

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
КИЇВСЬКИЙ НАЦІОНАЛЬНИЙ УНІВЕРСИТЕТ  
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## METHODOLOGICAL APPROACH TO ASSESSING THE COMPETITIVENESS OF INSTITUTIONS OF HIGHER EDUCATION

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**Background and objectives.** The problem of competitiveness of institutions of higher education (IHE) is one of the key tasks, the solution of which will help increase the socio-economic development of the country. In the context of Ukraine's European integration interests, competition between Ukrainian and foreign IHEs is intensifying, which encourages the former to find ways of their own competitiveness (which is largely determined by the competitiveness of its graduates and the ability to generate knowledge-based innovations) as a result of using appropriate factors that are directly dependent on increasing competitiveness in the context of its management.

**Methods.** Methods of profiles and ratings using separate methods of comparative, statistical and economic-mathematical analysis (factor analysis), with the formation of an appropriate system of indicators.

**Findings.** The results of assessing the competitiveness of KNUTD indicate a decrease in the level of competitiveness

of IHEs. It has been estimated that during 2017–2019 it was at a low level (0.542, 0.541 and 0.466, respectively), which according to the proposed scale for determining the level of competitiveness of IHEs (developed using the golden ratio method) is in the range of 0.383–0.618.

**Conclusion.** Based on studying and assessing the competitiveness of IHEs to improve it in the context of its management and ensure the strategic development of IHEs within the implementation of relevant strategic alternatives and proposed generalized areas, as well as certain factors of competitiveness, it has been determined appropriate to forecast the indicators underlying the calculation of the KNUTD competitiveness, using an improved methodological approach to the main proposed measures.

**Keywords:** competitiveness; competitiveness of IHEs; methods of profiles; rating estimations; methods of comparative; statistical and economic-mathematical analysis (factor analysis).

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## МЕТОДИЧНИЙ ПІДХІД ДО ОЦІНЮВАННЯ КОНКУРЕНТОСПРОМОЖНОСТІ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ

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**Постановка проблеми та завдання.** Проблема конкурентоспроможності закладів вищої освіти (ЗВО) є одним із ключових завдань, вирішення якого сприятиме підвищенню соціально-економічного розвитку країни. В контексті європейських інтеграційних інтересів в Україні посилюється конкуренція між українськими та іноземними ЗВО, що спонукає перших шукати шляхи власної конкурентоспроможності (це значною мірою визначається конкурентоспроможністю її випускників та здатністю генерувати інновації, заснованих на знаннях) в результаті використання відповідних факторів, які безпосередньо залежать від підвищення конкурентоспроможності в контексті управління нею.

**Методи.** Використані методи профілів та рейтингів з використанням окремих методів порівняльного, статистичного та економіко-математичного аналізу (факторного аналізу), з формуванням відповідної системи показників.

**Результати.** Результати оцінки конкурентоспроможності КНУТД свідчать про зниження рівня конкурентоспроможності ЗВО. За

підрахунками, протягом 2017–2019 років він був на низькому рівні (0,542, 0,541 та 0,466, відповідно), який згідно із запропонованою шкалою для визначення рівня конкурентоспроможності ЗВО (розроблених із використанням методу золотого перетину) знаходиться у діапазон 0,383–0,618.

**Висновки.** На основі вивчення та оцінки конкурентоспроможності ЗВО з метою її покращення в контексті управління та забезпечення стратегічного розвитку ЗВО в рамках реалізації відповідних стратегічних альтернатив та запропонованих сфер діяльності, а також певних факторів конкурентоспроможності визначено відповідним для прогнозування показників, на яких лежить розрахунок конкурентоспроможності КНУТД, використовуючи вдосконалений методологічний підхід до основних запропонованих заходів.

**Ключові слова:** конкурентоспроможність; конкурентоспроможність ЗВО; методи профілів; рейтингові оцінки; методи порівняльного; статистичного та економіко-математичного аналізу (факторний аналіз).

**Introduction.** The problem of competitiveness of institutions of higher education (IHEs) is one of the key tasks, the solution of which will help increase the socio-economic development of the country. In the context of Ukraine's European integration interests, competition between Ukrainian and foreign institutions of higher education is intensifying, which encourages the former to find ways of their own competitiveness (which is largely determined by the competitiveness of its graduates and the ability to generate knowledge-based innovations) as a result of using appropriate factors that are directly dependent on increasing competitiveness in the context of its management.

Examining the competitiveness of institutions of higher education, it should be noted that the totality of researched works of scientists devoted to determining the essence of the competitiveness of institutions of higher education can be combined into groups. Thus, the competitiveness of institutions of higher education is considered in the following aspects:

- as a process (set of processes) of interaction and competition for the formation and implementation of competitive advantages (Tymoshenko 2014; Kravchenko, 2011);

- as a complex characteristic of the institutions of higher education, which determines the share of the relevant market of educational services, which belongs to this institution of higher education and reflects its advantage over competitors by a number of determining factors (Romanova, 2005; Lazarev *et al.*, 2003);

- as the ability to adapt to customer needs, meet and form the future ones, be separated from others through the use of competitive advantages and adaptation to changes in the market of educational services (Prus, 2006; Tardaskina *et al.*, 2013; Beztelesna *et al.*, 2017; Stebliuk *et al.*, 2018).

Based on the analysis of scientists' work, the competitiveness of institutions of higher education can be defined as its ability to identify and realize competitive advantages through a combination of potential opportunities and effective resource management in the process of interaction with the market environment in order to achieve a leading position relative to competitors through the best socio-economic indicators (price, quality, forms, teaching methods, etc.) and increase the level of satisfaction of consumer needs with goods / services (Gryshchenko, 2020; Shcherbak *et al.*, 2020).

