

Innovation Entrepreneurship at Universities in the Emerging Innovation Systems

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Başvuru 15/04/2015

Kabul 25/05/2015

Abstract:

The study aims to analyze the transformation of Russian universities into the innovation actors. We described the concepts of university role in modern society and adapted them to the Russian reality. The paper identifies the main features of Russian universities as innovation actors. We described the state support to Russian universities relating to their innovation activity, in particular, the Federal Act of the Russian Federation № 217 on the establishing small innovation enterprises at public universities. The results of this Act implemented are shown; the obstacles to the creation of small innovation enterprises at Russian public universities are identified. We developed the model of organizational structure of small innovation enterprises at Russian public universities.

Keywords: Small innovation enterprise, university-industry collaboration.

JEL: O33, O34, O38

INTRODUCTION

The beginning of the third millennium has confirmed the fact that science and technical progress have turned into a main source of economic growth. Permanent innovation activity has become a basis of modern economic progress. Technological, economic and social changes have been accelerating and obviously leading to new type of economic development (Bell, 1976; Castells, 2000; Smith, 2000; etc.). Of course, the role of new knowledge producers has been increasing on this stage.

Universities are historically regarded as knowledge producers and distributors. In western countries, since the beginning of the 19th century uni-

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versities have been being not only educational but also research organizations in which big part of R&D is concentrated. In post-socialist countries the different system of science organization were performed which included university, academic and industrial sectors of science. However, nowadays the role of universities in retention of Russian scientific potential and production of new knowledge for industry has been growing.

Objective of this research is to analyze the transformation of Russian universities into innovation actors and their experience in innovation management at the period of knowledge-based economy (KBE) formation. This analysis is very important for Russian innovation system and higher education when, on the one hand, world economy has been moving to KBE, on the other hand, the economic crisis had strong impact on Russian higher education.

THEORETICAL BACKGROUND: THEORIES OF UNIVERSITY ROLE IN THE MODERN SOCIETY

Relevant this theme issue theories of knowledge production can be classified conventionally into two main strands – those that argue there has been a shift in knowledge production to more university contribution to industry and social needs, and those that portray a necessity of changing “Mode 1” and “social contract” between academic researchers and state. However, many scholars (Etzkowitz *at al*, 2000, 2012; Florida, R., 2000; Godin B. and Gingras Y., 2000) are agreed in recognizing main socio-economic and technological changes that have become the drivers in transformation of university role. In developed countries (for example, in North America and EU), these changes are as following: the growing role of knowledge and information in socio-economic development when knowledge has been becoming one of major factors of wealth-being and competitiveness; changes on labour market connected with previous factor: new knowledge-intensive technologies require new high-skilled workers that causes mass demand on professional higher education; increasing pressure on universities to meet societal needs more particularly the needs of industry and government; globalization.

Nevertheless, scholars differently interpret the consequences of these changes on university behavior. We have analyzed these theories in respect of their main points to make clearer changing both in real university activity in modern life and in its theoretical interpretation. These theories are represented schematically in table 1.

Table 1. Theories of university role in the modern society

	Mode 1	Mode 2	Triple Helix	Social contract
Actors	Academy (university)	Academy and practitioners	University, industry, government	University, government
Driving forces	Academic community driven	Practice driven	Social needs	Government needs
Focus	Disciplinary focus	Transdisciplinary	Interdisciplinary	Mostly disciplinary
Organizational structures	Hierarchical, stable knowledge structures	Heterarchical and transient structures	Flexible, transmitting structure, networks, feedback, recursive effects	Usually stable academic structures
Instruments (methods) of achieving quality	Quality through internal consistency and peer review	Appeal to temporary and heterogeneous set of practitioners in specific context	Quality through alliances between scientists, practitioners and officials	Quality through peer review and social assessment
Work organization	Individual research work	Team work, group creativity, actors' networks	Networks of actors involved	Individual/group research work
Sphere of application (action)	Science sector - universities, research institutes & laboratories	Applied research institutions, government laboratories, universities (especially technical)	Universities, public (official, government) bodies, R&D institutions, industry, business	Universities, R&D institutions, government programs
Commercialization of results	No, disclosed knowledge, priority of discovery	Closed knowledge, commercialization of results	Commercialization or public program funding	Depends on situation
Preconditions of emergence	Separate parallel development of science and industry	Emergence of knowledge-based industries	Increasing pressure of social needs (above all industry), growing demand on mass higher education, rising competition within education services market.	Government needs
Stimuli of development	New knowledge search	Demand from practice (needs of application)	Pressure of social needs, lack of university funding	Political needs

Mode 1 involves new knowledge being produced primarily within individual disciplines, mainly in universities and other academic institutes. There is little direct connection to societal needs and the results of research are transferred at the end of project to users (B.Martin and H.Etzkowitz, 2000).

