

МЕНЕДЖМЕНТ

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**MARKETING ANALYSIS
 OF THE MARKET CONDITIONS
 OF HIGHER EDUCATION IN UKRAINE**

**МАРКЕТИНГОВИЙ АНАЛІЗ
 КОН'ЮНКТУРИ РИНКУ
 ВИЩОЇ ОСВІТИ УКРАЇНИ**

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. García-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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Актуальність теми дослідження. Маркетинговий аналіз кон'юнктури ринку вищої освіти України є актуальним, оскільки нині вирішального значення набуває концепція економіки знань, розвиток якої безпосередньо залежить від стану науки та кон'юнктури ринку вищої освіти.

Постановка проблеми. Необхідно провести маркетинговий аналіз для обґрунтування ключових факторів впливу на ринок вищої освіти України та визначення основних стратегічних орієнтирів його розвитку.

Аналіз останніх досліджень і публікацій. У наукових працях таких учених, як Д. Ділл, В. Мік, А. Гарсія-Араціл і Р. Ван дер Вельден та ін. досліджуються теоретичні та прикладні аспекти розвитку ринку освітніх послуг у сфері вищої освіти з урахуванням сучасних реалій.

Виділення недосліджених частин загальної проблеми. Дослідниками ще недостатньо опрацьовані проблеми формалізації та комплексної оцінки впливу показників розвитку національної економіки та кон'юнктури ринку вищої освіти України з метою моделювання попиту на освітні послуги.

Постановка завдання. Необхідно дослідити сучасний стан ринку освітніх послуг у сфері вищої освіти та розробити стратегічні орієнтири його розвитку.

Виклад основного матеріалу. Проведено факторний аналіз кон'юнктури ринку вищої освіти України. Доведено, що ключовими факторами, які найбільше впливають на попит на вищу освіту, є демографічний, соціальний, фактор ціни та добробут населення. Побудовано економіко-математичну модель та одержано коефіцієнти еластичності попиту на послуги з вищої освіти за вказаними факторами.

Висновки. Для стимулювання попиту на послуги з вищої освіти в Україні у довгостроковій перспективі державним органам влади необхідно забезпечити природній приріст населення, скоротити рівень безробіття, створюючи нові робочі місця, здійснювати антиінфляційну політику, підвищувати добробут населення.

Ключові слова: кон'юнктура; вища освіта; вищий навчальний заклад; попит; ринок; фактор.

МЕНЕДЖМЕНТ

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

МЕНЕДЖМЕНТ

the I-IV level of accreditation declined by 34%, indicating the influence of other factors that need to be identified and analyzed.

Table 1

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

Indicator name	Indicator value at the beginning of academic year											
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015*	2015-2016*	2016-2017*
1. Number of higher educational institutions (HEI) I-IV level of accreditation	951	920	904	881	861	854	846	823	803	664	659	657
2. General number of students, thousand people, incl.:	2709.1	2786.6	2813.8	2763.8	2599.4	2491.3	2311.6	2170.1	2052.7	1689.3	1605.3	1586.7
- HEI I-II level of accreditation, thousand people	505.3	468.0	441.3	399.3	354.2	361.5	356.8	345.2	329.0	251.3	230.1	217.3
- HEI III-IV level of accreditation, thousand people	2203.8	2318.6	2372.5	2364.5	2245.2	2129.8	1954.8	1824.9	1723.7	1438.0	1375.2	1369.4
Average number of students for one HEI, people	2849	3029	3113	3137	3019	2917	2732	2637	2556	2544	2436	2415
4. Students enrolled in general, thousand people, incl.:	672.2	658.9	633.7	539.6	463.9	521.1	419.6	441.1	441.9	361.1	323.1	313.8
- in HEI I-II level of accreditation, thousand people	169.2	151.2	142.5	114.4	93.4	129.1	105.1	99.8	93.9	69.5	63.2	60.6
- in HEI III-IV level of accreditation, thousand people	503.0	507.7	491.2	425.2	370.5	392.0	314.5	341.3	348.0	291.6	259.9	253.2
5. specialists graduated in general, thousand people, incl.:	515.1	551.5	602.7	623.3	642.1	654.7	626.5	612.9	576.3	484.5	447.4	386.7
- from HEI I-II level of accreditation, thousand people	142.7	137.9	134.3	118.1	114.8	111.0	96.7	92.2	91.2	79.1	73.4	68.0
- from HEI III-IV level of accreditation, thousand people	372.4	413.6	468.4	505.2	527.3	543.7	529.8	520.7	485.1	405.4	374.0	318.7
6. Share of students in the population structure, %	5.75	5.96	6.06	5.98	5.66	5.44	5.07	4.77	4.51	3.72	3.74	3.71

* excluding the temporarily occupied territories.

Source: created on the basis of the State Statistics Service of Ukraine [5; 6]

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.

МЕНЕДЖМЕНТ

Table 2

Dynamics of the factors of impact on the education services in the field of higher education

Indicator	Indicator value at the beginning of academic year											
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
1. Number of Secondary school graduates, thousand people	515	485	467	427	391	364	215	329	304	247	229	211
2. Unemployment level (under the International Labor Organization methodology), %	7.2	6.8	6.4	6.4	8.8	8.1	7.9	7.5	7.2	9.3	9.1	9.3
3. Consumer price index of higher education (until December of the next year), %	117.2	115.5	115.1	127.8	116.9	108.8	104.7	104.0	102.0	103.1	112.1	110.3
4 Real wage index, %	131.5	111.7	110.3	97.0	99.1	110.5	111.0	111.1	106.7	86.4	90.1	111.6

Source: created on the basis of the State Statistics Service of Ukraine [7-10].

