

Analytically of competitiveness management of Ukrainian agrarian higher education institutions

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Abstract

Competitiveness on the market of educational services has become vitally important for Ukrainian agrarian higher education institutions. Ensuring competitiveness is a continuous process of management decisions modeling and introducing steps for their implementation. An institution competitiveness can not be ensured without sustainable quality management system and a clearly defined process model of quality management, which must be consistent with the institution mission and strategy. It is possible to ensure compliance with these requirements by carrying out high-quality analysis of the institution's activities and the market of educational services.

The paper deals with the agrarian higher education institutions analysis and the approaches to establishing the leaders and potential competitors. The main criteria of competitiveness of agrarian higher education institutions were determined, the main directions of strategic plans development were analyzed. The model of agrarian higher education institutions management was supplemented and detailed.

Based on the results of the study, possible components of the SWOT-analysis of agrarian higher education institutions were proposed: the evaluation criteria were determined; the capabilities of the institution if the criterion is a strength; threats to the institution if the criterion is a weakness; mutual influence of various criteria.

For the period 2020-2025, agrarian higher education institutions consider international activity, internationalization, scientific and educational activities quality, changes in the management system, the institution branding as the primary vectors of its development.

Having analyzed the market of educational services, agrarian higher education institutions envisage a reduction in the contingent of applicants for higher education. In this regard, strategic development plans involve reorientation and expansion of educational services, including increased number of foreign students, the introduction of distance and dual forms of education, establishing retraining and advanced training programs. In addition, the development of additional new sources of funding such as the commercialization of research, participation in international projects and grant programs, partnerships with industrial and agricultural enterprises are considered in the strategic development plans.

Methods of analysis, generalization, modelling, as well as the principle of statistical information processing were used during the study

Keywords: *analytics, competitiveness management, criteria of competitiveness, higher education institution, SWOT-analytics.*

JEL Classification: *M1, I21, C81.*

1. Introduction

Nowadays, the issue of higher education institutions competitiveness is very relevant not only in Ukraine but in the world as well. The changes that take place in management are based not only on the principles of administrative management, but also on knowledge on the market economy, labor market, the needs of employers. Strengthening the institutional mission of universities due to ensuring a high level of teaching, training and research shall be the ultimate goal of management [1-2]. University management needs determining the competitive advantages and

reorganizing the management structure in order not only to remain in the market of educational services, but to be successful as well. The competitiveness of the organization can not be ensured without a real permanent quality management system and a clearly defined process model of quality management, which must be consistent with the mission and strategy of the institution. It is possible to ensure the fulfillment of these requirements through carrying out high-quality analysis of the institution's activities and the market of educational services.

In Ukraine, the study of competition and competitiveness was not conducted until the 90s of the twentieth century due to lack of need while in modern conditions of tough competition, these economic categories are quite relevant [3]. The issues of competition and competitiveness in the goods and services market are highlighted in the papers of famous economists [4-8] and they still cause a lot of controversy among modern scientists due to the lack of a clear definition of these categories. However, it should be noted that the economic categories "competition" and "competitiveness" are not identical concepts.

In the modern context, competition is a mechanism of market economy, which requires constant market analysis in order to cost-effectively manage the competitiveness of the organization. Unlike competition, which is an uncontrolled factor affecting the activities of the organization and which can not be managed, the competitiveness of the organization arises in the presence of competition between organizations or manufacturers - it can and should be managed. It is worth pointing out that the availability of competitive products does not guarantee the desired economic effect. It is the management of the competitiveness of the organization can provide a worthy place in the market of a particular industry, provided a quality competition policy. Thus, to be successful, you need not to fight, but to analyze and change, i.e. to be ready for constant change in accordance with the challenges of time and consumer needs.

Despite the relevance of this topic, scientists have neither defined methodology for analyzing the institution competitiveness nor common opinion on the evaluation criteria and sources of information. There are methods of products competitiveness assessing while no universal method of the organization competitiveness comprehensive assessment has been developed yet [9-11].

2. Data and Methods

The article used data from the "Top-200 Ukraine" and Webometrics rating systems, documents on strategic development plans of Ukrainian agricultural higher education institutions, monitoring reports of various agricultural higher education institutions, State Statistics Service of Ukraine data, "Agricultural education" Scientific and Methodological Center for Higher and Professional Higher Education. During the study, the method of analysis, in particular the method of SWOT-analysis, was used along with the methods of generalization and modeling, as well as the principle of statistical information processing.

