Vectors of promotion of economic educational services in Ukraine

Abstract
Introduction. The market of educational services is characterised by excess of supply over demand. As a result, there is a need for a detailed research of the criteria for choosing a university by consumers. The competition between universities for attracting potential consumers has intensified in the face of declining demand for most types of educational services. Therefore, it is necessary to improve the competitiveness of universities and to ensure the possibility of their survival on the basis of the maximum consideration of school leavers’ expectations.

The purpose of the article is to define vectors of promotion of economic educational services in Ukraine based on the results of the cluster analysis of consumers who take into account the criteria which determine the choice of higher education institutions.

Methods. While processing empirical data, the following methods were used: statistical analysis was used to find structural relationships between the elements of the system; factor analysis was used to compress data, i.e. to reduce a large number of variables (factors) which were used for clustering and cluster analysis made it possible to identify 4 clusters of consumers of economic educational services.

To determine the priority of the criteria for choosing a university, we researched the data related to first-year students studying economics at seven universities of Kyiv, Kharkiv, Poltava, Vinnytsia, Lviv, Zaporizhzhia and Odesa during a period of six months in 2017. The total sample was 898 respondents, 587 of whom gave full answers to all the questions posed.

Results. The priority criteria which determine the choice of the university were identified as a result of the conducted marketing research of consumers. They are: «positive feedback from friends», «availability of interesting specialty», «university’s brand», «high qualification of teaching staff», etc. As a result of the conducted cluster analysis, we identified the following clusters: «assertivists», «realists», «those who are oriented to status», «minimalists-followers». Their basic characteristics are given concerning the criteria for choosing a university.

Conclusions. The vectors of promotion of economic educational services have been suggested. They are the formation of positive reputation of the university, expansion of the range of criteria which determine the choice of the university in the following researches, presentation of career growth stereotypes, display of the results of the university’s international academic cooperation on website, development of social support programs for students. The use of these vectors will allow universities to form loyalty programs for consumers of economic educational services and improve the competitiveness of higher education institutions.

Keywords: Educational Service; Promotion; Cluster Analysis; Criteria; Competitiveness; University; Career; Economic Education

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1. Introduction
In modern conditions of management, education becomes an integral part of the market system. There are many education institutions of various forms of ownership and types in the market of educational services in Ukraine that provide a wide range of educational services, which favours the competition. The competitive struggle between universities is observed in the changing requests and preferences of potential consumers regarding the quality of educational services, which justifies the topological aspects and separate problems of the development of the market of educational services [7-14]. The problems of analysis of the competitiveness of education, the quality of educational services are considered in the works of such scientists, as D. Bell (2004), M. Castells (2000), M. Porter (2006), F. Fukuyama (2003) [15-18]. The origins of problems in the market of educational services studied V. Dmitriev (2015), V. Ivanov (2011), S. Ilyashenko (2016), O. Karpyuk (2012), G. Chkalovskaya (2012), N. Shorniko-va (2010), I. Zharskaya (2015), O. Komarova (2015), A. Sale (2015), E. Raevneva (2016), E. Chernyshova (2012), T. Yashchuk (2013), et al. [19-31]. Institutional changes in vocational education and training (VET) in conditions of the new century and moving the focus to the personal well-being as well as formation of «green» working skills are considered by Simon McGrath and Lesley Powell (2015) [22]. However, the above mentioned authors did not suggest the results of clustering of consumers by the criteria of choosing a university; they did not analyse the vectors and prospects for the promotion of economic educational services, which justifies the topicality of the article.

2. Brief Literature Review
Foreign researchers such as G. Becker (2003), M. Blaug (1987), S. Bowles (2011), B. Weisbrod (2008), J. Mintsera (1994), T. Shultz (1972) and others are devoted to theoretical aspects and separate problems of the development of the market of educational services [7-14]. The problems of development of the market of educational services require a detailed consideration of school leavers’ expectations. The processes taking place in the market of educational services require a detailed study of the criteria for choosing universities with regard to various groups of consumers. This will allow a university to determine how to increase its competitiveness, attract more students and, as a result, how to promote educational services. This article considers the priorities relevant to the choice of higher education institutions which provide economic educational services, which is explained by the considerable demand for persons with graduate diplomas in economics in the labour market.

