THE DEVELOPMENT OF INNOVATIVE STARTUPS IN RUSSIA: THE REGIONAL ASPECT

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Abstract
This paper examines some of the topical issues related to the development of innovative startups in Russia. The authors propose a methodology for assessing the viability of innovative startups, which, if implemented, may help new startups survive their first three years of business. The paper shares the findings of a study of the latest trends on startups both in Russia and overseas, analyzes the degree of activity with which startups are emerging, and explores specific characteristics of entrepreneurs developing their business from scratch, like gender and age. The authors analyze the specificity of Russian practice in terms of developing and implementing the fundamental idea of a startup and provide a rationale for the need to enhance the current legislative framework, which is inhibiting the development of this promising area. The paper also determines the major sources of funding for innovative startups in Russia and shares the findings of a comparative analysis of ratios in the volume of funds borrowed to implement startups. At present, there is a concern about the lack of proper mechanisms for assessing the viability of innovative startups, as well as about the ability to effectively attract outside funding. Among the novel and promising ways to attract investments to help implement startups in the Russian market is crowd-funding. Employing this tool is currently hampered by the lack of proper organizational and legislative regulations respecting this kind of activity. The development of startups in Russia may facilitate boosts in the population’s economic activity levels and help create more jobs. It is to help this cause that the authors have developed a specific methodology for assessing the viability of innovative startups.

Keywords: Startups in Russia; Innovative Product; Development of New Projects; Investments; Minimizing Risk

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INTRODUCTION
Achieving economic growth can only be possible through creating the right conditions for unlocking the nation’s existing potential. Positive dynamics in economic indicators is something that is attained via the effect of a number of factors, including the development of innovative startups. Developing and implementing innovations may serve as a substantial competitive advantage for a startup. If implemented in a well-thought-out manner, innovations may be a key factor in the success of a startup.

It is becoming a priority today to unlock the nation’s true innovation potential. And the implementation of innovative startups comes across as one of the more flexible tools for fashioning a knowledge based-economy in Russia.
Research into startups is nowadays a burgeoning and promising area, testimony to which are works by Boland et al. [1], Robb et al. [2], Rosenberg et al. [3].

This paper employs a theoretical-methodological approach to systematizing activity on the development of startups.

The systematization and analysis of the data explored made it possible for the authors to draw the conclusion about the need to employ additional methodologies for assessing the viability of such novel business projects as startups. Just like in other countries around the world, activity on the development of startups in Russia is full of prospects and is sought after by the more active portion of the population.

This study's topic owes its relevance to the current lack of research into the subject and the need to use more efficiently all the resources at hand that could be conducive to boosts in the quality of people's life. Under conditions of the current unstable economic situation, for many people with an active stance in life startups are becoming a means of achieving both their economic and personal goals. Developing and implementing an innovation may serve as a substantial competitive advantage for a project.

**METHODOLOGY**

As part of this study, the authors conducted an analysis of statistical data from national and foreign practice, explored the specificity of activity on implementing startups in the Russian Federation, and drew inferences regarding the more effective organizational structures for new companies.

The methodological basis for the study was a combination of analysis, synthesis, a structural-organizational approach, cause-and-effect relationship identification, and economic-mathematical modeling.

The authors' detailed analysis of literary sources helped identify a set of well-researched issues related to startup development, as well as determine and explore issues that might need additional or further research.

A startup is a temporary or constant establishment (a small organization/company/project) in any sector of the economy that is created (or planned to be created) with a view to searching for and implementing a scalable, reproducible, developable, and viable business model. Startups are characterized by a relatively short history of operating activity with a pronounced upturn in business in the initial stages and an orientation toward a prospective, often uncertain, international market.

Compared with a traditional business, a startup is characterized by:

1. Having an innovation basis, being a business that has never existed before;
2. The immediate availability of investors willing to invest their money in the company at the very beginning of its existence;
3. Being predicated on the very ideas the investors are willing to invest in [4].

