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ИССЛЕДОВАТЕЛЬСКИЕ СТАТЬИ

Business Incubators in Russia: 2020 Survey in International Comparative Perspective

M.A. Slesarev

Moscow State Institute of international relations (MGIMO-University)

Abstract: Small innovative and venture enterprises face significant financial and managerial difficulties in the early stages of their development, which makes it necessary to provide them with sufficient support at the start. Different governments choose different ways to solve this problem. In Russia, in the 2010s, an emphasis was made on creating business incubators as SME support infrastructure and key players (as well as a potential driver) of regional entrepreneurial ecosystems. Nevertheless, the latest official data shows that the number of business incubators in Russia has gradually declined over the past five years, making it a critical phenomenon to analyze. We conducted a comprehensive survey among a selection of Russian business incubators.

Comparing the world BI average characteristics (secondary data from InBIA, International Business Innovation Association) and UBI Global (the data obtained through Surveys conducted in 2012, 2016, and 2020) helps us understand the actual state and dynamics of business incubation in Russia. The surveys contain a wide range of questions covering essential aspects of business incubators' activities, including BI program, clients, environment, effectiveness, and finance.

The study shows that business incubators in Russia have undergone several external positive changes, including increased square space, staff quantity, the average annual number of residents, the annual budget, etc. At the same time, the total number of business incubators also significantly dropped, which means that all of the above positive changes do not reflect the growth of the business incubation market and the scaling of the most effective structures; on the contrary, it is an optimization.

As a result of the study, we formulate several additional questions for future research and study to understand better the challenges business incubators currently face in Russia, the reasons for their recent consolidation, and possible ways out.

Keywords: business incubator, entrepreneurship, entrepreneurial ecosystem, small business, SME

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New enterprises are now widely recognized as essential boosters for economic growth, so many developed and emerging economies have implemented the creation of new business incubators and other types of business support infrastructure into their national economic strategies (Haugh 2020). As a result, from its inception in 1959 as a concept in the United States (Soltanifar, Keramati, Moshki 2012), business incubation being a critical integral part of the entrepreneurial ecosystem (Spigel 2015), has been involved a lot in the process of creation and development of new companies all over the world.

Business incubators (BIs) are agencies that render the business incubation services and play a unique role in the growth of small creative companies since they serve as a springboard for the creation of new entrepreneurs and also bear a heavy social burden in their local area by bringing in new social groups and communities (Sentana et al. 2018). As the name suggests, a business incubator is a place where startups and entrepreneurs that lack the financial resources, expertise (e.g., in business, management, marketing, etc.), or talent may go to work on their ideas obtaining the needed assistance (Hausberg, Korreck 2020: 151-152).

BIs are for-profit or non-profit organizations whose mission is to help startup firms expand and become self-sufficient, increasing the overall competitiveness and survival rates and accelerating their growth (Voisey et al. 2006; Villares, Miguéns-Refojo, Ferreiro-Seoane 2020). Incubated companies often access BIs' premises (physical spaces, shared infrastructure equipment) and intangible resources (knowledge base, business training, coaching, networking, logistical support, etc.).

In the context of the entrepreneurial ecosystem, incubators also work with various stakeholders to help entrepreneurs access critical information (Indiran, Khalifah, Ismail 2017) and create business networks (Soetanto, Jack 2013; Antunes, de Castro, da Costa Mineiro 2021). BIs also may act as intermediaries or international intermediaries (Gao et al., 2021) to promote collaborations between entrepreneurs, universities, corporations, and venture markets. They accelerate technology transfer and knowledge spillovers (Cantù 2017), implement open innovation practices (Sutopo, Astuti, Suryandari 2019), helping businesses scale globally via soft-landing programs (Fernández Fernández, Blanco Jiménez, Cuadrado Roura 2015; Blackburne, Buckley 2019), etc. Therefore, BIs are often acknowledged as an effective tool to support and develop new industry sectors, such as the bioeconomy (Oriama, Mudida, Burger-Helmchen 2021).

The classification of BIs is broad and has several perspectives. Based on their primary objectives, BIs divide into virtual (Mohamadian, Manian, Khodadad Beromy 2015) and classical, university-based incubators (Hassan 2020; Mele et al. 2022), corporate incubators (Becker, Gassmann 2006), etc. BIs may also have industry orientation leading to another approach to classification: technological incubators (Xiao, North 2018), service incubators, manufacturing incubators, IT incubators, biotech incubators (Phillips 2022), food incubators (Seminar et al. 2021), agri-business incubators (Bose, Kiran, Goyal 2019), mixed-use incubators (Schiopu, Vasile, Tuclea 2015), etc.

According to tenant type, BIs may be focused on innovative startups, small companies, or specific social groups (Sansone et al. 2020): students, women (Gabarret, d'Andria 2021), etc. Many studies, however, divide BIs into two groups based on their funding source: public and private, also referred to as non-profit and for-profit (Phillips 2022). The first group is primarily presented by university-based business incubators or publicly financed social-oriented BIs (Ferreiro-Seoane, Rodríguez-Rodríguez, Vaquero-García 2018), while private entities found in the second group (e.g., venture capitalists) and rely on rent and service fees (Grimaldi, Grandi 2005).

The reason for such a comprehensive categorization of incubators is that since the number of BIs globally has already reached its peak, their services are being tailored to more specific client needs. Another type of BIs, which is sometimes used in the literature as a synonym for a business incubator, is a business accelerator (Hausberg, Korreck 2020). Table 1 presents a comparative examination of several kinds of business incubators known today.

Table 1. Comparison of different types of business incubators

Type / Criterion	Premises for Rent	Services (expertise, consulting, etc.)	Own Investment Fund	Limited period of participation in the program	Group recruitment to the program	Competitive selection
Business Incubator (BI)	Y	Y	N	N	N	Y
Business Accelerator (BA)	Y	Y	Y	Y	Y	Y
Pre-Accelerator Program	N	Y	N	Y	Y	Y
Virtual Business Incubator	N	Y	N	N	N	Y/N
Virtual Business Accelerator	N	Y	Y/N	Y	Y	Y

Composed by the author.

Although both BIs and BAs maintain the ability to undertake competitive assessment and selection for program participation, accelerators are primarily focused on executing time-limited startup development programs that, besides the standard SME support services, also entail investments in companies from venture funds affiliated with (or owned by) the accelerator.

Projects in a pre-accelerator (Merguei, Costa 2022) are developed to the point where they can attract funding, which is to say, they are ready to go on to the acceleration program. Typically, programs of this kind are created and operated by business accelerators. According to the literature, a "pre-incubator" concept also exists, but it does not make any sense since a BI program commonly does not need the preparation of projects for entry (as opposed to BA programs). If there is an exception, it is generally the business incubators themselves that provide pre-incubation services (such as support in discovering and developing a potentially viable idea) at the so-called "pre-incubation stage" (Giordano Martínez, Fernández-Laviada, Herrero Crespo 2018).

The development of virtual BIs and BAs, which operate online and render services to their clients through remote access, is another trend (Saavedra, Kotey, Sandhu

2020). Virtual incubators may collaborate with startups with lower operating costs and in the earliest phases of development without requiring a physical presence in a particular place. Due to their specifics, it is nearly impossible to evaluate the exact quantity of these organizations, although some believe there are a few hundred virtual BIs in existence worldwide.

