Comparing Start-up Propensities and Entrepreneurship Characteristics of Students in Russia and Germany

Walter Ruda*, Thomas A. Martin**, Wolfgang Arnold***, Benjamin Danko****

*Kaiserslautern University of Applied Sciences, Campus Zweibrücken; **Ludwigshafen Rhine University; ***Technische Hochschule Mittelhessen – University of Applied Sciences, Campus Friedberg; ****Lecturer at Kaiserslautern University of Applied Sciences, Campus Zweibrücken; Doctoral Researcher at International Graduate School (IHI) Zittau; All: ZMG German Center for Entrepreneurship
*Amerikastr. 1, D-66482 Zweibrücken, Germany
E-mail: walter.ruda@fh-kl.de; thomas.martin@hs-lu.de; wolfgang.arnold@wi.th-mittelhessen.de; benjamin.danko@zmg-institut.de

Abstract: This paper comes along with the international research project “Foundation and Entrepreneurship of Students” (GESt-study) which aims to analyze target group differentiated start-up propensities and entrepreneurship characteristics of students in diverse countries to derive demand-oriented recommended actions for an appropriate conceptualization of entrepreneurship education and support. The results of this country comparison illustrate that the students in Russia show higher start-up propensities and usually deal stronger with entrepreneurship than the students surveyed in Germany. However, this stronger motivation in Russia to create start-ups is based on economic necessity, which often does not depend on innovative business ideas. In contrast, the students questioned in Germany recognize coaching and consulting as more important start-up support than their fellows from Russia – leading one to assume that they stand in later phases of the start-up process and intend more complex and challenging business ideas. Furthermore, the students in Germany regard their own financial risk and fear of failure as higher start-up barriers, whereas their Russian fellows lack stronger entrepreneurial qualifications. Altogether, both student groups should be imparted particularly start-up specific basic knowledge as well as entrepreneurial skills during the whole their studies and on the basis of an interdisciplinary approach.

Keywords: entrepreneurship; business start-up propensity; students; Russia; Germany
1 Introduction

Entrepreneurs are since the beginning of the 1980s an increased focal point of economists and governmental politics [5]. The emergence of entrepreneurship depends on the one hand on values and on the other hand on corresponding incentives as well as entrepreneurial assistance [27, 5]. The implementation of an appropriate entrepreneurship support infrastructure is tied to knowledge about technology, globalization, societal developments as well as the nuances of entrepreneurship. In order to develop a theory of entrepreneurship, it is required to analyze individuals, organizations and the context [3]. The individual on her own can hardly change her personality and cultural background. However, she can be integrated into a context that facilitates the recognition of entrepreneurial opportunities as well as the ambition to realize them [38].

This paper aims to compare start-up propensities and further entrepreneurship characteristics in Russia and Germany regarding the student target group. Russia has emerged since the early 1990s as a market economy. In Russia, a huge proportion of young persons are fascinated with the idea of the free market economy and with some Russian entrepreneurs – the oligarchs, several of whom, especially during the transformation phase, achieved enormous wealth [19, 5]. Certainly, the reality of entrepreneurship in Russia is clearly more complex [11]. Although in Germany the public entrepreneurship support infrastructure is developed better in an international comparison, cultural barriers exist that result in relatively little start-up activity [6]. Both Germany and Russia show, according to the Global Entrepreneurship Monitor (GEM), a comparative low Early-Stage Entrepreneurial Activity (TEA) rate of about four percent. In the group of efficiency-driven economies, Russia even ranks in the last place [4]. Due to the high fluctuation range of the TEA between groups as well as inside the country groups, in addition to the economic wealth level, there must be also further causalities that are decisive for the emergence of start-up propensities and start-up activities. International comparisons enable the exploration of other entrepreneurial determinants. Though the GEM presents some evidence of entrepreneurship criteria, this is neither the case concerning the fundamental scope of detectable influencing factors, nor regarding the target group of students [29]. This article aims to consider which circumstances exist in the student domain. An adequate design of entrepreneurship education and entrepreneurship promotion can be realized based on insights through the analysis of student entrepreneurship characteristics in the pre-start-up process [32].
2 Selected Politico-Economic and Sociocultural Frame Conditions of Entrepreneurship in Russia and Germany

