



NATIONAL RESEARCH UNIVERSITY  
HIGHER SCHOOL OF ECONOMICS

*Tatiana Khavenson, Diana Koroleva,  
Anastasia Lukina*

# THE FOUR MOTIVES OF EDUCATIONAL INNOVATORS

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: EDUCATION  
WP BRP 52/EDU/2019

*Tatiana Khavenson<sup>1</sup>, Diana Koroleva<sup>2</sup>, Anastasia Lukina<sup>3</sup>*

## **THE FOUR MOTIVES OF EDUCATIONAL INNOVATORS<sup>4</sup>**

Education systems across the world are experiencing significant transformations. Grassroots innovators play an important role in these changes. To stimulate the development of grassroots innovations it is important to understand the mechanisms that underlie their creation. This paper investigates the motivation of individuals who initialize innovative projects in education. The approach to measuring motivation was adopted from the Panel Study of Entrepreneurial Dynamics (PSED) initially developed for social and commercial entrepreneurs. The Russian version of the methodology was elaborated and validated to study educational innovators. The sample consists of 437 participants of the Competition for Innovation in Education (KIVO). Four types of motivation are identified: social, self-realization, status, financial. They are explained within the self-determination theory (SDT) and grassroots innovations. The social and self-realization motives are inherent in all the actors, while the other two vary among innovators. This motivational structure allows the authors to differentiate between specific types of innovators – social entrepreneurs and ‘non-entrepreneurs’. The discussion, following the conclusion in this article, focuses on which environment would be favorable for developing innovations, considering the personal motives for innovative activity. The results can be valuable for education policy.

JEL Classification: I20, I21, O35.

Key words: innovation, grassroots innovation, education innovations, motivation, PSED, education system, educational change.

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<sup>1</sup> National Research University Higher School of Economics (Moscow, Russia). Center of Research in Educational Innovations. Research Fellow; E-mail: tkhavenson@hse.ru

<sup>2</sup> National Research University Higher School of Economics (Moscow, Russia). Center of Research in Educational Innovations. The Head; E-mail: dkoroleva@hse.ru

<sup>3</sup> National Research University Higher School of Economics (Moscow, Russia). Center of Research in Educational Innovations. Research Assistant; E-mail: aalukina@hse.ru

<sup>4</sup> The article was prepared within the framework of the Basic Research Program at the National Research University Higher School of Economics (HSE) and supported within the framework of a subsidy by the Russian Academic Excellence Project '5-100'

## Introduction

An education system is a fundamental social institution which resists change and preserves traditions. Due to its alleged intransigence and rigidity, formal education systems are unable to rapidly react to external changes and offer competitive solutions (Miles, 1964; Sidorkin, 2017). Current social changes require the quick transformation of educational institutions; innovations are a key element of development (OECD, 2014; Walder, 2017; Shirley, 2017). Therefore, private initiatives, also referred to as *grassroots innovations*, may be an effective resource to fill educational gaps. Although quite unstable at the initial stages, this type of activity can react promptly to changes in the environment and perform functions in areas where the formal system is not sufficiently productive (Copper, 1997; Battilana, Leca, & Boxenbaum 2009; Defourny, 1999; CSR, HSE University, 2018). Furthermore, the chaotic and fluid nature of grassroots innovations has proved to positively impact economic prosperity and overall national well-being (Phelps, 2013).

The key driver of grassroots initiatives in education is the proactive behavior of innovators – open-minded and creative individual actors who are ready to embark on the projects aimed at improving education and which respond to the current societal needs (Koroleva & Khavenson, 2017). Hypothetically, innovators in education might be social entrepreneurs – actors willing to use their resources in order to develop, finance and launch socially oriented projects (Bosma et al., 2016). Innovators may also include commercial entrepreneurs – actors whose aim is to make profit. This assumption is based on the premises of self-determination theory (SDT), which posits that the continuum of motivation towards actions lies between its internal and external dimensions (Deci & Ryan, 1985). The theoretical framework of the paper is further complemented by the theory of grassroots innovations (Phelps, 2013; Seyfang & Longhurst, 2016).

