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Research of consumer demand in the market of educational services of Dnipropetrovsk region

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Abstract. *The purpose of the research.* The aim of the work is to study consumer needs in the market of educational services in marketing management system at higher educational institutions. *Methods.* The following methods were used in the research process: statistical – to process data on the dynamics of supply and demand; sociological – in the study of factors that affect individual and socio-economic demand; survey – to collect primary data on consumer demand in the market of educational services in Dnipropetrovsk region. *Results.* It is proved that with the help of marketing researches and modern approaches it is possible to get a clear idea of qualitative and quantitative criteria of demand, the real situation in the market; identify problems of interaction between different market participants; determine trends and directions of demand development; evaluate the effectiveness of information channels. The authors emphasize that higher education institutions seek to achieve consistency between the potential of higher education institutions as producers of educational services and the needs of consumers in these services. The main development trends and problems of the market of educational services in Ukraine are described. In the light of the results obtained, it is established that understanding the behavior of potential and actual applicants for higher education will help the institution not only to adapt to it, but also to shape it. *Practical meaning.* The results of a survey conducted among consumers of the market of educational services in Dnipropetrovsk region allowed to make a portrait of the applicant and graduate through the eyes of employer. The obtained results can be used for further research on this topic. *Prospects for further research* are the formation of a model of consumer behavior in the market of educational services, which will allow to organize effective management of marketing activities in higher education and not only meet consumer needs, but also to form market demand.

Keywords: needs, demand, market of educational services, labor market, higher education.

JEL Classification: I25, H75.

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Дослідження попиту споживачів на ринку освітніх послуг Дніпропетровської області

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Анотація. *Мета дослідження.* Метою роботи є дослідження споживчих потреб на ринку освітніх послуг в системі управління маркетинговою діяльністю у закладах вищої освіти. *Методологія.* У процесі дослідження використано наступні методи: статистичні – для опрацювання даних про динаміку попиту, пропозиції; соціологічні – при дослідженні чинників, які впливають на індивідуальний та суспільно-економічний попит; опитування – для збору первинних даних про попит споживачів на ринку освітніх послуг Дніпропетровської області. *Результати.* Доведено, що за допомогою маркетингових досліджень, сучасних підходів можливо отримати чітке уявлення про якісні і кількісні критерії попиту, про реальну ситуацію на ринку; виявити проблеми взаємодії між різними учасниками ринку; визначити тенденції і напрямки розвитку попиту; оцінити ефективність інформаційних каналів. Авторами наголошено, що заклади вищої освіти прагнуть досягти узгодженості між потенціалом закладів вищої освіти як виробників освітніх послуг і потребами споживачів у цих послугах. Охарактеризовані основні тенденції розвитку та проблеми ринку освітніх послуг в Україні. Враховуючи отримані результати, встановлено, що розуміння поведінки потенційних та реальних здобувачів вищої освіти допоможе закладу не тільки пристосуватися до неї, а й формувати її. *Практичне значення.* Результати анкетування, проведеного серед споживачів ринку освітніх послуг Дніпропетровської області дозволили скласти портрет абітурієнта та випускника очима роботодавця. Отримані результати можуть бути використані для подальших досліджень означеної тематики. *Перспективами подальших досліджень* є формування моделі поведінки споживача на ринку освітніх послуг, яка дозволить організувати ефективно управління маркетинговою діяльністю у закладах вищої освіти та не тільки сприяти задоволенню потреб споживачів, а й формувати попит на ринку.

Ключові слова: потреби, попит, ринок освітніх послуг, ринок праці, вища освіта.

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1. Introduction.

Research of consumer needs in the market of educational services is of great importance in planning the activities of higher education institutions, in the formation of its goals, mission, strategies and objectives. Therefore, at the present stage of development of the educational environment it is necessary to use scientific tools to understand the market patterns of interaction of supply and demand

for educational services. Fierce competition between higher education institutions (HEI) requires them to use marketing tools. These tools allow to identify the features of specific consumer segments, identify factors that influence their decisions and meet their needs. These arguments determine the relevance of this study.

