

Algorithm for Corporate Startup Accelerator Implementation

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Abstract— Currently, one of the main tasks facing the Russian Federation is to reach a sustainable, innovative path of development. Promoting innovation, the formation of innovative platforms allows the Russian Federation to effectively develop the country's economy, create a competitive environment, and successfully perform in international markets.

One of the main elements of innovative development is the creation, promotion and development of startups. Pledge of motivation to increase the number of startups, their growth and development is the formation of fertile soil presented by business incubators and business accelerators. Within the framework of this article, as an object of the scientific research, we consider business accelerators and its trend of corporate startup accelerator formation.

The corporate accelerator is the most effective structure for promotion, development of startups and the simplest in terms of the company's infrastructure. However, the creation of a corporate accelerator in our country is still not very popular. In many ways this is due to the fact that, firstly, the company does not see the advantages of developing startup projects on its territory, and secondly, it does not have a clear mechanism for creating an accelerator.

Within the compass of this study, the main task is to develop a clear, practical-oriented algorithm for corporate startup accelerator implementation. The analysis of the research presented by the authors showed that earlier the topic of creating an algorithm for the implementation of corporate startup accelerators was not raised in the scientific environment.

The author analyzes and provides the features and components of the following stages of an accelerator creation: the formation of a mentors team, marketing and economic development of accelerating programs, business planning, the accelerator's marketing policy, the search for partners, the formation of its own trust fund, the formation of criteria for startups selecting and evaluating, the description of accelerator business processes, the creation of educational products, planning of accelerator work activities, legal documents processing, projects consulting plan development, the accelerator site creation.

Keywords— *Startup accelerator, Corporate accelerator, Algorithm for corporate accelerator implementation, startup, Business plan for a corporate accelerator, Innovative development.*

I. INTRODUCTION

In May 2018, the President of the Russian Federation signed the Decree "On National Purposes and Strategic Development Challenges of the Russian Federation until 2024". In the document, the president defined the priorities for

the Government of the Russian Federation: demography; health; education; housing and urban environment; ecology; safe and high quality roads; labor productivity and employment support; science; digital economy; culture; small and medium-sized business and support of individual entrepreneurial initiative; international cooperation and export. The most important task in the framework of our research is the task, formulated in the document: "the creation of a system for accelerating the subjects of small and medium-sized businesses, including individual entrepreneurs, including infrastructure and support services, and their accelerated development in such areas as the improvement of urban environment, scientific and technological sphere, social sphere and ecology" [1].

A. Validity of Research

The issues of creating and using tools aimed at the formation and development of business units are extremely relevant for the current stage development of the Russian Federation. They can become a powerful base for the dynamic development of entrepreneurship in the region, including technological entrepreneurship, which is one of the leading elements of regions innovative development and Russia as a whole.

Business incubators and business accelerators act as the leading tools for business units accelerating. In the framework of the research, we turn to the experience of corporate startup accelerator creation.

The author is interested in the experience of startup accelerator creation on the basis of the university. The university is an ideal environment for the creation and development of startup projects, since it has a scientific base, the necessary methodological support, the availability of highly qualified specialists in the staff and partners, capable of assisting and supporting startup teams, has the necessary infrastructure and material support. However, in our country the weak implementation of business projects coming out of universities can be explained precisely by the lack of a tool that would promote their development and promotion, and provide the necessary consulting support

B. Formulation of a Problem

The range of tasks of this study is to formulate an algorithm for corporate startup accelerator creation through

the prism of its creation and launch on the basis of the university, as well as providing financial forecasts for the development and performance of such an accelerator.