The grounds for bringing the financial element into Russian education were the changes the Russian education system has experienced over the last thirty years. The 1990s saw the emergence of private universities, schools and kindergartens; federal education institutions introduced elements of fee-based education (Dneprov, 2006). Since the early 2000s, there has been a rapid development of “edutainment” (Kosaretskiy, Kudryavtseva, & Fiofanova, 2018). There is increased interaction between universities and private companies; businesses initiate their own educational projects. The online education market is developing rapidly: new mobile applications, websites and tutorials are appearing (Netologia, 2017; CSR, HSE University, 2018).

These trends often conflict with the common belief that education is a public good, and it is the state that must provide equal educational opportunities and free, high-quality education (Dneprov, 2006). Therefore, it is crucial to understand what drives innovators to offer their own educational solutions and projects. The motives of innovators in education remain understudied, which hinders their incorporation into modern educational processes. This study contributes to this field through an exploration of the motivational structure of educational innovators.

The empirical strategy of the paper is based on a survey of participants of the Competition for Innovation in Education (KIVO), held by HSE University in Russia. KIVO was set up to explore existing grassroots initiatives in education. The projects cover different educational spheres and originate from within or without the formal system of education. The language of the competition is Russian. Although the majority of applications are of Russian origin and are oriented towards Russian education, in total nearly 20 countries are represented. Interest from abroad indicates that KIVO captures the grassroots innovation dynamism in the Russian-speaking education community. Participant engagement in innovative practices allows the consideration of participants as representatives of the innovation community. A similar approach to define innovative behavior has been employed in Loy (1969).

The paper further describes the theoretical and empirical approaches to motivation, the tool to measure motives, the statistical analysis of educational innovators' motives and offers some important conclusions.

## **Perspectives on Innovators' Motivation**

Motivational incentives infuse any activity with meaning related to the result the activity aims to achieve (Leontev, 2000). The success of any action or a project depends on the person's motives (Elfving, 2008). For a better understanding of the nature of grassroots dynamism in education it is important to explore the reasons for creating innovative projects. The motivation of innovators can be considered theoretically using SDT (Deci & Ryan, 1985) and the theory of grassroots innovations (Phelps, 2013).

According to SDT's basic assumption, motivation for any action is situated along the internal-external continuum (Deci & Ryan, 1985). Internally motivated behavior is performed for its own sake, while external motivation involves an action performed as a means to achieve a certain goal. Amotivated actions are characterized by the lack of any type of motivation. As far as motivation is deemed continuous, it usually combines varying degrees of internal and external regulation, depending on how internalized the extrinsic goals are (Dörnyei & Ushioda, 2011).

Extrinsic motivation is assumed to be similar for social groups close to innovators in education, being expressed in the need to gain a higher status and profit (Carsrud & Brännback,

2011; Stephan et al., 2015; Davidsson, 2005). Commercial entrepreneurs' external motivation is a wish to provide for oneself and one's family (Hessels, Gelderen, & Thurik, 2008). Internal motivation is more pronounced among social entrepreneurs: it is more important for them to help society and address socially significant issues (Mair, Robinson, & Hockerts, 2014). The key motivational incentives for launching one's own socially relevant business are self-realization, compassion and public interest (Germak & Robinson, 2014). Educators wish for their students' successful academic performance and social improvement in general (Richardson & Watt, 2006; Dinham & Scott, 2000). Studies have demonstrated that the actions of these groups are simultaneously determined by a range of motives including both intrinsic and extrinsic triggers (Elfing, 2008; Lemos & Verissimo, 2013; Vansteenkiste et al., 2018). For example, both financial and non-financial motivational incentives underlie the activity of social entrepreneurs (Mair et al., 2014; Xu et al., 2014).

Grassroots innovation theory demonstrates specific motivational patterns among grassroots innovators across different spheres. It stresses the significance of the social, cultural and ethical aspects of their activity (Monaghan, 2009). The driving force of grassroots initiatives is social need and commitment rather than profit seeking (Bhaduri & Kumar, 2010; Seyfang & Longhurst, 2016). Being based on local community requirements and knowledge, individually organized projects challenge the status quo reflected in long established values and routines and promote new forms of organization. A crucial aspect of the motivation of grassroots innovators is a wish for the transformation of the regulatory and institutional elements of the contexts within which they operate (Hossain, 2016).

