International projects experience for the development of interaction between education and logistics business in forest sector

T Tereshkina1*, S Tereshchenko2

1Marketing and Logistics Department, Saint Petersburg State University of Industrial Technologies and Design, 4 Ivan Chernykh street, Saint Petersburg 198095, Russian Federation
2Directorate of International cooperation, Saint-Petersburg State Forest Technical University, 5 Institutskiy Lane, Saint-Petersburg, 194021, Russian Federation

*Corresponding email: tp_big@mail.ru

Abstract. This article will analyze the impact of international projects on cooperation between business and universities. Multifaceted aspects of interaction between universities and logistics business in the forest sector are considered, the influence of this interaction on the quality of the educational process is determined. The main forms of cooperation of organizations of the forest sector with Russian higher educational institutions engaged in training in the field of logistics and supply chain management are identified. It will be shown that international projects that create new networks between universities and business in the forest sector increase the effectiveness of such cooperation and create new forms of cooperation. The experience of implementation of international projects in Russian universities is analysed and the possibilities of its use for the development of interaction between business and education are determined. The results of an empirical study of cooperation between educational institutions and organizations of the forest sector are presented. Conclusions are drawn about the impact of international projects on the intensity and effectiveness of interaction between higher education institutions and enterprises of the forest sector, which ensures the growth of professionalism of teachers, competence of students and focus on the real needs of the labor market.

1. Introduction
In the conditions of modern development, characterized by rapid obsolescence of knowledge, increasing the level of innovation of products and services, globalization of the economy, is increasingly important the success of universities and business cooperation. A state that promotes the creation of links between business, universities and government structures, gaining a competitive advantage through rapid transfer of new knowledge created during implementation of innovative products, and companies and research organizations increase their chances of developing more quickly and effectively, taking advantage of new opportunities [1, 2]. In addition, there are a number of universities that have become drivers of regional strategic development because of their role as key suppliers of innovation in the knowledge economy, and because of their cooperation with business. There are different investigations about university-business cooperation [3-5].
However, there are no studies assessing the impact of international projects on the intensity and quality of such cooperation. International projects make it possible to intensify this cooperation, to use the best practices and forms of cooperation of partner universities.

The consideration of these issues is particularly relevant for forest sector enterprises and universities implementing educational programs in the field of logistics and supply chain management. Over the past decade, the use of innovative logistics technologies has enabled forest sector enterprises to improve customer service, optimize logistics costs, which are second in importance after material costs, and thereby increase their competitiveness [6].

Implementation of international projects will allow to develop new forms of cooperation between business and education, to assess the effectiveness of existing ones, allowing to accelerate the transfer of knowledge and improve the quality of the educational process, including in the field of logistics of forest sector enterprises [7-9].

2. Methods and Materials
The research method used is mainly qualitative [10]. Several international projects, connected with university-business interaction were analysed from the point of view of effectiveness and influence of the international projects on such cooperation. The questionnaire was also used to receive the opinion as of the business and universities representatives about cooperation. There were several questions included into the questionnaire.

There were two types of questionnaires: one for enterprises and one for universities. The questionnaire for the enterprises and for universities consisted of two parts. In the first part of the questionnaire for enterprises data connected with the background information about the enterprise were gathered. The information about the name of the enterprise, location, field of business and size was collected. In the second part of the questionnaire the questions concerning the cooperation of enterprises and business before the participation in the international project and after were asked. Also there were asked some questions concerning the identification of the interviewed enterprises’ development needs in the frame of cooperation with universities and concrete details of such collaboration. The first part of the questionnaire for universities was devoted to the identification of the university and the second was connected with the identification of the needs of collaboration with business from the point of view of university and the situation about university - business interaction before and after international projects realization. Since the level and nature of enterprise - university collaboration differs in different cooperation network it was decided to make a qualitative analysis of the interview results.

In the frame of the research, in-depth interviews were conducted among different enterprises of logistic business in forest sector, which participated jointly with universities in the international projects. The aim was to find out the best practices of the university-business partnership, as well as getting their opinion about the prospects and problems of cooperation with universities. The purpose of the surveys was to identify the influence of international projects on the development of university-business partnership. The existing forms of cooperation between the universities and logistic business, in forest sector as well as the identification of factors contributing to the development of interaction between the education system and business, and the barriers preventing this process were examined. In addition, aspects related to expectations were studied.

3. Results and Discussion
Cooperation between logistic business in forest sector and universities influence on both sides and may raise the effectiveness of their work. But it is proved that benefits from such cooperation may be received not only by universities and logistic business in forest sector, but also by other stakeholders, which receive benefits. The content of the benefits from university-business cooperation for different groups of stakeholders is shown in the table 1.
Table 1. Stakeholders and their benefits from university and logistic business in forest sector cooperation [11, 12].

| Stakeholders   | Benefits received                                                                                     |
|----------------|------------------------------------------------------------------------------------------------------|
| Students       | Access to companies for internship programs.                                                        |
|                | Access to experiential and entrepreneurial education as well as opportunity to have ‘real’ professional life exercises. |
| Teachers       | Access to industrial research fund.                                                                  |
|                | Opportunities for organizing consulting.                                                             |
|                | Opportunity to formulate the students’ competences in accordance with industry’s needs.              |
| University     | Raising the quality of education.                                                                    |
|                | Flexibility in accordance with the needs of labor market.                                           |
| Business       | Opportunity to receive complementary expertise that may be needed in the business.                  |
|                | The possibility to hire skilled employees.                                                            |
| Community      | Contribution to the economic development through events sponsored by the businesses, run jointly between universities and businesses. |
|                | Job creation, a more thriving entrepreneurial local environment and increased tax revenues are also found to be important benefits to the community. |

The survey conducted within the framework of international projects by two Russian universities: Saint-Petersburg State University of Industrial Technologies, Design, and Saint-Petersburg State Forest Technical University revealed a number of regularities in the development of forms of university logistic business in forest sector interaction [9, 11].