Given the above, it should be noted that when assessing the competitiveness of institutions of higher education, it is advisable to analyze the reasons for reducing the competitiveness of institutions of higher education and determine the factors of its increase, i.e. having a factor analysis – an important aspect of competitiveness assessment of countries, industries, institutions of higher education (Stebliuk *et al.*, 2018).

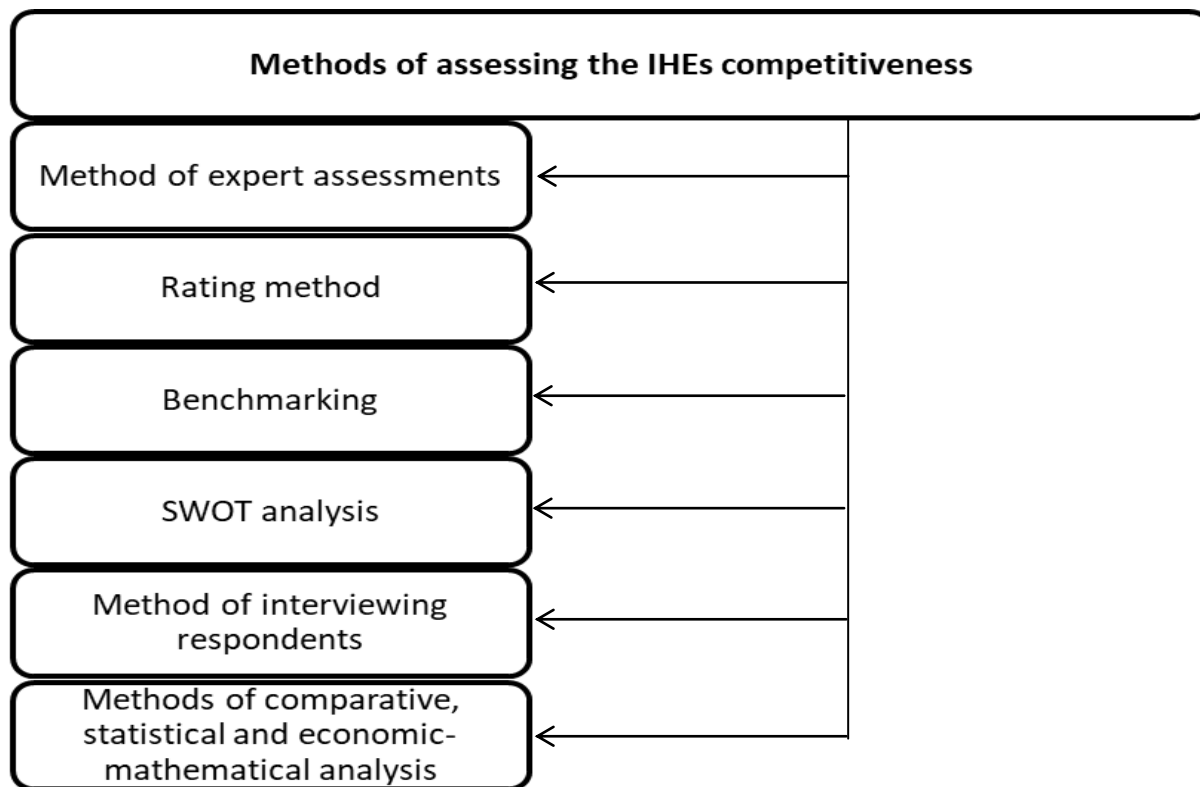
Analysis of the scientific literature shows that there is no single classification of factors for managing the competitiveness of institutions of

higher education, which determines the feasibility of forming a set of their specific list depending on the functioning of institutions of higher education, its purpose and activities, as well as competitive advantages.

Also, it should be noted that in modern conditions there is no unity in understanding the use of a universal methodological framework for assessing the competitiveness of institutions of higher education, which is carried out using various statistical methods, economic and mathematical modeling, which, in turn, provide an opportunity to explore the current state of competitiveness in the market of educational services, identify strengths and weaknesses and conduct general monitoring of competitiveness. Therefore, the accuracy of the obtained assessment data and further actions of the institutions of higher education regarding its development and making a strategy behavior depend on the correctly chosen method.

The main aspects of competitiveness management, formation of competitive strategy and assessment of the competitiveness level, in particular institutions of higher education have been considered in the works (Breus, 2006, Breus, 2018; Breus *et al.*, 2019; Breus *et al.*, 2020).

The most common methods of assessing the competitiveness of institutions of higher education are shown in Fig. 1.



Source: Tardaskina *et al.*, 2013; Beztelesna *et al.*, 2017; Stebliuk *et al.*, 2018; Tsarenko, 2015.

**Fig. 1. The most common methods of assessing the IHEs competitiveness**



Analysis of the existing methods of assessing competitiveness shows that they are used mainly to assess the competitiveness of economic entities. Methods for determining the competitiveness of products are largely one-sided, as well as a number of shortcomings that reduce the reliability of obtaining assessments of the competitiveness level.

Factors that negatively affect the practical use of the existing methods of assessing the competitiveness level at the IHEs level include the following:

1. The calculation of indicators of competitiveness assessment does not allow the user to see the structure of the influence of all factors on the general level in order to identify "bottlenecks" in the production.

2. Most methods are designed to assess the competitiveness of new products. However, in market conditions there is a need to assess competitiveness in order to determine the feasibility of its use at the level of institutions of higher education.

3. Most of the available methods of assessing competitiveness for calculations use indicators determined by the expert ranking of the characteristics of products / services according to their degree of importance. The result of such calculations depends on the intuition and experience of the expert, his awareness of all the features of competing products and the market state.

4. There is no integration of the proposed methods into the information system of IHEs management, which significantly complicates the process of calculating the competitiveness of institutions of higher education and the possibility of their use to manage the competitiveness of institutions of higher education.