There are two types of actors involved in the field of education innovations – those from within and without the education system (Koroleva & Khavenson, 2017). Innovators from business and social entrepreneurship represent innovators from without; public-social sector employees are innovators from within the education system. Nevertheless, the literature provides limited evidence to explain the motivation of innovators in education. While the innovation activity of each group is driven by distinctive motives, the groups can share similar motives. Innovators in education come from different spheres: public-social sector, commercial and social entrepreneurship which reveal their own motivational patterns and characteristics. All these are melded together in the motivational structure of innovators. While the potential elements of motivation have been explored in previous studies, the identification of a particular motivational structure of innovators in education is the aim of the present paper.

## Data and Variables

The research was conducted among the participants of KIVO, which has been held annually since 2014. It attracts people who would like to contribute to the development of the education system. There are no age, location or occupation restrictions – anyone can participate individually or as part of a team. Projects are not limited to a specific theme and may concern any educational area. KIVO was chosen for the investigation as it is the largest field-specific competition held in the Russian-language education community, and people participating in it can be regarded as innovators in education (Halpin et al., 2004). A similar approach to identify innovators has been used in studies of innovative behavior in technological and sports areas (Loy, 1969; Hellström, Hellström, & Berglund, 2002).

We polled 437 innovators who participated in KIVO in 2015. The online survey was conducted as soon as registration ended and before the competition winners were announced. We invited every participant to take part in the survey.

The instrument to measure motivation is based on the scale of reasons for starting a business, which was developed in the Panel Study of Entrepreneurial Dynamics (PSED) at Michigan University (Carter, Gartner, & Shaver, 2004) and is based on an extensive meta-analysis of studies of entrepreneurship. The tool is actively applied in contemporary research, has been tested and validated in many countries (Liang & Dunn, 2007; Xu et al., 2014; Quigley, Newbert, & Clark, 2015)<sup>5</sup>.

## Results

### Innovators' Social and Demographic Profiles

As anticipated, innovators are a social group of well-educated people. 93% of KIVO participants have a degree and one out of three has a PhD. Their age varies from 15 to 72. Nevertheless, half the respondents are not older than 37 and 75% of them are not older than 47, which demonstrates the fact that innovators are relatively young people. Division by gender reflects the tendency present in the education environment – 63% of KIVO participants are women (Gokhberg et al., 2016). 66% of survey participants were project leaders and 34% were project participants.

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<sup>5</sup> For this research, the scale was validated for the Russian sample. These include double translation techniques, intensive cognitive interviews, the think-aloud method, a double interview and a pilot online survey. The test allowed for a scale of 16 statements that explained the reasons to participate in the innovative project and these statements were assessed by respondents on a Likert scale.

The projects were submitted to KIVO by innovators who were directly involved in education (78%) and by external actors (22%), which demonstrates innovative behavior coming from inside and outside the system<sup>6</sup>. Among the internal innovators, about 40% were university professors, 20% were school teachers, 25% held managerial positions at different levels of the education system, and 14% were tutors. Among the innovators who operated outside the formal education system, 30% were entrepreneurs, 32% worked in organizations that were not involved in education and 38% were engaged only in the innovative project.

The average working experience of innovators were 18 years (s.d. 11.7); the average time spent developing the project was 10 years (s.d. 9.9). Internal agents worked longer in the sphere related to the project theme (11 years) while for external innovators this was 8 years. Nevertheless, both groups were highly involved in the projects – on average, innovators spent around 15 hours a week on their initiatives.

Most innovative projects were relatively new – 75% innovators had been developing their project for not more than three years before taking part in the competition. However, there were also actors that had been working on the project for a longer period – 20% of innovators started their project 10 years ago and another 5% had been working on their projects from 10 to 30 years.

The projects targeted various educational areas. Most projects aimed at extra-curricula (56%) and school education – 44% and 48% innovators were working on projects for secondary and high school respectively. A large share of projects were connected with vocational (47%) and higher education (43%). Relatively fewer innovators developed projects for primary school (31%) and family education (22%). Only 19% of innovators addressed pre-school education (see Koroleva, Khavenson, & Andreeva, 2017 for details).

