Key Elements of the Entrepreneurial Ecosystem Facilitating the Growth of ICT Entrepreneurs in Russia

Elena Pereverzeva

Abstract This exploratory study examines the perceptions of Russian entrepreneurs about their experiences with their own new venture creations in Russia. The study utilizes the Ecosystem approach to examine the drivers of entrepreneurship. Integrating the theory from economics, sociology, and psychology, we argue that both the individual personality traits and the environment impact entrepreneurial activity. We used a mixed method approach with in-depth interviews and surveys, followed by interviews with the Control Group.

Keywords Entrepreneur • Russia • New venture creation • ICT

1 Introduction and Background

The complexity of today's global economic environment has made it more important than ever before to recognize and encourage entrepreneurship as one of the prime movers of economic growth. In light of the multiple challenges facing global economy, there is lot of interest among policy makers and researchers to explore the factors that promote entrepreneurship and innovation in a country, as well as the barriers that prevent innovative SMEs and entrepreneurship from playing their full potential role.

There are many determinants driving entrepreneurship. Understanding the factors behind this process has occupied the minds of economists for hundreds of years, engendering theories ranging from Adam Smith's focus on specialization and the division of labor to neoclassical economists' emphasis on investment in physical capital and infrastructure, and, more recently, interest in other mechanisms such as education and training, technological progress, macroeconomic stability, good governance, firm sophistication, and market efficiency, among others.

In light of the changing world dynamics, a multi-country research group has been formed in 2009, comprising of management scholars from Italy, Brazil, Russia, India and China, aimed at achieving two sets of goals:

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– To study the emergence of entrepreneurial ventures in each of these countries, as a function of several elements in the 'Entrepreneurial Ecosystem', namely: the legal-political and economic ideologies, social and cultural norms, government policies and programs, education and training systems, technology development, transfer and absorption, availability of finance, and opportunities for cross-national interactions and business relations.
– To conduct a comparative analysis of the situations of the five countries, with specific reference to the ICT industry, which is playing a relevant role in all of them

The underlying idea is that it is crucial for researchers and policy makers to understand the quality of such elements in any economy, as well as their potential in supporting or inhibiting new venture creation. It will also give an idea about the sustainability of the high levels of entrepreneurial activities in the different contexts.

Whereas a number of individually relevant determinants of entrepreneurship are widely explored (Parker 2004; Grilo and Irigoyen 2006), differences across Europe and the growing BRIC countries have still not been compared. Of late, the BRIC countries are observed to have high levels of entrepreneurial activity, the sustainability of which can be assessed by studying the quality of the entrepreneurial ecosystem. Of course, entrepreneurship determinants and policies differ considerably among the 4 BRIC countries, owing to different socio-economic, cultural and political scenario and the policy needs, but it is of utmost relevance today to understand the underlying factors, using a reference country model to identify key elements of the ecosystem (environment) that have encouraged and supported entrepreneurship. In this reference, Russia (as one of BRIC) has its own distinctive features but in spite of very high level economics the entrepreneur activity is low. This study retains that, in Russia, every 23rd citizen (4.3 %) that is of working age is an early entrepreneur (meaning that his activity was funded less than 3 years ago). According to these numbers, Russia is behind the rest of the BRIC countries, where every 8th resident opens his own business, and also behind other Eastern European countries, where the number is every 11th.

In addition, the Russian Federation's low entrepreneurial activity is affected by the fact that many companies, having opened their business, never manage to overcome the first stage of development.

The activity index of established entrepreneurs in the country equals 2.1 %, and this represents 33 % of the total number of entrepreneurs. In industrialized countries, on the other hand, the number of established companies (i.e. functioning for more than 3.5 years) exceeds the number of the newly created ones.

According to the authors of the study, the reason why the level of entrepreneurship is so low in the Russian Federation is because of the structural economy and the population's negative outlook on opportunities to start their own business. Only 13 % of Russians called the conditions favourable.

The study's experts therefore believe that a significant growth in the entrepreneurial sector in Russia should not be expected in the near years. Only 3 % of

Russian respondents are planning to open a business in the next three years, while in other BRIC countries these figures go up to 21 %.

In light of our cross-cultural research on "Entrepreneurship and New Venture Creation", this paper aims to analyse the Entrepreneurial Ecosystem, supporting and harnessing the growth of Knowledge Intensive ICT entrepreneurs in Russia. As the knowledge economy is maturing, there is an urgent need to equip SMEs with the capabilities and skills to grow and prosper. Unfortunately, even today early-stage businesses are constrained by a number of factors.

The paper is structured in five sections. After this brief introduction, review of the literature is presented. Next, theoretical model is explained. Thereafter, the methodology of the research is presented, followed by main findings. Finally, we end with a discussion of the study's limitation and implications for future research.

2 Entrepreneurship and the Environment

The environment in which business is conducted plays a crucial role in fostering or weakening entrepreneurial activities in terms of firm creation, firm expansion and implementation of process, product and management innovation within a firm. Issues such as the fiscal environment, labour market regulations, administrative complexities, intellectual property rights, bankruptcy law, education and skill upgrading, etc. are understandably crucial in determining the entrepreneurial dynamism of an economy.

The term "Environmental factor" refers to those environmental attributes that surround the individual (Grundsten 2004). Environment, in this sense, is encompassing of such factors as infrastructure, cultural, economic, social and political environments. These environmental forces have been found to be capable of either impeding or facilitating entrepreneurial activities in any society. Gnyawali and Fogel (1994) define the entrepreneurial environment as "the overall economic, sociocultural and political factors that influence people's willingness and ability to undertake entrepreneurial activities". According to Luthje and Franke (2003), "environmental factors can facilitate or impede entrepreneurial activity, and it plays an important role in the formation of an individual's intention to create new venture." There has been an array of perspectives put up to examine the connections between entrepreneurial activity and the environment.

