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An analysis of international activity of foreign students in Latvia

Abstract. This article explains the importance of the topic through a carefully made research on the subject, including the analysis of the theory of an academic activity, the analysis of the academic activity of foreign students currently studying in higher educational institutions of Latvia, the forecast of academic activity of foreign students currently studying in higher educational institutions of Latvia. The authors of the article have detected a connection between the consumer, who is a foreign student studying in Latvian universities, and the country's GDP by using field research based on surveys of foreign students on the necessity to maintain academic activity in the higher educational institutions of Latvia and provide a description of foreign students as consumers in the educational market of Latvia.

Keywords: Consumer; Foreign Students; Academic Mobility; Economic Impact; Marketing Research; Survey

JEL Classification: A12; M31

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Аналіз міжнародної активності іноземних студентів у Латвії

Анотація. Важливість зазначеної теми розкрито за допомогою ретельно проведеного дослідження, яке включає аналіз академічної діяльності, а також прогноз академічної активності іноземних студентів, які навчаються у вищих навчальних закладах Латвії. Автори статті виявили зв'язок між споживачем, що є іноземним студентом, який навчається в латвійських університетах, і ВВП країни шляхом проведення польового дослідження на підставі опитування іноземних студентів щодо їхньої академічної діяльності у вищих навчальних закладах Латвії та опису іноземних студентів як споживачів на освітньому ринку Латвії.

Ключові слова: споживач; іноземні студенти; академічна мобільність; економічний вплив; маркетингове дослідження; опитування.

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Анализ международной активности иностранных студентов в Латвии

Аннотация. Важность указанной темы раскрыта посредством тщательно проведенного исследования, включая анализ академической деятельности, а также прогноз академической активности иностранных студентов, обучающихся в настоящее время в высших учебных заведениях Латвии. Авторы статьи обнаружили связь между потребителем, являющимся иностранным студентом, обучающимся в латвийских университетах, и ВВП страны путем проведения полевого исследования на основании опроса иностранных студентов касательно их академической деятельности в высших учебных заведениях Латвии и описания иностранных студентов в качестве потребителей на образовательном рынке Латвии.

Ключевые слова: потребитель; иностранные студенты; академическая мобильность; экономическое влияние; маркетинговое исследование; опрос.

1. Introduction

Today, international academic activity is a very topical issue raising interest not only in scientific circles but also in the whole society. One of the reasons is that increasing

migration promotes academic activities, as well. Such circumstances have predetermined different viewpoints on the subject of international education both on a global scale and in Latvia.

This research has been inspired the purpose to analyse international education activities with regard to foreign students who are studying in higher educational institutions of Latvia and to determine conditions required for the improvement of the educational market of Latvia.

2. Research tasks, methods and brief literature review

The purpose of the article is to analyse the theory of academic activity, study academic activity of foreign students currently studying in higher educational institutions of Latvia, forecast academic activity of foreign students currently studying in higher educational institutions of Latvia, discover the impact which foreign students studying in Latvian universities have on the country's GDP, reflect the results of the conducted field research based on the survey of foreign students on the necessity to maintain academic activity in the higher educational institutions of Latvia and provide a description of foreign students as consumers in the educational market of Latvia.

For this purpose, we used statistical methods of economic and marketing research.

The difficulty of solving the stated problem lies not only in the lack of experience as such in the whole global community, but also in the fact that it is connected with the field of education. It is studied as a topic relating to socio-humanities and considered from the perspective of cross-cultural education and global educational studies. The authors propose to solve the problem of integration of foreign students by considering marketing as the main science for the research and applying econometric methods, which allows expanding the essence of marketing as part of applied economics. In addition, this aspect emphasises the interdisciplinary connection [1].

The integration of foreign students is reflected in modern methodologies relating to socio-humanities, where it is considered from the perspective of cross-cultural education and global educational studies. We will present a comparative analysis of opinions of different scientists studying the problem of integration and define the connection between marketing and integration.