## **Motivation scale**

We applied confirmatory factor analysis to validate the motivation scale (Brown & Little, 2015), which resulted in a stable model of four factors representing motives for innovation: social, self-realization, status and financial. Each of them influences the innovation itself and reflects the participants' aims and intentions<sup>7</sup>. The correspondence of the motives to the statements of the questionnaire is reported in Table 1 of the Appendix.

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<sup>6</sup> If a respondent classified his/her educational activity as his/her full- or part-time occupation, he/she was considered an internal innovator. If an innovator's occupation was not related to the educational area, he/she was considered an external innovator.

<sup>7</sup> Some variables that characterized the reasons for participating in KIVO included a large number of missing values. Two statements were excluded from the analysis, in other cases missings were filled by multi-imputations realised with regression technique.

The factor structure of motives from PSED was partially reproduced in the Russian sample. The social motive corresponds to the motive to improve society in the PSED research. The self-realization motive is a combination of the motives for innovation, independence and self-realization. The status motive fully coincides with the motive of external validation in PSED. The financial motive includes elements of motives for independence and financial success. Goodness-of-fit statistics of the final model can be seen in Table 2 of the Appendix.

Each motive's value is the average value of the relevant statements which the respondents assessed using a 7-point Likert scale. The middle of the scale, which is the average value of any motive, is 3.5. We describe and discuss the content of these motives below.

## Motives towards innovations

### *Social motive*

The social motive reflects innovators' intrinsic intentions to improve people's lives and help others. Driven by this motive, projects are aimed at an improvement of the education system and positive social change in general. Innovators feel the need to transform the system and are concerned about its future. They are ready to be proactive in the development of education, being aware of their social responsibility in this regard.

The social motive has the highest mean value (5.9, s.d. 1.08) (Fig. 1). It is essential, both for innovators working in education and those who create their projects from the outside (external and internal innovators). The high significance of the social motive suggests that innovators have a large, internal potential to change the system and can be regarded as an important resource for its development.

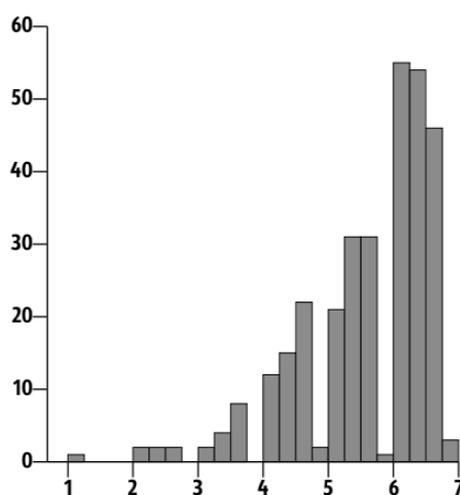


Fig. 1. Values for the social motive

### *Self-realization motive*

The self-realization motive accounts for innovators' desire for personal expression as well as their intention to push the frontiers of science and innovation. In this case, innovators are

driven by their willingness to apply their personal potential to advance the education system. With the help of self-realization, innovators offer creative and novel projects that meet the needs of modern society and education.

The self-realization motive, similar to the social one, is relevant for most external and internal innovators (5.5, s.d. 1.03), which demonstrates a high personal potential of actors within and outside the system (Fig. 2).

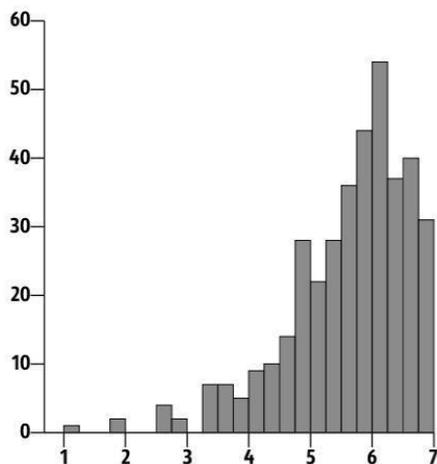


Fig. 2. Values for the self-realization motive

#### *The status motive*

The status motive suggests that innovators wish their projects to be seen as relevant and to be well-received. Innovators need to receive positive feedback on their actions and understand their contribution to the development of the system. These can be achieved through the wide recognition of their projects.