Because business incubators are involved with the dynamic incubation process, key performance indicators (KPIs) are vital in assessing their effectiveness (Al-Mubaraki, Busler 2012; Torun et al. 2018) which include a comprehensive set of indicators and parameters such as the annual quantity of startups incubated, percentage of successful exits, percentage of space occupancy, financial sustainability of the incubator and the structure of its income and costs, level of engagement with external mentors, academic sphere and investors and many others.

Business Incubators World Overview

The International Business Innovation Association (InBIA, USA), which was formerly known as the International Business Incubation Association before rebranding in 2015, compiles statistics on the global scope of business incubator activity (as InBIA, it is currently expanding its scope to include other aspects of the entrepreneurial ecosystem). InBIA estimates that there were over 12,000 business incubators worldwide at the end of 2018, with 93% of them being non-profitable[1]. Most typically, business incubators are set up to carry out government policies to assist small and medium-sized enterprises (SMEs) and address any underlying socio-economic issues in their area. Most business incubators in the United States (84%) aim to produce new employment, although the goals may differ: promoting entrepreneurial activity and fostering an entrepreneurial culture in the area, activating the commercialization process, etc.

Some BIs are established as an integral part of educational institutions, as well as technical parks and corporations (intra-corporate BIs). Around 1,100 university-based BIs were operating in 2018 (excluding accelerators), or around 9% of all incubators, according to UBI Global[2]. By helping students find employment and a career path, such business incubators enhance the educational process' emphasis on real-world application. Speaking about technopark-based BIs, it can be noted that by helping technoparks broaden the services they offer current customers while also attracting new types of businesses, BIs benefit both the park's existing customers and the businesses they attract. Industrial zones are home to more than half of all business incubators (52%).

IT startups are present in 54% of BIs, and services (44%), manufacturing (40%), and biotech (33%) are among the other most common areas in which entrepreneurs start businesses in incubators throughout the globe. However, fewer than half of BIs

[1] International Business Innovation Association. URL: https://inbia.org/ (accessed 18.08.2022)
[2] UBI Global Publications. URL: https://ubi-global.com/publications/ (accessed 18.08.2022)

specialize in a single area, resulting in a diverse pool of startups (referred to as mixed-use incubators). Tech businesses make up 39% of incubators' focus, whereas service firms make up only 1%.

The business incubator employs an average of 12 employees and covers an average of 3700 square meters, with occupancy rates of residents and anchor tenants approaching 80%. Note that a workspace and rent on favorable terms and aid in developing a business plan are still among the most requested BI services — supplied by 96% of BIs across the globe. Among highly demanded services also are marketing consulting (provided by 90% of BIs), accounting (present in 84% of BIs), administration (81%), assistance and support in acquiring investments and bank loans (79%), help in creating presentations (77%), establishing communication with academic institutions (73%), etc.

A typical BI comprises 35 residents and 3 to 4 anchor tenants, while the total yearly stream of enterprises serviced (not permanently present in BI) goes up to 141. Startup entrepreneurs come up with an average of 72 business plans and two patents every year with the help of a BI. It takes an average of 30 months for a resident company to complete its incubation program, and the great majority of them depart because of the need to scale and find larger space or because they achieve breakeven, which is commonly a criterion for finishing the program.

A business incubator's average yearly running costs are 518,000 USD, with most of that amount going toward infrastructure upkeep and employee salaries. Although there are favorable conditions on rental agreements, about 60% of incubators' revenue comes from renting out their facilities to their clients. Public subsidies cover roughly 15% of BI expenses globally, although this may vary substantially in various locations and could reach 40% in extreme cases. For a more detailed breakdown of incubator expenditures and earnings, see Figures 1–2.

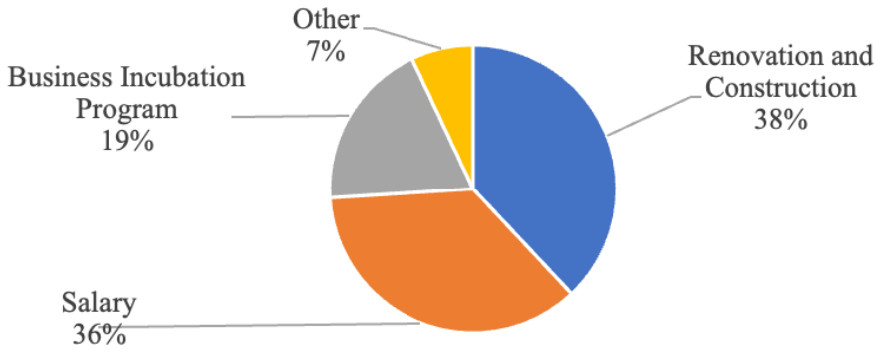

Figure 1. The average cost structure of business incubators in the world[3]

[3] International Business Innovation Association official site. URL: http://inbia.org (accessed 18.08.2022)

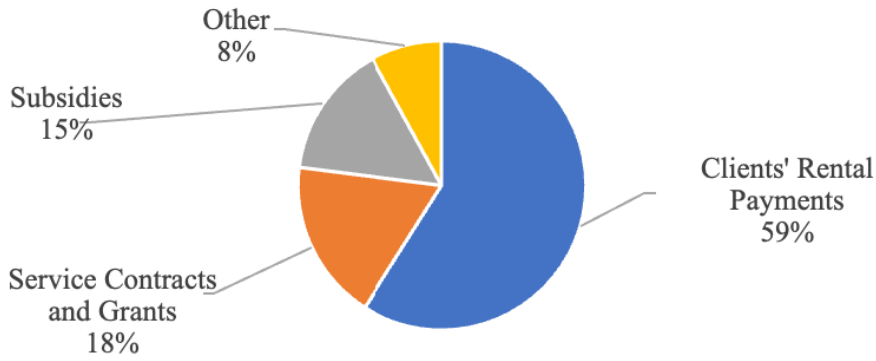

Figure 2. Average income structure of business incubators in the world[4]

87% of entrepreneurs who successfully finish the BI program survive for more than five years, compared to just 60% of those who begin new businesses outside BIs. A business incubator resident generates an average of almost five jobs, combined with the average number of BI residents and graduates, constituting a substantial share of the employed population. In addition, according to InBIA, in the United States, every $1 of subsidies invested in a startup business incubation program subsequently generates $30 in taxes.

The overview of the global average indicators of the activity of business incubators is used as a starting point for assessing the situation and dynamics in the Russian business incubation market. The study focuses on two research questions: (1) What are the characteristics of BIs in Russia, and how did they change over the last decade? (2) How do the characteristics of Russian BI compare to the world average?

The data was collected through Survey-2020 among Russian business incubators. The survey questions correspond with the content of Surveys conducted in 2012 and 2016 by the Fund for Innovation and Business Incubation (MGIMO University, Russia). They, therefore, include data on the main strategic challenges the BI is currently facing: the age of the companies that apply to BI, the type of BI, the primary sources of financing, questions regarding the economic climate in the region of operation, questions regarding effectiveness evaluation, industry affiliation of residents, incomes and expenditures, strategic goals and mission, BI staff and director competences, etc.