Problem analysis. However, despite the significant amount of research on this topic,

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some aspects of it still remained out of the attention of scientists. Little attention is paid to determining the sectoral and regional specifics of consumer behavior, as well as the balance of demand and supply of educational services through marketing research. This necessitates the study of the market of educational services and forecasting the needs of specialists with higher education.

2. Literature review.

The balance of market needs of educational services and labor market is a positive sign of the stability and efficiency of higher education system functioning in the region and the country as a whole. Scientists I. Kaleniuk (2012), M. Matviiv (2005) investigate the impact on educational services of key economic indicators related to the provision of educational services in higher education institutions and propose to plan the volume of educational services at the state level and regulate training for national economy. Researchers believe that the innovative development of education should be carried out primarily through the prism of such educational and qualification training that would meet the potential needs of regional labor markets with a focus on knowledge-intensive economic activities (Kofman, Kurovska and Yakaitis, 2018; Naumov, Kovalenko and Savin, 2017; Vorontsova, Mayboroda and Lieonov, 2020).

O. Klimenkova (2020) emphasizes that the real and financial sectors of the economy are among the most important customers for professionals and influence the formation of supply and demand in the labor market, form a demand for qualifications of graduates of higher education. All of this requires modernization of the existing situation and coordination of areas of interaction between social and labor relations and the education sector at the state level. The behavior of potential consumers in the educational space depends on the awareness of the target audience about educational services, the degree of confidence in educational advertising, perception of university image and its prestige. Therefore, it is important to conduct continuous systematic

research of the behavioral response of applicants and their parents to the marketing activities of higher education and assess the degree of studying student's satisfaction (Zharska, 2014).

3. Methodology.

In the process of research, the following methods were used to solve the tasks: statistical – to process data on the dynamics of supply and demand; sociological – to research factors influencing individual and socio-economic demand. To collect primary data on consumer demand in the market of educational services in Dnipropetrovsk region, a survey method was used, for which questionnaires were developed. For the survey consumers were divided into segments and samples were formed: The survey was conducted with the help of Internet questionnaire using Google forms. An Excel spreadsheet program was used to summarize and process the survey results.

4. Research objectives.

The purpose of the article is to study consumer needs in the market of educational services in the management system of marketing activities in higher education institutions.

5. Results and discussions.

Since the market of educational services operates in market economy, higher education institutions should focus on establishing the expected and forecasting needs of consumers to meet their needs the most (Gryshova et al., 2019). Study of behavior of real and potential consumers of educational services allows HEI to prepare for competition, have a clear idea of the main consumers, timely identify, retain and demonstrate competitive advantages in external environment. One of important aims of marketing research in higher education is to form information and analytical framework to improve the quality of educational services. To this end, we offer to analyze the market of educational services in terms of government order, labor market and consumer needs.

The distribution mechanism in the market of educational services begins with the order from the state of qualified personnel who will take up posts at the enterprises.

Interacting, the labor market and the state act as customers in the market of educational services. The received order is the basis for the admission of applicants, taking into account the requirements of the state and the labor market. Higher education institutions are actively fighting for each potential student.

Dnipropetrovsk region is among the five leading regions in the number of applications submitted. Based on this indicator, it is advisable to analyze the demand of entrants for training in specialties for which the state has set the largest order volumes in *Table 1*.

Table 1. Comparison of state order and the number of entrant’s applications in 2019

Specialty	State		Consumer	
	Number of seats	Place in the ranking	Number of applications	Place in the ranking
1. Secondary education	7900	1	2018	4
2. Law	3286	2	4358	2
3. Law enforcement activities	3100	3	986	6
4. Computer science and information technology	3066	4	2621	3
5. Electric power engineering, electrical engineering and electromechanics	2707	5	513	9
6. Construction and civil engineering	2510	6	752	7
7. Philology	2163	7	4402	1
8. Computer engineering	1825	8	1079	5
9. Industrial engineering	1819	9	349	10
10. Automation computer-integrated technology	1725	10	687	8

Source: Formed from the data given in (*The only state electronic data base on education, 2020*).

