & Ireland, 1988; Aerts, Matthyssens, & Vandenbempt, 2007). Evidence shows that if a business incubator wants to build successful companies, it must have a carefully developed selection process through which it evaluates, recommends and selects tenant firms. However, a question of criteria to assess the worthiness of the potential tenants arises inevitably.

Smilor (1987) proposed the list of criteria for tenant company selection which includes the ability to create jobs, pay operating expenses, present a written business plan, have a unique opportunity, be a start-up company, be locally owned, have fast-growth potential, and be high technology related. Some of these criteria still seem to be quite general and subjective (for example, the wrong choice might be made when assessing the growth potential of the tenant firm at a particular point in time). Other characteristics of start-up companies that are typically taken into consideration in the selection process were defined by Aerts and colleagues (Aerts, Matthyssens & Vandenbempt, 2007). They are financial ratios (liquidity, profitability), personal traits of the management team (skills, experience) and market factors (business plan, innovativeness of product or service).

Most incubators have already established their own process by which they review firms and approve them for admission into the facility. Usually, it is the incubator manager or a selection committee who is involved in the review process. In some cases, the board of directors becomes engaged as well. As for the admission into the incubator, it often requires a decision by the board or by the incubator manager that could take responsibility for the choice of tenants.

To conclude, unless there is some set of selection criteria, there is no frame of reference for judging whether a company is on or off track and no proper way to decide whether it may need additional resources or the incubator needs to 'pull the plug' on this start-up. Of course, there are exceptions to all selection criteria. But the point is the clearer and the more developed the set of selection criteria, the greater the likelihood of admitting companies that can be successful.

- **Access to Financing and Capitalization**

Everyone knows that capital is the lifeblood of emerging companies. Thus, it is not a surprise that access to working capital financing and equity and debt capitalization were defined as the second most important types of consulting services for tenant companies. In order of priority, this access included evaluation of financial options, access to loans and

grants, loan packaging, and introduction to venture capital institutions and venture capitalists.

Due to a large variety and complexity of financing alternatives in today's business environment, fledgling companies sometimes need assistance in considering these options and choosing the most suitable ones.

An understanding of what might be lost and gained through any particular financial option is one of the most important aspects of launching and developing a new company. Commercial banking, investment banking, Small Business Administration support and private investors all represent different advantages and disadvantages which should be identified and evaluated by a management team of the start-up. This process involves consideration of both technical and financial dimensions of each alternative and, more important, of the attitudes, perspectives and concerns (the mindset) of people or institutions that provide funds to the new company.

Many emerging companies seek for personal loans and government grants to finance early stages of their development. Some incubators try to provide access to "the right person" - individuals, institutions and agencies that provide loans and grants. Apart from traditional funding mechanisms like banks, there are also other sources as the Federal Small Business Innovation Research program and key individuals or "angels" in the community. However, entrepreneurs with the lack of experience are likely to face some problems when packaging a loan or applying for a grant. Such type of help could serve as a useful service provided by a business incubator to tenant companies.

Finally, one more dimension of a business incubator's activity is worth noting. Most incubators think it is important to introduce tenant companies to the venture capital industry. Consequently, they try to provide a vital link to the venture capital community by focusing early attention on tenants, by making introductions as the start-up company proves itself in the marketplace and especially by teaching the venture capital process and the mindset of the investors to the entrepreneurs. Furthermore, as the venture capitalists are usually reluctant to making investments in the fledgling companies, incubators can be a source of providing access to seed capital (which is the hardest type of funding to generate) for start-ups.

- **Entrepreneurial Network**

Being a dynamic process, entrepreneurship necessarily requires links or relationships not only among and between individuals but also among and between a variety of institutions. The strength, complexity, and diversity of the web of relationships

and the possibility of having access to plenty of opportunities influence the chances of success for a new venture directly.