Thus, it is reasonable to assume that from the point of view of practical use of methods for assessing the competitiveness of institutions of higher education, it is important to meet the relevant needs of consumers, and not just the presence of functional or other properties of the product or service.

The main goal is to systematize the theoretical and methodological provisions and methodological framework for studying the competitiveness of institutions of higher education to develop a methodological approach to its assessment.

In order to achieve this goal, the following tasks have been set and solved in the work:

- the essence of the concept of "competitiveness" has been investigated;
- theoretical aspects of studying the competitiveness of institutions of higher education, factors influencing it and competitive advantages have been considered;
- methodical approaches to assessing the competitiveness of institutions of higher education have been studied;

- assessment of the competitiveness of institutions of higher education using an improved methodological approach has been performed.

The research object is the process of assessing the competitiveness of institutions of higher education.

The initial information of the study was the data published on the official website of KNUTD (Official website of Kyiv National University of Technologies and Design, 2017–2020), the rating "TOP-200 Ukraine 2020" (Independent evaluation of universities: academic rating "Top-200 Ukraine 2020", 2020) and the results of own calculations in conducting economic and statistical analysis of the main indicators that characterize the activities of KNUTD from the standpoint of financial, educational, organizational and scientific activities.

The study was conducted during 2019–2020 at Kyiv National University of Technologies and Design.

**Materials and methods.** In the context of the study, it should be noted that the analysis of literature sources confirmed that none of the methods is universal, they involve the use of a number of indicators that are inherently recursive and cannot be formed on the basis of data available in the institutions of higher education, given that institutions of higher education are not classic business entities, they have certain features of the business entity, but not all of their indicators may have the same value to ensure the effectiveness of IHEs activities as enterprises.

Thus, when assessing the competitiveness of institutions of higher education it is possible to use a number of methods, which include methods of profiles and ratings using separate methods of comparative, statistical and economic-mathematical analysis (factor analysis), with the formation of an appropriate system of indicators. In this context, the ranking positions of institutions of higher education are indicators of the quality of educational services and at the same time indicators of the competitiveness level of both institutions of higher education and higher education in general.

In the context of strategic development of KNUTD the research and realization of competitive advantages of the university acquires importance. Thus, the main advantages of KNUTD in comparison with competitors (taking into account the rating data "TOP-200 Ukraine 2020") (Independent evaluation of universities: academic rating "Top-200 Ukraine 2020", 2020) should include: image, successful experience in the market of educational services since 1930, a wide range of educational services, communication with employers, the presence of well-known graduates, international recognition. With this in mind, the following main characteristics of competitive advantage depending on their affiliation to the results of KNUTD in accordance with the content of a competitive advantage (Table 1).

Table 1

**Characteristics of competitive advantages of KNUTD**

| Competitive advantage                                       | Features                          | Content                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image                                                       | Adaptability                      | Ability to adapt a specific competitive advantage to the conditions of IHEs performance                                                                                                                                                                                                                              |
|                                                             | Ability to ensure market position | Such a market position can advantageously distinguish it from competitors for a long time                                                                                                                                                                                                                            |
|                                                             | Association                       | Specific market conditions and peculiarities of functioning are taken into account                                                                                                                                                                                                                                   |
| Successful experience in the market of educational services | Relativity                        | Competitive advantage is the result of comparing the performance of institutions of higher education that interact in one market                                                                                                                                                                                     |
|                                                             | Dynamism                          | It is caused by changes in the factors of the external competitive environment, depends on the activity of competitors, changes in consumer demand and behavior, scientific and technological progress, etc.                                                                                                         |
| A wide range of educational services                        | Dependence                        | The influence of many heterogeneous uncontrolled factors (including modern technology) contributes to the creation of benefits in the field of quality of higher education, but can also worsen it due to the high cost of its creation / acquisition                                                                |
|                                                             | Ability to be strengthened        | It is determined by the ability to improve the existing activities in accordance with the chosen strategy                                                                                                                                                                                                            |
| Contacting employers                                        | Significance                      | Compliance with key success factors (in terms of competition conditions in the industry and market requirements)                                                                                                                                                                                                     |
| Presence of famous graduates                                | Reproducibility                   | It is associated with the ability of competitors to identify the main characteristics of the advantage, to establish the feasibility and consequences of its copying, to determine the composition and amount of resources needed for its implementation in order to reduce the competitive status of the competitor |
|                                                             | Orientation                       | Focus on the specific needs of real and potential consumers                                                                                                                                                                                                                                                          |
| International recognition                                   | Stability                         | It determines the duration of the life cycle of competitive advantage and its effectiveness, which allow a comprehensive assessment of the studied category                                                                                                                                                          |

Source: Formed based on the results of own research.

**Data Description.** The study of the processes observed in the field of higher education and their impact on the competitiveness of institutions of higher education, along with the existing trends and patterns involves the search for the relationship of quantitative and qualitative indicators and the optimal direction of their development using economic and mathematical modeling.

The methodological approach proposed for use is, in essence, an improved methodological approach to assessing the competitiveness of institutions of higher education and an instrumental basis for its evaluation model. It takes into account indicators that characterize the scope of its management (in the context of financial and organizational support, student and research staff), taking into account the principles of developing one of the tools of strategic management – Balanced Scorecard (BSC) (Kaplan *et al.*, 2005), adapted to the needs of institutions of higher education. The stages of formation of an improved methodological approach to assessing the competitiveness of institutions of higher education (developed on the basis of (Breus, 2018; Breus, 2019) are shown in Fig. 2.