While both the social and self-realization motives are relevant for most innovators and characterize this social group in general, the status motive shows greater variation (s.d. 1.47), which also influences the mean value that shifts to the middle (4.2). This means that there are innovators for whom advancing their status and recognition are of little importance while for some innovators this matters a lot (Fig. 3). Different values for this motive are not connected with the division of innovators into external and internal ones – it can manifest itself in both groups.

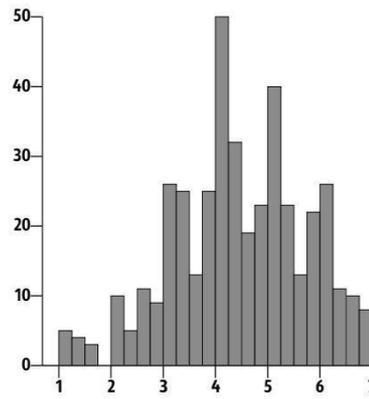


Fig. 3. Values for the status motive

### *The financial motive*

The financial motive is the most complex one: it includes innovators' intentions to achieve more personal independence and to advance their financial well-being. In this case, educational innovations are looked upon as business projects which offer the education system novel development mechanics, new ways of consumption and principles of relationship among educational actors. Innovators wish to make their lives more flexible, independent, stable and to raise their own effectiveness. Therefore, this complex of goals is not limited to a desire for better well-being, but rather is a more versatile and powerful resource driving grassroots initiatives.

Unlike the self-realization and social motives, there is no common pattern with the financial motive, similarly to the status one. The values vary significantly (s.d. 1.52). There are approximately equally sized groups of innovators for whom the value for the motive is either high, average or low (Fig. 4). The mean value for this motive (4.1) also shifts toward the middle of the scale. These groups do not coincide with the groups of external and internal actors: not all external projects aim at capitalization and financial benefits. On the other hand, there are internal innovators who recognize the commercial potential of their initiatives.

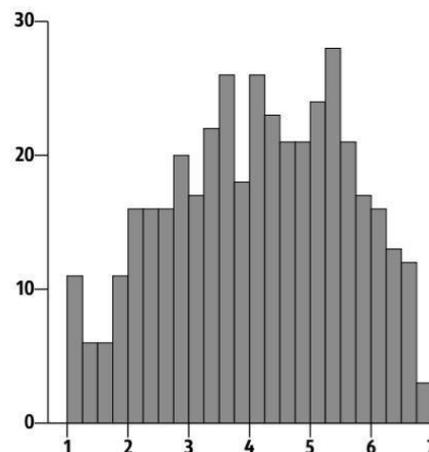


Fig. 4. Values for the financial motive

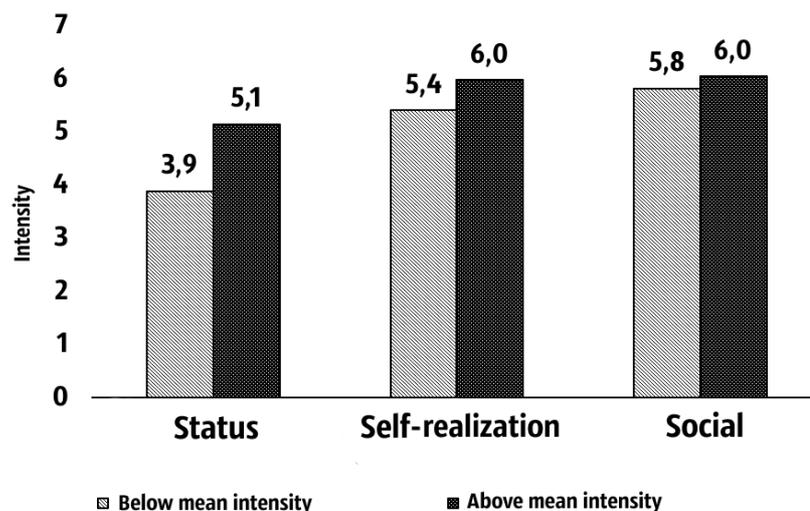
## **The interconnectedness of motives**

Every innovator working on an educational project is driven not by one motive exclusively, but rather by their combination: all the motives, when paired, show a significant positive correlation (Table 1). Regardless of innovator's wishes to improve the system (the social motive), or to gain recognition (the status motive), all projects are based on a creative idea and a unique approach to the development of the system (the self-realization motive). The link between the financial and social motives suggests that a wish for social transformation does not contradict the desire to make profit.