Entrepreneurship begins with first and foremost individual characteristics of entrepreneurs. For example, psychologists have hypothesized about the psychological traits associated with entrepreneurs, such as a personal need for achievement (McClelland 1961), belief in the effect of personal effort on outcome (McGhee and Crandall 1968; Lao 1970), attitudes towards risk, and individual self-confidence (Liles 1974). Personal characteristics of entrepreneurs is also a major theme of a recent work of Lazear (2004), who concludes that individuals who become entrepreneurs have a special ability to acquire general skills, which they then apply to their own businesses.

2.1 Entrepreneurship in Russia

Russia is the world's largest country, a nuclear superpower with unsurpassed energy resources. It also is a country which finds itself at the crossroads of possible development paths. Market oriented mechanisms have been introduced but Soviet era laws remain on the books. Corruption has become a way of life and freedom of the press has been gradually eliminated in early 2000s. Within this backdrop, private entrepreneurship has emerged, albeit in a distorted way. To understand Russia's current situation, one needs to understand the dramatic developments that have characterised its recent history.

As the heart of the Soviet empire, Russia had tremendous control of enormous amounts of natural resources and human capital. Yet, 20 years ago, in the late 1980s, it was a country where entrepreneurship was marginal, the economy was stagnant and the ruling communist hierarchy had no clear formula for solving the deepening crisis. Unfortunately, the reforms characterising Russia's attempts at rebuilding statehood after the collapse of the Soviet Union in the 1990s, first under M. Gorbachev and then Boris Y'eltsin were inconsistent and did not foster macroeconomic stabilisation.

However, under the leadership of V. Putin (since 2000), macroeconomic stabilisation as well as institutional stability has been achieved. In addition, unprecedented increase in the price and demand for oil and gas resources has resulted in a rapid growth of Russia's GDP. Russia now has a large private sector, though not without its limitations. At first glance, 'de jure' regulations often seem reasonable, yet it is the selective and arbitrary manner by which they are enforced that results in a lack of consistency or stability for firms (Aidis and Adachi 2007; Aidis et al. 2008). In addition, the inadequacies of the Soviet system resulted in Russians becoming accustomed to a corrupt and malfunctioning legal environment (Gelman 2004). Unfortunately, this negative legacy continues to characterise the business environment today. As a result, large, politically connected enterprises dominate Russia's business landscape. Moreover, the lack of universal property rights is reflected by the uneven distribution of income, and Russia is plagued by some of the most extreme social differences and pockets of dire poverty (Glaeser et al. 2003; Gerry et al. 2008; Buccellato and Mickiewicz 2009).

Overall, despite numerous policy announcements oriented towards entrepreneurial development, entrepreneurs in Russia face a hostile business environment characterised by the weak rule of law and widespread corruption. As formal structures in Russia fail, they are complemented by informal networks, which form 'intangible assets' for certain well-connected entrepreneurs that allow them to overcome environmental barriers (Aidis et al. 2008). However, though some businesses learn to cope, the lack of a level playing field for businesses in general seriously distorts the development of a thriving business environment. The crucial issue is not the existence and number of small businesses, but rather the fact that most of them have either no incentive to grow or are severely restricted in doing so given that if they are successful they face a serious risk of expropriation or forced

takeover by those better connected to the intertwined economic and political structures of power.

2.2 Knowledge-Intensive Entrepreneurship

The term "Knowledge-Intensive Entrepreneur" lacks a very rigorous definition. It has been coined because of the need to emphasize knowledge as the basis for technological innovation and new firm development.

A variety of recent studies have shown that Knowledge Intensive Entrepreneurship has the potential to contribute to economic development in several ways: as an important channel to connect innovative ideas into economic opportunities, as a basis for competitiveness through the revitalization of social and productive networks, as a source of new employment, and as a way to increase productivity. These findings have led to the implementation of different types of initiatives and policies designed to encourage entrepreneurship, including the introduction of education and training programs, the promotion of consulting support for entrepreneurs and the facilitation of access to finance.

For the purpose of this chapter, we have used the following working definition: "Knowledge Intensive Entrepreneur is defined in dynamic terms as the entrepreneur of normally small and medium sized enterprise (SME) that focus on the discovery, innovation or interpretation of knowledge. Such individuals typically maintain a business focus while continuously innovating."

Our focus on Knowledge-intensive ICT entrepreneurship is based on our understanding of its relevance: (i) as a major factor affecting innovation; (ii) as a core transformative mechanism for translating knowledge into growth, (iii) as a stock of capital or factor of wealth generation which can be used in the production of other goods; (iv) as important dynamic property of different systems of innovation and institutional setting.

2.3 ICT Market Development in Russia

In Russia's ICT market there are several market trends that are of great global market impact. According to the expert forecast, by the period of 2020–2030 Russia will become the knowledge-based economy. Besides natural resources, labour force and assets, knowledge technology will become one of the main factor of industrial success. There will be the growth of knowledge-based services. The human capital will play even more significant role in manufacturing then before, and therefore, there will be an increase in investment in education and training.

In the transition to the knowledge-based economy the usage of ICT will be doubled. Innovation will become the main resource of economic growth and business competitiveness.

In the near future it is forecasted that centres of development and competence and manufacturing will shift outward the developed countries. According to the experts, it is expected that the share of the OECD countries will drop from 80 to 60 % of the global ICT sector. For instance, in 2011 the growth of the ICT market in the BRIC countries will slightly exceed 13 %. The volume in its market is close to €497.9 billion. On the contrary, there are great prospects for China to become an IT-power with its government support of high technology industry. The volume of the ICT market in China has reached €204 billion, with growth in 2011 of 11 %. In Russia, with the same growth of ICT market in 2011, it amounted to only €57 billion.

By the period of 2015–2020, the increase in the ICT impact on social processes will at its zenith. It is expected that the development of the Web can lead to de-socialization of the working population. This will require the creation of new forms of psychological and social support for citizens. It will also require the adoption of legislative and technical measures against destructive forms of socialization (organized riots, —twitter revolutions, totalitarian groups, and so on).