The research methodology is based on systemic and dialectical analyses. The statistical data analysis methods include the main indicators of descriptive statistics (indicators of central tendency or location, indicators of variability, indicators of skewness and kurtosis), time series analysis and forecasting, correlation analysis and regression analysis, analysis of variance (ANOVA) for testing statistical hypotheses with the use of the t-test; chi-square, the Kolmogorov-Smirnov test, the Shapiro-Wilk criterion, etc.

Works by leading Latvian and foreign scientists serve as theoretical, methodological and information bases of the research. B. Rivža, A. Batraga, S. Buka, R. Garleja, B. Sloka and J. Šalkovska, as well as some foreign researchers such as G. Gerken, R. Kopelman, J. Rovenpor, conducted extensive research on academic activity and foreign students in Latvia. In their studies, the authors have shown the increasing level of academic activity in the field of higher education and the possibility of its development in Latvia, which is another proof of the pertinence of the topicality of the issues under research.

3. Export of education

The globalisation of education is the highest stage of internationalisation of education. According to D. Honeck's opinion, trade in the educational services has a wide prospect: «The trade in services is a unique business, as opposed to the trade in goods it has (at least, in terms of the World Trade Organisation) four «methods of delivery», including the supply of services abroad» [2]. The fact of trade exists in the case when goods are moved across borders between the states from the place, i.e. from the place where they are produced to the place where they will be consumed. Trade in services includes the use of the telephone, e-mail or facsimile with the aim of providing educational consultation services. Of course, due to the enormous growth of the Internet, the capabilities of providing relevant services abroad have expanded quite significantly [2].

According to the European Association for International Education (EAIE), the main goal of its activity is the formation and development of the European educational space. If internationalisation is conceptually inseparable from the historical national state, then Europeanisation of higher education in the

region is based on the idea of European identity, which is added to the ambitions of national states, but does not replace them and cannot be a private case of internationalisation. Also, it cannot be a special case of manifestation of globalisation, if it undertakes the functions of subordination of the local peculiarities to the irresistible force of the world market or ideology [3].

The Association of the European Universities has defined the following fundamental principles of the European space of the export of higher education [4]. European higher education institutions (HEI) should keep their inextricable connection with research activity at the accessible level for each university not only in terms of supply to the students with the most advanced knowledge [5]. It is necessary to develop the culture of quality in the European higher education institutions (HEI). For this purpose, it is possible to develop methods of determination of progressive methods of work and determine certain awards or ranks. The formation and development of the European educational space has become a subject of a number of European international programs. For example, the ERASMUS program was launched by the decision of the European Council and the European Parliament in 1986 [6].

The European Student Information Bureau (ESIB) integrates national student unions from 36 European countries, expressing the will of 11 million European students. Today the ESIB is a full member of the academic processes in Europe defending the interests of European students and is a political organisation with a clear structure and decision-making procedures [9]. Scientists, among whom are marketing specialists, including I. Akulich, mark that the term «export» is used when designating the method of accessing foreign markets in terms of sales of a product or service [8] for the product or service to be consumed in foreign markets and to meet consumer's needs and demands in the country of consumption.

Emphasising that export is a method of increasing the yield of a product/service in the foreign market, but not the process itself, we will continue to exclude contradictions [10]. This research is devoted to foreign students' integration, i.e. market integration of students consuming educational products as a result of the movement, which brings physiological understanding of the «export of education». Due to the movement of consumption of educational products or services within the frameworks of the concept of «export of education», according to the opinion of the authors, there occurs «academic mobility», which reflects the depth of «export of education» in the case of marketing [11].

Also, it should be noted that the types and characteristics of the academic mobility, suggested by the authors, can be used not only in the terminological, but also in the practical sense [7; 12].

4. The analysis of the dynamics of the number of foreign students in Latvia

Let us estimate the changes in the number of foreign students in higher educational institutions of Latvia. As we can see in Figure 1, the number of foreign students has a positive trend.