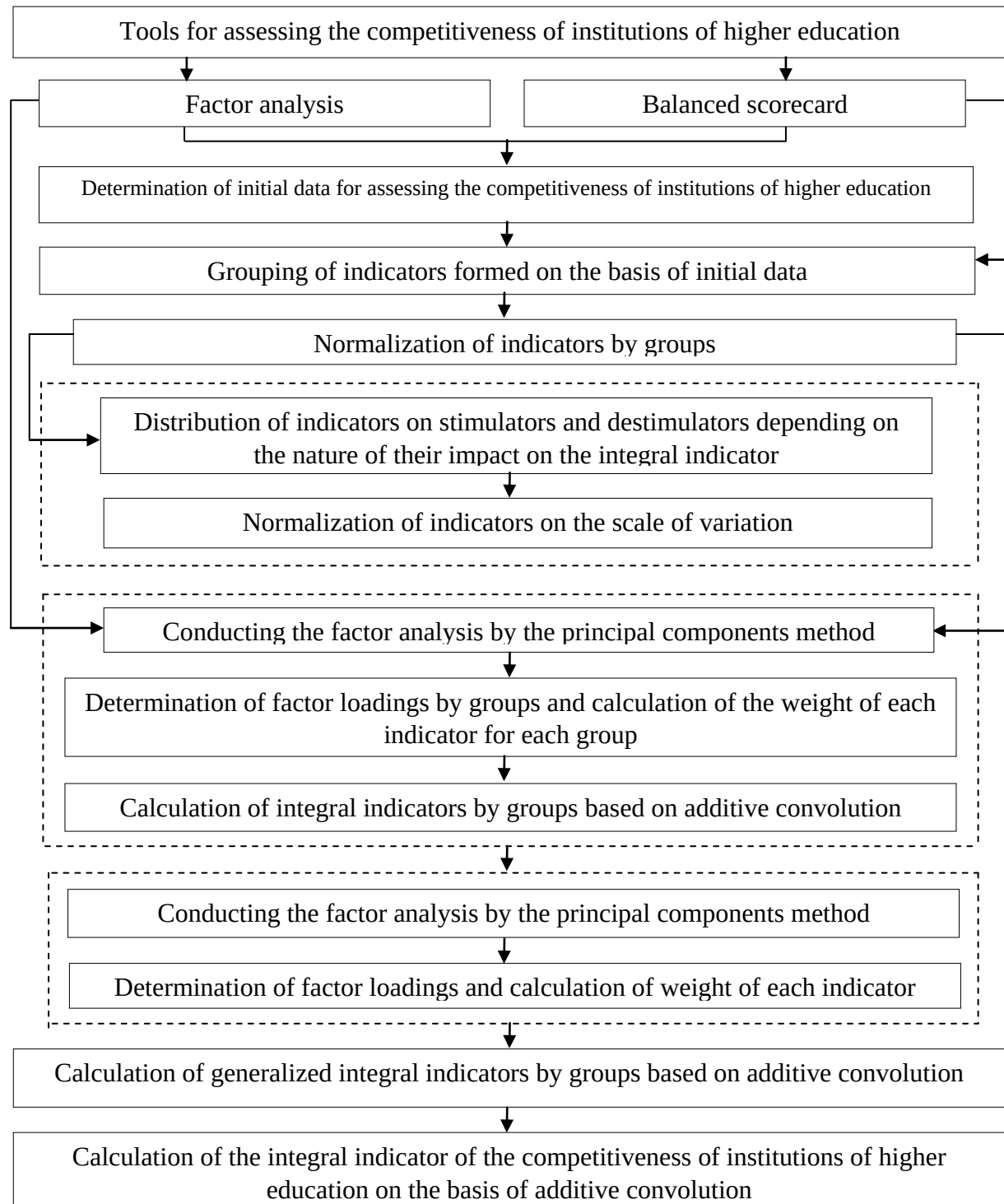
The competitiveness of Kyiv National University of Technologies and Design has been assessed using separate methods of comparative, statistical and economic-mathematical analysis (factor analysis) by the principal components method.

Considering that competitive advantages are formed, in particular, by comparative and dynamic character and the factors causing them, and also on the considered factors of management of IHEs competitiveness for research and its estimation the group "managed" has been selected, taking into account which groups of indicators have been formed characterizing the impact of these factors on the competitiveness of institutions of higher education.

Taking into account the data that characterize the activities of KNUTD both from the standpoint of the education institution and the business entity and the assessment of financial stability, the assessment of the competitiveness of institutions of higher education according to the data published on the official website of KNUTD (Official website of Kyiv National University of Technologies and Design, 2017–2019). The initial data (indicators) for assessing the competitiveness of institutions of higher education were divided into four groups: finance (indicators that characterize the management of financial flows of institutions of higher education); internal processes (indicators, the increase of which will help increase the efficiency of institutions of higher education); students (indicators that can be used to characterize the attitude of students to institutions of higher education in general); development and training of academic staff (AS) (indicators that can be used to determine the main directions of improving the quality of educational services provided by institutions of higher education).

Based on the components of the BSC, the indicators were normalized by groups (due to the lack of reference or standard values of indicators for assessing the competitiveness of institutions of higher education, the basis for comparison were maximum / minimum values) based on their deviation on the scale of variation and division of evaluation indicators into indicators-

stimulators (their rise leads to an increase in the level of competitiveness of institutions of higher education) and indicators-disincentives (their rise leads to a decrease in the level of competitiveness of institutions of higher education).



Source: developed on the basis of (Breus, 2018, Breus, 2019).

**Fig. 2. Stages of formation of an improved methodological approach to assessing the competitiveness of institutions of higher education**

To assess the competitiveness of institutions of higher education, integrated indicators were constructed by groups of indicators and an integral indicator as a whole for KNUTD by determining the weight values of indicators by groups in the process of factor analysis (calculation procedure involves the use of software Statistica) based on the results of factor loadings for each group of indicators.