Analytics of higher education institution competitiveness management includes certain stages of research, the results of which can be a base for making a conclusion on the effectiveness of management decisions. The first stage of the analysis should involve the study of the educational services market and determine the needs of consumers of different groups of stakeholders, the latter can be carried out in the form of questionnaires and monitoring reports. According to the Standard of Social Responsibility ISO 26000 [12], the category of stakeholders implies a person or a group of people interested in decisions or activities of the organization. The main stakeholders of agricultural higher education institutions are: entrants, students, their parents, research and teaching staff, graduates, employers, the state. Table 1 highlights the main criteria for the competitiveness of higher education institutions formed according to different

groups of stakeholders and based on monitoring research reports of various agricultural universities.

Table 1: Basic criteria of competitiveness according to various agrarian universities stakeholders groups

№ s/n	Agrarian universities stakeholders groups						
	Entrants	Parents	Students	Graduates	Employers	Teaching staff	State
1	Quality of education	Quality of education	Quality of education	Quality of education	Quality of education	Quality of education	Quality of education
2	Institution reputation	Institution reputation	Institution reputation	Institution reputation	Institution reputation	Material and technical resources	Science and research base
3	Possibility of training abroad	Possibility of training abroad	Possibility of training abroad		University partnership programs	• University - industry partnerships	• University -industry partnerships
4	Job placement	Job placement					International activity

The second stage of the analysis involves determining the leaders in the market of educational services and the value of their competitiveness criteria. The existing rating systems can be used to assess the performance of higher education institutions. Consider two rating systems: "Top-200 Ukraine" and Webometrics with their main criteria and specific coefficients (Table 2-3).

Table 2: Criteria, indicators and specific coefficients of the "Top-200 Ukraine" rating (source [13])

№	Criterion	Specific coefficient
1	Faculty potential quality	[0-50 %]
2	Quality of education	[0-30%]
3	International reputation	[0-20%]

Table 3: Criteria, indicators and specific coefficients of the Webometrics rating (source [14])

№	Criterion	Specific coefficient
1	Visibility	[0-50 %]
2	Activity	
2.1	Presense	[0-10 %]
2.2	Openness, Transparency	[0-10 %]
2.3	Excellence	[0-30 %]

These rating systems enables to identify leaders and potential competitors. Focusing on the consolidated rating of agrarian institutions is advisable while determining the place of an agrarian university in the market of educational services. The information can be supplemented with the data that will determine the currently relevant competitiveness criteria. Such information can be provided directly by consumers of educational services.

Drawing up a report of the institution self-analysis is an important stage in the analysis of the agrarian university management. Until now, each university analyzed efficiency once a year according to criteria determined at its own discretion. Since the National Agency for Higher Education Quality Assurance in (NAQA) introduced the procedure for educational programs accreditation, the reporting is mandatory and it is carried out regularly in accordance with certain criteria and sub-criteria, as well as in terms of educational programs. The main criteria

are defined as follows [15]: 1. Designing and objectives of the educational program (EP). 2. The structure and content of the EP. 3. Accessibility of the EP and determination of learning outcomes. 4. Training and teaching for the EP. 5. Students control and evaluation, academic integrity. 6. Human resources. 7. Educational environment and material resources. 8. The EP internal quality assurance. 9. Transparency and publicity. 10. Learning through research. The experts, followed by the NAQA industry experts take a decision on the program accreditation for 5 years, conditional accreditation for 1 year, or a decide to refuse the accreditation on the grounds of the EP meeting the requirements of the first 9 criteria. Criterium 10 is added to the accreditation. This analysis allows to identify the weaknesses and strengths of the institution and to formulate management decisions aimed at increasing the competitiveness of the agrarian university. The decisions are formulated in the strategic plan for the development of agrarian for 5 or 10 years.

The self-analysis report is often supplemented with the SWOT analysis components. This method of assessment allows to identify weaknesses and strengths of the internal environment and to formulate opportunities and threats taking into account the external environment.

3. Results and Discussion

The situation on the market of educational services intensifies competition between universities and contributes to the growth of consumer demands for the quality of educational services. Educational services quality can be ensured through its reorienting from the functional activities of educational institutions to the process management and building a management system based on close cooperation with applicants, students and employers as the main customers of higher education institutions services [16]. Table 4 suggests possible components of SWOT-analysis for an agrarian university.