An entrepreneurial network can provide links and relationships that can promote and sustain new ventures in an incubator. Different types of help and support which can be received via networking are described in Table 1.

Table 1. Types of help and support provided via networking.

University	Business and research centers, continuing business education (especially in management and marketing skills), a base for research and development
Major firms	Key credibility to emerging companies as customers, sources of spin-off opportunities
Emerging firms	A tier of peer support, critical help in peer organizations, links with and through suppliers and customers
Professional support	Networks to accountants, lawyers, and financiers
State and local government	Incentives, direct aid, access to contracts, response to the creative pressures of emerging business interest groups
Other support	Key individuals, consultants, workshops, business education programs, social and civic groups

Source: Authors.

We discussed several approaches for defining the universal list of criteria of effectiveness of business incubators. Although most of the proposed theories have their uses and are valuable when implemented in the right context, one should choose them with care given the goals of the studied incubator. Even if a generally accepted set of evaluation criteria existed, it would be hardly possible or meaningful to attach adequate target values for specific indicators to compare business incubators. Nevertheless, modern business environment and market competition dictate the use of not only cold statistics on business incubators such as survival rate, the number of tenants, jobs created and so on, but also specialized qualitative features, for example, networking or educational opportunities, to make the process of performance evaluation more objective and credible.

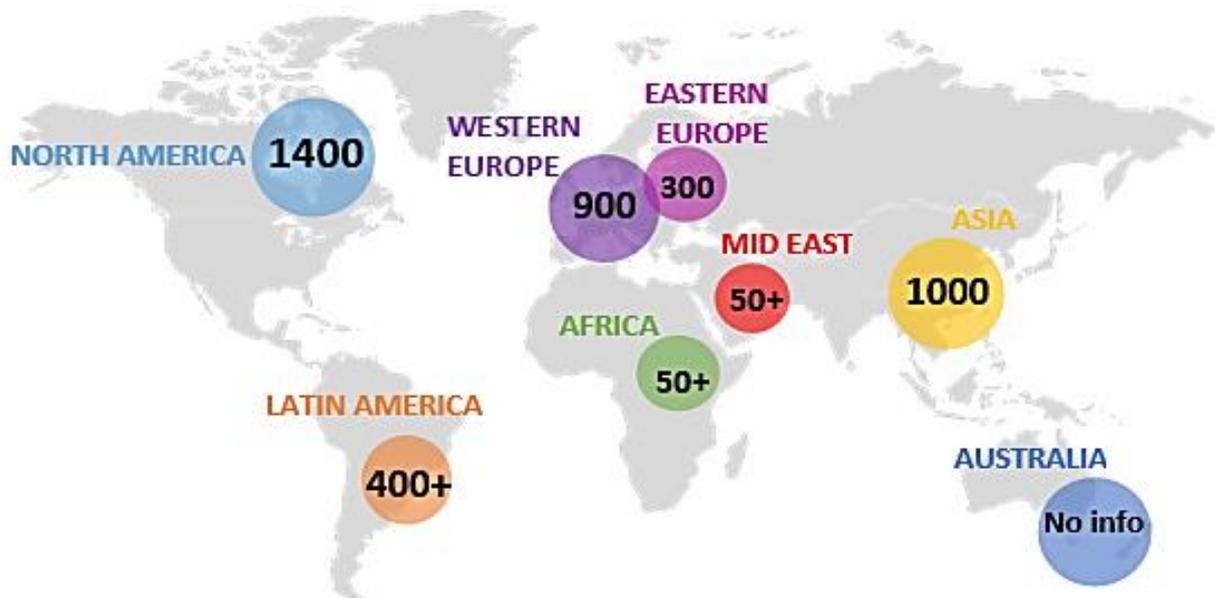
EMPIRICAL STUDY

Business Incubators in Different Countries: Past and Present

According to the recent data (NBIA, 2013), there are currently about 7000 business incubators worldwide. The significant increase in the amount of business incubators took place over the last few decades. The aims and the concept of an incubator had changed from the first generation of business incubators which offered mostly affordable office space and shared resources to the second generation when incubators started to provide additional business support services such as training, coaching, mentoring and so on, by 1985. Later the third generation of incubators took its place with the main value of networking (Bruneel, J. et al., 2012).