Survey Design

The questionnaire in Survey-2020 is divided into five sections associated with different aspects of business incubators' work: (1) BI Program, (2) Clients, (3) Environment, (4) Effectiveness, and (5) Finance. More specifically, the aspects covered in each section can be seen in Table 2.

[4] International Business Innovation Association official site. URL: http://inbia.org (accessed 18.08.2022)

Table 2. Key aspects of business incubators' work divided into 5 sections Covered by Survey-2020

#	Section	Key aspects covered
1	BI Program	• Type of BI, focus on any industry or social groups • Services, terms
2	Clients	• Age and stage of the companies that apply to BI • Industry affiliation of residents
3	Environment	• Economic climate in the region of operation • Main strategic challenges the BIs are currently facing
4	Effectiveness	• Strategic goals and mission • Key performance indicators used • BI staff and director competencies, etc.
5	Finance	• Main sources of financing • Incomes and expenditures

Composed by the author.

The 2020 survey questionnaire included most of the questions from past surveys, making it possible to speak about the comparability of the obtained data for subsequent comparative analysis. The complete list of survey questions is presented in the Appendix. The inclusion of some of them is explained below.

The indicator collected in Q4 (the age of the companies in % of the total number that applies to BI) is essential for identifying the degree of demand for a business incubator and its services on the part of a startup business, the support and development of which business incubation programs are initially created. Suppose a high proportion of companies over two years are among the business incubator's new clients. In that case, that indicates either a secondary role of the consulting services of a business incubator (since such companies most often apply to receive preferential rent or attract investments) or low entrepreneurial activity in the home region. This indicator is complemented and clarified by the stages at which client companies apply to BI (Q5), showing the initial demand for certain services of a business incubator from the target market and the potential initial motivation of entrepreneurs to contact the BI.

A group of questions Q9–Q11 is associated with the type of BI – in terms of profitability (for-profit; non-profit), ownership (public; private or public-private), and primary source of financing. The ratio between profitable and non-profitable and public/private business incubators in the economy says a lot about the role of business incubators as a tool for stimulating small businesses and the entrepreneurial ecosystem level of development. A high proportion of profitable business incubators may indicate a high degree of self-organization and self-sufficiency of the ecosystem, which can produce startup projects and keep all the constituent elements sustainable. The high proportion of unprofitable business incubators, on the contrary, indicates a high level of state intervention, stimulating entrepreneurial activity, including through the creation and financing of unprofitable support infrastructure.

Questions Q12 to Q14 are related to the assessment of the effectiveness of a business incubator. Respondents should indicate whether performance evaluation of the

business incubator is practiced, and if so, in what year it was last carried out and what key performance indicators (KPIs) are used. Performance indicators may vary depending on the industry specialization of the BI, as well as on the economic tasks set by the regional authorities. Therefore this group of questions sheds light on the economic role of the BI within the regional economy.

Since large corporations are usually the customers of open innovations, question Q15 reflects the degree of involvement of the business incubator in communications within the ecosystem and its interaction with large businesses. In addition, working with open innovation projects often serves as a significant additional channel for attracting finance and a method of stimulating staff and residents of a business incubator, which increases its independence and sustainability[5].

The block of questions Q17 through Q19 is designed to understand Russian business incubators' industry specialization or other focus. More specifically, question Q17 deals with the social orientation of BI, which is typical for mature ecosystems in developed countries like the USA.

Question Q18 reflects the industry affiliation of BI by its residents. Respondents are also asked to choose up to three main areas of specialization from an extensive list of industries to categorize BIs with even more detail. The sectoral specialization of a business incubator serves as a natural economic indicator. It is vital for determining the competitiveness of the respective regions and the whole country in the production of certain goods and services, which can serve as a good clue for the authorities on what should be emphasized in stimulating economic activity and support for small and medium businesses.

The next set of questions (Q20–Q23) is about the workspace provided by the business incubator to their residents and anchor tenants and its various parameters. First, respondents are asked if the workspace is provided or only services are provided (without the workspace). Both options are possible nowadays, and a high percentage of BIs without workspace (they are usually called virtual business incubators) may be a sign of a well-developed ecosystem (in case of the high level of specialization of those virtual BIs) or, on the contrary, may indicate a low level of communication or support infrastructure development of regional ecosystems. It would explain why startups must reach out to virtual incubators located elsewhere, e.g., in the country's capital city. That is why it is crucial to analyze answers to question Q20 keeping in mind answers given to questions Q17 to Q19.

Another important indicator that shows the growth or consolidation in the business incubation industry is the change in BI square in the last five years. The next question deals with shares of the total area (in %) allotted for anchor tenants, residents, administrative premises, shared space, and others. This indicator reflects the industry

[5] Kalyuzhnova Y., Khotyasheva O., Slesarev M., Medetov D., Krasenkova A. 2021. *Promoting Innovation for Sustainable Development through Incubators.* A UNECE policy handbook for SPECA countries.

focus and specifics of the business incubator from a completely different angle, although it does not directly show the effectiveness of the business incubator. The final question from this block sheds light on the latter, in which respondents are required to answer, what is the average load of the space (in %) allocated to residents? Both meager and very high load rates indicate structural or communication problems in the ecosystem.

According to the InBIA international certification standards for business incubators, developed institutions must have a strategic development plan and a documented mission, the subject of questions Q24 and Q25.

Question Q26 is devoted to the business incubator's listed goals (to be set on a scale from 1 to 5), which again reflects its specifics and tasks implemented as part of the development of the region's economy. It is important to note that the respondents assess the importance of these goals based on their applied experience and daily work and not following the official founding documents of the organization, which increases the cognitive value and practical meaning of this question.

Speaking about the next block of questions (from Q27 to Q32), which is aimed at analyzing the personnel of the business incubator, it should be stressed that much attention in the research questionnaire is paid to the personality, experience, background, and professional competencies of the business incubator leader since the effectiveness of the functioning of any organization in Russia heavily depends on this factor. For instance, in question Q30, respondents need to indicate how long the head of BI has been working in the field of SME support, while Q31 and Q32 shed light on the background of the BI leader: experience in entrepreneurship (if any) and education.

An essential block of questions (Q36 to Q39) is devoted to the services of a business incubator. One of the main KPIs of the business incubator's activity is the average term for providing services to residents. This indicator is convenient for conducting cross-country comparative analyses and studying the dynamics of business incubation development in the country. As a rule, too short terms for the provision of services can be explained either by a high mortality rate of startup projects or by the fact that most established companies apply to a business incubator for short-cycle services (consultations, etc.). At the same time, too long terms for the provision of services indicate the impossibility of small businesses to scale and switch to a market basis of functioning (refuse preferential rent, etc.) or that the business incubator is viewed by local enterprises more as a business park with cheap rent than as infrastructure for full business support.

As mentioned above, an essential feature of a developed entrepreneurial ecosystem is the ability to produce startup projects independently and regularly, which is also reflected in the activities of its key players. Thus, in addition to the main program, business incubators introduce pre-incubation and post-incubation services, increasing the incoming flow of projects and maximizing each resident's potential profit. When answering question Q38, respondents should indicate whether the business incubator

provides pre-incubation and post-incubation services.