The analysis by the SPSS of the dynamics of the number of foreign students, based on the report by the Ministry of Education of Latvia covering a period from 2004 to 2017, gives us a possibility to conclude the following.

A Shapiro-Wilks sample test shows that the residues meet the theoretical conditions for the model of regression.

The summary for the model with the dependent variable «Foreign Students» shows that the model describes the data very accurately, where $R = 0.998$, $R^2 = 0.996$, and the adjusted $R^2 = 0.996$.

The analysis of variance with the dependent variable «Foreign Students» indicates that the regression of the sum of squares = 59,098,131.834, the regression of mean square = 29,549,065.917 and the main value of regression = 0.000, which also shows that the model is significant, and it can be used for the forecast.

The residues are distributed normally with the mean value of 0. On the basis of the obtained data, we can make a forecast on the basis of the obtained model [13].

As seen in Figure 1, the graphic representation of the forecast from the time point (the year 2018) increases by approximately 4% each year. Such a trend has confirmed a positive

tendency towards the increasing number of foreign students studying in higher educational institutions of Latvia, which requires special attention to develop the topic of research. In addition, the given analysis has revealed consumers in the educational market.

The following analysis confirms the actuality of such statements by demonstrating the impact of foreign students on Latvia's GDP.

The impact of foreign students on Latvia's education and other industries is getting more significant, as it is said in a research by the analytical center Certus. D. Auers and S. Gubin, the authors of the research «The economic significance and influence of higher education exports in Latvia, Dom Certus», proved the existence of a real economic impact of foreign students on Latvia's GDP. According to their research, it is found that one foreign student per one academic year spends about EUR 12,264 on average, with EUR 3,432 spent on payment for the boarding, EUR 3,696 spent on food and EUR 5,136 spent to pay the tuition fee. In addition, when conducting the research, its authors found that friends and relatives, who stayed with foreign students in Latvia, spent about EUR 6.1 million per year altogether. All indicators calculated, it occurred that foreign students spent about EUR 73 million in the 2015/2016 academic year. In addition, the higher education has a multiplier effect because of foreign students' budget and stimulates the demand for accommodation services, food, entertainment and tourism (total EUR 75 million). The overall effect of higher education on the Latvian industry makes up EUR 148 million and is 0.61% of the country's GDP. Latvia's mean income from taxes makes up 28%. Consequently, foreign students contribute EUR 20 million to the budget of the country annually [14].

In addition, there has been another deep analysis of the impact of foreign students on Latvia's GDP. The relevant data are provided below based on the research materials for the 2017-2019 period (Table 1) [13].

Based on the calculations, it follows that, despite a decrease in the total number of students in higher educational institutions of Latvia, the number of foreign students in the next three years will increase. Taking into account the total contribution of foreign students to the economy of Latvia, it may be concluded that the country's GDP will increase by 0.8% in the next three years, with an increase of 0.9% next year, which shows a good trend.

The given analysis has proved the existence of the positive impact on Latvia's GDP in terms of educational activity of foreign students, who are consumers in the educational market.

The authors believe that the present study should be complemented by a field research, surveying consumers about the necessity to develop the market of the higher education of Latvia and to create favourable conditions for such development. The level of reproduction of this survey has been proved by 53% of the participated in the survey. The authors developed a special questionnaire. The collected results were processed by the SPSS program.

The survey was carried out among students at their place of residence (in dormitories and hotels), at the place of learning, in universities and by means of the Internet, including social networks. The total number of students included in the sample made up 136 people from 13 countries, including the Czech Republic, Germany, Nigeria, Egypt, Kazakhstan, Azerbaijan, Poland, Turkey, Russia, Ukraine, Belarus, Georgia and Uzbekistan.