During the period of 2015–2020, the experts forecast an acceleration of scientific and technological revolution driven by active integration and the widespread use of Internet networks that implement the new principles of the organization. The new type of networks will provide flexibility and sustainability of network infrastructure in compliance with evolutionary development of the network security with the development of technological and organizational principles. This will reduce the cost of network infrastructure by automatic adjusting the network settings for the user tasks. Network infrastructure and resources of different physical nature will be transformed into a single system. Pessimistic forecasts are associated with these trends.

By the end of the period of 2020–2030 years, such global trends as a significant increase in negative impact of ICT on the environment will perform the largest effect in Russia. For instance, the ICT sector is responsible for 2 % of world carbon emissions and this figure will double by 2020. According to the survey results of Harvard university scholar Alex Wissner-Gross, two Web searches in any browser generate about 20 mg of CO_2 per second.

The disposal of E-waste is the fastest growing problem. In 2020, old computer waste is predicted to rise in China by 200–400 % and by 500 % in India. Similarly, waste from discarded mobile phones is forecasted to be astounding 7 times higher in China and 18 times higher in India in comparison to 2007.

Increase in share of ICT of the total industrial production will enhance the value of creating green IT-devices. Measures for improvement of the environmental performance include, for instance, life cycle management of IT products, the use of data-centres' heat to heat the water, etc. The negative impact of the ICT sector on the environment will be decreased by introduction of green ICT and a shift from the goods consumption to the consumption of content.

This global ICT trend provides Russia with two options – either to focus on developing green technologies or to keep developing fewer technologies.

One of the biggest problems is the global game for the highly qualified human resources. Russia's goal is to keep the maximum number of Russian specialists in the ICT field and also to attract foreign professionals. Number of highly qualified specialists in the field of ICT, produced annually in Russia, hardly exceeds 2,000 graduates. The number of experts who can implement a responsible job with high dedication is even less. Therefore, most of business elites keep complaining on shortage of ICT staff.

Thus, all of the major global trends will have a significant impact on Russia as part of the global community. Proper response to these trends by state and business elite needs will strengthen the competitive position of Russia on the global ICT market.

3 Theoretical Model

The development of entrepreneurship in a particular milieu depends not on a single over-riding factor but rather on a 'constellation of factors' at the individual, societal and national levels (Tripathi, *Business Communities of India – A Historical Perspective*, 1984). These factors could be ranked either as "General Environmental factors" – stemming from economic, political and socio-cultural conditions prevailing in a region or "Task Environmental factors" – such as financial assistance, infrastructural facilities, government policies, R&D Support and so on. The General Environmental factors are formative in nature in the sense that they mould the competencies, attitudes, and values of an individual. The Task Environmental factors on the other hand are facilitative in nature, as they help an individual in channelizing his competencies into a particular field, which in the present case is entrepreneurship and new venture creation (Mathew J. Manimal).

In order to understand the factors that support or hinder an entrepreneur, we have used the Entrepreneurial Ecosystem framework model in our research, instrumental in gaining insight into factors (individual, society, state) which enable growth performance among the entrepreneurs in the knowledge intensive ICT Sector.

An ecosystem refers to the complex of organisms and their environment interacting as a unit. Organisms – human and otherwise – are affected by their environments. The systematic study of environment is rooted in the biological science where the term "ecology" is most commonly applied to the natural habitats of animals. "Human ecology" is a more recent term extending to the domain of geographers and sociologists who are interested in the distribution of human populations. From this perspective, an "ecosystem approach" to the study of human behaviour posits a framework for reviewing the interaction that occurs between individuals and their environment.

Thus, the term "entrepreneurial ecosystem" (EE) refers to a combination of factors that play a role in the development of entrepreneurship.

In order to gain insight into the Entrepreneurial Ecosystem, the research group evolved the following six framework conditions that foster entrepreneurship, which have been found to be applicable in Russia and the BRICs.

1. Individual Personality Traits: refers to the personal qualities of an individual pre-disposing him/her to entrepreneurial activity. The development of these traits could arise from early socialization, parenting, socio-cultural norms, early education and familial care etc., which are the components of the general environment.
2. Socio-cultural Context: refers to the social and cultural norms that influence individual's behaviour and attitude towards entrepreneurship.
3. Government Policies and Programs: refers to the extent to which government policies as reflected in tax or regulations are capable of facilitating new venture creation, and presence of adequate government programs in assisting firms in their start-ups, survival and growth
4. Access to Finance: refers to availability and affordability of various types of finance such as bank loans, equity, venture capital, angel funding, subsidies and grants.
5. Access to Information, Opportunity for Knowledge and Skill-building: refers to the availability of information on business opportunities and access to data required by entrepreneurs for managing their business. Also includes availability of opportunities for acquiring knowledge and learning that helps them in developing relevant skills required for managing their businesses.
6. Internationalization: refers to entry into the international market and meeting the challenges of existing players. For this an entrepreneur should have access to knowledge on international markets, procedures, have partners in the international markets for exports, imports, foreign direct investment, international subcontracting and international technical co-operation. They should also have access to appropriate training, and support services.

The model on Fig. 1 comprises the various determinants as mentioned above, which can facilitate and support the growth of an entrepreneur and thus influence entrepreneurial performance. Within each of the six main variables of this model, several sub-variables are identified to elaborate on the overall framework.

While the entrepreneurial ecosystem framework is presented here in a linear fashion, it is explicitly recognized that there are complex relationships among the different main variables and their sub-variables. They tend to reinforce each other, and weakness in one area often has a negative impact on other areas.

3.1 Research Questions and Methodology

The study is guided by the following broad research question: 'What factors influence the support and development of ICT new venture creation in Russia?'