Another set of questions is about financial indicators. Answering question Q40, respondents have to reveal the leading financial indicators of BI based on the results of the last financial year: total revenue and total expense (both in a million rubles). For a more detailed analysis of these indicators questions, Q41 and Q42 were designed. First, respondents are to indicate approximate shares of the specified articles in the entire revenue structure (in %). This information directly shows the level of involvement of BI in the local economy and its connections with other actors in the entrepreneurial ecosystem, as well as the level of financial independence and stability.

Next, respondents are asked to indicate approximate shares of the specified articles in the total expense structure (in %). Based on this information, important conclusions can be drawn regarding the level of development of business incubator services, as well as possible internal problems that hinder the organization's development and are a reflection of threats in the external economic environment.

Additionally to all the previous questions connected to services and finance, there is question Q43 regarding the participation of BI in the authorized capital of its residents. The high share of business incubators participating in the capital of residents can be perceived in two ways. On the one hand, this may indicate a high degree of development of the entrepreneurial ecosystem6 as business incubators provide a wide range of services, including venture financing, and startups are prepared to pay for them through a share in their business and its subsequent buyout. On the other hand, on the contrary, this indicator may indicate the embryonic level of ecosystem development, in which business incubators are not able to provide the proper level of support to startup businesses and, due to lack of funding, are forced to invest in the capital of absolutely all business projects.

The biggest block of questions is focused on BI clients and residents. In question Q44, respondents are expected to indicate the number of BI clients depending on their status. The structure of clients, depending on their status from a new perspective, reflects the specifics of the business incubator and indirectly shows its effectiveness. However, the latter is even more shown by the next monitored indicator - the survival ratio of residents within two years after they graduate from the business incubator. However, it is typical for a business incubator not to track this indicator for graduated residents.

The resident survival rate is far from the only indicator business incubators track for their residents; therefore, in question Q47, respondents must answer what information is collected and, in question Q46, how often this information is updated.

There can be many indicators monitored by business incubators about their residents and graduates, so only one of them was included in the questionnaire: the average number of employees of BI's clients. This indicator is significant because it shows the number of jobs created by clients of the business incubator and therefore reflects the overall contribution of that business incubator to the business activity and development of the region's economy.

To further assess the performance of a business incubator, the questionnaire includes question Q49 regarding the average annual number of companies that graduate from BI. Of even greater interest, however, are not the absolute graduation rates of BI clients but the graduation criteria (Q50).

Finally, four open questions in the questionnaire (Q51 to Q54) are designed to understand better the potential of the business incubator's future development and the possible constraining forces for that process.

Survey Population

The sample of this research comprises 33 Russian business incubators, which are representative considering the number of incubators remaining active and running in the Russian market. The following main criteria were used in the selection of respondents to increase the representativeness of the sample and the accuracy of the conclusions:

1) The business incubator has been operating for at least five years and was running at the moment of the Survey-2020 being conducted.

2) The business incubator has previously taken at least one of the professional development programs for employees in the field of business project development or has a Russian or international certificate in the field of business incubation.

3) The business incubator has a regularly updated website and/or pages on social networks, which publish up-to-date information on the terms and conditions of admission and the services provided to residents.

4) The business incubator provides a range of services that is standard for structures of this type: rent of premises and equipment on preferential terms, business training and consulting, project expertise, assistance in finding and attracting investments, etc.

The primary data was collected through a survey using SurveyMonkey software. The survey was sent to business incubator managers' personal and/or work emails.

Survey Results & Discussion

This section presents the results of the Surveys (2012–2020) and compares them to the average world characteristics mentioned above. First of all, it is essential to note that as per the Second Comprehensive Study of the Business Incubation Market, there were approximately 250 BIs in Russia in 2016; however, this number has a strong tendency to fall rapidly (according to the Ministry of Economic Development, in 2018 there were only 143)[6]. One of the primary reasons for this can be a change in the direction of state policy in this field, as well as a general reduction in spending on

[6] Ministry of Economic Development of Russian Federation. URL: https://economy.gov.ru/ (accessed 18.08.2022)

the present system of small enterprise support, primarily because of the inability of many existing BIs to meet the performance indicators set by the government (e.g., the number of adopted residents, the volume of training conducted, the percentage of occupancy of the space allocated for rent, etc.).

It occurs not due to bad administration of these institutions but rather due to the absence of some essential aspects of regional EEs and the practical impossibility of fulfilling the intended KPIs (for instance, low entrepreneurial activity or unavailability of venture investments). Almost one-half of Russian BIs refer to difficulties in getting angel and pre-seed investments as the primary factor for the failure of innovative start-ups. BIs obviously cannot substitute all other crucial EE elements, so their existence does not immediately result in the fast growth of entrepreneurship and innovative local business.

Most Russian BIs (almost 67%) belong to the mixed type, which does not have any specialization (Figure 3). The previous decade observed a downward trend in the number of services BIs: in 2010, their proportion was around 6%, and in 2016 — 3.6%. The share of industrial BIs is also declining (by 5.87 percentage points compared to 2016), while technological incubators are growing (by 6.91 percentage points). Specializing in a particular field in Russia does not justify itself, as it might exacerbate the lack of client companies (reported by 42% of BIs). Globally, the proportion of mixed incubators is comparable to Russia (54%), but at the same time, the share of tech-focused BIs is as high as 39%.

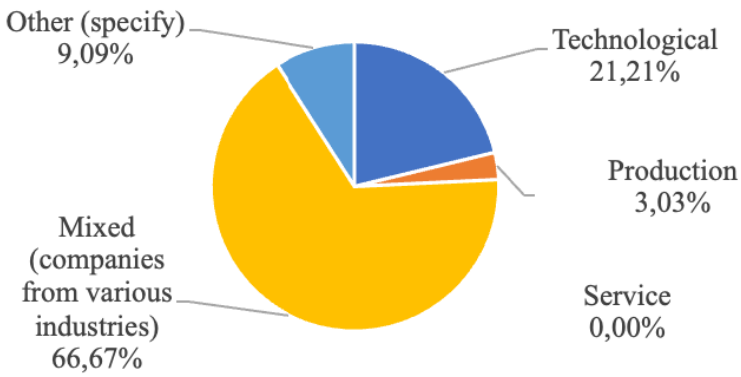

Figure 3. Specialization of business incubators in terms of industry affiliation of residents as of the end of 2019[7]

Due to the specifics of the activities of business incubators, only 7% of them in the world are profitable. Y Combinator and Plug and Play are famous examples of BIs that make a net profit from their services. In Russia, the number of profitable BIs is significantly lower since most are budgetary institutions or their structural divisions: almost

[7] Russian Business Incubators Survey 2020.

half of all BIs are owned by the regional administration, 28% — by the administration of universities, and 21% — by the municipal administration. Private BIs in Russia are mostly unknown, and their names' "business incubator" does not always accurately describe what they do.

According to the findings, nearly 40% of Russian BIs reported their profitability, which is greater than the figure of 28.6% for the same period in 2016. It is essential to understand that budget-funded institutions get income for some of their services, but that only makes up a small portion of their total budget, and that certainly does not cover all their expenses. To be called "profitable" in the strictest sense, your business must be able to cover all its costs without relying on outside sources of financing. To put it another way, the phrase "profitable business incubator" is more suited to describing successful private company incubators and accelerators. Most Russian BIs participate in their residents' capital to a lesser extent than in 2016 (17%) and much less than the world figure — 24%.

