MARKETING ANALYSIS OF THE MARKET CONDITIONS OF HIGHER EDUCATION IN UKRAINE

**Urgency of the research.** Marketing analysis of the market conditions of higher education in Ukraine is actual, because today the concept of knowledge-based economy is becoming crucial and its development directly depends on the state of science and the state of the market conditions of higher education.

**Target setting.** It is necessary to conduct the marketing analysis to substantiate the key factors of influence on the higher education market in Ukraine and to identify the main strategic guidelines of its development.

**Actual scientific researches and issues analysis.** In the scientific papers of such scholars as D. Dill, V. Meek, A. Garcia-Aracil and R. van der Velden etc. the theoretical and applied aspects of the educational services market development in the field of higher education have been studied, taking into account modern realities.

**Uninvestigated parts of general matters defining.** Researchers have not yet sufficiently worked out the problems of formalization and integrated assessment of the impact of the national economy development indicators and the market conditions of higher education in Ukraine in order to model the demand for education services.

**The research objective.** It is necessary to study the current state of the education services market in the field of higher education and to develop strategic guidelines of its development.

**The statement of basic materials.** Factor analysis of the market conditions of higher education in Ukraine has been conducted. It is proved that the key factors that influence the demand for higher education are demographic and social ones, as well as price factor and population welfare. The economic and mathematical model was constructed and the coefficients of demand elasticity for higher education services were obtained by the indicated factors.

**Conclusions.** In order to encourage the demand for higher education services in Ukraine on a long-term horizon, the state authorities should ensure the natural population increase, reduce unemployment by creating new jobs, implement anti-inflationary policies and increase the population welfare.

**Keywords:** market conditions; higher education; higher educational institution; demand; market; factor.

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Urgency of the research. Nowadays intellectual capital becomes a key economic resource under the conditions of a developed information society and the transition from industrial economics to knowledge economy. Therefore, the development of its intellectual capital and further formation of intellectual potential becomes crucial by forming the competitive advantages of national economy. These features of the post-industrial society allow us to focus on the relevance of education as a type of economic activity in general and higher education in particular, in the structure of the national economy.

Target setting. To determine the main strategic guidelines for the development of higher education as a type of economic activity, there is a need for factor analysis of the market conditions.

Actual scientific researches and issues analysis. Among foreign studies of the market conditions of education services in the field of higher education, special mention should go to the papers of such scholars as D. Dill (1997) [1], V. Meek (2000) [2], A. García-Aracil and R. van der Felden (2008) [3]. The above-mentioned works investigate the problems of the development of the education services market in the field of higher education taking into account the globalization processes, labor market requirements, marketing communications, state regulation, etc.

Uninvestigated parts of general matters defining. Academic economists haven’t yet sufficiently researched the problem of marketing analysis of the market conditions of higher education in Ukraine in the context of identifying the key factors for its strategic development.

The research objective. The objective of the study is to investigate the key factors affecting the state of the higher education market in Ukraine and to develop strategic guidelines for its development.

The statement of basic materials. Economic activity in providing higher education services in Ukraine has all the features of a state-regulated competitive market: the availability of a product that is in demand by the population, namely education services for such education and qualification levels as: Junior Specialist, Bachelor, Specialist, Master; the competitive environment, formed by higher educational institutions of all forms of ownership of the I-IV levels of accreditation, which offer educational services and form a proposal; the absence of higher educational institutions essential levers of influence on the price of education services; government regulation of higher education institutions’ activity through licensing, accreditation, government order, etc. [4].

The higher education market in Ukraine can be characterized by high demand among the population (in 2016 1.6 million people studied at higher education institutions of Ukraine, excluding the temporarily occupied territories). However, in 2005, the total number of students in higher education institutions of Ukraine (I-IV accreditation level) was 2.7 million people, reaching 2.8 million in 2007, and since 2008-2009 the demand for educational services has started to decrease (as Tab. 1 shows).

Data given in Table 1, show us that all indicators of the market conditions of higher education during 2005-2017 have a negative dynamic. Thus, the number of HEIs of the I-IV accreditation level during the period of study decreased by 31%, and the average annual number of students of 1 educational institution – by 15.2%. The total number of students enrolled in the university decreased by 41.4%, including 57% in HEIs of the I-II accreditation level and 38% in the universities of III-IV accreditation level. The number of university entrants who became students during 2005-2016 decreased by approximately 7% annually and the overall decline was 53%, including a decrease in the number of applicants to higher education institutions of the I-II level of accreditation was 64%, and to those of the III-IV accreditation level – 50%. At the same time, the number of university graduates during 2005-2010 increased by 27%, and during 2010-2016 it decreased by 41%, the overall decline was 25%. The share of students in the population structure during the analysis decreased by almost 2% – from 5.8% to 3.7%.

Data, given in Table 1, make it possible to conclude that the demand for higher education in Ukraine during 2005-2016 has reduced by half, as proved by the negative dynamics of the rate of students’ admission to the universities. It is clear that the main reason for the decline, starting from 2014, was the occupation of the part of the territory of our state, which made it impossible to collect statistical data. However, during 2005-2013, the number of entrants who became students of HEIs of
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There are reasons to consider that the key factors affecting the demand for higher education are as follows: demographic factor – the number of secondary school graduates is declining each year, social factor – unemployment prompts a person to professional retraining on the one hand and, on the other hand, parents of the university student who have lost their jobs, aren’t able to pay for the higher education of their child; inflation factor – the rise in prices for higher education services leads to the reduction in demand for it – the so-called "law of demand"; welfare factor – with the increase of incomes, more people will want to get higher education or encourage the children to study – the so-called "income effect".