Entrepreneurs utilize innovative opportunities on regional, national and international level and thereby create a basic condition for the attainment of economic stability. Product, process and service innovations of start-ups created particularly by graduates create new markets as well as steady employment for the highly skilled, and they sustain economic competitiveness [14, 15]. In this connection, investments of increasing efficiency form the basis for the growth of the Russian economy as well as the German [29].

As determinants for entrepreneurship, social scientists emphasize on the one hand the institutional perspective that focuses the role of economic, political, and judicial bodies in entrepreneurship promotion; on the other hand, they emphasize the entrepreneurship shaping sociological variables, such as social norms, values, and social networks, including relatives, friends, and social groups, as well as the individual character traits of entrepreneurs, for instance the need for achievement, self-confidence, self-reliance, and risk ambition [12, 10]. The aspects of the institutional perspective include the surrounding politico-economic conditions. The sociological variables and the individual traits can be united into a sociocultural perspective [29]. Consequently, this section is subdivided into politico-economic and sociocultural framework requirements for entrepreneurship.

2.1 Politico-Economic Framework Requirements for Entrepreneurship

Although in Russia two thirds of the enterprises survive the difficult phase of market entry, 90 percent of all firms fail during the first three years. Despite their remarkable economic and social importance in Russia, smaller enterprises demonstrate an exceeding low competitiveness and survivability [36]. This problem can solely be counteracted by a long-term-oriented and smaller businesses-focused public policy. Hence, previous laws and regulations concerning the realization of the right to self-employed work have already been supplemented. Moreover, a system of institutions for the promotion and development of smaller enterprises exists, comprised of the public committee of the Russian Federation in “Support and Development of Smaller Enterprises”, further bodies of executive power, smaller enterprises supporting funds, the Russian Chamber of Commerce and Industry as well as public entrepreneurs’ associations. In addition, in more than 70 parts of Russia, structures within the institutions of the executive power have been established that focus via regional programs on the support of smaller enterprises. Furthermore, a network has emerged of infrastructure entities such as business centers, business incubators, centers for innovation and technology, or techno-parks, founded by, amongst
others, the Russian Agency for the Support of the Development of Small and Medium-sized Enterprises [36].

The problems of small and medium-sized enterprises (SME) often result from a lack of higher managerial knowledge, which is on the result of unavailable qualification chances and which leads to lower economic competency on the market [21]. This managerial incompetence is counteracted for example by several offered further education and distance learning concepts for enterprisers, for some years now at Saint Petersburg State University [36].

In May 2010, the head of the Agency for Support and Development of Small and Medium-sized Enterprises in Moscow declared that in 2010 approximately 2.3 billion rubles to subsidize small enterprises would be available, and a further two billion rubles was available to promote innovation [22]. Thus the governmental business start-up promotion is effected through targeted subsidies, singular benefits as well as regional guarantee funds. Russian experts act on the assumption that start-up and SME support programs pools the responsible ministries and agencies – having long-ranging positive effects on economic climate and SMEs [23]. In addition, the regions in Russia offer their own start-up support programs. However, in Russia experts criticize the governmental support programs as rather negative because they were not sufficiently developed and coordinated and, thus, did advance adequately the start-up culture in Russia [13, 40].