Figure 4 shows the specifics of the social orientation of BIs in Russia. It is also important to note that more than a third of incubators focus on supporting entrepreneurs among university students (36.4%) and young people (42.4%). At the same time, these shares decreased significantly compared to 2016 — from 58.9 and 57.1%, respectively. Over the past five years, many Russian universities have tended to close business incubators.

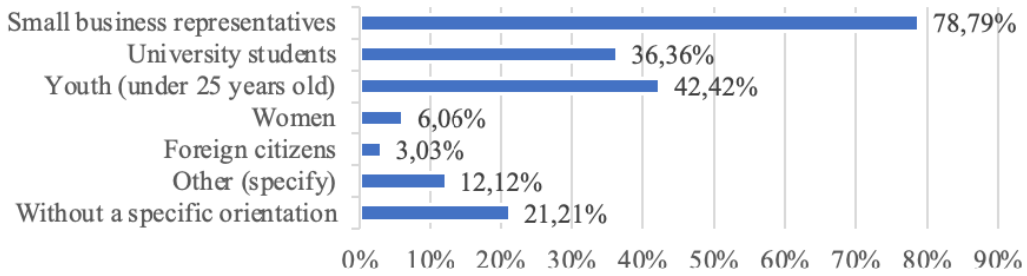

Figure 4. The social orientation of Russian business incubators (% of the number of respondents)[8]

Although the percentage of respondents who noted an orientation towards a particular social group increased by 2016 compared to 2011 in almost every category, in the last five years, there has been a reverse trend: the share of business incubators without a specific social group orientation increased almost two times — up to 21.2%. Although the degree of orientation towards representatives of small businesses remained at the level of 2016, the share of respondents who noted the orientation towards students of universities, youth and women have decreased (from 12.5 to 6.1%).

[8] Russian Business Incubators Survey 2020.

Figures 5 and 6 reflect, respectively, the structure of client companies applying to BIs based on the level of development of projects and their age. It is worth noting that since 2011, incubators have seen a rise in the number of applications from more experienced entrepreneurs. From 44 to 33.6% (2016) and 29.3% (2020), the percentage of BI clients without their businesses has progressively declined while the percentage of clients with businesses between one and five years old has climbed. A similar trend was observed concerning the development level of projects: the share of clients applying to the incubator with a business idea decreased from 45.1 to 29.1%, while the share of customers applying at the sales stage in the local market increased from 9.9% to 17.5%. Based on that, it can be stated that more and more companies already operating on the market are turning to business incubators to scale up already launched projects.

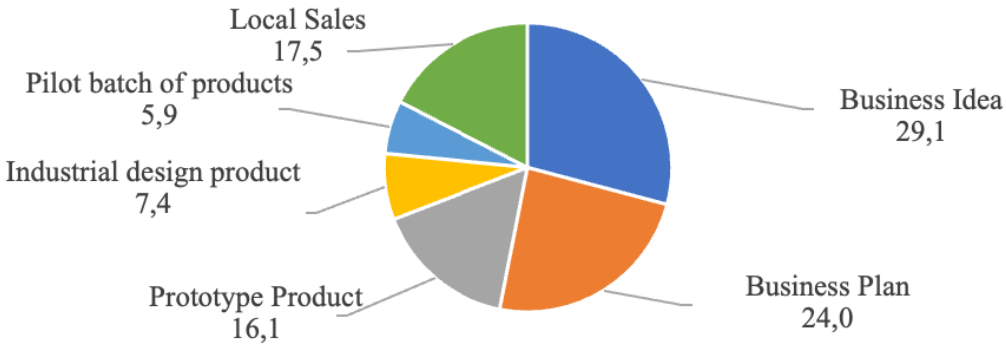

Figure 5. The structure of clients applying to the business incubator depends on the degree of development of projects (in% of the total number)[9]

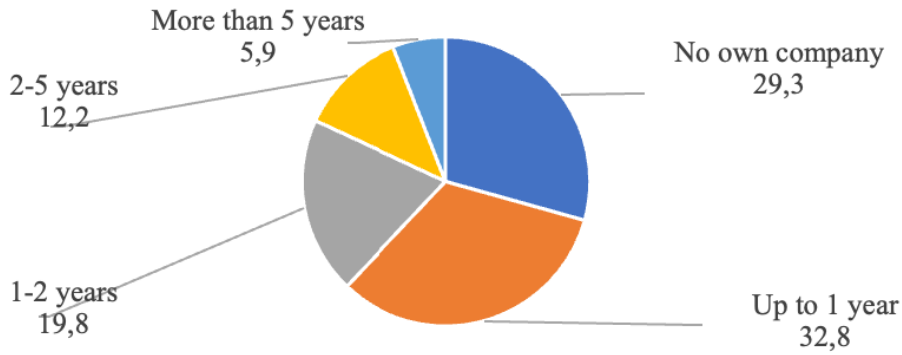

Figure 6. The age structure of companies applying to business incubators (in% of the total)[10]

[9] Russian Business Incubators Survey 2020.
[10] Russian Business Incubators Survey 2020.

The most common reason for the graduation of companies from Russian business incubators remains the same as in 2016 – the achievement of the maximum period allowed to stay in the program (this criterion was indicated as the most important by nearly 60% of participants). Considering that the average period for rendering services to residents in Russia is one and a half times less than worldwide — 24 months — the specified reason for the release of clients seems to be very controversial. At the same time, the criterion "The company's needs for workspace exceed the maximum permissible by the program," which is connected with the relatively successful development of startups, was indicated as unused by almost every fifth incubator (18.2%).

94% of BIs in Russia provide workspace to their clients. The average square space of a BI is 3,156 sq. M, 23% more than the same indicator in 2016 — 2,572 sq. M indicates not only the closure of small business incubators but also the process of consolidation in the industry (for five years, the space increased to 36.4% of business incubators, while it decreased only to 18.2%). On average, 51.1% of the square space of a business incubator is reserved for residents, 6.5% for anchor tenants, 22.4% for shared space, and 15.6% for administrative premises. The utilization of areas allotted for lease to residents in 2020 amounted to 79.9% (more than a quarter of incubators in Russia were able to reach the level of 90%), which is significantly higher than the same indicator in 2016 (73%) and is comparable with the world average level (80%).

Regarding the financial aspects of BIs, there are a few notable facts about Russia. Incubators here have a substantially smaller yearly budget than the global average — almost 9 million rubles, which is 80% higher than in 2016. The share of incubators with an annual income of no more than 1 million rubles decreased from 40 to 16%, indicating consolidation.