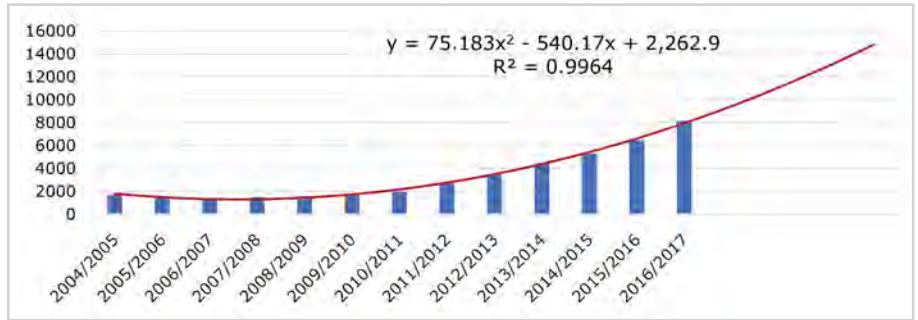


Fig. 1: The dynamics of the number of foreign students from 2004/2005 until 2016/2017 study years and the forecast of the growth in the number of foreign students for the 2018-2020 period
Source: Compiled by the authors based on [13]

Tab. 1: Forecast of foreign students' contribution to Latvia's GDP in the period of 2017-2019

	Forecasted number of students	Forecasted GDP (EUR)	Contribution of students (EUR)	Percent
2017/2018	9,436	26,021,014,919	216,019,215	0.8%
2018/2019	11,076	26,745,345,854	253,565,816	0.9%

Source: Compiled by the authors based on [13]

The target respondents were university students of universities, who were directly in one territorial segment and live near the place of learning. Such territorial segment is Lomonosov Street, where there are such large commercial educational institutions as the Baltic International Academy (BIA), Transport and Telecommunication Institute (TTI), the High School of Information Systems and Management (HSISM) and the High School of Economics and Culture (HSEC). This territorial segment is chosen not coincidentally. According to the authors' opinion, it is possible to introduce an integration model of foreign students, based on a significant number of universities in one location. In addition, the places where foreign students choose to live in are, as a rule, near their places of learning. Excerpts from the survey are given below [13].

To analyse the consumer demand of those who study at the universities of Latvia, the respondents were invited to answer the following questions:

- How did you get to know about the opportunity of studying in Latvia?
- How did you prepare documents for obtaining a temporary residence permit in Latvia? (Figure 2).
- What or who can be the solution of a problem of integration in Latvia? (university, society, dormitory, hobby club, national diaspora, students on the course, society, student complex) (Figure 3).

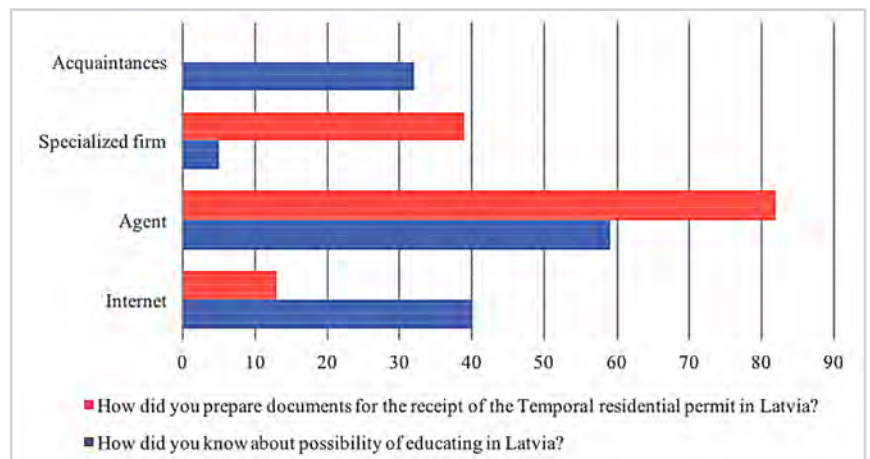


Fig. 2: The results of the survey on the questions «How did you prepare documents for obtaining a temporary residence permit in Latvia?» and «How did you get to know about the opportunity of studying in Latvia?»
Source: Compiled by the authors based on [13]