INDIVIDUAL	SOCIO-CULTURAL	STATEGIC/GOVT. PILICIES AND PROGRAMS	ACCESS TO FINANCE	KNOWLEDGE & SKILL BUILDING	INTERNATIONALIZATION
Education	Socialization	Infrastructure	Self finance	Business skills	International approach
Motivation	Risk-taking	Government policies	Bank credit	Training centers	International knowledge
Skill set	Family background	Incentives programs	Interest rates	Counseling services	Government agencies facilitations
Role models	Attitude	Taxation	Angel investors	Research & development	Access to financial resources
Opportunity	Support	Inflation	Venture capital	Business Incubators	Foreign languages abilities
Ability to manage		Min. entry barrier	Private equity	Networks	Intercultural skill
		Corruption			

Fig. 1 The entrepreneurial ecosystem

The study utilizes an exploratory, theory building approach (Strauss and Corbin 1998; Eisenhardt 1989; Yin 2003). A mixed method approach of data collection strengthens the study by providing both quantitative and qualitative perspectives on the phenomena being examined (Miles and Huberman 1994).

Primary data collection was done through:

- 50 on-line questionnaires sent out to the ICT Entrepreneurs of small, medium and large scale enterprises;
- 50 on-line questionnaires sent out to the non-ICT Entrepreneurs of small, medium and large scale enterprises;
- 30 questionnaires sent out to control group.

The survey data were collected from 50 ICT entrepreneurs and 50 entrepreneurs from other economy sectors across small and medium enterprises (SMEs) in Russia. The selection of ICT firms was based on the definition of ICT sector developed by OECD and includes the ICT sector industries based on products and services under these four branches – ICT manufacturing, ICT services, telecommunication and digital media.

A structural questionnaire composed mainly of closed-ended and rating questions was used as a data collection instrument. The questionnaire was first developed in Russian as a common methodological tool to be used across the 4 BRIC countries and Russia. Country specific changes were incorporated to suit the cultural variations. The questionnaire was then translated in Russian and was pretested in order to ensure that the survey content and measurement scales were clear, valid, and appropriate. Based on the pre-test responses, some demographic items were modified. The owner/founders of the firms were the target respondents

of the survey to ensure the validity of the data collected since the study is based on personal experiences of the entrepreneurs affecting his/her growth potential.

We used the selective database of member ICT companies of Moscow region to send out the online questionnaire for the respondents to answer. Along with this, Social media was also used to reach out to the entrepreneurs.

To maximize the response, personalized cover letters were sent, with promise of feedback and confidentiality. In total, 400 ICT entrepreneurs across SMEs were randomly selected and identified as meeting the selection criteria. Questionnaire link was sent out to the entrepreneurs along with e-mail reminders and in some cases also telephonic reminders. Finally, we received 50 questionnaires which were relevant for the inclusion in the sample, resulting in a response rate of 16.25 %.

4 Research Findings

Results of the findings are shared corresponding to each variable. First, the findings of the interviews are presented, followed by findings of the survey questionnaire. These findings are then co-related with the findings of the Control Group.

4.1 Individual and Personality Traits

1.	Your ability to quickly recognize start-up opportunities
2.	Your ability to take risk
3.	Your ability to organize the resources required for start-up

The questions focused at understanding the personality traits of the entrepreneurs facilitating new venture creation as perceived by the ICT and Non-ICT entrepreneurs (Fig. 2).

The most favourable factors were ability to recognize start-up opportunity, ability to take risk and ability to organize the resources for start-up

Our findings from survey data for 50 ICT and 50 non-ICT SMEs reveal the following differences:

1. Almost 75 % of the respondents across non-ICT sector consider they have good ability to recognize the start-up opportunities comparing to only 56 % in ICT sector.
2. Ability to take risk for non-ICT respondents is also significantly higher. 62 % of non-ICT considered they have good and 36 % have average ability to take risk, when for ICT respondents these figures are 52 % and 26 % respectively.
3. 66 % of non-ICT and only 40 % of ICT perceive themselves as having the ability to organize resources for start-up.

Fig. 2 Individual and personality traits in Russia

In general, the study confirmed that the entrepreneurs in Russia highly value individual and personal traits. However, the finding also revealed that the entrepreneurs in non-ICT sector and more self-confident and perceive higher all three abilities. This also means that ICT entrepreneurs have higher tendency to doubt their abilities and to be more accurate and well planned. To sum up the argument, the findings are in line with recent reviews and evaluations of entrepreneurship personality research suggesting that personality traits of entrepreneurs are important for entrepreneurship.

4.2 Socio-cultural Contexts (Supporting/Hindering)

4.	Presence of family-based entrepreneurship in your society
5.	Culture of promoting venturing and risk-taking in the community
6.	Culture of encouraging creativity and innovation
7.	Entrepreneurship considered as a desirable career choice in your society
8.	Opportunities for new venture creation
9.	Entrepreneurial opportunities for your gender
10.	Entrepreneurial opportunities for people in your age category

When we asked entrepreneurs across ICT and non-ICT sectors about the socio-cultural context supporting entrepreneurship, the key findings were (Fig. 3):

In knowledge-based growing economies, individuals face the following decision: should they deploy their creative effort in some company or should they leave to establish a new organization? In this situation, cultural and social norms play significant role as they might encourage and strengthen entrepreneurial behaviour of its members. The most favourable factors mentioned to us were culture encouraging creativity and innovation and opportunities for new venture creation.

Our findings from survey data for 50 ICT and 50 non-ICT SMEs reveal the following:

1. There is a significant gap in results for ICT and non-ICT respondents on social aspects; but the general attitude is highly positive;
2. Only 40 % of ICT respondents fell high presence of family-based entrepreneurship and 22 % respond that this is poor. While in non-ICT sector 56 % responded that they see good presence of family-based businesses and only 4 % – low. This can be explained by the specific of ICT industry, which is young and doesn't have time to build family-based companies;
3. 66 % of non-ICT as against only 50 % of ICT respondents perceive their culture encouraging creativity;
4. Non-ICT respondents also better fell opportunities for new venture creation 60 % of respondents comparing to 50 % in ICT sector, but even 50 % is high value;