By contrast, Mode 2 (Gibbons et al. 1994) generally involved multidisciplinary or transdisciplinary research carried out in a growing variety of institutions (not just universities or academic research institutions) and with a blurring of the boundaries between the traditional sectors (industry, university etc.) Knowledge is increasingly being produced “in the context of application” - in other words, with societal needs having a direct influence from an early stage and with relatively explicit social accountability for the funding, that is received by researchers from government.

The one of new and most arguable among scrutinized models of knowledge production is Triple Helix model (H.Etzkowitz et al., 1999, 2000, 2012). This model develops hypothesis of ‘third mission of university’ which due to societal needs of knowledge-based society, at first, and lack public funding universities, at second (although in fact the latter is the former). This theory supposes the transformation of traditional university into “entrepreneurial university”. The entrepreneurial university encompasses a ‘third-mission’ of economic development in addition to research and teaching (Etzkowitz and Leydesdorff, 1999; Etzkowitz, Ranga et al., 2008). Some authors argue that this shift arises from both the internal development of the university and external influences on academic structures associated with the emergence of ‘knowledge-based’ innovation.

The Triple Helix model attempts to account for a new configuration of institutional forces emerging within innovation systems. In a knowledge-based economy, the university becomes a key element of the innovation system both as human capital provider and as seedbed of new firms (Etzkowitz and Leydesdorff, 1999; Etzkowitz, Ranga et al., 2008; Goldstein & Renault, 2004; Benneworth & Charles, 2005). Three institutional spheres (public, private and academic), that formerly operated at arm’s length in laissez faire societ-

ies, are increasingly interwoven with a spiral pattern of linkages emerging at various stages of the innovation and industrial policy-making processes.

The main idea of Etzkowitz *et al.* (1999, 2000) Triple Helix theory states the university can play an enhanced role in technological innovations in increasingly knowledge-based societies. It seems to us, these changes in university role and activities are especially important in the period of global economic recession. We agree with Etzkowitz and Ranga (2012), Rodrigues and Melo (2012) the practical implementation of Triple Helix concept can be successfully utilized to motivate regional actors to collaborate across institutional and organizational boundaries, legitimize policy efforts and improve coherence between different sectors influencing innovation.

Social contract as a kind of model of knowledge production, in post-war period, have solved the main task to provide rapid scientific and technological progress of developed countries, above all USA. In the beginning of XXI century, many authors (D.Guston and K.Keniston, 1994; J.Duderstadt, 1999; R.Florida, 1999; D.Guston, 2000; R.Frodeman and C.Mitcham, 2000) stand an idea to tie public research more closely to industrial needs and to decrease public funding.

THE SOCIAL AND HISTORICAL SPECIFICS OF RUSSIAN UNIVERSITIES

Russian higher education system is organized alike Western one but it has essential differences that affect entire process of universities functioning.

Above all, higher education institutes similar European classical type had arisen in Russia much later than in Western Europe – in XVIII-XIX centuries, but other types of high schools (for example, academies) were in Russian cities before.

Moreover, although governments and Church had a strong impact in European universities but they were originally autonomous and self-managed institutions. Besides external autonomy, there is big internal autonomy of

departments and chairs, participation of professors and teachers in decision-making process. In Russia, universities have been state universities from the very originating; the government financed and regulated them. As a result, autonomy of Russian universities has been being much lower, their environment is more regulated and bureaucratic, internal autonomy is much lower: main powers in decision-making belong to university authorities. The specifics of Russian universities as compared with Western ones due to noticed factors, and that have a strong impact in Russian universities' activity in whole, including innovation activity.