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:

$$NUE = 372.14 + 0.92NSG - 22.45UL_{ILO} - 1.52CP_E + 1.26RWI. \quad (1)$$

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

МЕНЕДЖМЕНТ

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

1. Dill, D. D. (1997). Higher education markets and public policy. *Higher Education Policy*, 10(3-4), 167–185 [in English].
2. Meek, V. L. (2000). Diversity and marketisation of higher education: incompatible concepts? *Higher Education Policy*, 13(1), 23–39 [in English].
3. García-Aracil, A., Van der Velden, R. (2008). Competencies for young European higher education graduates: labor market mismatches and their payoffs. *Higher Education*, 55(2), 219–239 [in English].
4. Biloshkurskiy, M. V. (2014). Faktornyy analiz konyunktury rynku osvitnih posluh [Factor analysis of market conditions for educational services]. Proceedings from *Politychni, pravovi ta finansovo-ekonomichni priorytety rozvytku ekonomiky Ukrainy: stratehiya i perspektyvy. Zbirnyk materialiv Mizhnarodnoyi naukovo-praktychnoyi konferentsiyi – Political, legal and financial and economic priorities of Ukraine's economy development: strategy and prospects*. (pp. 39–43). Uman: Publishing and printing center "Visavi" [in Ukrainian].
5. Vyshchi navchalni zaklady [Higher education institutions]. *ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/operativ2005/osv_rik/osv_u/vuz_u.html [in Ukrainian].
6. Naselennya [Population]. *ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/operativ2007/ds/nas_rik/nas_u/nas_rik_u.html [in Ukrainian].
7. Zahalnoosvitni navchalni zaklady (za danymi Ministerstva osvity i nauky Ukrainy) [Secondary schools (according to the Ministry of Education and Science of Ukraine)]. *ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/operativ2005/osv_rik/osv_u/znz_u.html [in Ukrainian].
8. Osnovni pokaznyky rynku pratsi (richni dani) [Key labor market indicators (annual data)]. *ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/operativ2007/rp/ean/ean_u/osp_rik_07u.htm [in Ukrainian].
9. Indeksy spozhyvchykh tsin na tovary ta posluhy (do hrudnya poperednoho roku) [Consumer price indices for goods and services (before December of the previous year)]. *ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/operativ2010/ct/is_c/arh_isc/arh_iscgr10_u.html [in Ukrainian].
10. Tempy zrostantyia/znyzhennya nominalnoyi ta realnoyi zarobitnoyi platy [Rate of growth / decrease of nominal and real wages]. *ukrstat.gov.ua*. Retrieved from http://www.ukrstat.gov.ua/operativ/operativ2005/gdn/tznr/tznr_u/tznr_u_bez.htm [in Ukrainian].

Література

1. Dill, D. D. Higher education markets and public policy / David D. Dill // *Higher Education Policy*. – 1997. – Volume 10. – Issues 3–4. – P. 167–185.
2. Meek, V. L. Diversity and marketisation of higher education: incompatible concepts? / V. Lynn Meek // *Higher Education Policy*. – 2000. – Volume 13. – Issue 1. – P. 23–39.
3. García-Aracil, A. Competencies for young European higher education graduates: labor market mismatches and their payoffs / A. García-Aracil, R. Van der Velden // *Higher Education*. – 2008. – Volume 55. – Issue 2. – P. 219–239.
4. Білошкурський, М. В. Факторний аналіз кон'юнктури ринку освітніх послуг / М. В. Білошкурський // Політичні, правові та фінансово-економічні пріоритети розвитку економіки України: стратегія і перспективи : [збірник матеріалів Міжнародної науково-практичної конференції] ; 28 травня 2014 року. – Умань : Видавничо-поліграфічний центр «Візаві». – 2014. – С. 39–43.
5. Вищі навчальні заклади [Електронний ресурс] // Офіційний сайт державної служби статистики України. – Режим доступу : http://www.ukrstat.gov.ua/operativ/operativ2005/osv_rik/osv_u/vuz_u.html.
6. Населення [Електронний ресурс] // Офіційний сайт державної служби статистики України. – Режим доступу : http://www.ukrstat.gov.ua/operativ/operativ2007/ds/nas_rik/nas_u/nas_rik_u.html.
7. Загальноосвітні навчальні заклади (за даними Міністерства освіти і науки України) [Електронний ресурс] // Офіційний сайт державної служби статистики України. – Режим доступу : http://www.ukrstat.gov.ua/operativ/operativ2005/osv_rik/osv_u/znz_u.html.
8. Основні показники ринку праці (річні дані) [Електронний ресурс] // Офіційний сайт державної служби статистики України. – Режим доступу : http://www.ukrstat.gov.ua/operativ/operativ2007/rp/ean/ean_u/osp_rik_07u.htm.
9. Індeksi споживчих цін на товари та послуги (до грудня попереднього року) [Електронний ресурс] // Офіційний сайт державної служби статистики України. – Режим доступу : http://www.ukrstat.gov.ua/operativ/operativ2010/ct/is_c/arh_isc/arh_iscgr10_u.html.
10. Темпи зростання/зниження номінальної та реальної заробітної плати [Електронний ресурс] // Офіційний сайт державної служби статистики України. – Режим доступу : http://www.ukrstat.gov.ua/operativ/operativ2005/gdn/tznr/tznr_u/tznr_u_bez.htm.

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