

# *Crowdsourcing as a modern management technology in conditions of new industrialization*

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**Abstract**— The purpose of this study is to understand how crowdsourcing and formation of flash-organizations can be used in condition of new industrialization as the management technology for startups. Our paper mainly focuses on a group of Russian innovative companies expanding abroad. By combining the input from the conducted interviews with the insights from the literature review and analyzing the new generation of companies that rely on crowdsourcing as an instrument of fourth industrial revolution and an alternative way of attracting resources and internationalization we synthesized incentives for Russian startups to internationalize. We conclude that internationally active entrepreneurs are more focused on the external environment than on their internal factors and that crowdsourcing can be the answer for the next generation companies to expand internationally.

**Keywords**—*crowdsourcing, entrepreneurship, flash-organizations, startups*

## I. INTRODUCTION

Despite current international tensions and the effect of sanctions, some entrepreneurial efforts are thriving, be it innovative Russian businesses accessing the large and relatively tech-savvy US market (e.g., Telegram messaging app, Prisma, Kaspersky) or eager Western professionals translating the already-proven business models for the vast market of Russia and the Commonwealth of Independent States (e.g., Uber, Airbnb).

This research seeks to determine the factors that explain the tendency for Russian startups to do business in the United States. Previous research suggests that the innovativeness of a company is based on its own choices or internal factors, but that its success is determined by external factors such as the competition on the market or the development of legislation for foreign companies. Through a series of interviews with relevant stakeholders such as experienced entrepreneurs, venture capitalists, and government officials, we identified the incentives and challenges for scaling up and internationalizing small and medium-sized Russian innovative companies to the US. We also suggest how crowdsourcing can help these startups to grow faster and find new ways of working and

acquiring new investments more effectively in conditions of the fourth industrial revolution.

## II. LITERATURE REVIEW

### A. *Factors of startup internationalization*

The successful small innovative companies are those that shake up the status quo and introduce disruption in existing business norms and available technologies. Often these companies push the borders of innovation, create new business models, and change the way people and business operate in the world (examples include Uber, disrupting the world of transportation, or Snapchat, making online social interactions both animated and ephemeral). The more effectively such innovative companies work internationally, the more disruptive cutting-edge products and services will be brought to customers around the world. This claim applies both in the context of broader global cooperation and specifically to the area of our focus, the US and the Russian markets. The aim of our paper is to discover the incentives and to understand the motivation to internationalize of this kind of companies. Thanks to a nuanced understanding of their ‘internal motivation’ we propose ways to improve the external conditions, and thus encourage more innovative companies to start up and prosper, both in Russia and in the United States.

First, we have to explain what internationalization means and define small innovative companies (startups). Although many researchers offer different answers as to what ‘internationalization’ is, there is no generally accepted definition [1]. For example, some researchers define internationalization as the proportion of international sales to the volume of all sales [2]. For our paper, we have chosen a more straightforward definition: the share of sales achieved in international markets.

Researchers distinguish between two main types of small companies that internationalize early on: Born Globals (BGs) and International New Ventures (INVs). Born globals are defined as “business organizations that, from or near their founding, seek superior international business performance

from the application of knowledge-based resources to the sale of outputs in multiple countries” [3] or companies that have made “at least one international sale to any new market within two years of formation” [4, p. 11]. On the other hand, INVs are “business organizations that from inception seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries” [5, p. 46]. Thus, these terms define the same phenomenon - companies that start to internationalize in a short period after their launch. These satisfy our understanding of the subject, and we will further refer to these companies as either BGs, INVs or simply startups.

Hence the companies that we want to focus on are Russian startups that bring innovative products to American markets. These companies create innovation and can improve the economic situation, and knowledge base in both countries.

The factors and incentives of internationalization are conditioned and directly influenced by the underlying market barriers. Due to this relation, it is important to establish a classification of the main barriers before moving further into research of the internal factors.

The companies that try to internationalize face different kinds of barriers. These barriers can be classified in terms of liability risks: the liability of newness and the liability of foreignness.