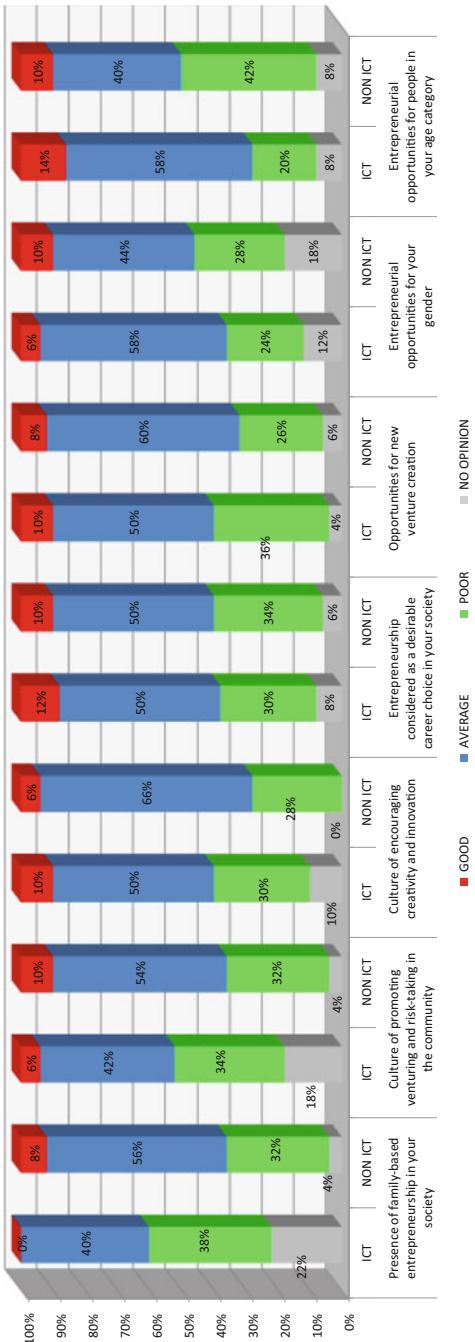

Fig. 3 Socio-cultural context supporting entrepreneurship

5. 58 % of the respondents across ICT evaluated as "good" entrepreneurial opportunities for both their gender and their age category. Only 40 % of non-ICT entrepreneurs stated the same;
6. 50 % of the respondents across ICT and non-ICT sectors consider becoming an entrepreneur as a desirable career choice.

Socio-cultural contexts in Russia are very supportive for entrepreneurs and new venture creation. Family-based entrepreneurship is not so popular in Russia, especially in comparison to European countries because of different culture and political background; nevertheless, it was still positively evaluated by both groups. At the same time we have strong encourage for creativity and innovations in Russian culture. Serious actions taken by the government reflected with positive attitude of the respondents towards opportunities in the society for new venture creation, especially in Moscow region, where the research was held. Summarizing the argument socio-cultural contexts were positively evaluated by both ICT and non-ICT respondents.

4.3 Government Policies and Procedures

11.	Special government schemes and programs for start-ups
12.	Favourableness of overall government policies
13.	Favorableness of taxation system
14.	Ease of obtaining permits and licenses (VAT code, . . . etc.)
15.	Favourableness of physical, transportation and ICT Infrastructures

This section focused on understanding the government policies and programs supporting new venture creation as perceived by ICT and non-ICT entrepreneurs (Fig. 4).

Doing business requires supportive government policies and programs in particular, easy-to-obtain licenses and permits, better information, simplification of regulations, favourableness of taxation system and lower degree of regulatory and administrative opacity. The most favourable factors cited were Physical, transportation and ICT infrastructure. The least favourable factor cited was Ease of obtaining licences and permits.

The findings from our survey data for 50 ICT and 50 non-ICT SMEs reveal the following:

1. 48 % of the ICT and 34 % of non-ICT respondents estimated at the average level special government programs for start-ups, and 34 % and 28 % respectively gave high evaluation to the existing schemes;
2. Only 20 % of the ICT respondents and 16 % of non-ICT consider overall government policies as unfavourable for them. 40 % of ICT and 44 % of non-ICT consider it as favourable;

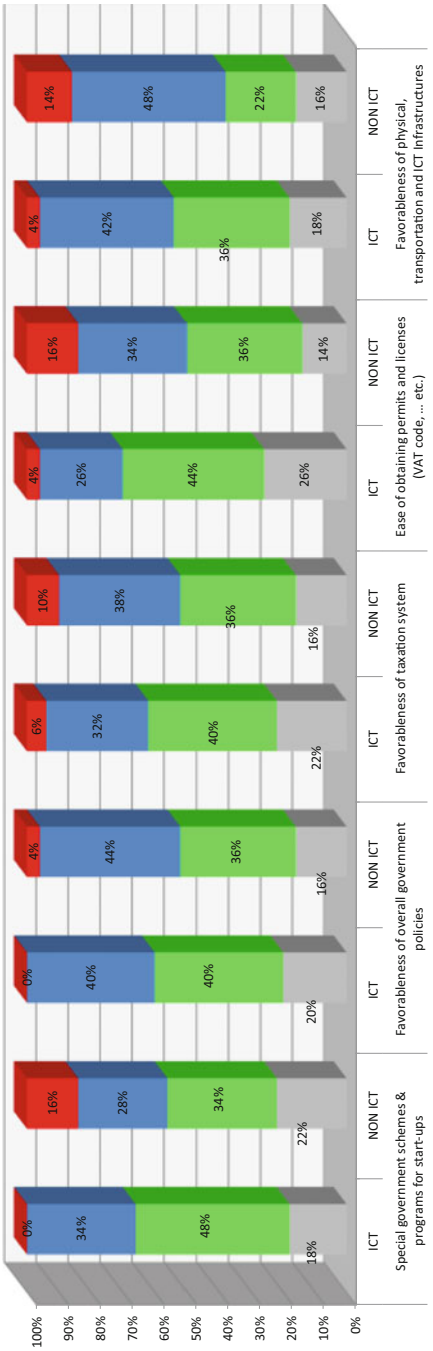

Fig. 4 Government programs and policies to support entrepreneurs

3. Taxation system was considered as less friendly in comparison to overall policies. Only 32 % of ICT and 38 % of non-ICT perceive it as favourable. And 22 % of ICT respondents estimated taxation system as burdensome for the start-ups;
4. 26 % of ICT and 34 % of non-ICT respondents perceive that it is easy to obtain licenses and permits at the time of start-up; same 26 % of ICT estimate that it's not easy;
5. Physical, transportation and ICT infrastructure were considered as favourable by 42 % of ICT and 48 % of non-ICT respondents.