Autonomy of Russian universities had risen in the second half of 1980th – first half of 1990th. It was determined by radical changes in Russian social life. Universities had received bigger than before autonomy in the development of teaching plans and programs, teaching courses content and selection of textbooks. However, the reinforcement of state regulating university life have started since the middle of 1990th.

Another specific feature of modern Russian universities and Russian R&D system is Russian universities are teaching organizations above all: teaching activity is a dominant and research had been being a minor activity for a long time. This practice is due to Soviet period when the science was separated from education system. Since a big part of Russian R&D is concentrated in Russian Academy of Science institutions and in industrial R&D institutions, Russian universities carry out smaller part of R&D. This situation is very harmful both for science and for education so as it disintegrates the integral process of knowledge reproduction. In fact, until now, Russian science is divided across three sectors where Academy of Science concentrates basic research, industrial institutions, laboratories, experimental stations etc. carry out R&D for concrete industrial needs, and universities perform all kinds of R&D (but it depends on type of university – classical universities prefer doing basic research and technical universities concentrates applied research).

Besides noticed problems another negative factors have a strong impact in Russian universities activity. Some of them are common for higher education in the world, some of them due to transitive character of Russian economy.

ADOPTION OF UNIVERSITY ROLE THEORIES TO THE CASE OF RUSSIA

The point is: to what extent are theories of university role in developed market economy applicable to case of Russian Federation (RF)? What theories tend to appear in Russian economy?

Indicators and trend described below demonstrate the shift of RF universities' R&D from basic to applied one for needs of local (sometimes not only local) industry, cooperation and feedback of universities and industrial clients within innovation processes, formation of local and regional networks including researchers, developers, producers and users of innovation products. These processes may prove the movement to performance of Mode 2 in modern Russia. Probably, mostly it occurs through technoparks and analogous forms of S&T cooperation. However, it is true that this movement is quiet slow and difficult, because of as underdeveloped market mechanisms as ineffective state economic policy.

So as mentioned forms of university-industry collaboration are admitted by local (more often) or federal authorities (and sometimes are supported by funding), it gives a possibility to speak about formation of Triple Helix III model of university-industry-government relations. Etzkowitz represented three types of Triple Helix configuration (Etzkowitz and Leydesdorff, 2000): Triple Helix I - nation state encompasses academia and industry and direct the relations between them; Triple Helix II – separate institutional spheres with strong borders dividing them; Triple Helix III “is generating a knowledge infrastructure in terms of overlapping institutional spheres, with each taking the role of the other and with hybrid organizations emerging at the interfaces”.

From this point of view, all of these configurations were existing in Russian economy within different historical periods. Under planned socialist economy Triple Helix I was prevailing. Since 1992 until 1998 (period of market reforms beginning and active destruction of previous economic system), relations between universities, industry and government were in fact

transformed into Triple Helix II. Nowadays, in emerging market economy, Triple Helix III is formatting in this sphere.

As to Mode 1, it was existing in Soviet economy as linear model of knowledge production and diffusion in fields admitted by state authorities. As “free knowledge search for own sake” with little connection to societal needs Mode 1 was strictly limited so as the so-called “social function of science” always played a dominant role among all functions under socialism. Nowadays this model is strictly limited because of lack of public funding.

From the point of basic research, it is more likely to speak about “social contract” in Russian science. However, Soviet type of social contract had own essential specific in comparison with western countries, which was determined by etatistic, totalitary character of socialist society. In western countries, “the contractual relationship for both politics and science presumes independent parties with divergent goals.” (R. Frodeman and C.Mitcham, 2000). Whereas in socialist society state was major actor and any independent parties could not exist in principle. It seems one may define Soviet type of social contract can be positioned as a special type of contractual relationships, that imply unequal in rights partnership. In modern Russia, current government intends to reanimate social contract on new economic basis (government programs, grants etc.).

Thus, these theoretical issues can be summarized in Table 2.