The weight of each indicator was calculated using data (Breus, 2019; Kharazishvily *et al.*, 2013; On Approval of the Methodology for Calculating Integral Regional Indices of Economic Development (2003); Methodical recommendations for calculating the level of economic security of Ukraine, 20013) as following: the maximum values of factor loadings are selected from the factor loading tables for each row; the selected maximum values (loadings) are multiplied by the fractions of the total variance for each indicator; the sum of the received products on all factors is defined; the weight of each indicator is calculated by dividing the product of the maximum value and the share of the total variance for each indicator by the sum of the obtained products for all indicators assigned to one or another group.

According to the indicators for calculation, their normalized and weight values (based on the study of factor loadings) by groups, the calculation of integral indicators of IHEs competitiveness by groups of indicators and IHEs competitiveness as a whole according to formulas 1–2 taking into account data (Breus, 2019; Kharazishvily *et al.*, 2013; On Approval of the Methodology for Calculating Integral Regional Indices of Economic Development (2003); Methodical recommendations for calculating the level of economic security of Ukraine, 20013).

$$I_m = \sum_{i=1}^n d_i \times y_i, \quad (1)$$

where  $I_m$  – integral indicator for a group of indicators, where  $m = (1, 2, 3, 4)$ ;  
 $d_i$  – the weight of the indicator that determines the degree of contribution of the  $i^{\text{th}}$  indicator to the integral indicator of the component (group of indicators) of the competitiveness of institutions of higher education;

$y_i$  – normalized value of the  $i^{\text{th}}$  indicator;

$n$  – the number of indicators used to assess the  $i^{\text{th}}$  indicator in the integral indicator for a group of indicators;

$$\sum d_i = 1; 0 \leq d_i; y_i \leq 1.$$

$$II_{KC} = \sum_m d_m \times I_m, \quad (2)$$

where  $II_{KC}$  – integral indicator of IHEs competitiveness;

$d_m$  – the weight of the indicator, which determines the degree of contribution of the indicator to the integral indicator of the competitiveness of institutions of higher education;

$I_m$  – integrated indicator, where  $m = (1, 2, 3, 4)$ ;  
 $\sum d_m = 1; 0 \leq d_m; y_m \leq 1$ .

Based on formulas (1)–(2) with the use of normalized and weight values of indicators, the calculation (normalized and weight values of indicators were used) of integral indicators by groups has been calculated.

**Results and discussion.** The results of the calculation of generalized integral indicators of KNUTD competitiveness for each group are given in table 2.

Table 2

**Integrated indicators for each group**

| Years | Integral indicator for the group "Finance" | Integral indicator for the group "Internal processes" | Integral indicator of IHE for the group "Students" | Integral indicator for the group "Development and training of AS" |
|-------|--------------------------------------------|-------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------|
| 2017  | 0,504                                      | 0,391                                                 | 0,495                                              | 0,757                                                             |
| 2018  | 0,607                                      | 0,600                                                 | 0,657                                              | 0,337                                                             |
| 2019  | 0,446                                      | 0,702                                                 | 0,556                                              | 0,169                                                             |

Further research of factor loadings on KNUTD has been carried out and weight of each indicator has been calculated (table 3).

Table 3

**Factor loadings**

| Variables                                                         | Factor 1 | Factor 2 | Weight |
|-------------------------------------------------------------------|----------|----------|--------|
| Integral indicator for the group "Finance"                        | -0,235   | 0,972    | 0,183  |
| Integral indicator for the group "Internal processes"             | -0,919   | -0,393   | 0,279  |
| Integral indicator for the group "Students"                       | -0,832   | 0,555    | 0,253  |
| Integral indicator for the group "Development and training of AS" | 0,937    | 0,350    | 0,285  |
| Total variance                                                    | 2,470    | 1,530    | –      |
| The proportion of total variance                                  | 0,617    | 0,383    | –      |
| Total                                                             | –        | –        | 1,0    |

The data of the table 3 indicate the influence of each factor on the input 4 features of the model. Based on formulas (1)–(2), the generalized integral indicators by groups and the integral indicator of KNUTD competitiveness by years were calculated. The results of the calculation are given in table 4.

The data in the table 4 generally show a decrease in the level of competitiveness of institutions of higher education, however, given that this methodological approach provides the possibility of achieving the maximum value of competitiveness at level 1, it is worth noting that the competitiveness of KNUTD in 2017–2019 was low. Competitiveness levels are determined using the golden ratio method, according to which the golden ratio is 1.618. To use

this method, it is proposed to divide the possible levels of competitiveness of institutions of higher education into 5 segments (intervals), each of which characterizes a certain state of competitiveness. The scale for determining the level of competitiveness of institutions of higher education is given in the table 5.

Table 4

**Generalized integral indicators of indicators by groups and integral indicator for KNUTD**

| Years | Integral indicator for the group "Finance" | Integral indicator for the group "Internal processes" | Integral indicator for the group "Students" | Integral indicator for the group "Development and training of AS" | Integral indicator of KNUTD competitiveness |
|-------|--------------------------------------------|-------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------|---------------------------------------------|
| 2017  | 0,092                                      | 0,109                                                 | 0,125                                       | 0,216                                                             | 0,542                                       |
| 2018  | 0,111                                      | 0,168                                                 | 0,166                                       | 0,096                                                             | 0,541                                       |
| 2019  | 0,082                                      | 0,196                                                 | 0,141                                       | 0,048                                                             | 0,466                                       |

Table 5

**Scale for determining the level of competitiveness of institutions of higher education**

| №  | Intervals of values of the integral indicator of competitiveness of institutions of higher education | Competitiveness levels of institutions of higher education |
|----|------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| 1. | 0,855–1                                                                                              | High                                                       |
| 2. | 0,619–0,854                                                                                          | Average                                                    |
| 3. | 0,383–0,618                                                                                          | Low                                                        |
| 4. | 0,147–0,382                                                                                          | Crisis                                                     |
| 5. | 0–0,146                                                                                              | Critical                                                   |

The introduction of an improved methodological approach into the practice of assessing the competitiveness of institutions of higher education and using the proposed levels of competitiveness as thresholds at certain intervals allows economic interpretation of the results of the calculation of the integral indicator and comparison of assessment results in dynamics.