Recently, in Russia, state registration of small businesses and entrepreneurs has facilitated significantly. All over the country a simple and user-friendly "one-window" format was introduced, which became a lump sum for registration of a legal entity, getting an individual taxation account and registration in statistics services. These actions led to significant facilitation of registration procedure.

Another factor is stable economic situation so that an entrepreneur can forecast his/her revenues and tax assignments for a few coming years. Moreover, there are fiscal benefits available for the first year of operations, which are perceived by entrepreneurs as small, and there is still a way for government policies for further development. In the conclusion of the section we have to note that general attitude of young entrepreneurs towards legislation and taxation procedures is mostly positive or neutral.

4.4 Access to Finance

16.	Availability of Government subsidies
17.	Availability of family/friends funds
18.	Availability of Venture Capital Funds
19.	Availability of funds from private individuals/Angel funds
20.	Availability of bank loans

This section focused on understanding the ease of access to finance as perceived by the ICT and non-ICT entrepreneurs (Fig. 5).

Access to finance is indispensable for growth, but many entrepreneurs have difficulties having access to finance. In order to better understand the credit markets, we analysed through our sample the ease of access to different sources of financing as perceived by entrepreneurs in the ICT and non-ICT sectors, our findings reveal the following scenario:

1. Government subsidies can play a very important role in the start-up phase for the young technology based firms. 36 % of the ICT and 44 % of non-ICT respondents perceive availability of government subsidies at the time of start-up, as against 24 % in ICT and 18 % in non-ICT who feel that there are no government subsidies available for start-ups.

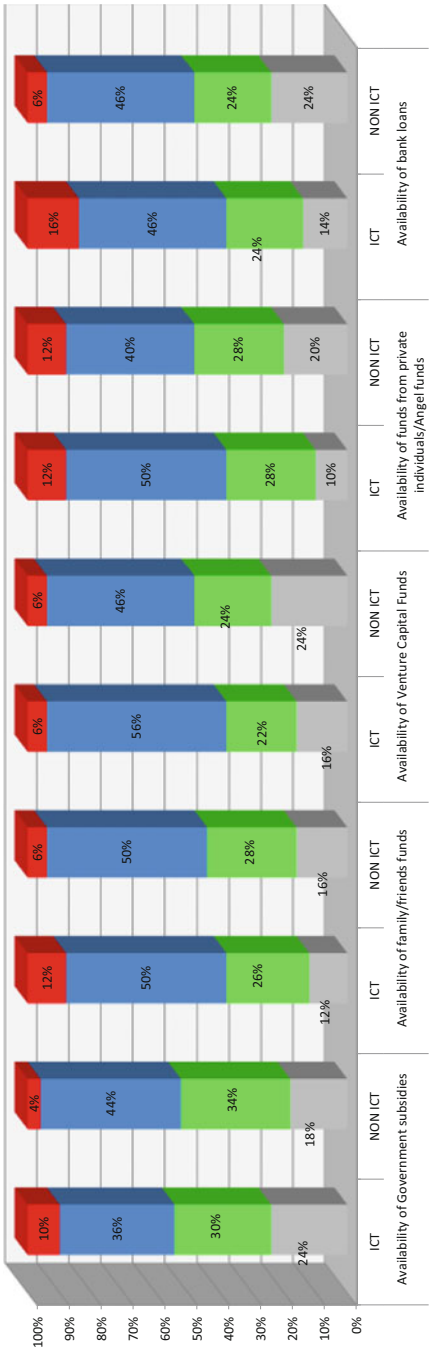

Fig. 5 Access to finance

2. 50 % of both groups stated that they have access to family or friends funds.
3. Only 18 % of ICT and 24 % of non-ICT entrepreneurs reflected that they have good availability of venture capital funds. Most of the respondents (50 % in ICT and 46 % in non-ICT) perceive venture capital as not available. Russian entrepreneurs in general miss mechanisms of venture capital financing due to the fact that venture capital funds are interested in large innovative projects and reluctantly finance small businesses in other sectors (including IT);
4. Angel funds and private investors are considered as a good financial source for 50 % of ICT and 40 % of non-ICT respondents. And only 10 % of ICT and 20 % of non-ICT start-ups perceive poor availability of angel funds;
5. 46 % of both ICT and non-ICT respondents state that there is a good access to bank loans to start the enterprise.

The most favourable factors cited were Availability of funds from family and friends and angel investors. The least favourable factor cited was Availability of venture capital funds.

Conclusion Despite of the fact that entrepreneurs participated in the survey stated that there is high availability of different financial resources, it actually doesn't mean that start-ups aim to use them. According to the GEM National Report 2012 for Russia (the most recent available), early stage business is mostly constrained by the lack of financial resources for new entrepreneurs. Most entrepreneurs rely on informal funding sources, like family or angel investors.

4.5 Opportunity for Knowledge and Skill Building

21.	Encouragement of entrepreneurship by the education system
22.	Availability of formal training for entrepreneurship
23.	Start-up counselling and assistance at college/universities
24.	Support from Industry associations for networking, information etc.
25.	Incubators and/or Technology parks that offer one stop service for businesses
26.	Assistance from universities/R&D institutions in transfer of R&D
27.	Special programs to promote products and services of start-ups
28.	Opportunities for public-private collaboration to facilitate market entry

This section aimed at understanding the availability of access to information, opportunity for knowledge and skill building support as perceived by the ICT and non-ICT entrepreneurs (Fig. 6).