Table 2. Theories of university role in Russian context

Time period Theories	Before 1991 (socialism, USSR, command economy)	1991-1998 (destruction of command economy, “starting capitalism”)	1998-2001 (after financial crisis, beginning economic growth)	2001-...
Mode 1	was existing, as linear model of innovation process, but as “peer science for own sake” was limited (in some research fields).	NO (because of lack public funding)	NO (because of lack public funding)	in a little extent, only in academic research institutions with public funding
Mode 2	could not be existing in planned centralized economy	in a little extent, some examples	slow development on emerging market base, mostly involved into technoparks and analogous forms of university-industry relations.	slow development on emerging market base, mostly involved into technoparks and analogous forms of university-industry relations.
Triple Helix	was existing as Triple Helix 1 (An etatistic model of university-industry-government relations).	was existing as Triple Helix 2 (A “laissez-faire” model of university-industry-government relations).	slow movement to Triple Helix 3 (trilateral networks, hybrid organizations).	slow movement to Triple Helix 3 (trilateral networks, hybrid organizations) stimulated by government policy.
Social contract	was existing in special form (as contract between parties unequal in rights)	in fact was absent because of lowest public funding	government’s declaration about reanimation on new base but low public funding.	government’s declaration about reanimation on new base with rising government funding.

Summing up issues of this part, possible to conclude that in transitive Russian economy university-industry-government relations are affected as by negative factors of transition as by emerging mechanisms of market economy and knowledge society. Among all described theories of university role in modern society the Triple Helix III and Mode 2 are applicable in some extent to current Russian situation. As well, one may say new social contract between science and state is in developing.

STATE SUPPORT OF UNIVERSITY-INDUSTRY-GOVERNMENT COLLABORATION IN RUSSIAN FEDERATION

Since 2001, leaders of the Russian Federation speak about the necessity of shift to innovation economy. During this time, a number of laws and regulations is accepted, fragments of the national innovation system are created. Enactment of the *Federal Law № 217 “On Amendments to Certain Legislative Acts of the Russian Federation concerning creation of business companies by budgetary scientific and educational institutions for implementation of the intellectual activity results”* in 2009 has become one of the steps along this way. According to this law, universities and research institutions have the right to create their own business companies or Small Innovative Enterprises (SIEs) applying the results of intellectual activity belonged to universities and research institutes.

METHODOLOGY AND DATA

For studying the statement of academic innovation entrepreneurship and its state support, primary and secondary data sources were used. Primary data sources include structured interviews and field observations. The research instruments used were personal observation, interviews and secondary data collection approaches. Primary data collection covered the technopark “Volga-technics” at Gagarin State Technical University of Saratov (SSTU) and SIEs established according to law № 217-FZ at SSTU. This university is one of the biggest technical universities in the Volga region and carrying out innovations actively. Personal observation and interviews were used to obtain more information on the activity, results etc. of SIEs at SSTU. Managers of technopark and SIEs were interviewed. Secondary data was collected from relevant government agencies (Ministry of Science and Education of Russian Federation, Federal State Statistic Service, etc.), journals, books, monographs, Internet and companies annual reports. Secondary data collection covered the structure, activity and results of SIEs established on Russian budgetary research and educational organizations according to law № 217-FZ. Both descriptive and inferential statistical techniques were applied for data analysis. The information gotten from the personal observation and interviews was used in determining the impact of law № 217-FZ on the SIEs innovativeness, activity and organizational structure.

The practice of law № 217-FZ implementation demonstrates the multi-directional dynamics of the creation of SIEs at budgetary research and educational organizations (Figure 1). The peak of this process was in 2011 because of experience collected by universities and big government financing in this field.

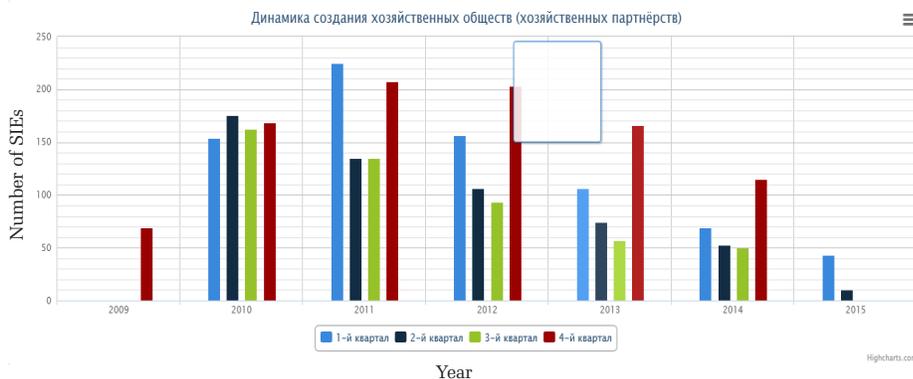


Figure 1. Dynamics of the creation of SIEs based on budgetary research and educational organizations (quarterly per year)

The data on SIEs activity and results were collected from different official reports of Russian Ministry of Science and Education and Russian Information Center of Science and systematized in tables 3, 4.