3. The purpose
The purpose of the article is to determine the vectors of promotion of economic educational services on the basis of cluster analysis of target consumers of economic educational services.

4. Results
On the basis of the analysis of the market of educational services, we identified classical criteria for choosing universities by potential consumers of economic educational services (Table 1). These criteria are analysed by scientists studying barriers or prospects of modernisation of higher education [26; 33].

To determine the priority of the criteria for choosing a university, we researched the data related to first-year students studying economics at seven universities of Kyiv, Kharkiv, Poltava, Vinnytsia, Lviv, Zaporizhzhia and Odesa during a period of six months in 2017. The total sample was 898 respondents, 587 of whom gave full answers to all the questions posed. Therefore, the number of valid values is 587. It was recommended to assess the criteria by a 5-point scale (1 is the least important, 5 is the most important). Based on the results of
the research, we have built a rating of the criteria for choosing a university by consumers of economic educational services.

The respondents consider positive feedback from friends to be the most important criteria for choosing higher education institutions (1st place in the rating). Other important criteria include the availability of the specialty of interest at the university (2nd place), the university's brand (3rd place), high qualification of teaching staff (4th place) and the status of the university (national) (5th place). We used cluster analysis to cluster consumers of economic educational services according to the criteria for choosing a university. Statistical data processing was carried out using the statistical software «STATISTICA» by StatSoft, Inc., version 6, and IBM SPSS «Statistics», version 22. When processing the empirical data, we used statistical analysis, system analysis, as well as factor and cluster analysis.

Taking into account the fact that the number of declared criteria for choosing universities is significant (21 criteria), it is necessary to perform a factor analysis procedure to compress the data at the first stage, i.e. to reduce a large number of variables. The variables that can be used to segment consumers while using cluster analysis are reduced to some basic set of composite variables (factors), which is then used for clustering. The results of the performed factor analysis are presented in Table 2. Name and explanation to each factor is given in the text below.

Thus, the accumulated percentage of variation attributable to the identified factors is 54.72%. This allows us to conclude that the result of the analysis is sufficient to determine the main macro-attributes relative to the criteria for choosing universities by respondents.

The matrix of factor loadings, constructed within the framework of factor analysis using the statistical software «STATISTICA», allows us to state that the first factor is the most influential one. It explains 21.33% of the total variation of the indicators (Table 2). From the point of view of limiting the importance of 54.72% of the load, the most significant influence to this factor is provided by criteria such as «positive opinions of acquaintances» (0.729), «university brand» (0.725), «my friends' opinion about the university» (0.667), «university status (national)» (0.657) and «friends studying at this university» (0.541). The first factor is oriented to the opinion of reference groups and the university's image. The second factor, which explains 9.82% of the total variation of indicators, has close correlation links with the ability to additionally study and get a second diploma (0.834), «contacts with foreign universities and other organisations» (0.829), «teaching of disciplines in a foreign language» (0.545) criteria. On the basis of the content and essence of this factor, it is advisable to interpret it as oriented to international practice (international contacts).

The third factor accounts for 7.31% of the total variation and is quite influential. This factor is characterised by the variables such as: «hostel accommodation» (0.67), «rate of tuition fees» (0.635), «possibility of studying at the expense of the state» (0.586). The third factor is oriented to social assistance and outside support.

The fourth factor accounts for 6.2% of the total variation of the indicators. This factor is characterised by two variables, namely «parents who studied at this university» (0.724), «famous graduates» (0.683). This factor can be interpreted as focused on the experience of close and well-known people.

The fifth factor combines three criteria, which are «presence of a master's degree course» (0.671), «acquisition of classical education» (0.628) and «availability of a specialty of interest at the university» (0.577), which explains 5.23% of the cumulative variation. It can be identified as targeting potential career growth.

Thus, six significant factors have been determined.

Clustering of consumers of economic educational services according to the criteria for choosing a university was carried out on the basis of the procedure of cluster analysis by using the K-medium method.