In contrast, according to international experts, Germany actually possesses worldwide the best public start-up and SME support infrastructure [7]. Thus, the relatively low rate of start-ups in Germany is all the more surprising, and therefore could be attributed more strongly to the surrounding sociocultural conditions for entrepreneurship [29]. Since 2003, the Bank for Small and Medium-sized Businesses of the Development Loan Corporation is responsible for subsidized loans at the federal level. The Federation, the Special Assets of the German Federal Government (ERP), the federal states as well as the European Union promote business start-ups through support programs, mostly via low-interest loans but also via free grants. In the initial stage, the loans are free interest and require no repayment; generally, they have low interest rates and require little security [28, 40] and thus lay good foundations for the financing of business start-ups.

### 2.2 Sociocultural Framework Requirements for Entrepreneurship

Despite the economic relevancy of entrepreneurship, studies about Russian entrepreneurs and comparisons with their western ideals barely exist, especially regarding psychological aspects. Scientists have elaborated entrepreneurship-promoting psychological factors such as the drive for success, the need for achievement, risk ambition, and innovativeness. Their occurrences are also
influenced by cultural values and, thus, are usually differently pronounced in diverse cultures. Therefore, one may assume distinctions between Russian and German entrepreneurs as regards these entrepreneurship-promoting psychological aspects [39].

Contrary to individualistic Germany, in Russia, with its restrictions as regards economic autonomy, the drive for success and the need for achievement are culturally not deep-seated values. In addition, both Russia’s and Germany’s culture can be regarded as high in uncertainty avoidance, high in risk aversion, and low in innovation preferences [17, 39]. Moreover, the collectivist attitude in Russia, combined with the high uncertainty avoidance, reduces more strongly the innovation activity than in Germany [16, 39].

As a result, the Russian culture does not intensify the decisive psychological aspects, and assumingly lower than in the German culture, which can linked to the lack of a strong entrepreneurship tradition. Certainly, in the context of evaluating the illustrated assumptions, in addition to the cultural surrounding conditions, the politico-economic progress also must be considered. In a comparison between Russia and the USA – like Germany, an individualistic culture and, furthermore, with a remarkable TEA of eight percent [4] – the expected lower drive for success and need for achievement in Russia could not be confirmed empirically [39].

The anticipated lower risk propensity in Russia could be affirmed, at least concerning growth-oriented entrepreneurs, but not regarding enterprisers focusing on income generation. This could be reasoned by the influence of Russia’s economic conditions, considering the higher risk to work in growth-oriented private enterprises subject to a dramatic reorganization. The assumed lower innovativeness in Russia could not be approved empirically [39].

In Germany, graduates traditionally prefer positions in big-sized companies or the public sector. In Germany, security, risk avoidance and social stability are fundamental values, and the society is affected by a certain anxiety. Entrepreneurship, however, is based on achievement and the willingness to take manageable risks. It seems that the need for achievement and risk tolerance are higher than in years before [20]. Due to higher financial dimensions, especially in high-tech sectors, the risk of failure is accompanied by serious consequences. In view of Basel II and the economic crisis, the financial institutions demand higher securities on credit initiations. Accordingly, the Founder Report 2010 shows that only six percent of the consulted potential founders focus on the high-tech sectors – a loss of 21 percent since 2006. However, the quality and the innovativeness of the business concepts would lag behind. Nevertheless, in Germany, for the first time in four years, noticeably more persons intend to create an enterprise, the chief motive of which is a way out of unemployment, whereas realizing their own ideas appears less important [9, 25]. Regarding the student target group, a similar influence of the economic crisis could be found, with similar results as regards looking for a way out of unemployment and realizing own ideas as start-up motives, but there were contrary results regarding the start-up propensity [33].
This is not a positive signal for future innovations and the creation of high-skilled employment. In Germany necessity entrepreneurship traditionally can frequently be seen, and opportunity-driven entrepreneurship only at a low level [7]. But it is precisely opportunity entrepreneurship that has positive effects on economic development [2, 1].