**Conclusion.** Taking into account the data of the rating "TOP-200 Ukraine 2020" the main competitive advantages of KNUTD have been formed, their main characteristics have been outlined and taking into account the economic and statistical analysis to determine and analyze indicators of financial and economic activity of institutions of higher education, the results of which generally indicate an increase in negative trends in the activities of institutions of higher education, while the identified changes have a negative impact on the financial and economic activities of institutions of higher education and contribute to the reduction of its competitiveness.

The assessment of the competitiveness of institutions of higher education according to the data of KNUTD using an improved methodological approach,



which is based on the proposed binary use of methods of profiles and ratings, involves the use of factor analysis by the method of main components hierarchically with division into groups (by adapting a balanced system of indicators to manage the competitiveness of institutions of higher education, taking into account the main approaches to its development, which formed the basis for choosing evaluation indicators to determine integral indicators of competitiveness by groups and institutions of higher education in general).

The results of the assessment of the competitiveness of KNUTD indicate a decrease in the level of competitiveness of institutions of higher education, it was calculated during 2017–2019 at a low level – corresponds to 0.542, 0.541 and 0.466, respectively, which according to the proposed scale for determining the level of competitiveness of institutions of higher education (developed using the method of the golden ratio) is in the range of 0.383–0.618.

Based on the study and assessment of the competitiveness of institutions of higher education to improve it in the context of its management and strategic development of institutions of higher education within the implementation of relevant strategic alternatives and proposed generalized areas, as well as certain competitiveness factors, it is appropriate to forecast indicators based on competitiveness.

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**Conflict of interest.** S. Breus developed a methodological approach to assess the competitiveness of institutions of higher education, which was tested during the leadership of scientific work of the student I.I. Suhoniako, who took first place in the second round of the All-Ukrainian competition of student research in the specialty "Management in economic competition" (2020) and Master's thesis of the student I.I. Suhoniako. The main results have been highlighted in the publications on the relevant data on the subject of the article, participated in the formation of the main competitive advantages. Y. Khaustova and M. Denysenko participated in the adaptation of the main competitive advantages to the activities of KNUTD and in the generalization of the research results. S. Bondarenko participated in the adaptation of the main competitive advantages to the activities of KNUTD. N. Kyrylko participated in collecting the input information for analytical calculations.

#### **Abbreviations:**

|              |                                                     |
|--------------|-----------------------------------------------------|
| <i>IHE</i>   | Institution of higher education                     |
| <i>KNUTD</i> | Kyiv National University of Technologies and Design |
| <i>BSC</i>   | Balanced Scorecard                                  |

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# PROSPECTIVE DIRECTIONS OF CHANGES IN THE FINANCIAL REPORTING OF ENTERPRISES IN THE CONTEXT OF THE GLOBALIZATION OF THE WORLD ECONOMY

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**Statement of the problem and tasks.** Ukraine is a country with transitive economy characterized by creation and development of market institutions aimed at privatization of state property, deregulation and liberalization of economic relations. Transformation of economy of Ukraine requires from enterprises the application of management concepts, focused on the new conditions of economic management – uncertainty and crisis nature of market environment. The effectiveness of the implementation of new principles of management depends on the completeness and reliability of the information and analytical support of management decisions.

**Methods.** The study used: a dialectical method, system analysis – for detailing and decomposition of the object of research into separate important constituent elements; synthesis – to summarize the various aspects of the financial statements of the enterprise.

**Results.** The technical issues of accounting were investigated: the key differences in approaches to enterprise accounting between the International Financial Reporting Standards (IFRS), Generally Accepted Accounting Principles

(US GAAP) and the Regulations (Standards) of Accounting (NARS) were determined; the impact of the identified differences on the data processing in the accounting systems was assessed. It is determined that governmental accounting rules in the United States are governed by its generally accepted GAAP accounting principles. It has been proven that conceptually, IFRS, which is used by states around the world, is more "principled" than GAAP, making it somewhat less complex and consistent, offering fewer exceptions and unique applications.

**Conclusions.** The current trend in financial reporting is to produce integrated reports that combine financial and non-financial information. However, not all companies find it necessary to disclose more information than the amount required of them by regulators. Therefore, there is a need to standardize not only financial information, but also non-financial indicators and the very structure of an integrated report.

**Keywords:** accounting; financial reporting; International Financial Reporting Standards (IFRS); Generally Accepted Accounting Principles (GAAP).

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
| 20                      | 1                    | 3                   |

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## ПЕРСПЕКТИВНІ НАПРЯМКИ ЗМІН У ФІНАНСОВІЙ ЗВІТНОСТІ ПІДПРИЄМСТВ У КОНТЕКСТІ ГЛОБАЛІЗАЦІЇ СВІТОВОЇ ЕКОНОМІКИ

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**Постановка проблеми та завдання.** Україна є країною із транзитивною економікою, що характеризується створенням та розвитком ринкових інститутів, спрямованих на приватизацію державної власності, дерегуляцію та лібералізацію економічних відносин. Трансформація економіки України вимагає від підприємств застосування управлінських концепцій, орієнтованих на нові умови господарювання – невизначеності та кризового характеру ринкового середовища. Ефективність реалізації нових засад управління залежить від повноти та достовірності інформаційно-аналітичного забезпечення прийняття управлінських рішень.