However, the numerous surveys still cannot provide precise information about the distribution of business incubators across the world. Figure 1 provides a rough estimation of the number of business incubators in North America, Latin America, Western and Eastern Europe, Asia, Africa and the Middle East.

Figure 1. Distribution of Business Incubators in Different Countries



Source: NBIA (2006).

As already mentioned, three countries were selected for this comparative study. The United States has the oldest and largest incubation system in the world and shapes the global approach to the business incubation. The Europe's largest business incubator association is presented in Germany, where the pronounced features of incubators are the focus on high-tech tenant companies and the close link they have with universities and R&D institutes. The choice of Russia in the study is based on the fact that it has a huge potential in the industry, and it would be useful to make conclusions whether international strategies of business incubation could be applied to the Russian incubators. The following sections include a detailed discussion of business incubation strategies in each country.

- **USA**

In many ways, the U.S. has been a pioneer in the industry of business incubation. The first business incubator in the world was established in 1959 in Batavia, New York. Then incubators have grown rapidly in numbers, from less than 100 in 1980 to about 1250 in 2013 (NBIA, 2013). Several key aspects of the approach to business incubation in North America are described below.

US incubation programs usually emerge as local initiatives by economic development agencies. Main reported motivations for establishing such programs are creating local jobs (84%), fostering entrepreneurship climate (77%), commercializing technology (54%), building/accelerating local industry growth (48%), encouraging minority or women entrepreneurship (30%) and others (State of the Business Incubation Industry, 2006).

The service mix provided by business incubators in the USA is highly dependent on the strategic goals of their sponsors and the type of existing incubator model. For example, community-based incubators tend to offer basic, tangible services as far as their tenant mix includes businesses from various industries. University-affiliated incubators are aimed at technology transfer and commercialization and support tenant firms with the help of the resources and the networks of their parent universities. These incubators also focus on the consulting and networking dimensions to a larger extent since faculty may be considered as a rich source of expertise. As for the corporate incubators, they typically use the technology and strategy of the parent firms to develop the fledgling companies housed in their incubator and provide them with

targeted assistance. The last ones are specialized incubators where tenant companies have an opportunity to improve particular areas of their performance by getting the most out of the locational or resource specific incubator's advantages. Generally speaking, incubators in the United States have been moving steadily towards offering their tenant companies more valuable and needed services, such as networking, educational assistance, and others, to meet the demands of the modern business environment (Chandra & Fealey, 2009). However, all these benefits are not the only key to success of the start-up companies as the reality kicks in with the need of financial resources to grow up an enterprise, especially during the early stages of development.

Incubators in the United States manage to provide a wide range of financial services to their tenants. Firstly, these services include assistance in preparing a set of documents to secure grants from a variety of government agencies (nowadays, about 70% of business incubators in the U. S. receive grants and subsidies from the government) or developing a proper business plan to prove credible financial projections when securing bank loans. A network of relationships that the incubator has with banks or other service providers also helps facilitate the funding process for the enterprise by providing some added credibility. Secondly, in the later stages of the venture's life cycle, it is more common for the incubators to connect start-up companies with angel investors and venture capitalists who may fill the growth capital gap. Once the enterprise reaches profitable maturity, it has several exit options such as an IPO or acquisition. What is more, some incubators in the United States have seed funds that invest directly in the incubated firms and expect to realize gains upon the success of the start-up company. However, this type of direct financial participation has yet to take root.