Table 3. Activity of SIEs based on budgetary research and educational organizations

<i>Parameters</i>	<i>2010</i>	<i>2011</i>	<i>2012</i>	<i>2013</i>
Number of SIEs performing R&D	117	187	304	378
Number of R&D projects performed by SIEs	198	335	693	778
Financing of R&D projects performed by SIEs, mln. Rbl.	274,9	418,851	750,140	608,859
Average financing of R&D per 1 SIE, thousand Rubles.	2349,9	2264,1	2483,9	1645,6
Average financing per 1 R&D project, thousand Rubles.	1388,6	1257,8	1058,6	796,9
Number of SIEs creating IPR	No data	140	220	253
Number of IPR created by SIEs	No data	180	307	366
Innovation output of SIEs, mln. Rbl.	No data	1600,8	1855,5	No data
Average innovation output per 1 SIE, thousand Rubles	No data	2125,9	2202,6	No data
Staff number, persons	No data	2056	3360	4216
Including:				
Professors and university teachers	No data	605	966	1187
PhD students		254	381	498
Students		346	555	587

Source: Ministry of Science and Education of Russian Federation, Russian Information Center of Science.

Table 4. IPR kept in budgetary research and educational organizations balance-sheet

Intangible assets	Number of accountability units		Share of IPR used, %
	Total	Including used for SIEs creation according to law-217-FZ	
1. Patents for inventions	5485	380	6,9
2. Patents for utility models	1737	145	8,3
3. Patents for designs	94	64	68,1
4. Software certificates	2381	266	11,2
5. Databases certificates	191	40	20,9
6. Certificates on topographies of integrated circuits	7	2	28,6
7. Know-how	511	342	66,9
Total:	10406	1239	11,9

Source: Ministry of Science and Education of Russian Federation

RESULTS AND DISCUSSION

As a result of analyzing the structure, activity and results of SIEs established on Russian budgetary research and educational organizations according to law № 217-FZ the following positive effects of the creation of SIEs for universities are revealed:

1. Involving the university intellectual property into the economy;
2. Creating a positive image of high-tech entrepreneurship, providing training and jobs for university students and graduates;
3. Forming a market-oriented research by ordering the research projects to the university;
4. Providing access to financial resources for the innovation projects implementation;

5. Making rent payments to the university;

6. Sponsorship and payments to the university Endowment Fund.

Opportunities connected with the law-217:

1. Establishing business companies for the intellectual activity results application;

2. Having a blocking parcel of shares (more than 25% in stock company and more than one third in limited liability company (LLC)), which influences the decision-making in company;

3. The share of other members of company must be paid in money not less than one-half;

4. Established companies have a status of small enterprises, regardless of the share of the university, and can participate in tenders, programs as small business enterprises (for example, in programs of Russian Fund Supporting SMEs in R&D);

5. Estimation of the IPR to 500 000 Rubles can be carried out by the SIE founders unanimously (without the involvement of an independent appraiser);

6. The simplified taxation.

As a result of analysis, we can recognize the following types of small innovation enterprises organized under universities:

1) The enterprises created by universities before enactment of law № 217-FZ as a part of university structure.

2) Enterprises created on the university territory by university students, graduate students, and staff, and legally irrelevant to the university.

3) Non-profit organizations created in universities.

4) LLC created by university or research institute according to the law № 217-FZ, but mismatching it for the various reasons (discrepancy of a univer-

sity share in the authorized capital, wrong official registration of documents etc.).

5) LLC created by university or research institute according to the law № 217-FZ and completely corresponding to its requirements.