The liability of newness refers to an additional level of risk that new ventures face in comparison with older companies that have already established themselves on the market. As Singh, Tucker, and House lay it out in their research “this liability of newness occurs because young organizations have to learn new roles as social actors, coordinate new roles for employees and deal with problems of mutual socialization of participants, and because of both their inability to compete effectively with established organizations and their low levels of legitimacy” [6, p. 171]. This is a risk that every new company faces.

On the other hand there is another kind of barrier which refers to international companies that enter new markets. The risk of foreignness is defined as “the costs of doing business abroad that result in a competitive disadvantage - [or] all additional costs a firm operating in a market overseas incurs that a local firm would not incur” [7, pp. 342 – 343]. Inherent barriers include adhering to regional laws, adapting to foreign languages, and considering a new competitive environment [8, p. 877].

The following table Table 1 provides an overview of the types of the barriers.

For our research, it is important to note that the liability of foreignness is less severe for INVs: “younger firms have fewer entrenched routines, and early exposure to international markets allows them to build dynamic capabilities for handling the uncertainties of internationalization” [2, p. 255].

TABLE I. THE MAP OF THE BARRIERS FOR INVs

Type of barrier	Details
Liability of newness (why new companies)	-Low levels of legitimacy (low level of reputation, because the companies are not known). Problems of mutual socialization of participants.

Type of barrier	Details
fail more often than established ones)	-Coordination of new roles for employees. -The lack of knowledge about new roles as social actors. -Inability to compete effectively with established organizations.
Liability of foreignness (why foreign companies fail more often than local ones)	-Higher information asymmetries. -Higher transaction costs. -The lower speed of decision-making from a head office located in another country or time zone -Local biases toward any foreign country. -Local laws. -Local competition. -Local language.

There are two main classifications of factors that affect the internationalization of startups. The first classification is built upon four main drivers for internationalization: entrepreneur-, business-, location, and network-specific factors. Factors such as the knowledge of foreign languages, experience in international business, relationships, focalization of strategy and clusters and districts positively impact internationalization precocity of small companies [9, p. 274]

The second classification takes into account different levels of factors from the micro level to the macro level [10]. These include:

1. Inner resources of the company: how the resources of the company, its capabilities, and its knowledge, including the decisions and skills of upper-level management, affect the choices that the company makes [11].
2. Industry: how the competition within the industry, the type of industry, and the industry’s tendency to internationalize affects its choices [12].
3. Institutions: how institutional barriers to market entrance, cultural differences, and the turbulence and stability of the external environment affect the internationalization of the companies [13].

We have chosen the second model as it helps to better analyze the factors from government-company relations level hence draw conclusions for the governments to improve the situation as well. We study each of the levels of factors to better understand the incentives of the small innovative Russian companies to internationalize [21].

*B. Crowdsourcing*

For the first time the term "crowdsourcing" is found in the article by Jeff Howe. The author defines crowdsourcing as a process in which the company transfers certain functions that were previously assigned to employees and suppliers, to an indefinite sufficiently large number of people in the format of an open request [14]. After a short article, Howe published a full-fledged study on the subject [15].

Crowdsourcing works very well at times when the ultimate goal is defined, and each performs its role within the competence, without going beyond them. But crowdsourcing before the appearance of flash-organizations could not be used to solve complex problems [16].

Researchers from Stanford University. They define flash organizations as crowds structured like organizations to achieve complex and open-ended goals [17]. Valentine and

her team were able to implement the principle of meta-organization in three projects, successfully confirming their assumption about the possibility of implementing complex tasks through the use of crowdsourcing. We analyze these projects and also other examples of such companies and apply the possibilities of using their advantages for new startups to grow and becoming international.

### III. METHODOLOGY

Our research is based on the interviews of leaders Russian startups that originally appeared in Russia and then move to work in the US. We have conducted 13 interviews with CEOs co-founders, and top managers of these companies. Survey data was collected in Russia and the US through personal interviews and calls conducted in the second half of 2016 and the beginning of 2017.