To combine the clusters, the Ward method was used.

The quality of the conducted cluster analysis is confirmed by the results presented in Table 3.

Thus, on the basis of cluster analysis, 4 clusters were defined. The results of the cluster analysis are reliable, since the error rate (p-level) tends to zero (it should not exceed 5%).

The data of Table 4 indicate that, by the criterion of small size or the absence of changes in the position of cluster centers, convergence was achieved. The maximum absolute change in the coordinate of any cluster is zero, which indicates the reliability of the calculations.

It should be noted that Clusters 1 and 3 (Euclidean distance is equal to 0.675) are relatively close to each other and clusters 2 and 3 (Euclidean distance is equal to 0.684) with respect to distances between other clusters.

Based on the average values of the factors in each of the clusters, Figure 1 shows the factorised profile of the centers of the chosen clusters.

The visualisation of the resulting clusters (Figure 1) indicates the differences. The graph shows the mean values of the factors for each cluster (the variables (factors) participating in the classification are laid down horizontally, and the average values of the variables taken in the context of the clusters obtained are positioned vertically).

Thus, four clusters were identified as a result of the cluster analysis procedure.

The first cluster included 133 respondents (22.7%). The most distinctive feature for the
consumers from this cluster is that the opinion of reference groups and the reputation of the university are not taken into account; the requirements for international practice and social support are slightly above the average level, while the orientation toward potential career growth and experience of close and well-known people is lower in comparison with other clusters. This cluster is named «assertivists».

The second cluster includes 138 respondents (23.5%). The representatives of this cluster are characterised by the following: the level of requirements for the reputation of the university is slightly higher than the average; social support from the outside and the need for career growth are observed; there is no need for international practice; slightly the adaptability (taking into account the experience of close and well-known people) and the comfort of learning with minimal effort are lower than the average. The recommended name for the second cluster is «realists».

The third cluster is the most numerous - 192 respondents (32.7%). When choosing a university, the representatives of this cluster take into account the availability of international practice, the reputation of the university and the opinion of reference groups; social support and assistance from the outside are not taken into account. This cluster is «oriented to status».

The fourth cluster is represented by 124 respondents (21.1% of the total number of respondents). The most significant differences for this cluster in comparison with others are the possibility of comfortable learning with minimal intellectual effort, taking into account the experience of close and well-known people. A positive influence on the choice of the university is provided by the availability of social support, international practice and the reputation of the university. The suggested name of the cluster is «minimalists-followers».

Clustering of consumers of economic educational services was carried out according to the criteria for choosing a university.

The results of the research show that there is an accent on humanitarian and mathematical subjects in the schools that the students finished in all the four clusters. No significant differences are observed in the clusters by this characteristic.

In the course of the research, the priority of the language in which students wanted to study at higher education institutions was determined. The representatives of the 3rd cluster («oriented to status») prefer teaching in the native and English languages, which is understandable due to their desire to occupy a certain position in the society. There is a significant percentage of those who wish to study in their native language or English among the «assertivists» (59.2%) and «minimalists-followers» (53.3%). The representatives of the second cluster (the «realists») prefer teaching in their native language (58.2%).

The desire to obtain higher education in the context of clusters is explained in the following way. For the representatives of all the clusters, «getting a good job» is the first place in their need for higher education, while «self-education» is their second priority. It is important for the students «oriented to status» to raise their cultural level and social status. The respondents noted the least important purpose, which is «career growth», i.e. career growth is associated with higher education to a lesser extent.

With the aim of forming a variable component of curricula at universities, it is important to know in which field of economic activity university graduates prefer to work. A significant proportion of respondents in each of the clusters give preference to areas such as advertising (1st place), development of new products (2nd place), branding (3rd place) and development of market plans (4th place), with no significant differences observed in all the clusters.

The requirements for high salary are mainly due to high financial positions of the respondents’ families. The most well-to-do financial positions are observed among those who are «oriented to status» and the «minimalists-followers».