Every year, lots of companies emerge around the globe that possess high growth potential predicated on an innovative product and a strategy aimed at generating profits from innovations [5].

Below are the findings of an analysis of some of the key trends in startup dynamics conducted based on data from the Ewing Marion Kauffman Foundation research center, as well as Russia’s Federal State Statistics Service?

The analysis of the information under examination may serve as a basis for gaining an insight into and forecasting existing processes both around the world and across the Russian Federation. Figure 1 displays data for the Kauffman Index of Startup Activity, covering the United States (1997–2015). The Kauffman Index, developed by Fairlie et al. [6], is a generalized, combined indicator calculated based on three other indicators: the Rate of New Entrepreneurs in the economy, calculated as the percentage of adults becoming entrepreneurs in a given month, the Opportunity Share of New Entrepreneurs, calculated as the percentage of new entrepreneurs driven primarily by “opportunity” vs. “necessity”, and the Startup Density of a region, measured as the number of new employer businesses normalized by total business population.

**Figure 1:** Kauffman Index of Startup Activity (1997–2015).

![Kauffman Index of Startup Activity](image)

As is evidenced in the graph above [6,7], the startup activity index declined from 2001 to 2003 and from 2009 to 2014. There was a spike in activity from 2003 to 2009, and then in 2014. Thus, the 2008 financial crisis began to have a negative impact on the sector within a year if its commencement.

There is huge potential for startup development in Russia.
The most suitable and convenient form of implementing new startups in the Russian Federation is the status of an individual entrepreneur. Citizens may engage in entrepreneurial activity without having to establish a legal person as an individual entrepreneur as soon as they have been registered as one. The easy procedure for the registration and control of the activity of individual entrepreneurs perfectly suits the conditions of commencing business for the market’s new participants. Figure 2 illustrates the dynamics of change in corresponding indicators in time.

**Figure 2:** Number of people engaged in individual entrepreneurship across particular types of economic activity in the Russian Federation (thousand people) [8].

![Figure 2: Number of people engaged in individual entrepreneurship across particular types of economic activity in the Russian Federation (thousand people) [8].](image)

**Figure 3:** Number of wage workers employed at individual enterprises across particular types of economic activity in the Russian Federation (thousand people).

![Figure 3: Number of wage workers employed at individual enterprises across particular types of economic activity in the Russian Federation (thousand people).](image)
As is seen in Figure 2, a general trend prevailing in the market in a certain period of time tends to be characteristic of individual entrepreneurship as well. During the recessional years 2008 and 2009, the number of people engaged in individual entrepreneurship shrank by a third. No considerable change in the number of individual entrepreneurs has been observed since 2010 (Figure 3).

The general trend in this case is similar to the one described above, although sharp declines occurred in a shorter period of time, namely from 2008 to mid-2009. The number of wage workers employed by entrepreneurial entities declined gradually from 2009 to 2013, and then it started growing beginning in mid-2013.

Of interest are also the findings of an analysis of the number of wage workers employed at individual enterprises (Figure 3).

The data presented in the above figures provide an insight into the dynamics of startup development over time. The analysis of this information makes it possible to draw the conclusion about the market situation stabilizing gradually overall.

In the global economy, the location of resources for entrepreneurial activity no longer matters as much as before, as there has taken place a transformation of national and regional business into establishments that are run based on business networking and computer networking [9].

Prior to the shift to market principles, the national economy ran based on the single national-economic complex, which encompassed the entire territory of the USSR and the member-states within the Council for Mutual Economic Assistance, relying on corresponding energy, transportation, and information infrastructure. Novel spatial and structural forms of organization, like complexes, clusters, and enterprises structured like a network, began to form in the Soviet Union in the 1970s, as was the case around the world generally at the time [9].

Currently, we are witnessing dynamic changes in the performance of the startup sector under conditions of innovation processes being implemented. The robust implementation of novel solutions is reflecting on the volume of innovative products turned out. This can be illustrated using the figures from Table 1 [8].