The first set of interviews was based on open questions about the incentives of the entrepreneurs to move to US market. At the first stage, we identified the main needs and problems of technological Russian startups. After that, we aggregated the findings and created the questionnaire to better evaluate the main reasons for startups to move to the US. As a result, we have received quantified results and checked the results of the first stage. We have created the level of importance which is the index that shows how important the incentive is on a scale from 1 (least important) to 5 (the most important). Note that the comparison is made between already chosen most important factors which help to get a better understand the difference between the incentives.

### IV. RESULTS

After conducting the interviews, we identified the main reasons for Russian companies to move their business to the United States. The main general finding was that all of the interviewees founded their companies in the US, or at least founded a subsidiary and opened the office there, which seems puzzling considering most of the businesses were digital software companies that can sell their products worldwide without leaving the home country. These are Russian citizens that moved to the US specifically for developing of a startup. They usually start the business in Russia but then move to the US for specific incentives that are going to be discussed below. In addition, these companies have moved to a specific region in the country - Silicon Valley. The majority of interviewed startups were the members of Russian accelerators such as IIDF and then, after moving to the US, have also successfully became a members of local business accelerators such as 500 Startups and YCombinator.

These companies usually keep their developers and technical teams in Russia in order to limit the expenses and move the marketing and product teams to the US to better understand the market and to create more suitable products for it. Companies move the product team there mostly because they like the investors more in the US, even if they work in Russia as well. Below are their claimed incentives, ordered from most to least importance:

1. The size of the market. The market of the goods sold by the innovative companies in their own opinion is bigger in the US than in Russia. There are generally more people and

more money. Moreover, after the recent financial crisis that resulted in a currency depreciation, people in Russia decreased their total expenses, which affected sales of the consumer market: "The market in the US is considerably bigger and more dynamic." (The level of importance: current incentives have received the highest mark in a questionnaire on average - 3.8 out of 5. What is also important to note that none of the interviewees has put a mark lower than 3.)

2. Bigger and more mature venture capital market. Entrepreneurs think that Silicon Valley is a special region where the environment helps companies to considerably improve their performance and to find mature investors. This statement represents the opinion that for raising venture capital, an office in Silicon Valley offers a significant advantage [18]. Some of the entrepreneurs specifically said that entrepreneurs in the US are giving more and asking for less in terms of control over the company but more in terms of performance: "The rules of the game are better developed and better regulated". Some interviewees have also indicated that Russian venture capital market shrunk after financial crisis. (The level of importance 3.3 out of 5).

3. Sophistication of the market. Usually, the companies that move to Silicon Valley have something new that they can present to the market. They bring innovative products that sometimes even disrupts the current technologies and markets. These companies seek more mature markets where customers already use top-notch technologies and are ready for the next generation product. The US satisfies this need, in the opinion of entrepreneurs. (The level of importance 2.5 out of 5)

4. Strong brand of Silicon Valley. The cult of Silicon Valley is enormous. Some companies choose Silicon Valley as the only option without considering other possible locations. They know Silicon Valley as the best place for small and innovative companies and the best professional community that can help the company to succeed. As two of the interviewees said: "If you want to do IT go to the best place and without a doubt, it is a Silicon Valley." and that "The cult of Silicon Valley is enormous. People do not know why they go there". (The level of importance 2.5 out of 5)

5. Unsatisfying environment for entrepreneurs in Russia. Generally this point can be expressed by one expression from one of the interviews: "It just feels that Russia is bad for doing business." In the opinion of entrepreneurs, conditions for building companies in Russia are not as good as in the US. The entrepreneurs are considered not as innovators but as a corrupt money launders because of the 90s epoch in the Russian economy. High level of corruption and known cases of business rackets are also depicted as one of the main stoppers. (The level of importance 2.3 out of 5)

Incentives 1, 2, and 3 lead to a derivative of the core incentives which is bigger possible capitalization of the company. Startups have a special need to grow in terms of users and revenue (or future revenue) as fast as possible. This consequently affects the capitalization of the company and capitalization is the main criteria of its business success. Capitalization is the metric by which the success is socially measured. Companies also need to satisfy their current investors. By moving to the US, they open themselves to higher possibilities of being sold at a high price which is the ultimate goal of a startup.