Secondly, the primary source of income is still targeted budget financing (41.4% in the structure of revenues), while on average, in the world, the largest share is made by rent payments from clients (59%). An alarming signal here is that compared to 2011 and 2016, the share of targeted budget financing in the income of business incubators not only did not decrease but, on the contrary, gradually grew (by a couple of percentage points). Rental income is the second most important item, accounting for 28.3% of the budget (see Figure 8). Local authorities are increasingly becoming the primary source of funding (42.4% of business incubators versus 30% in 2016) and universities (21.2% versus 27%) less often. 12% of BIs receive funding from commercial and nonprofit organizations and private investors, and 3% operate without external financial support (in 2016, their share was higher — by 9%). Thus, the number of financially independent business incubators capable of covering their costs rapidly falls in Russia, indicating obvious problems in developing the entrepreneurial ecosystem.

Third, there is a strong “inflection” in the cost structure towards salary — 48% against the world average of 36%, although this share has slightly decreased compared to 2016 (52.9%). The most oversized expense item for BIs globally is infrastructure (38%), whereas, in Russia, only 23.6% of funds are spent on infrastructure

(see Figure 7). This disparity may be explained by the relative novelty of the infrastructure and the underutilization of the workspace.

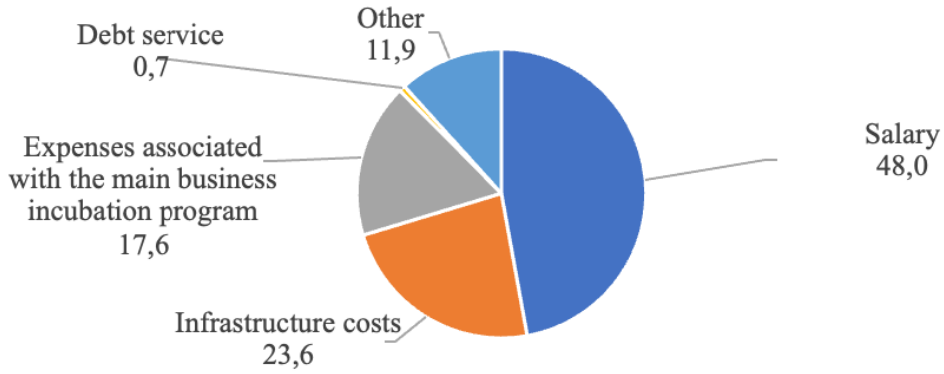

Figure 7. The average cost structure of Russian business incubators, 2020[11].

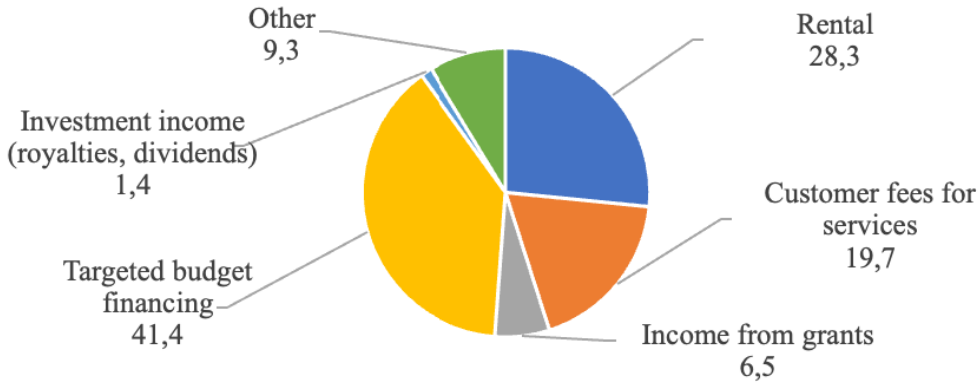

Figure 8. Average income structure of Russian business incubators, 2020[12]

A noticeable change in the structure of expenses of Russian business incubators since 2011 is the redistribution of costs for the implementation of the business incubation program (decrease from 34 to 17.6%) in favor of expanding the salaries fund (from 36 to 48%). However, this tendency has slowed in recent years. Such a drastic shift may be attributed to the growing number of activities within the primary programs of BIs that are carried out by their staff, with little reliance on external experts and contractors. This aspect is difficult to be determined as beneficial or harmful.

Based on the analysis, it is possible to compare the average portraits of the Russian and world business incubator according to the most important criteria set (see Table 3).

[11] Russian Business Incubators Survey 2020.
[12] Ibid.

The table shows that compared to 2012, business incubators in Russia have undergone several positive external changes. Thus, their average square space increased by almost 23% (which is still 15% less than the world average), the staff increased by 27%, and the annual number of residents almost doubled, reaching the world average. At the same time, if we correlate these data with a significant decrease in the total number of business incubators in our country, it becomes clear that all of the above positive changes do not reflect the growth of the business incubation market and the scaling of the most effective structures (although, undoubtedly, there are some noteworthy good examples among business-incubators in Russia), but on the contrary, its optimization.

Table 3. Average portrait of the Russian and world business incubator, 2016–2020

Parametres	Russia (2020)	Russia (2016)	World
Total space, sq.m.	3156	2572	3700
Staff, people	19	15	12
The average annual number of residents	34	18	35
The average annual number of anchor tenants	4	4	3
The average period for rendering services to residents, months	19,3	24	33
The average number of employees per resident	15	n/a	4-5
The average occupancy of space by residents	79,9%	73%	80%
Average annual budget	9 mln RUR	5 mln RUR	300,000–600,000 USD
The main source of income	Targeted budget financing (41.4%)	Targeted budget financing (40.1%)	Customer rental payments (59%)
Main expense item	Salary (48%)	Salary (52,9%)	Infrastructure costs (38%)

Composed by the author based on InBIA data and Russian Business Incubator surveys.

An indirect sign of the weak effectiveness of business incubators in Russia as actors in the entrepreneurial ecosystem is their financial indicators, which differ very much and unprofitably from the global ones. Thus, the primary source of BI income in Russia is budget financing, while on average, business incubators worldwide provide 60% through rental payments from client companies. The cost structure is also distorted: almost half of the funds go to staff salaries, while in the world, the main item of expenditure is the cost of infrastructure and business incubation programs development (including its scaling and transfer to new formats). Between 2016 and 2020, the budgets of Russian business incubators have almost doubled, while their dependence on targeted state funding yet increased.

* * *

In 2012 and 2016, the first two comprehensive BI studies were done in Russia. Clearly, by 2020 there have been significant quantitative and qualitative changes in that field, yet very few findings show any positive dynamics. Growth of Russian business incubation in 2004–2005 relatively quickly led to a stage of maturity when the main flaws became obvious: low activity and interest of entrepreneurs in incubation services (mainly due to the emergence of alternative opportunities), difficulty in obtaining venture funding at the previous stage, lack of professional staff, low entrepreneurial culture, etc.

According to the results of the study, it can be stated that it is not the business incubators themselves who are to blame for the negative trends in the business incubation market in Russia, but rather inconsistency, inconstancy, and the lack of comprehensiveness of state support measures in this direction. Business incubators are not capable of becoming the only driver for the emergence and development of an entrepreneurial ecosystem in their region – for this, their services must be in demand from small businesses, and the latter, in turn, seeks to develop where there is a favorable environment in the form of demand for products, access to talent and venture financing.

Growth of Russian business incubation in 2004–2005 rather quickly changed to a stage of maturity, at which the main problem areas became aggravated: low activity and interest of entrepreneurs in BI services (largely due to the emergence of alternative opportunities), difficulty in obtaining startup capital at the preceding stage, lack of professional staff, low entrepreneurial culture.