Education and training contribute to encouraging entrepreneurship by fostering the right mind-set, awareness of career opportunities. It is essential in the creation of new business. Our findings from survey data reveal the following:

1. 40 % of ICT and 42 % of non-ICT respondents perceive average encouragement of entrepreneurship by the education system in Russia, while 38 % of both ICT

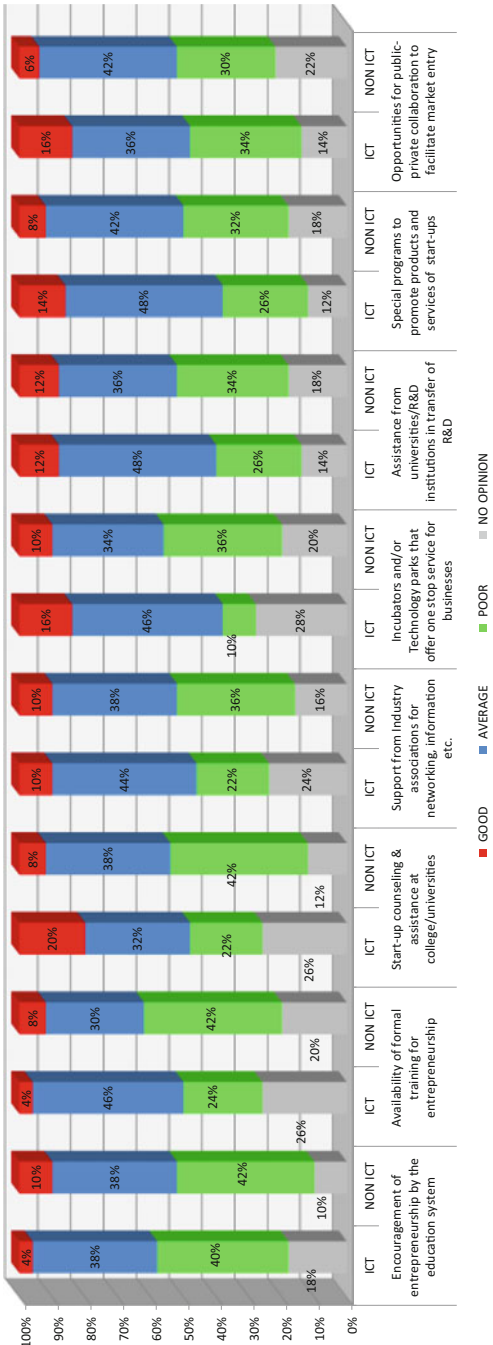

Fig. 6 Opportunity for knowledge and skill building

and non-ICT participants perceive it as good. This can be explained by the fact that recently in high schools and universities there are options to study entrepreneurship courses and/or case studies.
2. 46 % of ICT sector perceive that there are formal trainings for entrepreneurship and 24 % says that there is average availability, while in non-ICT sector 42 % respondents perceive average availability and only 30 % perceive it as good.
3. Start-up assistance at colleges/universities were higher evaluated by non-ICT respondents – 38 % described it as good. While ICT representatives responded "good" only in 32 % and "poor" in 26 %, that means that universities have to take more actions to assist for ICT start-ups, for example attract R&D projects in this area.
4. Industry associations were evaluated as supportive for networking by 44 % of ICT and 38 % of non-ICT entrepreneurs.
5. One-stop services by business incubators or technological parks were perceived well by 46 % of ICT and only 34 % of non-ICT respondents. At the same time 28 % of ICT sector perceive it as poor, there was almost no average results in ICT.
6. 48 % of ICT sector also high valued assistance from universities in R&D transfers. In non-ICT sphere, this figure is only 36 %, which is still high value for the economy.
7. 48 % of ICT and 42 % of non-ICT respondents perceive that there are special programs to promote products and services of the start-ups;
8. Opportunities in private/public collaboration are perceived as "good" by above 36 % in both groups and as "average" by above other 30 % in both groups that means that these opportunities are observed and considered in the society.

All the factors were evaluated approximately in similar manner as favourable. Most favourable for ICT respondents were R&D transfer and special programs to promote start-ups. Most favourable for non-ICT entrepreneurs were special programs to promote start-ups and opportunities for private/public collaboration.

To sum up the argument, setting up a business calls for drive, creativity and persistence, whereas developing a business gradually requires more managerial skills, such as efficiency, effectiveness and reliability. Considering that both personality and management skills are key elements for success, personal skills relevant to entrepreneurship should be taught from an early stage and be maintained up to university level, where the focus can concentrate on building management capacity. Russia, after turn to market economy is now committed to promoting the teaching of entrepreneurship in their education system.

4.6 Internationalization

29.	Attitude towards internationalization
30.	Information and skills required for internationalization
31.	Government agencies facilitating new firms entry into domestic and international markets
32.	Access to financial resources to tackle internationalization
33.	Foreign language abilities in your company

This section aims to estimate the support available for Internationalization to ICT and non-ICT entrepreneurs (Fig. 7).

In the present world being international entrepreneur means to gather higher benefits and larger sources. In order to find their niche, compete and finally get success in the international global market entrepreneurs need support, knowledge and innovations. The most favourable factors cited were Foreign language literacy, positive attitude toward Internationalization.

Our findings from survey data for 50 ICT SME and 50 non-ICT SMEs reveal the following:

1. 62 % of ICT and 56 % of non-ICT respondents state to have a good knowledge of foreign language.
2. 58 % of ICT and 52 % of non-ICT respondents reflect a favourable attitude towards Internationalization.
3. 50 % of ICT respondents as against only 38 % of non-ICT respondents perceive that they have skills and information required for Internationalization.
4. 54 % ICT and only 38 % of non-ICT perceive the support from Government agencies facilitating new firms entry into domestic and international markets.
5. Only 44 % of ICT and 40 % of non-ICT respondents perceive that it is possible to access finance for internationalization.

In the global business scenario, markets are becoming increasingly fast paced. This requires greater skill to develop and manage innovation, which is a strategic tool to manage competiveness at all levels. Combining innovation, quality and competiveness into a multi-dimensional set of objectives and tools is absolutely instrumental for companies to operate in international markets. It is necessary to capitalize on innovation to improve products and services, but in particular, to redefine the corporate "mission", to integrate different sectors, to identify innovative market niches, to develop partnership networks and to exchange experience in a structured way. To reap the benefits of the Internal Market and to meet the challenge of fiercer competition, entrepreneurs should be encouraged to innovate and to Internationalize.