Lastly, as one of the factors affecting business incubation in the USA, the role of government is worth noting. The government is involved in the activity of business incubators at federal, state and local levels. State governments play a crucial role in supporting incubators as they make legislative changes concerning economic development that are designed to support incubators in many of the States, whereas local and federal levels fulfill the secondary role in incubator sponsorship.

- **Germany**

In Germany, business incubators started to emerge much later than in other countries. The reason was that the policy at the municipal level began to develop only in the 80s due to the limited influence of the local authorities. However, a major restructuring of the industry research sector led Germany to become a leader of the incubator movement in the last 15 years.

The first business incubator in Germany was established in 1983 on the initiative of the Technical University of Berlin. Soon, business incubators appeared in other cities, where the initiators were mainly the power structures of the city and the regional offices of the Chamber of Commerce or banks. Later, the unification of Germany in 1990 triggered the development of incubators in the country: an average of 18 new incubators were created each year over the period 1992-2000, mostly in the former East Germany. Nowadays, every second incubator plans to expand its capacity (Gamidullaeva, 2013).

The main institution that has a great impact on the business environment in Germany is German Association of Innovation, Technology and Business Incubators Centers (ADT). It estimates that today there are over 300 innovation centers and business incubators in the country. Their aims can be summarized to the following ones: support fledgling companies focused on the 'spheres of the future' – high technologies and modern services; help unemployed people foster entrepreneurship; support technology transfer by promoting spin-offs and facilitate the regional economic development contributing to the growth of the neglected areas. Taking into account these objectives, one might not be surprised to get to know that most of the German business incubators are non-profit centers. To confirm all the above, we should state that technology-oriented start-up companies account for 77% of all companies in business incubators in Germany (Gross, 1997).

As far as the role of government is concerned, it is worth mentioning that the regional agencies are totally involved in the business incubation process whereas the participation at the federal level is quite limited. In fact, performance of every third German incubator is the result of close cooperation between the actors of the regional development policies.

Furthermore, such actors take part in funding the incubators by providing municipal bank savings and subsidies from the cities where the incubator is located. The study conducted in Western Germany found that only 38% of the incubators were able to cover their expenses with their own financial resources (income from leases, provision of services, project promotion), 40% received ordinary subsidies and 22% - structural subsidies (Gamidullaeva, 2013). The participation of the private banks is not very significant if compared to the primary source of funding.

To sum up, official statistics show that the survival rate of the start-ups nurtured in German incubators is still not satisfying (ADT, 2013). Therefore, Germany needs to increase the rate at which new companies are created, reduce the number of them being bankrupted as well as ensure that they achieve long-term stability.

- **Russia**

The history of business incubation in Russia dates back a little over 20 years. As in many other countries, incubators began to emerge during the crisis when active institutional changes took place. First business incubators in form of Innovation and Technology Centers (ITCs) exist in Russia since 1996 in close cooperation with universities. Their main focus was on technology development rather than on commercialization.

Currently, there are more than 150 business incubators in Russia, 58% of them are state-owned, 32% have municipal and mixed ownership, and only 9% are private. The composition of the tenant companies varies within different regions, but, on average, the residents are mostly manufacturing companies – 74%, 46% of incubatees are R&D companies and almost 60% provide services related to information technologies (Ernst & Young, 2014).

What kind of services is more appreciated by the tenants of Russian business incubators? Researchers in Europe conducted a comprehensive survey with the tenant companies from several business incubators in Finland, Hungary and Russia to study the role of an incubator in boosting innovativeness and supporting start-ups from the first hand (Deák & Podmetina, 2012). They found that the main reasons for Russian fledgling firms to come to incubators were the use of consultancy and mentoring services, access to the working space (offices) and assistance

with finding investors. However, a lot of incubators, especially ones with the focus on technological start-ups, still face the problems of forming the service mix that would tap the market niche of the incubatees as well as of being embedded in the Russian national innovation system. To solve these problems, regional power structures help such incubators build connections with scientific organizations and universities.