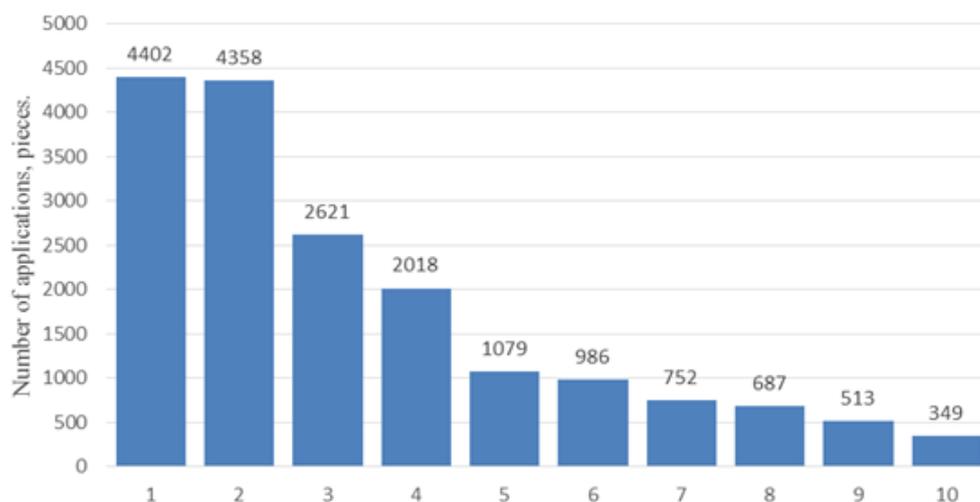
Take into account that entrants submitted applications for 87 specialties, which are trained by universities of Dnipropetrovsk region. Ranking positions are determined using the RANK function in the program for work with MS Excel spreadsheets.

According to *Table 1*, we can conclude about difference between the priorities of the state in training of specialists and entrants in choosing a specialty. This is evidenced by the mismatch of places in rankings. The coincidence of positions is observed only in “Law” specialty. The ranking of specialties by the number of applications is as follows (*Figure 1*).

Labour markets cannot be seen as isolated from economic processes and social phenomena. In most cases problems, connected with labor resources, arise on a regional level, since this is where the resource potential is created. Dnipropetrovsk region is one of the most

economically developed regions of Ukraine. It is characterized by favorable geographical location, rich natural resources, strong industrial and scientific potential, developed agricultural production and high level of transport and communication. Since the acute problem is the disparity between supply and demand of workforce by professional qualifications, we analyze the situation in the labor market of Dnipropetrovsk region. According to the data of Dnipropetrovsk regional job center, the situation on the labour market of the region is characterized by indicators, which are shown in *Table 2*.

It can be concluded that positive changes took place in 2019 compared to 2018: this is evidenced by the increase in employed population and employment rate, the decrease in the number of unemployed and the unemployment rate to 7.7 % despite the fact that indicator for Ukraine in the second quarter of 2019 is 8.8 %.



Note. 1 – Philology, 2 – Law, 3 – Computer science and information technology, 4 – Secondary education, 5 – Computer Engineering, 6 – Law Enforcement Activities, 7 – Construction and civil engineering, 8 – Automation computer-integrated technology, 9 – Electric power engineering, electrical engineering and electromechanics, 10 – Industrial engineering

Fig. 1. Rating of specialties on the number of applications submitted by entrants to institutions of higher education of Dnipropetrovsk region in 2019

Source: Formed from the data given in (The only state electronic data base on education, 2020).