Table 4: Possible components of SWOT-analysis of an agrarian university (proposed by the author) [17]

N ^o	Assessment criterium	Possibilities for the strength	Threats for weaknesses
1	Faculty quality	- human resources for scientific innovative projects	- lack of human resources for scientific innovative projects
2	Education quality	- positive image of the agrarian university - increased contingent of students	- negative image of the agrarian university - decreased contingent of students
3	International recognition	- international cooperation geography extension - increased contingent foreign students	- decreased number of agreements on international cooperation - decreased contingent foreign students
4	System of quality internal assurance	- improved education services quality	- degradation of education services quality
5	Branding	- development and strengthening the positive image of the agrarian university - increased contingent of students	- decrease decreased contingent of students
6	Material and technical resources	- R&D development; - scientific developments commercialization	- degradation of education services quality
7	Participating in international projects and contests	- participating in grant programs - academic and scientific mobility extension	- decreased academic and scientific mobility
8	Cooperation with employers	- improved EP - partner ship with industrial and agrarian enterprises	- degradation of EP - failure to provide partner ship with industrial and agrarian enterprises
9	Information environment tande-learning system	- extended assortment of educational services	- reduced assortment of educational services

		- conditions for retraining and advanced training	-lack of conditions for retraining and advanced training
10	Improvement of agriculture machines park	- increased crops productivity	- decreased crops productivity

We compared the criteria of different rating systems for universities and modern models of competitiveness management assessment taking into account changes on the market of educational services and identified the main factors of competitiveness:

- number of entrants;
- the number of graduates employed in the specialty;
- number of publications and citation rate of the faculty scientific papers in the Scopus system;
- number of foreign students;
- the amount of state funding;
- the number of additional sources of funding;
- material and technical support;
- teaching aids provision;
- availability of modern laboratories and clinics;
- agreements on practical training in the manufacturing environment.

Table 5: Assessment of changes in the market of educational services as of 2019 and their impact on the formation of criteria for the agrarian universities competitiveness (formed by the author)

No	Changes on the educational services market	Impact on the formation of criteria for the competitiveness	Criteria for the competitiveness	Management decisions directions	Source
1	The importance of the university's place in the market of educational services, according to international and national ratings, has increased	Much attention is paid to the development of efficiency indicators according to international and national ratings	1) demand for the university graduates on the labor market in Ukraine and abroad 2) citation rate of the faculty scientific papers in the Scopus system	- to ensure the quality of student training - to ensure the quality of scientific research and their publication in scientific and metric databases - to ensure the relationship with the economy and society - to ensure the introduction of innovative technologies in the educational process - to develop cooperation with foreign universities - to promote participation in the EU educational and research programs - to ensure information accessibility and improve the information resources maintainance	[18]
2	Shifting the dissonance in supply and demand to the predominance of supply	The number of graduates exceeds the number of entrants, the competition between the universities increases	3) the number of entrants	- to intensify career guidance work	[19-22]
3	Demographic fluctuations and inter-settlement migration. Decrease in birth rate and balance of the young	Increase of vacancies on the agro-industrial complex labor market	4) level of the specialty graduates employment	- to study information on the graduates employment number - to study the degree level of employers satisfaction with university graduates	[23]

	contingent on the sex basis				
4	Growing demand for educational services in Ukraine among foreign students	The number of foreign students increases	5) number of foreign students	- to develop cooperation with foreign students - initiate international accreditation of training programs - ensure the quality of education for foreign students	[24]
5	Growing demand for educational services abroad among Ukrainian citizens	Decreased number of Ukrainian universities entrants	6) the quality of higher education	- to ensure the quality of higher education - to promote the national education	[25-26]
6	Problems in higher education financing	Cutting the state funding	7) level of self-financing	- to develop sources of self-financing	[27]

Therefore, the analysis of agrarian universities competitiveness management can be made with the technique that implies implementation of the algorithm with the following stages:

1. Studying the educational services market and defining the needs of various groups of stakeholders consumers.
2. Identification of leaders on the educational services market.
3. Establishing the strengths and weaknesses of competitors.
4. Self-analysis of the university activities aimed to identify its strengths and weaknesses.
5. Differentiation of services in order to create a unique one.

The final stage of the analysis involves the development of a competitive strategy taking into account the needs of all groups of stakeholders.

4. Conclusion

The analysis of the agrarian universities educational services market reveals the tendency of decreased contingent of the students. In this regard, strategic development plans involve reorientation and expansion of educational services, including increasing the number of foreign students, introduction of distance and dual forms of education, starting the retraining and advanced training programs. In addition, the development of additional new sources of funding - the commercialization of research, participation in international projects and grant programs, partnerships with industrial and agricultural enterprises- is involved.

The main vectors of the agrarian universities development for the period 2020-2025 are defined: international activity development, internationalization, quality of scientific and educational activity, changes in the management system, the institution branding and image promotion.

The method of an agrarian university competitiveness management analysis is offered. Higher education institutions should constantly analyze the criteria, indicators, the university rating systems weights to formulate criteria for the current and determine the strategy of management decisions in order to improve their position in the market of educational services.

The analysis of agrarian university competitiveness management systems and the analysis of analytical reports on their activities is to be the next stage of research.

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