To check the above hypotheses, let us analyze the factors listed in Table 2 and estimate the extent of their impact on demand.

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**Dynamics of indicators of the market conditions of higher education in Ukraine**

<table>
<thead>
<tr>
<th>Indicator name</th>
<th>Indicator value at the beginning of academic year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of higher educational institutions (HEI) I-IV level of accreditation</td>
<td>951 920 904 881 861 854 846 832 813 794 775 756</td>
</tr>
<tr>
<td>2. General number of students, thousand people, incl.:</td>
<td>2709.1 2786.6 2813.8 2763.8 2599.4 2599.4 2599.4 2599.4 2599.4</td>
</tr>
<tr>
<td>- HEI I-II level of accreditation, thousand people</td>
<td>505.3 468.0 441.3 395.4 361.5 356.8 345.2 329.0 313.1</td>
</tr>
<tr>
<td>- HEI III-IV level of accreditation, thousand people</td>
<td>2203.8 2318.6 2372.5 2364.5 2245.2 2129.8 1954.8 1824.9 1723.7</td>
</tr>
<tr>
<td>Average number of students for one HEI, people</td>
<td>2849 3029 3113 3137 3019 2917 2732 2637 2556 2443 2346</td>
</tr>
<tr>
<td>3. Students enrolled in general, thousand people, incl.:</td>
<td>672.2 658.9 633.7 539.6 463.9 441.1 441.1 361.1 323.1</td>
</tr>
<tr>
<td>- in HEI I-II level of accreditation, thousand people</td>
<td>169.2 151.2 142.5 114.4 105.1 99.8 93.9 93.9 69.5</td>
</tr>
<tr>
<td>- in HEI III-IV level of accreditation, thousand people</td>
<td>503.0 491.2 425.2 370.5 392.0 314.5 341.3 348.0 291.6</td>
</tr>
<tr>
<td>4. specialists graduated in general, thousand people, incl.:</td>
<td>515.1 551.5 602.7 623.3 642.1 654.7 626.5 612.9 576.3</td>
</tr>
<tr>
<td>- from HEI I-II level of accreditation, thousand people</td>
<td>142.7 137.9 134.3 118.1 114.8 111.0 96.7 92.2 91.2</td>
</tr>
<tr>
<td>- from HEI III-IV level of accreditation, thousand people</td>
<td>372.4 413.6 468.4 505.2 527.3 543.7 529.8 520.7 485.1</td>
</tr>
<tr>
<td>5. Share of students in the population structure, %</td>
<td>5.75 5.96 6.06 5.98 5.66 5.44 5.07 4.77 4.51</td>
</tr>
</tbody>
</table>

* excluding the temporarily occupied territories.

Source: created on the basis of the State Statistics Service of Ukraine [5; 6]
The data shown in Table 2 indicate a decline in the number of secondary school graduates by 41%, increase of unemployment level (according to the ILO methodology) by more than 2%, the general increase in prices for higher education in the analyzed period by 359%, and real wage increase by 197%.

Thus, for the conduct of factor correlation-regression analysis, the following indicators, which have a significant effect on the market conditions of higher education services, were distinguished (demand index is the number of university entrants, thousand people – NUE; the number of secondary school graduates, thousand people – NSG; unemployment level (according to the ILO methodology), % – UL_{ILO}; Index of consumer prices for education, % – ICP_{E}; real wage index, % – RWI).

The authors carried out the economic-mathematical modeling by the means of Excel indicators introduced into the demand model of the market for higher education services for 2005-2016 (see Tab. 1-2), and obtained the following equation of four-factor multiple linear regression:

\[ NUE = 372.14 + 0.92NSG - 22.45UL_{ILO} - 1.52CP_{E} + 1.26RWI. \]  

(1)

The obtained equation is described by the following values of statistical coefficients, in particular: multiple correlation coefficient \( R \) is 0.978, which indicates correlative relationship of high density between factors and the result; the multiple determination coefficient \( R^2 \) is 0.956 and indicates that the variation of the result by 95.6% is due to the variation of the model factors; Fisher \( F \)-test is 37.8, which exceeds its tabular value and shows the high reliability of the model.

Parameters of the obtained equation prove that the growth of the secondary school graduates number per 1 thousand people leads to the increase in the number of university entrants by 920 people; with an increase in the unemployment level (according to the ILO methodology) by 1%, 22.5 thousand people will not be able to enter the higher education institutions; the increase in prices for higher education services by 1% can lead to the decrease in the number of university applicants by 1520 people; increase of real wages by 1% can lead to the increase in the number of university applicants by 1260 people.

**Conclusions.** Thus, the results of factor analysis of the market conditions of education services will become the basis for making a long-term forecast of its development. The results of the conducted factor analysis also allow to make the following conclusions: firstly, the most significant factor influencing the demand for higher education services is the demographic one (the elasticity of demand for higher education by the demographic factor +0.67%); therefore, an increase in the number of secondary school graduates will increase the demand for higher education, and secondly, an effective public policy that can help stimulate employment and reduce unemployment will also have a positive impact on the demand for higher education (the elasticity of demand for higher education by social factor – 0.36%); thirdly, the anti-inflationary policy will have a positive effect on the market conditions.
of higher education, which should also be taken into account by managers of higher educational institutions, implementing price policy (elasticity of demand for higher education at a price -0.35%); fourthly, stimulating the growth of the population welfare, in particular raising the minimum wage and pensions, can also improve the market conditions of higher education (the elasticity of demand for higher education by income +0.28%).

References

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