Corresponding to the law № 217-FZ requirements means the fact SIEs has an opportunity to work under the simplified taxation scheme on law № 310-FZ from 27.11.2010 and to pay low insurance payments according to № 272-FZ from 16.10.2010. In December 2012, more than 1 700 SIEs are registered in CSRS register (table 3), among them only 1/3 corresponds to the law № 217-FZ requirements. Consequently, only 1/3 SIEs can use this possibility.

LLC (98% of the total number) is the most common legal form of university SIEs. Patents for an invention, utility models or industrial samples (55%), know-how (27%) and computer programs (18%) are specified as an object of intellectual property contributed to the authorized capital of the company.

At Saratov State Technical University, 9 SIEs are created according to law № 217-FZ. All of them are established as limited liability companies (LLC). They do activities in building production, chemical and bio- technologies, technological marketing and consulting, ITT, expertise and quality management. Most of SIEs established at Russian universities according to law-217 are engaged in modern industries associated with RF state priorities of science and technology.

Specific features of the SIEs based on budgetary research and educational organizations

As a result of academic entrepreneurship studying in Russia and abroad, the authors identified the following:

1. SIEs staff mostly involves academic people who has work experience only in a non-commercialized academic environment, in the laboratory or research institute. Academic entrepreneurs mostly have a technical education, because of this they tend to emphasize the technical aspects and

neglect things related to the business (marketing, finance, accounting etc.). Thus, SIEs staff usually is not experienced in business management.

2. It is usual that SIEs staff excessively rely on complicated and advanced technology.

3. Participation of the university / research institution in the formation of authorized capital is a necessary condition for the academic enterprise creation.

4. The distinctive feature of the academic enterprises is that they are based on scientific knowledge and technologies.

It is obvious the academic entrepreneurship in Russia is still in its initial stage and we should not expect their fast and efficient growth. Nevertheless, the Russian Federation government carries out programs stimulating further successful development of academic enterprises and entrepreneurial universities and considers them as a crucial element of the innovation economy in our country.

The authors' model of the organizational structure of SIEs based on budgetary research and educational organizations

According to law № 217-FZ requirements, the SIEs, based on budgetary research and educational organizations, must correspond to the following criteria:

1. SIE must have the structure of a new company, satisfying the requirements of the Federal Law № 217. SIEs cannot be considered to be an extension or branch of the research institute, the reorganized existing company or enterprise from technopark.

2. SIE must be created on the base of academic organization, research institute, funded mostly through public funding; private research laboratories do not count.

3. SIE must commercialize scientific knowledge, which may include technological innovations, patents, know-how, industrial designs, utility

models, i.e. everything that can be defined as intellectual activity results. Knowledge that had been generated in the academic careers in research institute or university, are transmitted as a contribution to the authorized capital of the new company.

4. Since the main objective of SIEs business is profit, the non-profit organizations are not considered.

The authors' analysis showed nowadays most of Russian SIEs have poorly developed organizational structure. For example, SIEs, created at Gagarin State Technical University of Saratov, have 1-3 employees, that is not enough for effective growth of these enterprises and obtaining stable, long-term income. SIEs staff involves above all academic people who have work experience only in a non-commercialized academic environment and mostly technical education. Most of them are almost unskilled in business that is an obstacle for effective commercialization of R&D results. For solving these problems, authors developed a model of the organizational structure of SIEs based on budgetary research and educational organizations.

Authors developed recommendations to improve SIE team activity during the formation and functioning SIE and introduced the definitions "intrapreneur", "an entrepreneur", "production team" and "business team" for SIEs based on budgetary research and educational organizations. The authors' model of organizational structure of SIEs based on budgetary research and educational organizations is developed (fig. 2). This model, in contrast to existing approaches, presented the founder (s) as a separate element of SME structure, involving the "external entrepreneur" into SME team, dividing SME staff in "business-doing" and "regular work-doing" groups that will divide their functions and areas of responsibility and, ultimately, improve SIE functioning and can help to identify problems of this type of companies.