While interviewing the entrepreneurs and venture fund experts, we found that born globals have a unique set of skills. One of these skills is the ability to move out of their comfort zone, which helps these businesses to be open to external market signals. Consequently, that helps to pivot the business model toward market needs and, in the end, increases the success rate of startups. One of our interviewees said: “Many Russian companies have a great technological background but they lack open mindedness. They have to go out, listen, and test their idea before convincing themselves that everybody or at least somebody would use their services.” We want to address this problem more thoroughly and propose a possible solution.

While startups have problems finding investments and other resources for its development, financing and people are just resources that help startups to validate their idea on the market. Right now, a new generation of corporations has appeared that brought a way to test these propositions. These companies use crowdsourcing. One of these such is JumpStartFund. CEO Dirk Ahlborn once said: “Many entrepreneurs think they need to raise money right out [of] the gate. However, maybe what they really need to win at the early stage is validation from a community to rally around the idea. Then raise money once there’s something to show” [19]. JumpStartFund uses the following model:

1. Ideas. Companies use crowdsourcing to attract ideas from thousands of people. It is also an effective instrument in testing ideas. On JumpStartFund people vote for ideas and the best ones form startups.

2. Resources. JumpStartFund works as a platform and helps to find the employees that believe in a company in exchange for stock options. These people work for free in the beginning as founders in usual startup but they believe in the thing that they do and in a possible happy ending, thus reflecting the sentiment of startup founders. Companies also receive investments not only from funds or investors but also from people all over the world.

This platform has already enabled one of the most spectacular startup success cases, which is Hyperloop Transportation Technologies, a company with a mission to transform the traditional market of transportation. Hyperloop works on creating the tube that will move people and goods safely with a ultra-high speed (on average around 600 mph / 970 km/h). The company has only two full-time employees, and the rest of the work is done by more than 500 engineers and other professionals with day jobs at places like Boeing, NASA, and SpaceX. They spend their free time working on Hyperloop in exchange for stock options because they get to work on something that could genuinely revolutionize transportation [20]. The company has already signed partnership deals with the government of Slovakia [19].

All of this means that crowdsourcing can become the next big thing that will help startups to test their hypothesis with even smaller costs and to find the best resources on the market. However, time will show the real feasibility of that idea in the next few years.

## V. CONCLUSION

Our research focused on young Russian companies that internationalize on the American market. We have found that

there are different barriers that entrepreneurs face when they enter foreign markets that are not common to local players. These are liability risks such as local laws, the language, the lower speed of decision making, and higher transactional costs. However, these risks and barriers do not stop these companies from successful internationalization. In fact, the pace of their internalization has increased over the years.

The choice of these companies to internationalize is based on two main dimensions: external factors (institutions and industry) and internal factors (the inner resources of the company). These factors have been thoroughly researched by different authors, but the incentives of INVs were left unclear. We have found that the incentives of Russian startups to move to the US lie in five main areas, namely the size of the market, the maturity of the market, the developed venture capital industry, the environment of doing business in both countries, and the brand of Silicon Valley. However, these incentives missed the internal enablers of internationalization, without which these companies would not start their business in the US in the first place. These enablers should become the main area of further research.

We have found that the incentives help young Russian innovative companies to be successful in a highly competitive American market, no matter what relations between the United States and Russia are. We hope that by showing the successful cases and conducting deeper research on them, we can contribute to increasing the number of such innovative companies that can improve the lives of people and economic performance in both Russia and the US especially in the face of new industrialization.

While Russian companies continue to search for investments and markets in the US, some new-generation companies start to use the power of crowdsourcing to test ideas and bring the best employees to the company. Both American and Russian companies can use this approach but the feasibility of it has yet to be proved.