3 Research Design

Based on a literature review a theoretical reference framework of student start-up propensities [34] has been derived to identify and test potential influencing factors within the student start-up process. In order to analyze the student start-up propensities in the narrower sense, moreover, the foundation ambition types-model [30] has been applied. The foundation ambition types are categorized as follows [35]: The foundation-layman has not dealt with foundation at all; the foundation-sensitized has not yet considered foundation; the foundation-interested has already considered foundation but has not started to prepare foundation; the foundation-preparer is already engaged in the preliminary foundation; and the founder has already founded a company. The process-oriented foundation ambition types model illustrates the potentially emerging start-up intention in the course of time, whereby it allows for the postulated target group differentiation [35]. Only such a process-oriented approach enables an adequate analysis of structural and situational influencing factors within the pre-start-up process on the potential arising start-up propensity [31].

On the basis of the literature review, the theoretical framework and the foundation ambition types model, a standardized questionnaire has been developed to survey students during their courses. This procedure counters the weaknesses of Internet-based questioning, because it leads to a considerable higher return rate on the one hand [37] and avoids biases due to self-selection effects on the other hand [8]. Hence, more realistic results are generated that permit researches to both question and support the findings of online surveys conducted in this subject area. In addition to students from undergraduate studies [41], postgraduate students with several years of work, leadership and start-up experiences were also questioned.

The results of this article rest upon a large-scale survey that has been conducted since 2007 in Germany and in 2010 in Russia. In this connection, nearly 3,500 students at four German universities and approximately 400 students at 10 Russian universities in six cities have been questioned; the students are especially in the study fields Engineering, Informatics and Business Administration, for the reason that students from these areas represent the highest start-up intentions and activities [18, 15].
4 Results

While the German sample were 38 percent from Engineering, 30 percent from Business Administration, one fourth from Informatics and the remainder from other study fields, 47 percent of the Russian sample came from Business Administration, 10 percent from Engineering and 43 percent from other subject areas. 45 percent of the respondents questioned in the Germany study had studied up to three semesters, about one fourth between four and six semesters, 14 percent more than six semesters and approximately 18 percent were in postgraduate studies. In the Russian sample, 30 percent had studied up to three semesters, 53 percent between four and six semesters, 15 percent more than six semesters and only two percent were in postgraduate studies. From the students questioned in Russia, 58 percent are females, while 31 percent were female in Germany. In the Russian sample, the 43 percent of respondents were under 20 years old, while a further 40 percent were between 20 and 25 years old. In contrast, in the German group 63 percent of the students were between 20 and 25 years old and only five percent were under 20. Taken as a whole, the students questioned in Germany were older than those in Russia, a fact due to the differences in the education structure and the higher number of postgraduates in the German sample.

As regards the foundation ambition types, the Russian sample included 40 percent mostly foundation-interested, followed by 38 percent foundation-laymen, 13 percent foundation-sensitized, six percent foundation-preparers and nearly four percent founders. In contrast, most of the students questioned in Germany can be classified as foundation-laymen, at 52 percent, followed by 28 percent foundation-interested, 11 percent foundation-sensitized and with almost five percent each foundation-preparers and founders (Figure 1). In summary, the students surveyed in Russia demonstrate clearly a stronger start-up propensity than their counterparts from Germany.\(^1\) However, compared to the Russian students, the German sample represents more students having already founded an enterprise, which results also from the bigger fraction of postgraduates.

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\(^1\) In this connection, the existent differences are statistically most significant (p \(\leq\) 0.001).
In Russia the national start-up climate is evaluated by 84 percent of the students as rather start-up friendly, whereas this portion in Germany is clearly lower with 60 percent, leading to the assumption that the students in Germany perceive the start-up barriers stronger than their Russian comparison group. 73 percent of the Russian sample can be described as willing to take risks, compared to 59 percent of the respondents in Germany, which, as has been pointed out, can be interpreted as a cause for the higher start-up propensity of the students in Russia. Correspondingly, it can be presumed that the Russian students’ stronger start-up intentions emerge on the one hand from the conspicuously stronger existent business idea (with 40 percent, vis-à-vis 28 percent in the Germany comparison group); on the other hand, they are reflected in the considerably higher anticipated start-up probability of 52 percent, compared to 38 percent of the German sample.