Another one important challenge for the small businesses is again the search for financial resources. Not every Russian business incubator is able to fully take the responsibility to address this issue. Public funds do not often provide grants and banks do not give out loans to the new firms with no reputation and credit history. That is why, the most effective way to deal with the problem under these circumstances turned out to be two Western schemes – leasing and credit unions. They have been used in Russia in the framework of the projects for business incubators establishment funded by Western institutions.

Russian government has made considerable efforts to support business incubators lately. Talking about the prospects of the state support of small businesses, including the programs of business incubation development, it should be noted that further increase of funding levels for such programs from the federal budget depends on the completeness of the following tasks: 1) expansion of the types and forms of support aimed primarily at ensuring easy start of the business and further stable growth in both domestic and global markets; 2) improvement of the efficiency of ongoing support programs by identifying and monitoring the achievement of target indicators, both qualitative and quantitative (Ivaschenko & Fedorova, 2011). Meanwhile, the priority in receiving support from the government must be given to the target groups of entrepreneurs - beginners, high-growth, innovative and export-oriented companies. Moreover, to facilitate the process, a network of support organizations was created in Russia over the last few years, including GGRP (State Committee for the Support and Development of Small Business), Chambers of Commerce, institutions funded by USAID (U. S. Agency for International Development, business training centers (Morozov Project) and others (Samsonova, 2012).

Comparison of Strategies of Business Incubation in these Countries

After highlighting the incubation landscapes in the United States, Germany and Russia, we are moving to studying the similarities and differences in strategies of business incubation between the three countries. In order to compare incubators operating in these countries, key dimensions derived from the description above were selected. They include:

strategic focus of the incubators in general, type of the incubator funding and sponsorship, service mix with an emphasis on financial services along with key environmental and contextual influences, a variety of industries that incubatees represent in business incubators. In addition, the role of government and its impact on the approach to incubation as well as policy implications are discussed. **Table 2 summarizes** the results of the research with short extracts related to the dimensions for each country: the USA, Germany and Russia.

Table 2. Comparison of US, German and Russian Incubators along key dimensions

	USA	GERMANY	RUSSIA
Strategic Focus	Economic development, tech transfer, and commercialization, job creation	Fostering entrepreneurship with high-tech focus, technology transfer, economic development	Technology development, fostering entrepreneurship, job creation
Sponsorship / Incubator Funding	Multiple levels of govt., economic development organizations, private funding	Regional and municipal power structures, participation at the federal level is limited	Govt. and universities are predominant funding sources for incubators and incubatees
Type of Incubatee Business	Mixed, high-tech, specialized	Mostly high-tech, specialized, mixed	Manufacturing, IT, high-tech, mixed
Service Mix	Value adding, tangible and specialized services	Both hard and soft services	Mostly tangible as well as mentoring services and networking
Financial Services	Provides links to sources of financing with a few investing directly in incubatees	Links to various sources of govt. grants, bank loans, and some VC funding	Difficult to receive grants and bank loans: leasing and credit unions. Rare cases of direct investment in tenants
Role of Government	Low-supportive, but not dictatorial	Visible, especially in funding	Supportive, synergistic approach

Source: Authors.

As we can see, business incubators in these countries are similar in some aspects and differ in others. The strategic focus of the incubators varied a lot throughout their history in each country, but nowadays they are all mostly aimed at technology transfer, fostering entrepreneurship and economic development. Speaking about levels of sponsorship, it can be stated that the government plays a predominant role in incubator funding in three countries. Though, in comparison with Germany and Russia, in the USA start-up companies are also well supported by private funds, business angels and venture capitalists.

The type of tenant businesses and industries they operate in is also a subject to discuss. A large and developed network of business incubation programs and supporting organizations in the U. S. attracts a lot of fledgling and small companies to use their services and assistance. This leads to a mixed population of tenants in American business incubators. At the same time, in Germany the majority of residents are high tech companies and in Russia they are mostly manufacturing, IT or technological businesses. The structure of tenant mix influences the set of services that incubators are ready to provide, that is why it is quite different in these countries.