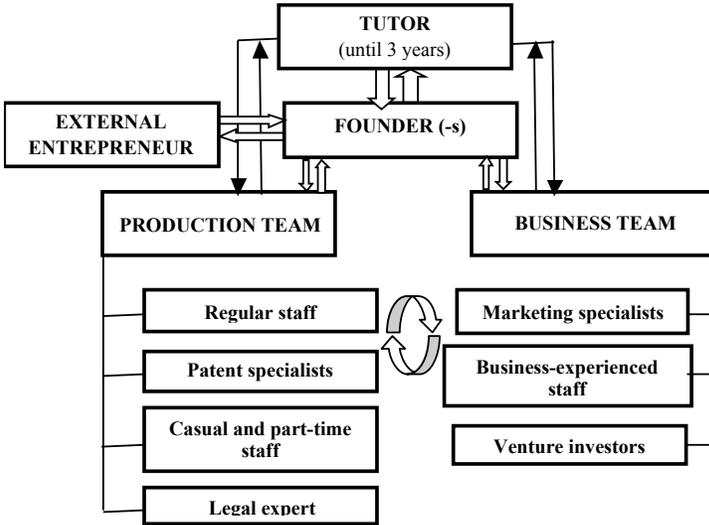


Figure 2. The authors' model of the organizational structure of SIEs based on budgetary research and educational organizations

The core functions of the SIE organizational structure are shown in table 5.

Table 5. Functions of business team and management team in SIEs

<i>Employees</i>	<i>Functions</i>	<i>Form of employment in SIE</i>
<i>1. Production team</i>		
1.1. Regular staff (professors, research and teaching staff, PhD students, students)	Regular production process	main place of work
1.2 Patent specialists	Access to patent base Providing patentability	- combining jobs by-workers; - turnkey contract.
1.3 Casual and part-time staff (personnel from industrial enterprises)	- "narrow" specialists; - access to equipment; - access to plant space.	- combining jobs by-workers; - turnkey contract..
1.4 Legal expert	- consulting; - high speed of work	- combining jobs by-workers; - turnkey contract..
<i>2. Business team</i>		
2.1 Marketing specialists	- market analysis; - processing and provision information about market.	- combining jobs by-workers; - turnkey contract..
2.2 Business-experienced staff	- business consulting - assistance in business administration.	- combining jobs by-workers; - turnkey contract.
2.3 Venture investors	- information about market and investment opportunities; - possibility to receive investments.	- combining jobs by-workers; - turnkey contract..

According to the proposed model of SIE organizational structure, the founder (s) has a central place in this enterprise. SIE founder is the leader, chief, coordinator. Founders can be divided into entrepreneurs engaged in scientific research (professors, associate professors), or researchers and creators of SIE without big research experience: students, post-graduate students. The tutor of founder should assist and advise to him in the process of developing ideas of SIE. After finishing tutor's responsibilities, the external entrepreneur can take place near founder(s). But joint and parallel working of the external entrepreneur and tutor do not exclude.

According to the authors' opinion, the team of SIE formed within the University, has several specific features, in comparison with other emerging companies, that need to be taken into account. Therefore, SIE team has rather high skills in research and technical aspects of production. At the same time, as a rule, university staff - SIE founders do not have sufficient managerial and business skills, which generates many difficulties, especially in the initial period. So, at the initial stage of SIE creation it is desirable involving the coacher to bridge gaps in business knowledge of staff, and later they can use external entrepreneurs. According to authors view, external entrepreneurs can be representatives from business and industry, i.e. the other two coils according to the terminology of the Triple Helix Model. An external entrepreneur in the team can play an important role in SIE success. Business experience, accumulated business knowledge, possible access to venture capital are significant benefits of an external entrepreneur.

CONCLUSION

SIE creation takes quite a long time, because it begins with a lengthy research phase before the official registration of the enterprise. Considering this, one can presuppose the SIE team may be different on phases before and after the enterprise establishment. Moreover, SIE team may be changed during functioning the academic enterprise. In the case of involving new employees, it is expected they will bring new skills and experience, as well as they can substitute for academic staff, gone back to the academic activity.

The paper identifies the main features of Russian universities as innovation actors. We described the state support to Russian universities relating to their innovation activity, in particular, the Federal Act of the Russian Federation № 217 on the establishing small innovation enterprises at public universities. The results of this Act implemented are shown; the obstacles to the creation of small innovation enterprises at Russian public universities are identified. We developed the model of organizational structure of small innovation enterprises at Russian public universities. Thus, the results of this study can be taken into account in the creation of SIEs based on budgetary research and educational organizations.

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