As regards the planned start-up time, the students from Germany specify on average 4.8 years, while their Russian fellow students, despite their younger age, only 3.1 years. The latter seem better prepared for potential business creation. Accordingly, almost 45 percent of the Russian sample has dealt at least one year with entrepreneurship, which is case for about one third of the German comparison group. Further, 47 percent of the students questioned in Germany have not yet utilized information sources regarding business creation and entrepreneurship – a circumstance which describes only 17 percent of their Russian counterparts. In Russia, this can be ascribed particularly to usually more...
often used information sources such as the internet, friends, relatives, literature, college/university, organizations, and enterpriser networks. In contrast, the students from Germany especially access more frequently information sources like chambers of commerce and industry, tax advisers, and banks.

While every second student questioned in Germany indicates not being surrounded by entrepreneurs in his/her private environment, this applies to 37 percent of the Russian sample. Thus, the students in Russia clearly have more points of contact to entrepreneurship within their private environment than do their German comparison group. This could, one the one hand, be the reason why with 60 percent the students in Germany, compared to 55 percent of their Russian fellows, tend stronger toward team start-ups. On the other hand, also the slightly lower existing leadership experiences of the German students underpin the higher tendency to found in a team. Moreover, with 73 percent, vis-à-vis 67 percent of the German sample, a bigger fraction of the students in Russia intends to operate the potential business start-up on a full time basis. In order to become established on the market with their potential new enterprise, the students surveyed in Russia predict a time span of 4.9 years, compared to 5.0 years in the German sample. The former expect needing seed capital of on average 66,000 euros, compared to 181,000 euros indicated by the students questioned in Germany. Almost two thirds of the Russian sample are willing to pay for a business start-up consultation, which applies to about 60 percent of the students in Germany.

On the whole, the students in Russia show usually stronger pronounced start-up motives. Only autonomy and flexible hours of work are more important to the German group. Realizing income is regarded by both student groups as most relevant, followed by self-actualization. While within the Russian sample a way out of unemployment ranks highly, to the German students realizing own ideas is more important. In both samples realizing a high income ranks on the fifth place. The most distinct differences in magnitude between both groups as regards start-up motives can be found with prestige, realizing income, self-actualization, and way out of unemployment; these are continuously rated as more relevant by the Russian sample (Figure 2). Obviously, to the students from Germany prestige has not such an intense relevancy in connection with business creation than to their Russian comparison group, indicating that in Russia the entrepreneur – at least within the comparatively younger student generation – in the meantime has reached a relatively positive social status.
As assumed, the start-up barriers altogether are noticed as considerably higher by the students surveyed in Germany, exclusive of *missing entrepreneurial qualifications, low profit, politico-economic environment* as well as *missing available time*. By the students of both countries *missing equity* is evaluated as strongest start-up difficulty, followed by *own financial risk*. In the German sample highly-rated barriers are *missing outside capital, missing customer contacts*, and *extensive official channels*, whereas in the Russian sample these are *missing entrepreneurial qualification, low profit*, and *missing outside capital*. The clearest divergences between the countries exist as regards start-up barriers are *missing customer contacts, missing courage, missing business idea, fear of failure, cyclical state, missing business creation partners, missing entrepreneurial qualification*, and *extensive official channels*. From these mentioned start-up difficulties, the students questioned in Russia evaluate only *missing entrepreneurial qualifications* as more a hindrance than their fellows in Germany (Figure 3).
Almost whole the range of the analyzed start-up support measures is more important to the students questioned in Russia. Solely coaching and consulting and to a little extent also courses are considered as more relevant by the German group in which they represent also the most desired support measures, followed by contact bourses with enterprisers, impulsion financing, and specific contact points. To the students in Russia impulsion financing as well as specific contact points are the most relevant start-up support, followed by contact bourses with enterprisers, business plan workshops, and both courses and meetings and discussions with professors (Figure 4). The German sample seems to prefer, at least to a small degree, stronger assistance offered usually in later phases of the pre-start-up process, namely coaching and consulting, which is not performed until the business idea can be concretized and realized. In contrast the students in Russia ask, amongst others, more for business plan workshops as well as meetings and discussions with professors – start-up support which can be offered adequately in earlier stages of the pre-start-up process. However, when looking at the five most important start-up assistance measures, both groups show quite a few similarities.
Conclusions