**Table 1. The structure of the motive correlations**

	Social	Self-realization	Status
Financial	0.19 (0.00)	0.48 (0.00)	0.62 (0.00)
Social		0.37 (0.00)	0.25 (0.00)
Self-realization			0.56 (0.00)

Another way to identify whether there is a difference between socially and financially oriented innovators is to compare the motives of individual groups based on different values for the financial and social motives. This analysis revealed that financially motivated innovators are also interested in achieving other goals (Fig. 5)<sup>8</sup>. Similarly, innovators who have an above-average value for the social motive also have higher values for other triggers (Fig. 6). Therefore, a high value for any motive indicates the innovator's overall motivation and their interest in developing their initiative. This proves that there are no groups among innovators who would target only social transformation or financial gain.



<sup>8</sup> In both cases the sample was divided into two groups considering the median value for motives – those who have a higher than average or lower than average value for the financial/social motive.

Fig. 5. The motives' values in groups with different values for the financial motive

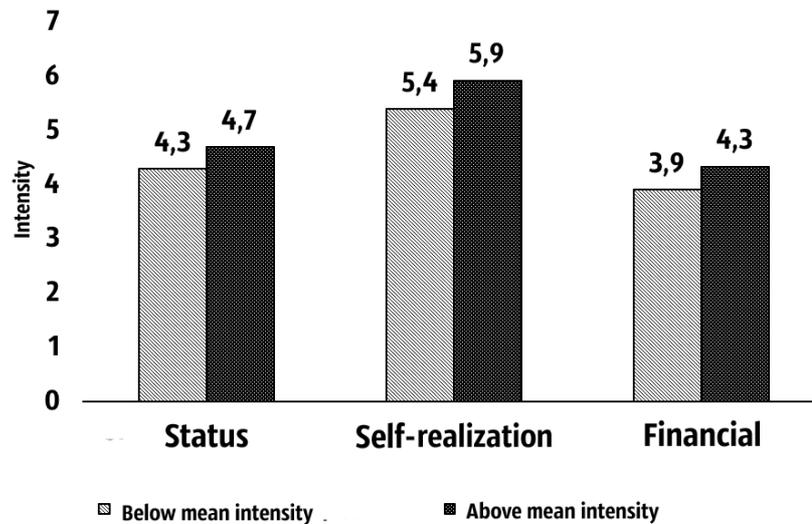


Fig. 6. The motives' values in groups with different values for the social motive

## Conclusion

Educational innovators are a group of well-educated people, varying in age and occupation. Their projects are aimed at general and higher education as well as non-formal education. Innovations involve actors working within the educational sphere (school teachers, university professors) and those operating from the outside (parents, entrepreneurs, start-up founders).

Innovators are driven by four motives: social, self-realization, status, and financial. A high value for one of the motives suggests high values for others as well and indicates the degree of an innovator's overall involvement in the project. It is important to consider the motives in combination as they are closely interconnected and complement each other.

The interconnectedness of motives helps to differentiate between the two types of innovators – *social entrepreneurs* and *'non-entrepreneurs'*. Contingency of business goals and a desire for social change allows considering these innovators as social entrepreneurs. They focus on launching long-term and socially relevant transformation which will also be financially beneficial (Mair et al., 2014; Lebedeva, 2011). As suggested by SDT, this motivational type represents the combination of internal and external drives: extrinsic elements of motivation are internalized and co-exist with intrinsic mechanisms of control.

While the whole group has a high value for the social motive, the level of the financial element varies. In line with SDT, a type of purely internally motivated innovators – *'non-entrepreneurs'* – has been identified. They are characterized by their interest in social transformation, while profit and independence are not as significant. Highly pronounced social

motivation corresponds to the theory of grassroots innovations by illustrating that grassroots initiatives emphasize social values. Nevertheless, there is no evidence for its counterpart, *commercial entrepreneurs*, for whom financial gain would be the most important motivation. We find that there is no fraction of individual innovative behavior that would have been driven by pure extrinsic forms of motivation.