C. Scientific Novelty of the Problem with a Brief Review of Literature

In the scientific literature, the issues of corporate accelerators creation and formation are poorly described. The main attention is paid to corporate accelerators in the articles (S. Bogdanov "Accelerator is not a Luxury, it is a Development Tool" [7], D. Maslennikov "Corporate Accelerator: How not to Become a Department for Combating Innovation" [6], A. Zenkov "Corporate Accelerators: Why do Big Companies Need it?" [8], D. Maslennikov "Buying a Startup or an Accelerator: Which is Better?" [9]). A detailed algorithm for a corporate accelerator creation is presented in the research of A. Zhurov and A. Nikitchenko "Practical Guide to Corporate Accelerators Launching" [10]. More attention is paid to the research of corporate accelerators in the foreign scientific space (A. Goldstein "Design Principles for Building a Successful Corporate Accelerator" [11], Meriläinen Katja "Success Factors in Corporate Startup Accelerators" [12], Cristina Rueda "On Corporate Startup Accelerators", Valerie Mocker, Simona Bielli and Christopher Haley "Winning Together a Guide to Successful Corporate-Startup Collaborations" [13] and others).

At the same time, it was not possible to find studies that would consider the scientific and practical aspects of the algorithm for a corporate startup accelerator creation and development, in the context of its creation on the basis of the university. Thus, the scientific novelty of the materials presented in the study is obvious.

II. THEORETICAL PART

The analysis of concepts business incubators and business accelerators showed the key difference between them. Within the scope of this research, we will focus specifically on business accelerators, since they are an instrument capable in a short time to carry out a qualitative preparation of a business project and facilitate its entry into the market, while the project gets opportunities for business community support, communications and the necessary consulting support on legal, and economic issues [2, 3].

In the context of this study, we will rely on the following definitions of startup accelerator concept: "this is one of the business models of the venture business, when investing money, knowledge, experience and contacts, a venture company receives shares in companies, usually in an early stage and awaits its turn to yield with the growth of capitalization" [4].

At the same time, the focus will be on corporate startup accelerator. A corporate accelerator is a "business accelerator, discovered in a large company or "under its wing" [5]. With the help of the corporation employees, startups can understand how its business processes function, what they lack for growth and development, in the accelerator, startups can get professional consulting support and industry expertise, acquire links in the market, take advantage of the corporation

technology, and in some cases, to attract investments or to integrate into its distribution channels" [6].

Defining the trends and aims of startup accelerators, we note that the accelerator is created as a non-profit structure to support innovative entrepreneurship. To introduce promising technical ideas into practice, the startup accelerator will provide educational and consulting services to the authors of ideas to turn technical ideas into business ideas and support in partners and financing finding for their implementation [14].

The priority trend of a startup accelerator is the disclosure of students, employees and graduates of the university innovative potential – the conditions for their assistance are particularly preferential.

The line of the main products (services) of the startup accelerator is designed to help the innovator (the author of the technical idea) unfamiliar with the methods of business organization, in the development of a plan for his idea implementation in practice with income acquisition. The presence of such a plan will allow the innovator to conduct constructive negotiations with potential investors and receive financing.

The startups accelerator will be widely based on the capabilities of the university and, in particular, the unit on the basis of which it will be created. This also concerns the "supply" of clients from among the students and staff of the university and the use of professors as consultants and trainers in the startup accelerator.

In the near future, the startup accelerator will focus mainly on innovative projects supporting initiated by students, graduate students and university staff.

In the medium and long term, a wider range of entrepreneurs will be added to this category.

Of all the innovators' needs, the startup accelerator will focus on the following types of assistance [15]:

- the transformation of the "technological" (in a broad sense) idea into a business idea;
- the preparation of business ideas for the negotiations with investors and partners of future business;
- assistance in investors finding.

III. PRACTICAL VALUE. RESEARCH RESULTS

A. Evaluation of the Market

Estimating the number of potential initiators of innovative projects in the Saratov region in 5-10 thousand people, and assuming that the annual demand for appropriate services will be 20% of the number of potential customers, we can say that the startup accelerator in the long run expects to occupy 15-20% of the corresponding market.

In the coming years, the level of competition in the sphere in question in Saratov can be confidently assumed to be low.