Based on the respondents’ opinion may be concluded that there are many forms of university logistic business cooperation in forest sector. Among most frequently used are: visits of student groups, training, student thesis writing based on the data, received from the enterprise, giving work-related cases, participation of business representatives in the presentations of the Bachelors’ and Masters’ thesis, joint scientific research, lectures of business life representatives in universities etc. The forms of cooperation between universities and logistic business in forest sector in Russia are shown in table 2.

Table 2. The most useful ways of cooperation between universities and logistic companies in forest sector by business representatives’ opinion in Russia (developed by the authors).

| Types of cooperation                        | Share in the amount of the enterprises participated in the investigation, % |
|---------------------------------------------|--------------------------------------------------------------------------|
| Visits of student groups                    | 22.5                                                                     |
| Internships                                 | 85.0                                                                     |
| Training                                    | 97.5                                                                     |
| Representatives of the companies participate in the presentations of Bachelors’ and Masters’ thesis | 34.8                                                                     |
| Joint projects                              | 47.5                                                                     |
| Joint scientific research                   | 12.5                                                                     |
Lectures of the representatives of the companies in the universities 57.5

Working life cases from the companies are used in educational process 12.5

The most effective forms of cooperation were identified as: training (97.5%), lectures of business life representatives in universities (57.5%), student thesis writing based on the data, received from the enterprise (53.8%), participation of business representatives in the presentations of the Bachelors’ and Masters’ thesis (34.8%), internships (85.0%).

The companies of forest sector stressed that the collaboration with universities should be on the win-win basis. The most effective forms of collaboration from their point of view are: joint projects and study based on work-related cases. Another critical success factor is accessibility of human resources and its continuous development. Very important driver of better collaboration is studying in a workplace when students are offered multiple opportunities to develop their learned skills in practice. In order to develop such collaboration, the international projects may be used. These facts were stressed by the companies, which participated in the international projects.

The companies that participated in the international projects jointly with universities showed that there are several outcomes from such collaboration. First, international projects allow creating new networks between universities and business, which is helping to organize more closer and effective cooperation. Second, some international projects that involve business representatives as participants, may help companies develop the human capital by means of education of their employers with up-to-date knowledge. So the companies are greatly interested in the participation in such projects and cooperation with universities in the frame of them. Third, the international projects allow receiving some answers for the urgent problems that companies have by including students in such projects. Very good example of international project, in which the students are involved, is INNOEVENT project, which is realized in a number of foreign universities in several countries and in two Russian universities: Saint-Petersburg State Forest Technical University and Saint-Petersburg State University of Industrial Technologies and Design [4]. In the frame of such project companies are giving tasks to the groups of students and would like to receive decisions to their problems that they have. The INNOEVENT project is realized for four years from 2015. The companies are satisfied by the results of such project. Fourth, the university-business cooperation in the frame of international projects may allows to get concrete results, which, as companies believe, are the basis for effective cooperation between universities and business.

From the point of view of universities, international projects, in which companies from forest sector were involved, were very useful for the development of educational process. The positive results of participating in the international projects with companies for the universities maybe found in different directions. First, it allows to establish relations with new companies and to develop relations with the company networks that already existed. Second, participation in such projects will allow raising the quality of education in the universities, because it will be connected with practical knowledge based on the real situations in business. Forest related high education should reflect changing needs in business environment to ensure graduates to be competitive in real business world. Third, the participation in the international projects may allow raising the quality of human capital of the universities. Teachers may receive new information about the real situation in forest sector companies and will be able to teach the students based on the examples from real life. They also will feel themselves able to teach the representatives from the business life. Fourth, the universities participation in the international projects with forest related companies will give the students better competencies within forest sector and students will get the opportunity to not only establish a stronger network with the companies and organizations they work with, but also help solve some of the companies’ or organizations’ challenges, while they may develop a specific “know-how” with the other partners involved [13]. Fifth, the international projects with forest related companies allow to intensify the practice-oriented research. The real results, obtained during such research will be the
win-win situation as for the university and for companies also. It also helps for the universities to be more competitive in the educational markets.

4. Conclusion

The following conclusions can be drawn from the analysis of the situation in cooperation of logistic business in forest sector and universities in Russian Federation and influence of international projects on it:

1. Collaboration of higher education institutions with the logistic business in forest sector in Russia was studied empirically in the present article.
2. The qualitative research method and the major principles of collecting data by means of interviewing sets of enterprises, working in logistic business in forest sector were given in the article.
3. As for the general outcome of the conducted research, cases of effective cooperation of logistic business in forest sector with the universities are presented in all international projects. The most used forms of cooperation are: training, internships, participation in joint projects, lectures of the representatives of the companies in the universities.
4. The representatives from universities and the logistic business in forest sector in Russia stressed that they are interested in organizing cooperation based on win-win approach. The international projects from their point of view are helping in establishment new networks between universities and the logistic business in forest sector, in finding modern effective forms of cooperation.

However, the conducted research showed that the needs for the development of cooperation between universities and the logistic business in forest sector in Russia should be examined more precisely by the educational sector and forest sector in order to intensify truly effective collaboration to improve the quality of the educational process in logistics. The practical value of the article is in its analysis of how international projects influence on collaboration between universities and the logistic business in forest sector in Russia.

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