## **Discussion**

The variety of motives driving innovators in education does not correspond to the expected division of actors into business and social entrepreneurs. Innovators can act in various directions: some are willing to start a public-private partnership; others, being aware of gaps in content and teaching methods, are eager to offer certain adjustments while working within the formal education system. Internal innovators' involvement suggests a systemic demand for transformation, and the participation of external actors, driven by similar motives, demonstrates an outside interest in contributing to change.

The multi-faceted nature of the motivational structure of innovators found in this study suggests the necessity for the diversification of the ways to support the initiatives and facilitate their integration into the education system.

The self-realization motive can be used to encourage innovations by creating an environment for personal development, testing the new and enabling them to deliver the initiative through to the finished product, which would help to raise the quality and scale of grassroots initiatives and to effectively direct innovators' creativity. It is the prospect of personal growth that has proved to be essential in developing highly intellectual innovative projects with the potential for social change (Savina, 2015).

To cultivate the status motive of innovators, it is necessary to draw public attention to grassroots initiatives, to raise awareness of the projects and the people behind them. This would help innovators to get social feedback on their actions and recognize the relevance and importance of their projects for modern education.

Appealing to the financial motive can be done with the capitalization of educational projects, incorporating external (profit-oriented) projects into the education system. The opportunity for external actors to implement educational projects brings competitive and well-developed products into the system of education.

The high value of the social motive suggests that serving the common good is intrinsic to all innovators and is characteristic of the environment as a whole. However, it does not mean that this motive should not be considered while implementing innovative activity. Quite the reverse, it is essential to show the significance of individual efforts in serving the common good.

Nowadays, financial motivational incentives prevail in the education system and are reflected in bonuses, grants, subsidies for internal actors. The status and self-realization motives are rare in this sphere. Taking into account the fact that education is regarded as a common good, the social motive can be used to maintain the unity of goals of educational initiatives (both external and internal).

The interconnectedness of motives suggests the necessity for a complex approach to project support, taking into account all the motives involved. Policy strategy, connected to the development of innovations, must account for the unique character of the actors' motives. Measures to develop initiatives must target the development of the educational infrastructure and ecosystem, rather than separate projects (Chepurenko, 2012).

It is necessary, therefore, to cultivate the education environment based on the autonomy and initiative of individuals and their personal contribution to change (Yuan & Zhang, 2017). We assume that ecosystem creation can be facilitated by external agents – charitable foundations, start-up incubators, competitions, mass media, etc. In this case, while the education system provides financial and social incentives, status and self-realization motives can be delegated to external players. This synergy would enable the mobilization of grassroots initiatives to address the major challenges and goals of modern education.

In this article we consider the Russian case of the development of grassroots innovations in education. The Russian situation largely corresponds to international trends reflected in education commercialization, the emergence of start-ups and private-public partnerships. We discovered that innovators can be characterized as a social group with a coherent motivational structure, within which self-realization and social motives are the most pronounced. Several policy-relevant findings may be outlined. First, this group requires specific managerial approaches, as far as classical market measures cannot be applied to the wide range of innovators' motives found within this study, and the prospect of financial benefits was not proved to be a key driver of innovative activity. The second implication is related to future occupations requiring high self-actualization traits. Judging by their motivational structure, innovators in education are already prepared for the forthcoming changes in the labour market. The example of this group could be transferred to other social spheres.

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## Appendix

**Table 1. Statements and their correspondence to the motives**

Motive	Statement
Social motive	Create social change
	Improve society/my community
	Enhance the wellbeing of others
Self-realisation motive	Develop an idea for a product
	Innovation, to be at the forefront of technology and business
	Fulfill a personal vision
	Grow and learn as a person
	Be free to adapt my approach to work
	Challenge myself
Status motive	Be respected by my friends
	Gain higher status for myself
	Achieve something, get recognition
Financial motive	Earn a larger personal income
	Build great wealth, high income
	Get greater flexibility for personal life
	Have financial security

**Table 2. Goodness-of-fit of the final CFA model**

Statistics	Model
$\chi^2$	195
p-value $\chi^2$	0.000
df	93
GFI	0.95
SRMR	0.04
CFI	0.96
TLI	0.95
RMSEA	0.05

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