Fig. 7 Internationalization

In order to support the entrepreneurs in internationalization, there are local and regional networks in Russia supported by government and industry to advice entrepreneurs and help them develop new markets. There is focus on promotion of regional networks or clusters in order to help entrepreneurs mutually share their experiences and knowledge.

4.7 Control Group Findings (Fig. 8)

In order to get the perception of non-entrepreneurs towards the entrepreneurial framework we distributed questionnaires within our focus group.

The first section – Individual and Personality Traits – revealed approximately the same results as we met with those of ICT and non-ICT entrepreneurs.

In the second section – Socio-cultural environment – our survey findings were in line with most of questions, but still there were some differences. For example, 30 % of control group state that there is poor family-based business, and only 23 % says opposite, when real entrepreneurs (ICT for 40 % and non-ICT for 56 %) felt better presence of family-based start-ups. Another difference is that entrepreneurial career choice was overestimated by our control group in comparison with real entrepreneurs.

In the third section – Government Programs and Policies – our control group turned out to be not informed of special governmental programs for start-up and general favourableness of its policies. Thirty-seven percent of respondents stated that they have no opinion on the two important issues. However, at the same time other respondents, who had opinion, were significantly more optimistic about state programs and policies in Russia (almost in two times in comparison with ICT and non-ICT respondents).

In the fourth section – Access to Finance – there were discrepancy again. The findings reveal that for the access to finance entrepreneurs may rely for governmental subsidiaries, which occurred to be the most favourable factor according to control group. Also, contribution of venture capital funds was overestimated. When actual entrepreneurs do not consider the funds, people from other spheres perceive it very high. Opportunity for Knowledge and Skill Building section was, again, overestimated by control group.

In the last section – Internationalization – the findings reveal that the control group is a little bit more optimistic that Russian entrepreneurs, but generally answers were in line. There is high attitude towards internationalization and around 60 % of all respondents have foreign language skills.

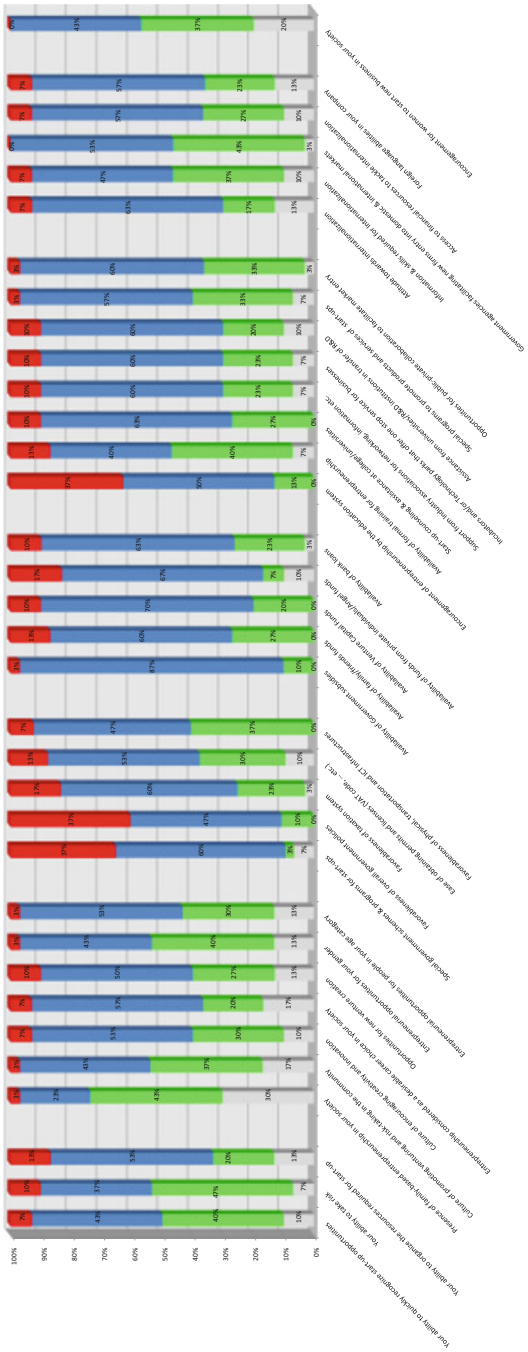

Fig. 8 Control group findings

Discussion and Conclusions

This chapter is based on the result of a survey aimed to establish relationship and reveal differences in perception on starting business in Russia between ICT and non-ICT entrepreneurs. The survey was based on an Ecosystem Model with an emphasis on six determinants that influence entrepreneurial behaviour. Each of the factors is essential for successful entrepreneurs and during the survey, 50 ICT and 50 non-ICT entrepreneurs were surveyed in order to identify framework conditions established for star-ups in Russia.

This survey is very important because despite of the fact that Russian economy is driven primarily by heavy industrial businesses, the development of small and medium-sized enterprises is a priority for furthering economic growth. In the last 3–5 years, serious steps were taken to facilitate business start-up and its development. Results of the survey shows that these efforts do not pass unnoticed.

The survey revealed that fundamental difference between ICT and non-ICT companies cannot be traced, despite of the efforts taken to establish special conditions for innovative and high-tech projects by the Government and business associations such as, "Opora Rossii (Russia Reliance)," "Business Russia".

Active support of high-tech enterprises by specific private entities, like business-accelerators and private investment funds, is distinctive feature of the past 3 years. Due to this fact, the dynamics of the creation and development of ICT entrepreneurs significantly improved. However, these funds usually are foreign companies or companies listed by Russian citizens abroad, and that's companies supported by these funds are often registered abroad as well. That's why this new start-ups cannot affect statistics inside Russia.

We hope that support for ICT entrepreneurs and the conditions created in the country will reverse the negative trends in the business development and this will be reflected in official statistics.

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