The analysis of the respondents’ hobbies by clusters is needed in order to organise events involving university entrants and students. The results of the analysis show that the preference is given to the viewing of films by the representatives of the first and second clusters. For the first three clusters, all kinds of hobbies, excluding sports, are important. At the same time, the respondents forming the 4th cluster are focused on sports.

It is noteworthy that in terms of sources of information about the university the respondents made the following conclusions.

The respondents consider the website of the higher education institution to be the most important source of information about the university. Information from parents and acquaintances is the second source of importance, followed by information from university representatives and participation in the open day. Meanwhile, advertising booklets, television, printed publications and underground advertising are viewed to be less important sources of information.

In our research, we determined the motives for choosing a profession by students. A significant discrepancy between the opinions in terms of different clusters is observed for

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### Tab. 3: Results of cluster analysis

| Cluster | Distance between clusters | Number of degrees of freedom | Distance in clusters | Number of degrees of freedom | F-criterion | p-level |
|---------|---------------------------|-------------------------------|----------------------|-------------------------------|-------------|---------|
| Factor 1 | 286.1112                  | 3                            | 299.8888             | 583                           | 185.4052    | 0.000000|
| Factor 2 | 291.9500                  | 3                            | 294.0500             | 583                           | 192.9454    | 0.000000|
| Factor 3 | 100.5856                  | 3                            | 485.0174             | 583                           | 40.4610     | 0.000000|
| Factor 4 | 122.0808                  | 3                            | 463.9192             | 583                           | 51.1390     | 0.000000|
| Factor 5 | 27.9428                   | 3                            | 558.0573             | 583                           | 9.7306      | 0.000003|
| Factor 6 | 176.2290                  | 3                            | 409.7710             | 583                           | 83.5764     | 0.000000|

Source: Compiled by the authors

### Tab. 4: Distances between the chosen clusters

| No. of cluster | Euclidean distances between clusters |
|----------------|--------------------------------------|
| No. 1          | 0.000000                             |
| No. 2e         | 0.868762                             |
| No. 3          | 0.675028                             |
| No. 4          | 0.859948                             |

Source: Compiled by the authors

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**Fig. 1**: Factored profile of the chosen clusters’ centers

Source: Compiled by the authors
-high pay”, which is the most important for the «assertivists» and the «realists», «prestige of the profession» and «career opportunities» are the most important for the «minimalists» and «realists”. The importance of the «demand for the profession in the labour market» is noted by the «realists», and they consider the possibility of self-development and self-realisation to be less important than the representatives of the other clusters.

With regard to the question “Who influenced your decision when choosing a university?”, the answer “own decision” prevails, followed by the answers indicating the influence of parents, friends, acquaintances or relatives who graduated from the university or work in it. Basically, the respondents were able to choose the university on their own (the valid percentage varies from 68.1% (the «realists») to 85.3% (the «assertivists»).}

**5. Conclusion**

When developing marketing activities and choosing vectors of promotion of economic educational services, it is necessary for the specialists to take into account all relevant information. Based on the conducted research, we have identified clusters of consumers of economic educational services. They were identified with regard to the criteria related to the choice of the university and their main characteristics. The latter allowed the authors to designate the vectors of promotion of economic educational services, which presupposes the choice not only of the form of marketing communications and its content, but also of the ways to collect preliminary information about students’ expectations. In this regard, the following vectors of promotion of economic educational services are proposed:

1. formation of a positive reputation of the university, which ensures consumer’s trust to the higher education institution;
2. expansion of the range of criteria for choosing a university by entrants in subsequent researches, since each new generation of future students presents new requirements to the university and expects more variable capabilities under the influence of the labour market;
3. presentation of career growth stereotypes for graduates on the basis of contacts with future employers;
4. display of the results of the university’s international academic cooperation on its website;
5. development of social support programs for students whose success in learning is confirmed annually for more than 3 years.

The process of promotion of economic educational services on the basis of the results of cluster analysis of consumers of this service and the choice of criteria of the university has been highlighted in the article. The latter made it possible to determine the vectors of promotion of economic educational services that should be taken into account in the development of consumers loyalty programs and provide the competitiveness of higher education institutions.

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