**Методи.** У дослідженні було використано: діалектичний метод, системний аналіз – для деталізації і розчленування об'єкта дослідження на окремі важливі складові елементи; синтезу – для узагальнення різних аспектів фінансової звітності підприємства.

**Результати.** Досліджено технічні питання бухгалтерського обліку: визначено ключові відмінності в підходах до обліку діяльності підприємства між Міжнародними стандартами фінансової звітності (МСФЗ), Загальноприйнятими принципами бухгалтерського обліку (US GAAP) та

Положеннями (стандартами) бухгалтерського обліку (НП(С)БО); оцінено вплив виявлених розбіжностей на процес обробки даних в бухгалтерських облікових системах. Визначено, що державні правила бухгалтерського обліку в Сполучених Штатах регулюються його загальноприйнятими принципами бухгалтерського обліку GAAP. Доведено, що концептуально МСФЗ, які використовуються державами по всьому світу, є більш «принципові» ніж GAAP, що робить їх дещо менш складними і послідовними, пропонуючи менше винятків і унікальних додатків.

**Висновки.** Сучасною тенденцією у складанні фінансової звітності є формування інтегрованих звітів, які поєднують фінансову та нефінансову інформацію. Проте не всі компанії вважають за необхідне оприлюднювати більше інформації, ніж той обсяг, якого від них вимагають регулятивні органи. Тому виникає потреба у стандартизації не лише фінансової інформації, а й нефінансових показників та самої структури інтегрованого звіту.

**Ключові слова:** бухгалтерський облік; фінансова звітність; Міжнародні стандарти фінансової звітності (МСФЗ); Загальновизнані принципи бухгалтерського обліку (GAAP).

**Introduction.** There are many accounting standards in the world and each country uses its own version of generally accepted accounting principles, also known as GAAP. This allows businesses to report their financial and business activities in accordance with the applicable standards. However, a difficulty arises when a business operates in many countries. The question arises: how do investors work with several standards, of which one is more meaningful to disclose the interests of investors in financial statements, and how to compare the performance of enterprises reporting under different standards? A possible solution of this question is the application of IFRS standards, which are developed and supported by the International Accounting Standards Board (IASB).

Standards are on the second level in the accounting regulation system – after regulatory legal acts of a higher legal force. In this connection the standards of accounting inherent features and characteristics of regulatory documents, for example, binding, standardization of accounting and the like. The review of legislative acts testifies to the orientation of Ukrainian accounting towards the norms of the European Union and the general harmonization and unification of accounting standards.

When making managerial decisions, of course, it is better to use the data of management accounting and reporting. After all, management accounting is in no way regulated. Therefore, in the case of its introduction you can implement any approach convenient for management. Of course, there are many nuances to which you need to pay attention, but the general approach the manager chooses at his discretion. If an enterprise already keeps accounts in accordance with the requirements of IFRS, it makes sense for the manager to use this data. After all, if a certain approach is used in financial accounting, it is more expedient to use it in management accounting as well. Besides, IFRS also give much more freedom in the approach to accounting in comparison with national standards.

While the trend in Europe is toward international accounting and financial reporting standards, the United States continues to follow its own standards and, given its significant impact on the world economy as a whole, the application of US GAAP by companies in other countries is also common. At the same time there are significant differences in the information provided under IFRS and US GAAP, in particular, under American standards it is allowed to use LIFO method for valuation of inventories, it is prohibited to capitalize development costs and the like. Thus, for the purpose of decision-making by investors it seems reasonable to compare separately those companies which prepare accounts under IFRS and those which submit accounts under US GAAP,

because the difference between the two systems of standards does not allow making informed decisions due to the incomparability of financial information.

So, the integration of European countries is closely connected with the deployment of the standardization process of accounting, as it implied the convergence of legislative norms of individual European countries and the adoption of legislative acts, mandatory for all European Union member states – directives. By choosing the direction of European integration and signing the Association Agreement, Ukraine also undertook to bring the norms of Ukrainian legislation closer to the norms set out in EU directives.

The aim of the article is to highlight the peculiarities of organization of financial reporting by enterprises, theoretical justification of generally accepted accounting principles with International Financial Reporting Standards and analysis of main differences between them.

To achieve the goal, the article handles the following tasks:

- to reveal the main approaches to the implementation of standardization of accounting in enterprises;
- to investigate the theoretical basis of the essence of financial reporting and its place in the economy of the enterprise;
- to clarify the place of accounting standards as regulatory documents in the system of legal acts of Ukraine
- to determine the main differences in accounting standards set out in the NARS of Ukraine, US GAAP and IFRS and their impact on the comparability of financial information
- to improve the model of harmonization of public financial reporting at the international level to develop a unified system of principles for the global standardization of reporting.

**Materials and methods.** The information base of the study were: fundamental balance theories (static, dynamic, organic and econometric); scientific works of domestic and foreign scientists in the field of accounting and financial reporting; legislative and regulatory and instructive base on accounting and financial reporting; international systems of accounting and reporting standardization; public corporate financial statements of Ukrainian and foreign enterprises.

This article is built on the theoretical research of such scientists: M.M. Shigun, who argues that reporting summarizes the information obtained in the accounting system and at the same time is an element of its method (Shigun *et al.*, 2012); P.P. Nimchinov his time noted that reporting is a system of generalized economic indicators that characterize the level of execution of the plan, the availability and use of funds and the results of economic activity for the reporting period (Nimchinov, 1977); I.I. Kokhno, V. Sapozhnik, who hold the view that the stages of completion of records in the analytical accounting



accounts and completion of records in the general ledger (Kokhno *et al.*, 2018); P. Golubnycha, who notes that financial reporting is the main element of information support for the management of the enterprise, economic and production processes in it (Golubnycha *et al.*, 2012); T.M. Storozhuk, A.M. Doyonko argue that the composition of mandatory financial reporting forms of different countries is different among themselves, but four groups can be identified, each of which will have a different economic justification. Anyway, the main documents of financial reporting in foreign countries are the balance sheet and income statement (Storozhuk *et al.*, 2019).