The last but not the least is the role that the government of each country plays in supporting business incubators. While in the USA incubators are more independent from the government than in Germany or any other European country, Russia still needs a lot of attention from the state structures and organizations regarding the legislative and financial issues of the business incubators' activity.

To dip further, we decided to make a more detailed comparison of some quantitative

parameters of business incubators in the United States, Germany and Russia. In Table 3, we bring together a number of them. Meanwhile, it is worth noting that there was never any thorough data collection on the performance of Russian business incubators. This provides a strong evidence of the insufficient attention of local authorities and researchers to this industry.

Table 3. Detailed comparison of US, German and Russian Incubators.

	USA	GERMANY	RUSSIA
No. of incubators	1250+	300+	150+
Not for profit / for profit	75% / 25%	76.9% / 21.8%	NA
Urban / Rural / Other	45% / 36% / 19%	54.4% / 30.4% / 15.2%	NA
Physical space (sq. m.)	NA	5 400	< 2000
Occupancy Rate (av.)	81%	85%	NA
Survival Rate (av.)	87%	84.2%	75%
Equity Position	34.6%	7.7%	NA
Ratio of incubators: no. of SMEs	NA	1:11	1:44
Av. no. of tenants per incubator	31	25	≈ 30
Av. no. of FTE jobs per tenant company	7.7	8	8
Enforced Graduation Policy (i.e. max length of tenancy)	79.5%	90.4%	NA
Length of tenancy	2-5 years	3-7 years	1-2 years
Receiving subsidies from the government	65.4%	62%	NA

*The figures should be interpreted as rough estimations of the indicators and used only for comparative purposes due to the information deficit.

Source: CSES analysis of survey data and NBIA data.

Although we have rough estimations of several indicators, especially referring to Russia, we may still draw some conclusions. It appeared that the proportion of non-profit incubators is higher in Germany (and in whole Europe) than in the US. This could be explained by the increase in the number of for-profit incubators in the US that are willing to nurture businesses quickly and receive big payoffs. Similarly, German incubators operate with higher occupancy rates. However, it is not a surprise that the US has higher survival rate for start-ups than other two countries and the incubators invest directly in their tenant companies on a far more frequent scale there. There is a significant gap between the survival

rate of Russia and Germany, nothing to say about the performance of US incubators. An interesting indicator is the density of business incubators distribution calculated as the ratio of the amount of incubators divided by the number of SMEs in the country. A pronounced difference in the results proves that the existing amount of business incubators as the institutes of support for small businesses is not enough in our country. Next two parameters – average number of tenants per incubator and average number of full time jobs created per tenant company - are almost the same among all three countries. Another significant finding from the comparison above is the fact that the

percentage of the incubators that apply enforced graduation policy, for instance, the limitation for the length of the incubation period, is much higher in Germany than in the United States. Therefore, one can assume that the US is more flexible in this issue than European countries, also taking into consideration the fact of the smaller average length of tenancy. Russian incubation programs usually last even less - from 6 months to 2 years.

The analysis of both qualitative and quantitative dimensions made it possible to compare the performance of business incubators in the United States, Germany and Russia, identify their strengths and weaknesses, and give recommendations about the application of foreign incubation strategies to Russian incubators.

Expert Opinion on the Results of the Research

As was mentioned above, a number of experts who had experience of working at business incubators in the USA, Germany and Russia or took part in the incubation process as a start-up company in these countries were invited to express their opinions on the topic of this paper. All in all, about ten unstructured interviews with people based both in the USA and Russia were conducted. Unfortunately, no interviewees originally from Germany participated in the study, so other experts were asked to give some comments on business incubation activity in Germany as well.