The innovation process is associated with the creation, assimilation, and distribution of innovations and is a means of meeting social needs based on the implementation of scientific achievements and technology [10]. Over the last 5 years, the number of goods of own production and works and services carried out using own resources has been continually rising.

As far as the activity of organizations across the constituents of the Russian Federation (Table 2), the way in terms of the innovation activity criterion is led by Central Federal District, including the city of Moscow, Northwestern Federal District, including the city of Saint-Petersburg, and Volga (Privolzhsky) Federal District [8].
Table 1: Major Indicators of Innovation Activity (million rubles).

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<th>Major indicators of innovation activity</th>
<th>Unit of measure, worth of</th>
<th>Years</th>
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<tbody>
<tr>
<td></td>
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<td>2010</td>
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<tr>
<td>1. Shipped goods of own manufacture;</td>
<td>Million rubles</td>
<td>25,794,618.1</td>
</tr>
<tr>
<td>carried out works and services using</td>
<td></td>
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<tr>
<td>own resources</td>
<td></td>
<td></td>
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<tr>
<td>Including goods, works, services</td>
<td>Million rubles</td>
<td>1,243,712.5</td>
</tr>
<tr>
<td>2. Expenditure on technological innovation:</td>
<td>Million rubles</td>
<td>400,803.8</td>
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<td>at then-current prices</td>
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The specificity of business in Russia consists in the prevalence of vertical (hierarchical) relationships [6]. In this regard, the organizational structures of many companies are currently undergoing major changes. Startups are the more dynamically changing and adapting entities. Although individual work in developing a startup is not an exception, implementing one, nonetheless, engages a small number of people each of whom, normally, performs specific duties of his own that do not intersect with those of the rest of the participants. As a consequence, they get horizontal relationships established between them.

Startup businesses have a very high failure rate. Research indicates that 70 to 90% of all startups end up failing eventually, which is an extremely high rate of failure [11].

Table 2: Innovation Activity of Organizations (the relative share of organizations that implemented technological, organizational, and marketing innovations in the then-current year in the total number of organizations researched) across the Constituents of the Russian Federation (%).

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<tbody>
<tr>
<td>Russian Federation</td>
<td>9.5</td>
<td>10.4</td>
<td>10.3</td>
<td>10.1</td>
<td>9.9</td>
</tr>
<tr>
<td>Central Federal District</td>
<td>8.6</td>
<td>10.2</td>
<td>10.9</td>
<td>10.7</td>
<td>10.9</td>
</tr>
<tr>
<td>Moscow</td>
<td>13.3</td>
<td>18.6</td>
<td>18.6</td>
<td>18.3</td>
<td>18.8</td>
</tr>
<tr>
<td>Northwestern Federal District</td>
<td>9.4</td>
<td>11.2</td>
<td>11.0</td>
<td>10.7</td>
<td>10.3</td>
</tr>
<tr>
<td>Saint Petersburg</td>
<td>13.0</td>
<td>18.9</td>
<td>18.8</td>
<td>18.0</td>
<td>18.9</td>
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In this regard, there is a concern about the ability to assess the viability of startups. The findings of the authors’ study indicate that assessing the viability of innovative startups must involve the following elements:

- The level and speed of knowledge capitalization;
- The well-balancedness of the system of borrowed funding;
- The availability of a worthwhile and innovative business idea, one that may suggest the possibility of implementing novel digital technology;
- The use of novel methodologies for startup development in implementing startups (e.g., the lean startup);
- The quick adaptation of projects to existing outside conditions;
- Founders possessing enough experience;
- Following a horizontal organizational management structure;
- The availability of a promising market niche.

Startups are a significant factor in economic development. In 2014, as much as $48.3 billion was invested in startups in the US alone. A major portion of these funds was invested in companies specializing in software development and biotechnology [12].

Many new companies turn to borrowed capital, loans in particular. Borrowed funding accounts for nearly 40% of startups’ initial capital [3].

At present, the most common sources of funding for innovative startups across the Russian Federation are:

- Own funds;
- Loans;
- Grants;
- Funds from investors;
- Crowd-funding.