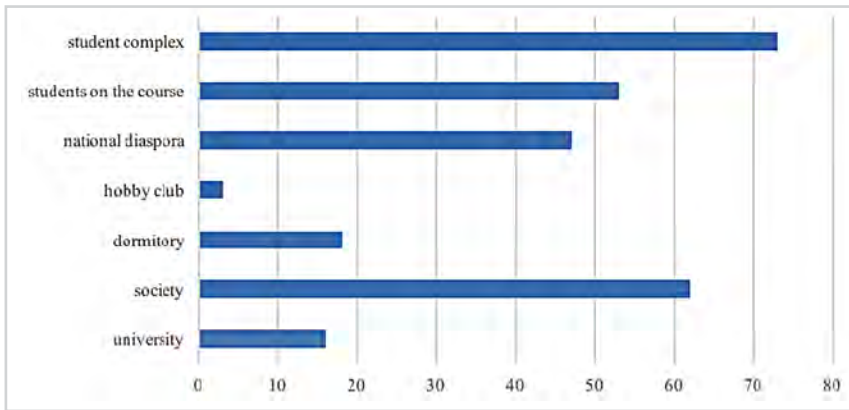


Fig. 3: The results of the survey on the question «What or who can be the solution of a problem of integration in Latvia (university, society, dormitory, hobby club, national diaspora, students on the course, society, student complex)?» Source: Compiled by the authors based on [13]

Having received a positive reply regarding the place of residence in a single area from foreign students, the respondents were asked questions about the possibility and willingness to change the place of residence in the student complex, including campus, café, sports complex, library or classroom.

Preparation for classes and bedtime were named as possible options for students to spend the time out of their education. The questionnaire contained general questions relating to the most popular events in the student community. The results surpassed all expectations. The students were ready and willing to attend different elective courses, including language courses, and the study of Latvian language and other languages. In addition, they wished to attend various cultural events, go in for sports in the available sports complex within the student complex. The availability of cafes with varied cuisine was also considered a benefit. At that, 40% of respondents were interested in breakfasts, 35% - in suppers, 10% would use an opportunity to have both breakfast and supper [13].

The coefficient of reliability of the survey results

Let us calculate the coefficient of reliability of the results of survey. The coefficient of reliability is an important criterion for the evaluation of the results of the test.

The goal of the survey was to show how important is the issue of integration of foreign students in Latvia. Consequently, there is an opportunity to identify whether the indicator of importance of integration will be high. For this purpose, a table reflecting answers of each respondent was created. The so called correct answers were marked 1, while the so called incorrect answers were marked 2. Cronbach's alpha with the value between 0 and 1 was used to obtain the coefficient of reliability [13].

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The SPSS program was used to perform the necessary calculations. The standardised Cronbach's alpha coefficient α_{st} is calculated by the following formula:

$$\alpha_{st} = \frac{N * \bar{r}}{1 + (N-1) * \bar{r}}$$
 (1)

where:

N is the number of the researched components;

\bar{r} determines the average coefficient of the correlation between the components.

The results are represented in Table 2, with the Cronbach's alpha coefficient being sufficient (>0.7), which points to reasonably high accuracy of the test.

The Kuder-Richardson formula and Cronbach's alpha were used to obtain the results of the calculations [13].

Tab. 2: Statistics of reliability

Cronbach's alpha	Cronbach's alpha on the basis of standardised elements	N-elements
0.763	0.746	13

Source: Compiled by the authors

5. Conclusions

The research, based on existing scientific theories, has proved that international academic activity is directly related to the increasing number of foreign students studying in higher educational institutions.

The increasing number of foreign students revealed by the statistical analysis, points to the long-range development of the market of higher education in Latvia.

The accomplished analysis has enabled us to detect the consumer of the relevant services, who is the foreign student, and the relevant trends in the educational market of Latvia.

The results of the conducted research will contribute to the creation of favourable conditions for the development of the market of higher education in Latvia.

The study confirms the topicality of the issue and the need to continue research on the development of international academic activity.

The results of the research prove that the increasing number of foreign students in Latvia positively affects both the country's educational market and the national economy as a whole.

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