Table 2. The situation on the labor market of Dnipropetrovsk region in 2018–2019

Indicator	2018	2019	Change
The number of employed population (aged 15-70 years), ths. people	1,404.9	1,422.6	+17.7
Employment rate, %	58.7	59.5	+0.8
Number of unemployed (aged 15-70), ths. people	121.8	118.2	-3.6
Unemployment rate, %	8.0	7.7	-0.3
The average number of regular employees, ths. people	779.4	757.3	-22.1
Number of employees hired, ths. people	111.5	105.3	-6.2
Number of dismissed employees, ths. people	122.4	122.7	+0.3

Source: Formed from the data given in (Dnipropetrovsk regional employment centre, 2020).

In terms of occupations and activities, the situation is characterized by presence of 9,051 vacancies, which exceeds last year's figure by 13 % on the labor market of Dnipropetrovsk region as of November 1, 2019. The structure of vacancies by type of economic activity in November 2018–2019 is as follows: in 2019, 21.9 % of vacancies were offered at enterprises and institutions of the processing industry; 9.6 % – in wholesale and retail trade; 8.61 % – in education.

Compared to previous year, the specific weight of vacancies in wholesale and retail trade decreased significantly by 3.7 %, in construction – by 2.74 %, in health care and social assistance – by 1.87 %.

Table 3 shows the occupations for which the number of vacancies is the largest and for which there is the largest shortage of staff. This indicates that the priorities of consumers and labor market do not coincide.

In recent years, there has been an increase in demand for higher education due to raise of demands of employers to future or existing employees.

To collect primary data on consumer demand in the market of educational services in Dnipropetrovsk region, a survey method was used, for which questionnaires were developed. For the survey consumers were divided into segments and samples were formed:

Table 3. Top 10 professions of 1–3 sections, according to which the number of vacancies is the largest among all professions (according to the Classifier of professions in January-October 2019)

Job Title	Section by Classifier of Profession	Number of vacancies, units	Shortage of vacancies (-), shortage of staff (+)
1. Accountant	3	3,029	-4845
2. Nurse	3	2,350	-609
3. Specialist	3	1,310	-1,634
4. Civil service specialist	2	1,218	-2,208
5. Manager (sales manager)	1	852	-2,201
6. Teacher of secondary school	2	747	-1,600
7. Nursery teacher	3	740	-651
8. Economist	2	401	-1,784
9. Pharmacist	3	692	+176
10. Engineer	2	678	-519

Source: Formed from the data given in (State Committee for Technical Regulation and Consumer Policy, 2020).

- 9th and 11th grade school leavers (Kamyanske – Public Institution “Secondary School No. 25” and Public Institution Educational Complex “Academic Lyceum No. 15”) – 90 respondents;

- first year student (students of Dniprovsky State Technical University, the University of Customs and Finance, O. Honchar Dnipro National University) – 158 respondents;

- applicants of 4–5 courses (students of Dniprovsky State Technical University, University of Customs and Finance, O. Honchar Dnipro National University) – 90 respondents;

- employers (directors, human resources department managers, marketers, customer service managers of ANR GRUP Ltd., Axis Company Ltd., Avtoport Company Ltd., PE “ZIP” Ltd., Spetstekhosnastka Ltd., Universal Bank JSC – Monobank) – 35 respondents.

The survey was conducted with Internet questionnaire using Google forms. An Excel spreadsheet program was used to summarize and process the survey results. Graphs and diagrams were constructed for each question of the questionnaire separately. To do this, it was first necessary to build separate tables for each question and calculate the value of the share of each answer point in its total.

The questionnaire was conducted to determine the factors that most influence applicants’ choice of specialty and place of study; characteristics that allow to assess the degree of satisfaction of higher education applicants, confidence in employment; priorities of employers in hiring young professionals.

During the survey of school leavers, it was found that 82.2 % of respondents plan to go into higher education. The most common motive for this is the desire to gain knowledge in the specialty that is interesting. 17.57 % of respondents decide to go into higher education based on the opinion that it is impossible to find a good job without a diploma. Among the respondents, about 17.7 % are those who do not plan to enter university because they do not want to spend 4–5 years of life studying.