Russia currently possesses a relevant market for Internet startups and projects, relevant operating funds, relevant infrastructure, and relevant state support [5].

Companies whose owners possess extensive work experience tend to have more loans and less investment in stock. Thus, startups that are focused on research and
development whose owners have extensive production experience are characterized by a higher coefficient on borrowed funds than startups that do not have this characteristic [2].

Russia currently has a system of grants for scientists and researchers in place that helps provide financial backing for promising ideas [13].

State grants are quite a popular form of attracting investment, mainly among non-profit organizations. Grants from the state or a corporation are provided on a gratuitous basis, in cash or in kind [14].

Another promising means of attracting capital into a startup is crowd-funding. In Russia and around the world, there currently are operating a number of platforms that serve as an intermediary between startup organizers and those willing to invest in startups. Being part of a crowd-funding platform is currently a global trend. If in 2011 the global crowd-funding market had an estimated turnover of $1.490 billion, there was a 10-times increase in the period leading up to 2015 [15].

Entrepreneurs may often need some support in managing the company or assessing the economic potential of their product. Compared with business angels or venture capital funds, investors may lack special knowledge about the field. Yet, there is the “wisdom of the crowd” argument whereby the collective opinion of a group of individuals may prove more efficient in resolving corporate issues than that of sole individuals or smaller teams. Thus, many investors as a crowd may be more efficient than a few separate investors/shareholders [16], which may need to be taken into account by entrepreneurs just starting out, particularly under conditions of high uncertainty.

The unpredictability of changes in the external environment and the need to adapt swiftly to them may be viewed as the major factors behind the introduction and implementation of the concept of the lean startup, a new methodology, developed based on the works of Eric Ries, whereby entrepreneurs are encouraged to determine their major clients experimentally – by creating a minimally viable product and then assessing the reaction of clients to it. Based on experiment results, the entrepreneur can arrive at a conclusion as to whether or not he is following the right strategy and then “turn around” and change it [17]. One may regard as a lean startup a process that enables entrepreneurs to lower the level of uncertainty, which is normally present in the initial stages of the business, and thus improve their chances of a success [1].

In the initial stage of building their business, it may be useful for entrepreneurs to have some serious outside backing. By working with mentors, other entrepreneurs and instructors, business owners can stay on track, identify obstacles in their paths and change course whenever necessary [18].

In the authors’ view, startup organizers in the Russian Federation ought to pay greater attention to the study of the afore-mentioned methodologies and try to implement them more actively in practical activity.
RESULTS

The analysis of the activity of startup companies was conducted based on statistical data spanning the period from 2010 to 2014, with the major focus being on organizations displaying innovative activity, as well as private individual entrepreneurs engaged in business development activity.

The authors’ analysis leads to the conclusion that innovative startups are distinguished by high levels of capitalization of knowledge utilized in them. Depending on social-economic conditions, the number of new innovative startup projects may change tangibly in the course of time. Their number and success in the market are governed by both microeconomic and macroeconomic factors.

A startup may be viewed as having reached the launch stage, i.e. attained a readiness to engage in its basic business activity, when it:

- Has a project team or relevant company personnel in place;
- Has a well-substantiated and realistic business-plan ready;
- Has a formalized and well-documented system of business processes, accounting, and tax reporting in place;
- Has obtained all relevant registration and permit documentation;
- Has relevant infrastructure for the turnout of products and provision of services (including the purchase or lease of relevant equipment, raw materials, and material supplies) in place;
- Has implemented a pilot batch of its products or services [19].

The fact that in implementing Russian and foreign startups alike there always arises a concern about their viability signals the need to develop novel methodologies aimed at strengthening the new business establishments in the early stages of their operation.