The study shows that most experts share similar views about main differences and similarities of business incubators in the USA, Germany and Russia. The most popular idea is that American incubators have higher status and global recognition as well as the more substantial amount of capital than German and Russian ones. Interviewees mostly mentioned large private accelerators and incubators in the USA such as Y Combinator, 500 Startups, Techstars, etc., which support 50-60 tenants with their resources, whereas in Germany or Russia the biggest incubators host less than 30 start-up companies without being 100% privately owned. This judgment might be the reason for the further suggested opinion about a considerable gap in the level of investments in fledgling companies between these countries. Most American incubators provide seed funding and have a well-organized established system of raising money for start-ups. In Germany and especially in Russia the

financial issues are still tough to deal with if we talk about independent private incubators.

Moreover, all experts agree that there is no big difference between incubators supported by municipal power structures and universities in the countries under review. Basically, they provide a standard set of services for their tenants that we discussed in the previous section. However, one of the experts paid attention to the history of such incubators and suggested that in the USA municipal and university incubators emerged consistently over time, but in Russia flowed from the National Priority Project 'Education' and other state initiatives, i.e. were the result of the government enforcement.

One of the most valuable insights from the experts had not been disclosed in the literature review as it could be experienced first-hand only. Several experts highlight the differences in mentality and cultures of the US citizens, the Germans and the Russians which affect directly both the strategy of business incubation and the satisfaction of start-up companies during this process. Firstly, cultural aspects contribute to the development of acceleration programs in different countries. For example, as was noted by the interviewees, American incubators usually do not have a standardized structured program applied to each tenant. The incubating process is organized mostly in an informal way with various master-classes and meetings being held. This approach works perfectly because people there are used to such a way of doing business.

What is for Germany and Russia, the programs are more formal as mentors have to impose additional tasks such as regular updating of traction maps, etc. to structure the process of incubation better and let start-ups monitor their progress. Entrepreneurs who were residents of business incubators in the US and Russia fully support these conclusions. Furthermore, they emphasize prejudice of the American accelerators and investors against foreign start-up companies: no matter how good and innovate your idea is, cultural differences and language barrier may have an adverse impact on the final result of the incubation process.

In conclusion, it is worth mentioning that in general the experts' opinions reinforced the findings of the comparison of business incubators in the USA, Germany and Russia made in the previous sections. However, the researcher managed to get some new interesting insights that added value to the study.

CONCLUSIONS AND IMPLICATIONS

The study focused on the comparison of strategies of business incubation in the USA, Germany and Russia shows that the concept of a business incubator still needs to be further developed and put into practice. Firstly, there is no commonly accepted definition of a business incubator. Secondly, when it comes to the challenge of measuring business incubator's performance, we do not know which criteria of effectiveness to use. Numerical data (for instance, survival rate, number of jobs created, average number of tenants per incubator), as well as qualitative indicators (selection process for residents, access to financing and capitalization, entrepreneurial networks and many others), are available. We attempted to combine both types of criteria in our research to get the complete picture of business incubators' activity in the countries under review.

Considering the topic of the article, we should mention that few studies devoted to the comparison of business incubators were conducted with reference to particular countries. Our study contributes to this field because it includes the results obtained through the literature review and first-hand insights from experts who took part in the business incubation process in the US, Germany or Russia. Their points of view enriched and reiterated the findings outlined in the second chapter.

All in all, we concluded that there were more differences between the strategies of business incubation in these countries than similarities. The USA prove to be far ahead of Germany and especially Russia in supporting start-ups. Undoubtedly, the experience of foreign countries might be adapted and used in Russia. It refers to the involvement of power structures, banking community and corporate sector in the business incubation activity, interaction between incubators and academic institutes, the legal status of business incubators, measures of business incubator's performance, etc.

The study might impact a business practice in the way of clarifying the most significant characteristics and general trends of business incubation strategies in particular countries to take them into account in the process of launching and developing startup companies in one or another country.

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