According to world practice, incubators, accelerators, and technoparks are the cornerstone elements of EEs, so the entrepreneurship development process heavily depends on the level of distribution and efficiency of BI, no less than on state support for SMEs and the accessibility of venture funding.

Thus, the strategic priority of state support for the institution of business incubation as the most crucial subject of the ecosystem of the Russian Federation becomes obvious.

It is important to note that the COVID-19 pandemic, which began at the end of 2019, had a complex and unpredictable impact on all aspects of socio-economic life, including the activities of business ecosystem actors (Escobar et al. 2022), that is why this issue requires a separate study. Also, judging by the answers of respondents given to the open questions Q51–Q54, several important trends in the Russian business incubation market can be named which need closer examination: (1) the recent shift in the funding of BIs from federal to regional levels which seems to have a significant impact on activities of many regional BIs across Russia; (2) boom of intra-corporate business incubators and business accelerators creation. Therefore, the following questions for future research can be formulated:

1. How has the COVID-19 pandemic affected the BI activities, and what impact did it have on the BI indicators? Has the COVID-19 pandemic affected the number of business incubator residents, and if so, in what direction and how much? How did

the consequences of COVID-19 affect the occupancy level of space allocated for the resident companies? Has the composition of resident companies and anchor tenants changed in terms of business fields, type of ownership, size, etc.? How and to what extent did the shift to online activities take place? Has the business incubator launched an online (virtual) business incubation program, and if so, how was it organized?

2. What changes does the shift of funding from the federal to regional level bring to funding mechanics, amounts of financing, the annual goal for BI, and ways of reporting? What are efficiency metrics used when BI gets funding from the federal or regional budget? Is funding from the federal or regional budget linked to BI yearly outcomes? Does the shift of funding grant BIs any freedom in implementing additional ways of monetization (commercial services, etc.)?

3. Could the trend of intra-corporate business incubators and business accelerator creation become a new driver of the BI industry in Russia? Has the level of interaction between BIs and the corporate sector risen, and in what directions (open innovation, etc.)? Can those intra-corporate business incubators and accelerators be considered competitors as they attract traditional incubators' potential clients and residents? Has the focus in the business incubation industry changed in any direction because of the activities of intra-corporate incubators and accelerators?

About the author:

Maxim A. Slesarev – senior lecturer, Department of Management, Marketing and Foreign Economic Activities, MGIMO University.

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Бизнес-инкубаторы в России: сравнительный анализ результатов международных опросов 2020 года

М.А. Слесарев
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Московский государственный институт международных отношений (университет) МИД России

Малый инновационный и венчурный бизнес сталкиваются с серьёзными финансовыми сложностями и сложностями управления на ранних стадиях своего развития, что обусловливает необходимость оказания им необходимой поддержки на старте. Правительство каждой страны избирает свой путь решения данной проблемы. Для России в 2010-х, в частности, было характерно предоставление помощи в форме создания бизнес-инкубаторов в качестве вспомогательной инфраструктуры малого и среднего предпринимательства и ключевых игроков (как и потенциального драйвера) региональных предпринимательских экосистем. Тем не менее, согласно недавно опубликованным официальным данным, за последние пять лет количество бизнес-инкубаторов в России постепенно уменьшалось, что представляется важным фактом для анализа. С этой целью был проведен масштабный опрос, в выборку которого вошли представители функционирующих бизнес-инкубаторов.

Сопоставление среднемировых характеристик бизнес-инкубаторов (использованы вторичные данные, публикуемые Международной ассоциацией инновационных идей для бизнеса, а также данные опросов 2012, 2016 и 2020 гг., проведенных UBI Global) позволяет понять фактическое состояние и динамику развития бизнес-инкубаторов в России. Опросы содержат широкий круг вопросов по различным важным аспектам деятельности бизнес-инкубаторов, включая программы инкубации, клиентов, условия ведения бизнеса, эффективность и финансирование.

В ходе исследования авторы пришли к выводу о том, что, с одной стороны, бизнес-инкубаторы в России претерпели некоторые позитивные изменения, например, они стали располагаться в более просторных помещениях, увеличился штатный состав, среднегодовое количество компаний резидентов, годовой бюджет и т.д. С другой стороны, общее количество бизнес-инкубаторов серьёзно сократилось, что говорит о том, что упомянутые выше позитивные изменения не отражают рост рынка бизнес-инкубации и развитие наиболее эффективных структур, но наоборот, их оптимизацию.

По итогам исследования авторы формулируют несколько дополнительных вопросов для проведения дальнейших исследований для лучшего понимания тех проблем, с которыми сталкиваются бизнес-инкубаторы в России, причин их консолидации, равно как возможных путей выхода из сложившейся ситуации.

Ключевые слова: бизнес-инкубатор, предпринимательство, предпринимательская экосистема, малый бизнес, МСП

Об авторе:

Максим Александрович Слесарев – преподаватель кафедры менеджмента, маркетинга и внешнеэкономической деятельности им. И.Н. Герчиковой, МГИМО, Россия, 119454, Москва, проспект Вернадского, 76.

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Appendix

Survey-2020 Question Full List

Q1. Business Incubator Snapshot (full name, address, phone, email, website, year of foundation, current space, director's full name & email, number of full-time & no-staff employees, capacity, and actual number of residents).

Q2. Evaluate how favorable the business environment is in your area in terms of conducting small business (1 - the least favorable, 5 - the most favorable).

Q3. Choose the main strategic challenges the BI is currently facing (select all that apply): Low entrepreneurial activity (lack of customers); Lack of experience in business incubation; Difficulties in finding partners and sponsors; Lack of support from authorities; Poorly developed infrastructure of the district/region; Other (specify)).

Q4. Specify the age of the companies (approximately in % of the total number) that apply to BI: No own company; Up to 1 year; 1-2 years; 2-5 years; More than 5 years.

Q5. Indicate how many clients (in %) at what stage apply to BI: Business Idea; Business Plan; Prototype Product; Industrial design product; a Pilot batch of products; Local Sales.

Q6. In what areas and industries is the small business in your region currently developing the most dynamic?

Q7. What are the main problems small businesses face in your region in these conditions?

Q8. To what extent does the state of the economic climate affect entrepreneurship in your region? (1 - extremely weak, 5 - very strong).

Q9. What type is your BI? For-profit/Non-profit.

Q10. What type is your BI? Public/Private/Public-private.

Q11. The main source of financing for BI: No source of financing / Higher educational institution / Local authorities / Non-profit organization / Commercial organization / Private sponsor/investor / Other (specify).

Q12. Has the BI been evaluated for effectiveness? (If so, in which year?)

Q13. Effectiveness evaluation of BI, in your opinion, should be (check all appropriate): Rating basis; Consulting tool.

Q14. What key performance indicators (KPI) do you use to measure your performance? Check all that apply: Occupancy of space reserved for residents/tenants; the number of successfully released projects; The volume of investments attracted to projects; the number of jobs created by resident companies; The amount of taxes paid by resident companies; Amount of registered patents; Other (specify).

Q15. Does your BI work with large corporations in the format of open or custom innovations? Yes/No.