The authors have developed a model for assessing startup viability. The model incorporates the following elements:

- The level and speed of knowledge capitalization;
- The well-balancedness of the system of borrowed funding;
- The availability of a worthwhile and innovative business idea, one that may suggest the possibility of implementing novel digital technology;
- The use of novel methodologies for startup development in implementing startups (e.g., the lean startup);
- The quick adaptation of projects to existing outside conditions;
- Founders possessing enough experience;
- Following a horizontal organizational management structure;
- The availability of a promising market niche.
Employing this model presupposes conducting consistent, detailed analysis of each element and then pinpointing sets of characteristics that are, first, key factors in the success of the innovative startup and, second, potential threats and challenges that may be facing it.

The results obtained may serve as a basis for making proper managerial decisions going forward.

In the Russian Federation, activity related to startup development is still in its incipient stages, which signals the need to conduct relevant research and develop methodologies that would be conducive to boosts in startup efficiency.

The process of resolving the above issues, which face just about any organizer of an innovative startup, ought to be integrated in nature and engage all participants in the business. It ought to be aimed at removing existing obstacles both in the organization and in the regulation of the activity of new participants in the market.

**DISCUSSION**

Resolving issues arising in connection with the development of innovative startups is a priority objective resolving which may help facilitate national economic growth. The fact that just 10–30% of all new projects manage to survive their first three years of business emphasizes the relevance of developing and implementing effective methodologies aimed at boosting startup viability.

The majority of estimates laid down in a startup’s business plan undergo changes as early as the close of the first year of being in business [20]. In the earliest stages of any new business it may take a while to attract the attention of potential early users; further, it can prove even more difficult to actually convince someone to use your product or service [21].

A startup’s financial state may be influenced by the structure of funding, which may reflect one way or another on the startup’s solvency, liquidity, revenue, and profitability [14]. Therefore, in developing a funding algorithm, special attention ought to be paid to the initial stages in the implementation of the innovative project [22]. Startups may also begin work on their business plan without significant venture capital financing – in particular, in areas that require little capital investment, such as the development of mobile or cloud software applications [23].

The innovativeness of startups is about introducing into the market a product (a commodity or a service) that is not available in that market yet. That being said, even after the entrepreneur has explored the state of the market and performed all major commercial and financial calculations, that still may not lower risk by much [24]. This fact is clearly indicative of the need for startups to further refine their management decision-making methods.
CONCLUSION

The authors’ study provides an insight into the major dimensions of startup development in the Russian Federation and suggests ways to boost the efficiency of startup projects through timely work on shoring up startup viability.

Utilizing the authors’ characterization of successful startups may help startup founders focus from day one on building a sustainable business establishment.

Factors like the development of information technology and globalization are having a mixed effect on the process of development of new companies and projects. On the one hand, the development of technology may open up new, at times totally novel, vistas of opportunity for entrepreneurs, while, on the other, the development of startups may be hindered, and oftentimes even rendered impossible, by current processes of globalization. This is a time characterized by accelerating business processes, shorter timeframes for and smaller costs of shipping goods, while, sadly, most of the business areas that are dominated by cross-border corporations tend to be just shutting their doors of opportunity to small entrepreneurs.

Present-day companies are increasingly making use of network-like management and horizontal relationship practices. The use of digital technology is making it possible to conduct managerial activity and work with consumers in real time, while the implementation of information technology is opening up vast vistas for business development and helping boost the efficiency of activities undertaken.

This paper has looked into some of the major issues facing innovative startups which need to be resolved to ensure the successful development of this area of activity.

From a conceptual viewpoint, the principal purpose of this study was to develop a model for assessing the viability of startups. Among the elements of this model that are subject to integrated analysis are the level and speed of knowledge capitalization; the well-balanced ness of the system of borrowed funding; the availability of a worthwhile and innovative business idea, one that may suggest the possibility of implementing novel digital technology; the use of novel methodologies for startup development in implementing startups; the quick adaptation of projects to existing outside conditions; founders possessing enough experience; following a horizontal organizational management structure; the availability of a promising market niche.

The active development of innovative startups is expected to help boost the competitiveness of Russian goods and facilitate economic growth both regionally and nationally as a whole. Going forward, startups may become a substantial factor in bolstering the nation's economy.
REFERENCES