Considered generally, the chief reasons for the relatively low portion of entrepreneurs in Russia can be attributed to an insufficient financing situation, high risk avoidance and a strong deficit in entrepreneurial qualifications [12]. This is also shown by the results specifically regarding the surveyed target group of students. How far the principal directions of the Russian economic policy\textsuperscript{2} as well as their reform stages\textsuperscript{3} [24] have a positive impact on the in this country relatively reserved entrepreneurship depends further on the readiness of the – by a lack of entrepreneurial tradition affected – Russian community members for a mental reorientation [21]. As regards the surveyed students, the tendencies therefor, in comparison with Germany, can be classified as relatively positive.

Compared to Russia, in Germany, with its well-shaped start-up support infrastructure, the socio-cultural framework requirements seem to have stronger barriers for the relatively restrained start-up activity. According to the GEM the – to the labor force referring – TEA almost equals in both countries, whereas regarding the surveyed student target group clear divergences exist in favor of a

\begin{itemize}
\item Property rights; fair competition; abolishment of administrative barriers; reduction of tax burden; improvement of the financial infrastructure as well as the social policy.
\item Reformation of the legislature; nationwide development of infrastructure activities; change to the new, market-economical monetary policy.
\end{itemize}
considerably stronger pronounced start-up interest in Russia. However, in this country, this beneficial starting basis for a start-up realization is constrained strongly by an anticipated lack of entrepreneurial qualifications. In contrast, the country comparison highlights that the students in Germany show more critical start-up barriers, particularly in the field of networking, taking calculable risks, and having a business idea in mind. Due to the noticeably stronger existent start-up motivation from economic necessity within the Russian sample, it can be assumed that several business ideas lack innovativeness. Another factor underpinning this assumption can be recognized when considering the stronger demand for coaching and consulting in the German sample – a support more relevant in later stages of the start-up process and in more complex and challenging business ideas; this oftentimes is case in the context of innovation.

Altogether, to both the students in Germany (of whom approximately every second has not yet dealt with the topic business creation) and the students in Russia (who are prevented starting an enterprise by a lack of entrepreneurial qualifications) has to be imparted especially start-up specific basic knowledge and entrepreneurial skills, which should be conducted in an interdisciplinary manner and during the whole studies. Moreover, start-up specific contact points should be established and offered to students and graduates, so that the special information demand of prospective founders can be covered by the university as training post for future (self-) employment. Only by dint of an appropriate start-up infrastructure can a positive start-up climate emerge at the universities, which should not push the students to their own business creation but present them self-employment as attractive earning alternative. If foundation-interested students are also supported with consultation during the start-up process by their universities, they will certainly be more open-minded to search actively during studies for potential business ideas – leading finally to more innovative start-ups.

In the framework of the GESI-study a further step could be realized toward the intensification of the cross-national and intercultural collaboration within entrepreneurship research. However, further in-depth analyses and comparisons also with more countries – in terms of learning with and from other nations and cultures – could result in additional knowledge, for example, how the start-up support of students, amongst others in Russia and Germany, could be developed appropriately based on student requirements. In this connection, the paper offers a first overview of similarities and differences within start-up propensities and entrepreneurship characteristics of students in Russia and Germany.

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