The factors of startups accelerator competitiveness will include:

- proposal of a rather rare assistance trend;
- high quality of services;
- low prices and convenient payment terms;
- communication with a major university – a source of various support types, as well as a “supplier” of promising innovators.

B. Development of Programs

When creating an accelerator, it is necessary to determine and work out from the economic point of view the acceleration programs. As a rule, one accelerator has several of them:

1. Free pre-acceleration programs are necessary to promote accelerator services, increase its fame, and to collect primary information about ideas, plans and problems of beginning entrepreneurs.
2. Acceleration programs, which include only expert assistance. These programs are necessary for those startups which are independently found the means for their implementation.
3. Acceleration programs that provide startup funding search [16, 17].

The main products (services) of the startup accelerator will include the following line:

- “Seminar” – help in obtaining basic knowledge for business planning;
- “Business Start” – help in a business idea formulating;
- “Expert Advice” – advice on a business plan developing;
- “Team” – organizational support for the development of a business plan;
- “Business plan” on a turn-key basis” – complex development of a business plan;
- “Presentation” – preparation for the business plan promotion;
- “Contact” – help in investors finding.

Depending on the nature of the idea and the wishes of the innovator, based on the technical idea, the following can be planned:

- the creation of a new business;
- the use of ideas in existing businesses;
- patenting with the sale of a license or patent, etc.

If necessary, the startup accelerator will try to organize other types of assistance needed by innovators – legal advice, patent support, etc. To this end, the startup accelerator will develop partnerships with the relevant services of the university, as well as external organizations and consultants.

C. Price policy

Note that the startup accelerator does not set profit making as the main goal. Nevertheless, in the long term it is planned to enter a positive free cash flow, which will be used to expand the activities of the startup accelerator, and, possibly, to finance related projects of the parent institution.

The concept of “service prices” for the startup accelerator should be clarified separately, since it is essentially related to the payment procedure:

1. For the main target users of the startup accelerator – students, graduate students and university staff – all the services of the startup accelerator at the time of their provision will not require payment.

Nonetheless, those who receive them will have to make an agreement with the startup accelerator, providing for the stipulated deductions in favor of the startup accelerator in case of the innovative project successful advancement to financing. The terms of such contracts will be quite individual, since projects can vary greatly. However, the general principles for the startup accelerator will be:

- a) the desire to increase the cost of financing for the project initiator by no more than 2% and
- b) to charge these deductions only after the project is released for sustainable development.

2. For additional segments – innovators that do not have a direct relationship to the university – the order of partial payment of the services actual cost will be applied, resulting in prices that are 30% -40% below the corresponding commercial prices (analogous to the services of consulting firms) plus the conclusion of contracts.

The described pricing policy will require external financing of the startup accelerator in the first years.

This funding is partly planned to get from the university.

In addition, taking into account the obvious socio-economic orientation of the startup accelerator being created, it is planned to seek other support – from grants and sponsors to municipality and state.

D. Sales planning

Creating accelerator startups, you need to make a forecast on the number, quality and nature of sales.

Recall here that in connection with the preferential order of providing services for students and university employees “selling” in the case of startup accelerator in many cases should be considered the provision of services, rather than receiving payment. Such cases are indicated in the table 1 by the symbol “L”. Services for other clients provided with payment (although at low prices) are indicated by the “K” symbol.

TABLE I. VOLUMES OF STARTUP ACCELERATOR SALES, IN PHYSICAL INDICATORS

Product Name	1 st year				2-nd year	3-rd year and beyond
	I	II	III	IV		
Preferential Sale						
Service «Seminar» L	1	1	1	1	4	5
Service «Business Start» L	15	15	20	25	80	80
Service «Contact» L	0	5	20	25	80	80
Service «Expert Advice» L	0	0	5	15	40	40
Service «BP on a Turn-Key Basis» L	0	0	1	3	5	5
Service «Presentation» L	0	0	5	10	30	35
Service «Team» L			3	3	10	12
Commercial Sale						
Service «Business Start» K	0	0	5	5	20	20
Service «Contact» K	0	5	10	15	20	20
Service «Expert Advice» K	0	0	1	3	10	10
Service «BP on a Turn-Key Basis» K	0	0	1	2	5	5
Service «Presentation» K	0	0	3	5	10	15

Deductions from the successful projects should in the future be the main source of financing for the startup accelerator and become the basis of its self-supporting work.