Q16. Your BI is interested in access to a centralized database of (check all that apply): Mentors; Experts / expert communities; Investors; Projects; Service providers; Tenders; Other (specify).

Q17. What social groups does your BI focus on (select all that apply): Small business representatives; Foreign citizens; University students; Women; Youth (under 25 years old); Other.

Q18. Your BI according to the industry affiliation of its residents: Technological / Production / Service / Mixed (companies from various industries) / Other (specify).

Q19. Choose up to three main areas your BI specializes in: Computer equipment and hardware; Electronics/microelectronics; Telecommunications; Wireless technology; Software; Information technology; Internet; Media; New materials (films, polymers, etc.); Aerospace technology; Defense / national security; Energy; Ecology; Nanotechnology; Agriculture; Biotechnology; Health technology; Medical equipment; Health services; Art; Construction; Fashion; Catering; Non-profit organizations; Retail; Professional services; Tourism; Other (specify).

Q20. Do you provide workspace as part of your core business incubation program? Yes, workspace is provided / No, only services are provided.

Q21. Has your BI square changed in the last 5 years? Yes, increased / Yes, decreased / No, remained unchanged.

Q22. What shares of the total area (in %) were allotted for: Anchor tenants; Residents; Administrative premises; Shared space; Other.

Q23. What is the average load of the space (in %) allocated to residents?

Q24. Does your BI have a strategic development plan? Yes / No.

Q25. Does your BI have a documented mission? Yes / No.

Q26. Evaluate the importance of the goal stated below for your BI (1 - least important; 5 - most important, n/a - the goal is not pursued): (1) Job creation; (2) Local/regional economies diversification; (3) Stimulating the development of business and industry; (4) Maintaining business activity, attracting companies to the region; (5) Support for export-oriented companies; (6) Regional business climate improvement; (7) Revitalization of declining areas; (8) Supporting entrepreneurship among women and/or social minorities; (9) Technology commercialization; (10) Creation of additional benefits for funding organizations (joint research, etc.); (11) Net profit.

Q27. Indicate the number of full-time jobs in your BI for Administration, Accounting, Legal Services, Protocol, and Other.

Q28. How many external specialists (consultants, mentors, service providers, etc.) have your BI attracted since the beginning of 2019?

Q29. Estimate how much time on average (in % of the total time) the BI leader spends on the following activities: (1) Providing residents and affiliate customers with business development services; (2) Expanding the network of contacts and partners; (3) Interaction with authorities; (4) training; (5) Attraction of financing, search for sponsors; (6) Infrastructure Management; (7) customer acquisition; (8) Accounting; (9) Other.

Q30. For how long did the head of BI work in the field of SME support: Total;

Time spent in business incubator management; Time spent on managing this BI.

Q31. Does the head of your BI have (or had) their own business? Yes, in the past / Yes, currently / Never

Q32. What kind of education does the director of BI have? Higher economic / Higher technical / Scientific degree of Ph.D. / Scientific degree of Doctor of Science / Other (specify)

Q33. Does your BI have a Supervisory board? If yes, how many members does it consist of?

Q34. List all the functions of the Supervisory board of your BI (if any).

Q35. Select all the professions which represent the background of Supervisor board members (if any): (1) Representative of financial circles; (2) Representative of the Regional Office for Economic Development; (3) Member of the Chamber of Commerce; (4) Representative of the regional government; (5) Top manager of a large company; (6) Lawyer/business lawyer; (7) university representative; (8) BI Manager; (9) Former BI client; (10) Experienced entrepreneur; (11) Other.

Q36. Indicate the average period of services (in months) for your clients (based on data on graduate companies): Residents; Affiliates.

Q37. Indicate how much the following services are in demand among your clients (1 - least demanded, 5 - the most demanded, n / a - the service is not provided): (1) Initial assistance (writing a business plan, developing a business concept, etc.); (2) Provision of administrative and/or office services; (3) General legal issues; (4) Marketing support (advertising, marketing research, etc.); (5) Accounting and financial management; (6) Interaction with other customers; (7) High Speed Internet Access; (8) Specialized equipment (computers, kitchen, etc.); (9) Communication with educational institutions (students, specialized laboratories, etc.); (10) Trainings, staff education; (11) Management audit / consulting; (12) Support and training in the field of logistics and marketing; (13) Consulting, assessment by the Supervisory Board; (14) Engaging business angels; (15) Attraction of venture funds; (16) Assistance in obtaining bank loans; (17) Obtaining financial support from BI; (18) Intellectual Property Management; (19) Help in technology commercialization; (20) Assistance in e-commerce; (21) Search for partners; (22) Support for participation in tenders; (23) Escort to foreign markets; (24) Assistance in organizing and optimizing the production process; (25) Comprehensive business training; (26) Economic literacy training; (27) Help in creating presentations; (28) Assistance in product development and testing; (29) Business ethics training.

Q38. Does your BI provide pre-incubation and post-incubation services? Pre-incubation only / Post-incubation only / Both / Neither

Q39. Are you planning to add new services to those that your BI already offers? No / Yes (specify)

Q40. The main financial indicators of your BI are based on the results of the last financial year: Total revenue (mln roubles); Total expense (mln roubles).

Q41. Indicate approximate shares of the articles stated below in the total revenue structure (in %): Rental; Customer fees for services; Income from grants; Targeted budget financing; Investment income (royalties, dividends); Other.

Q42. Indicate approximate shares of the articles stated below in the total expense structure (in %): Salary; Infrastructure costs; Expenses associated with the main business incubation program; Debt service; Other.

Q43. Does your BI participate in the authorized capital of residents? Yes, in all / Yes, in some / No

Q44. Indicate the number of BI clients depending on their status (at the end of 2019): Residents; Affiliates; Graduates (residents and affiliates); Anchor tenants (including graduates who became anchor tenants and anchor tenants who did not participate in business incubation programs); Graduates remaining in business (including those acquired by other companies); Clients who quit the business incubation program without completing it.

Q45. Indicate the average survival ratio of residents during the first two years after graduation: Less than 10 / From 10 to 30 / From 30 to 50 / From 50 to 70 / More than 70 / This indicator is not tracked

Q46. Does your BI collect information about its residents, and if so, how often is it updated? No / Yes, quarterly / Yes, once every six months / Yes, once a year / Yes, once every 2 years or less often

Q47. What kind of information on your residents is collected (if collected): Employment; Income; Patents/copyrights; Grants and awards; Investments and equity; Other (specify).

Q48. Provide information on the average number of employees of your clients: Residents; Affiliates; Graduates.

Q49. What is the average number of companies that graduate from BI every year?

Q50. Evaluate how often you use each of the following criteria to release a client from the BI program (1 - least often; 5 - most often; n/a - the criterion is not used): The client company participated in the program for the maximum allowed time; The company's needs in the workspace exceed the maximum allowable for the program; The client company has reached mutually agreed levels of specific indicators (for example, income level, staff count, market share, etc.); Other (specify).

Q51. What kind of impediments did you (the manager/the incubator) face in your activities? What are the constraining forces?

Q52. What could the government do to enhance the impact of this business incubator (jobs, joint-up services, etc.)?

Q53. Looking back, what would you as a BI director do differently?

Q54. What kind of good practices can you share?