## References

- [1] Sullivan, D. (1994) Measuring the degree of internationalization of a firm. *Journal of international business studies*, 25(2), pp.325-342.
- [2] Wood E., Khavul S., Perez-Nordtvedt L., Prakhya S., Velarde Dabrowski R. and Zheng C. (2011) Strategic commitment and timing of internationalization from emerging markets: evidence from China, India, Mexico, and South Africa. *Journal of Small Business Management*, 49(2), pp.252-282.
- [3] Knight G.A. and Cavusgil S.T. (2004) Innovation, organizational capabilities, and the born-global firm, *Journal of international business studies*, 35(2), pp.124-141.
- [4] Bader, T. and Mazzarol, T. (2009) December. Defining the born global firm: a review of the literature. In 23rd Annual Australian and New Zealand Academy of Management Conference, Australian and New Zealand Academy of Management, <http://www.cemi.com.au/sites/all/publications/BaderMazzarolANZAS2009.pdf>, pp. 1-22.
- [5] Oviatt, B.M. and McDougall, P.P., 1994. Toward a theory of international new ventures. *Journal of international business studies*, 25(1), pp.45-64. M. Young, *The Technical Writer’s Handbook*. Mill Valley, CA: University Science, 1989.
- [6] Singh, J.V., Tucker, D.J. and House, R.J. (1986) Organizational legitimacy and the liability of newness, *Administrative science quarterly*, pp.171-193.
- [7] Zaheer S. (1995) Overcoming the liability of foreignness, *Academy of Management journal*, 38(2), pp.341-363.

- [8] Li, Jiatao (2008) Asymmetric Interactions between Foreign and Domestic Banks: Effects on Market Entry, *Strategic Management Journal* 29, no.8, 873– 893.
- [9] Zucchella A., Palamara G. and Denicolai S. (2007) The drivers of the early internationalization of the firm, *Journal of World Business*, 42(3), pp.268-280.
- [10] Tsukanova T., Shirokova G., (2012) Internationalization propensity of SMEs through integrative lens: evidence from Russia, *Paper presented at the 57th ICSB World Conference*, Wellington, New Zealand.
- [11] McDougall P.P., Oviatt B.M., Shrader, R.C. (2003) A comparison of international and domestic new ventures, *Journal of international entrepreneurship*, 1(1), pp.59-82.
- [12] Arbaugh J.B., Camp S.M., Cox, L.W., (2008) Why don't entrepreneurial firms internationalize more? *Journal of Managerial Issues*, pp.366-382.
- [13] Cieslik J., Kaciak E. (2009) The speed of internationalization of entrepreneurial start-ups in a transition environment, *Journal of Developmental Entrepreneurship*, 14(04), pp.375-392.
- [14] Howe J. (2006) The rise of crowdsourcing, *Wired magazine*, 14(6), pp.1-4.
- [15] Howe J. (2008) Crowdsourcing: How the power of the crowd is driving the future of business, *Random House*.
- [16] Bigham J., Bernstein M., Adar E. (2015) Human-Computer Interaction and Collective Intelligence, *In Handbook of Collective Intelligence*. MIT Press, pp. 57–84.
- [17] Valentine M.A., Retelny D., To A., Rahmati N., Doshi T. and Bernstein M.S. (2017) Flash organizations: Crowdsourcing complex work by structuring crowds as organizations, *In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*, pp. 3523-3537, ACM.
- [18] Herndon K. (2008) *Entrepreneurs and Innovation: Creating Value With Emerging Technologies*. Innovations Publishing.
- [19] Guerrini F. (2016) First Hyperloop Track Might Be Built Between Vienna And Budapest, *Forbes*, [Electronic source]. Retrieved from <http://www.forbes.com/sites/federicoguerrini/2016/03/10/hyperloops-first-european-route-to-be-built-on-the-bratislava-budapest-route/#2513902e4b30>
- [20] Volmut J. (2016) Here's How Hyperloop Is Revolutionizing Crowdsourcing, *The Huffington Post* [Electronic source]. Retrieved from [http://www.huffingtonpost.com/jason-volmut/heres-how-hyperloop-is-re\\_b\\_9423928.html](http://www.huffingtonpost.com/jason-volmut/heres-how-hyperloop-is-re_b_9423928.html)
- [21] Popov Ye.V., Simonova V.L.(2017) The Interfirm Cooperation Culture of Network-Based Organizations, *Upravlenets – The Manager*, no. 4(68), pp. 75–84.