When planning these deductions, the following main parameters were adopted:

- The average amount of funding received under the project, supported by the startup accelerator - 10 million rubles;
- Charges in favor of the startup accelerator:
 - for clients "L" - 2%;
 - for clients "K" - 3%.

TABLE II. PLAN OF GROWTH IN THE NUMBER OF SUCCESSFUL PROJECTS SUPPORTED BY STARTUP ACCELERATOR

	1 st year IV quarter	2 nd year	3 rd year	4 th year	5 th year and beyond
Number of successful "L" projects	1	2	5	8	10
Number of successful "K" projects	1	2	3	5	5

E. Accelerator need for resources

When presenting a business plan for the accelerator being created to the organization's management staff, on the basis of which it is created, it is important to provide as much information as possible about the resources [10] that will need to be used to fully operate the accelerator.

a) Physical resources and equipment requirements

To start the accelerator, created on the basis of the university, it is expected to use the office of the university premises of 6-70 square meters. The premise should be equipped with furniture, air conditioning and do not require repair.

The cost of equipment facilities (air conditioning, office equipment) will be about 200 000, for software 77 000.

b) Intangible resources and development needs

An important component for the startup accelerator will be the availability of good methodological aids, as well as carefully developed documentation to formalize relations with customers. The creation of this will require the following costs:

TABLE III. EXPENSES FOR THE DEVELOPMENT OF THE STARTUP ACCELERATOR

Methodical aids	90 000
Contracts for customers	25 000
Receiving and registration documents	5 000
Total for development	120 000

F. Key suppliers

The reliable functioning of any organization is ensured by reliable suppliers, so they need to be determined at the planning stage.

As already mentioned, the key supplier of physical as well as information and organizational resources for the accelerator will be the university. Including:

a) Human Resources

The main supplier of consultants and experts can be the master's program, as well as the programs of professional development and professional retraining. It is possible to

attract professors and senior students for this purpose. In addition, it is planned to attract outside experts on contracts.

b) Supporting Activities

It is planned that the startup accelerator, being a part of the university, will receive active support from it in the spheres providing the general opportunities for work.

G. Expenses for operations

Expenses can be divided into permanent (regularly from month to month) and variables (arise in accordance with the need). Calculations of the fixed costs of university startup accelerator are presented in Table 4. The temporary expenses of the business accelerator can be attributed to the payment of the invited business consultants and trainers' work.

TABLE IV. FIXED COSTS OF UNIVERSITY STARTUP ACCELERATOR

Expenditure	Month, rub	Quarter, rub
Salary of the head (with deductions)	18930	56790
Salary of the coordinator (with deductions)	6310	18930
Internet (traffic, hosting)	5000	15000
Telephone (subscriber + intercity)	2000	6000
Consumables for office equipment	2000	6000
Stationery goods	1000	3000
Postage expenses	1000	3000
Miscellaneous expenditures	500	1500
Total	36740	110220

H. Accelerator personnel

Accurate staffing of the accelerator is an important factor of its qualitative development, and the number of personnel must optimally match the accelerator financing.

The Expert Council of 8-10 people is planned to make the highest managing body of the accelerator to be created. In the Expert Council it is planned to include professors of the university unit, as well as, possibly, external experts.

Staff members (released from other duties) of the accelerator will be:

- Accelerator Coordinator
- Head of Accelerator

Most of qualified employees necessary for the startup accelerator will work on it on a temporary basis – they will be used to perform work on specific tasks.