Popular areas among entrants are in the fields of culture and art (13.3 %) and social and behavioural sciences (12.2 %), which are not in demand in the labor market. The analysis of personal data showed that when choosing a place of study, preference is given to a prestige and location of the institution (21.1 % and 17.8 %, respectively) and the passing score for the budget (15.6 %). Since 36.7 % use the Internet to search for information and make decisions about admission, higher

education institutions should pay attention to the information and decorative content of sites and pages in social networks.

The majority of first year students surveyed (82.91 %) agree that their expectations of the HEI are justified. They entered the specialty they planned; they like to study. A significant number of respondents assess the conditions of giving classes at the intermediate level (65.2 %), methodological support – at low level (59.49 %), the qualification of teaching staff – at high level (65.8 %). In general, the consumer is legible and makes clear and broad demands on the quality of educational services.

The value of the acquired knowledge allows to determine the answers of the graduates of HEI. More than half of the respondents (57.78 %) note a satisfactory level of educational services provided at the university where they study. When assessing quality, such a criterion as the practical significance of acquired knowledge is obligatory and of paramount importance for the consumer. Half of the respondents rate it at an average level, while believing that they have acquired insufficient practical skills during training. Note that this could affect students' self-confidence as professionals, which 61 % of respondents also rate at an average level.

Employers of Dnipropetrovsk region similarly assess the quality of professional training of modern graduates as at the average level. Their views on the need of a diploma for employment coincide with the views of students. None of the respondents first of all pays attention to the availability of a diploma of higher education. Instead, 50 % of respondents are interested in personal and business qualities and general abilities of the candidate.

Assessing the importance of young professionals' skills on a 5-point scale, the most "fives" received PC skills (mastery of MSOffice, Internet), the ability to solve problems comprehensively and the ability to self-development and learning. Regarding the personal qualities of candidates, employers consider

responsibility, punctuality and discipline as important.

It should be noted that the market of educational services can not fully meet the demand of employers and respond quickly to changes in the labor market. Hence there are different assessments of the quality of training in educational institutions, on the one hand, and of employers on the other.

To ensure a competitive market position of higher education in such conditions, it is necessary to focus on the needs of consumers, competitors and positioning in the market of educational services. In addition, it is advisable to focus on developing new services or improving existing ones.

6. Conclusions.

In conditions of intensified competition and struggle for each entrant there is a problem of adaptation of higher education institutions to market conditions, improving its competitiveness and quality of educational services and focusing on labor market demand. Continuous marketing research will allow higher education institutions to adapt to changes in the external environment in a timely manner. To study the demand in the market of educational services in Dnipropetrovsk region, a survey was conducted with the help of Internet questionnaire using Google forms. Respondents were divided into segments and samples were formed: school leavers of 9th and 11th grades – 90 respondents; first year students – 158 respondents; applicants of 4–5 courses – 90 respondents; employers – 35 respondents.

The purpose of using marketing tools to increase the competitiveness of higher education institutions in the market of educational services is not only to analyze and influence the behavior of consumers of educational services, but also to achieve a balance in the category of "supply and demand" in the market of education and labor. This problem is the most relevant in the market of educational services. The study shows that the priorities of the state, labor market and consumers do not coincide. In this situation, the university, as a provider of educational services, must balance

consumer demand (applicants, students and their parents) with customer's proposals (state, entrepreneurs, labor market), taking into account the forecast of demand in the labor market.

The consumer is a complex socio-psychological system that is difficult to fully explore. However, it is necessary to be able to describe and predict how different groups of people behave in relation to realization of their needs for goods and services. This is possible by creating models of consumer behavior,

which will allow with some probability to predict what decisions they will make. Higher education institutions should determine on the basis of which criteria the consumer makes a choice.

Prospects for further research are the formation of a model of consumer behavior in the market of educational services, which will allow to organize effective management of marketing activities in higher education institutions and not only to meet consumer needs but also to form market demand.

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