Total number of employees involved, taking into account the need to have different specializations, possible employment in the main job, etc. can reach 30-40 people.

I. Legal documents processing

An important step in creating an accelerator is the legal documents processing. The list of documents includes:

1. Service agreements for each of the programs;
2. Documents on the inclusion of third parties in the legal entity of the startup;
3. An offer to sell a stake in a legal entity of a startup.

In service contracts, it is necessary to include conditions for its termination, data confidentiality, the possibility of information using, and personal data processing. These documents can have options for different scenarios of interaction with customers.

J. Marketing company planning

The marketing plan should include a temporary and financial plan for carrying out activities on the territory of existing small business support entities, branch hackatons, representation at exhibitions and events, Internet marketing, promotion in social networks. Each channel of marketing is estimated by three parameters:

1. Capacity (the maximum possible number of startups that can be attracted using a channel);
2. Cost of contact (costs to be incurred when using the channel);
3. Conversion (the proportion of people who will become participants in the accelerator).

The general tasks of the created accelerator marketing promotion will be:

- Drawing attention to the start of the project and its capabilities;
- Informing about the capabilities of the startup accelerator, its services, their components, the costs of obtaining them, the benefits for the consumer, etc.
- Formation of the startup accelerator image as a center, on the one hand, using the serious experience, traditions and opportunities of the university, on the other – an innovative and modern business center
- Motivation to action (“purchases”) of the startup accelerator potential customers.

TABLE V. STARTUP BUDGET (FOR THE FIRST 3 MONTHS)

Promotion tool	Units	Cost, rub.	Number	Total, rub.
Booklet release (12 pages)	copy	12	2000	24000
Creating a website	pcs	28000	1	28000
Press conference on the start of the project	pcs	25000	1	25000
Conducting a series of presentations for potential customers	pcs	20000	3	60000
Targeted mailing list	address	10	1000	10000
Conducting a conference for professors	pcs	2000	1	2000
Conducting presentations for students	pcs	5000	12	6000
			TOTAL	155000

In the future, it is planned to spend up to 50 thousand rubles a year on supporting measures to promote the startup accelerator.

K. Financing and financial forecast

Accelerator's requirements for external financing arise due to the need for its equipment, the marketing promotion campaign, as well as the delay in the revenues from the activities regarding the start of the project.

The requirements were determined based on the calculation of cash flows, which leads to the following schedule:

TABLE VI. ACCELERATOR NEEDS IN FINANCING, RUB

Before the research start	1 st year				2 nd year	3 rd year
	1 st quarter	2 nd quarter	3 rd quarter	4 th quarter		
570000	190383	243688	512834	302850	1465431	643884
					TOTAL	3,929,070

IV. RESEARCH FINDINGS

Thus, the startup accelerator plan for the first 3 years of operation consists in attracting and maintaining at least 150 people a year. In the future - with the experience of the startup accelerator and its popularity, the number of customers can be increased to 250-300.

To equip the startup accelerator and support it in the first 3 years of work will require direct financing in the total amount of 3.9 million rubles. Basically, it is planned to get it from the university - partly at the expense of budgetary, and partly due to extra budgetary resources.

In prospect, the startup accelerator can bring the number of projects receiving funding through its support (the so-called "successful projects") to 15 per year. At the same time, the average amount of financing for a successful project should be 10 million rubles.

In spite of the fact that the startup accelerator does not make profit as the main goal, in 4 years from the beginning of work it is planned to go on self-financing – a positive free cash flow, which will be used to expand the activity of the startup accelerator, and possibly to support related projects of the original university.

Within the bounds of this study, the algorithm for the corporate startup accelerator creation on the basis of a university is presented with the provision of the necessary

financial calculations that prove that the organization of the startup accelerator is not only a major contribution to the development of the region's economy and innovations, but also the possibility of substantial profits obtaining.

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