All studies were conducted on the basis of accounting and analytical information of EPAM Systems IT company.

The tasks set in the research paper were solved using the following methods: abstract-logical (when studying the essence of financial reporting and related categories, formulating theoretical generalizations and conclusions); formalization – to adapt the format of corporate financial reporting in modern business conditions; statistical-economic – to compare, group and display empirical indicators (to identify the specifics and special features in the organization of financial reporting); series of dynamics (at research of change of articles of the financial reporting); graphic (for visual representation of results of research); calculation and constructive (at forecasting of possible variants of a combination of the information of retrospective and perspective character); comparison (for the purpose of comparison of the data in dynamics); method of analogies – for formation of methodical tools of the analysis of financial reporting of enterprises. The reliability of the obtained results, conclusions and proposals is confirmed by the conducted research and a significant amount of empirical material presented in the article.

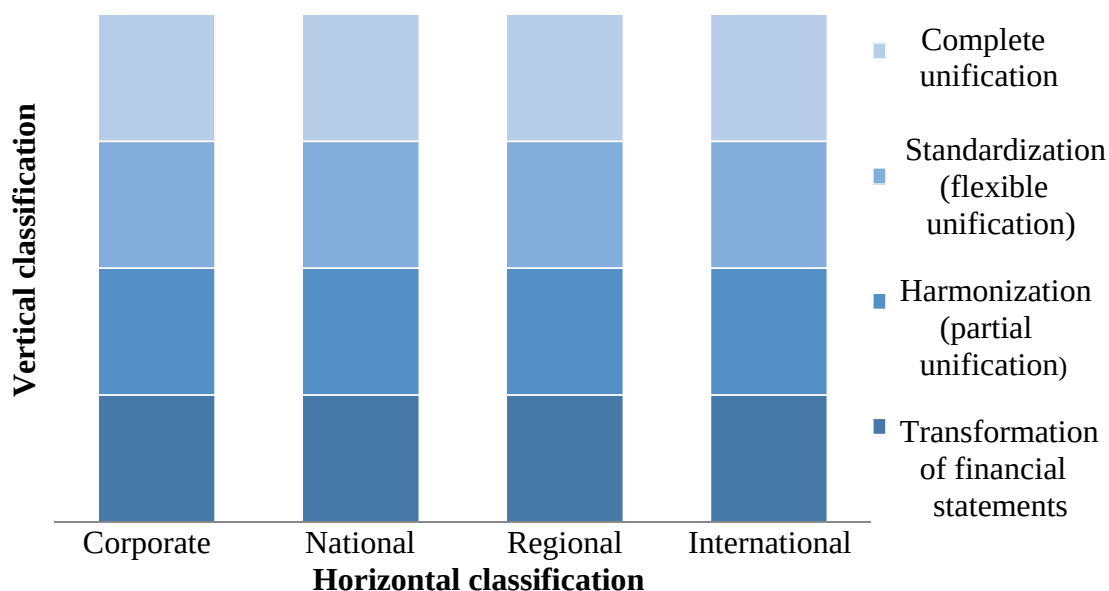
**Data description.** In the scientific literature there is no unified approach to the definition of the concept of standardization, as well as related concepts such as harmonization and unification of accounting. Standardization of accounting can be considered as:

- the process of ensuring the comparison of financial statements of Ukrainian companies with the financial statements of other countries;
- the process of bringing national accounting standards to international standards while preserving some national peculiarities;
- the process of unification and harmonization of accounting systems at the international level;
- the process of full transition to international accounting standards, ensuring generalization of the best global accounting practices and ease of perception of financial information around the world (Reznikova *et al.*, 2015).

There are two main approaches to considering the process of accounting standardization, presented in Fig. 1:

1) vertical classification, i.e. standardization in terms of the depth of unification, strictness of regulation of the accounting system and financial reporting;

2) horizontal classification, i.e. standardization in terms of the scale of its implementation.



**Figure 1. Types of standardization depending on the depth (vertical classification) and scale of implementation (horizontal classification)**

Thus, according to IAS 1, financial reporting is such reporting, which aims to meet the needs of users who cannot require an economic entity to prepare reports in accordance with their information needs.

Integration of Ukraine into European and global economic space increases the interest in public companies' reporting, which is the basis for the implementation of appropriate economic behavior of investment market subjects. Such situation causes urgency and special importance of solving methodological problems of compiling financial statements at enterprises, which will allow evaluating both financial and non-financial indicators and preventing distortions or asymmetries in the financial statements of enterprises. Separately, the problems can be posed:

- the preparation of special types of financial statements, such as consolidated, combined by segment or industry specifics (insurance companies, banks, agriculture, etc.);
- organizational issues of financial reporting. For example, the formation of accounting policies to improve the efficiency of management of corporate enterprises (Bezverkhyy, 2013).

Therefore, in our opinion, it is the identification, research and analysis of problems in the organization of the preparation, filing and disclosure of financial statements to provide ways to unify the original information, the only understanding of the reporting indicators, both internal and external users.

Historically, the basis of the US GAAP system of generally accepted accounting principles (US GAAP) were the rules of equity participation of investors in the company, and the basis for the IFRS – the rules of interaction of borrowers with financial institutions. Therefore, the US standards pay more attention to providing adequate financial information to shareholders (Kulik *et al.*, 2016).

The U.S. Conceptual Framework distinguishes 10 elements of financial reporting (Conceptual Framework Statement No. 6), namely: assets, liabilities, equity, owner investments, owner withdrawals, income from operations, income from other operations, expenses related to operations, other expenses, and comprehensive income. The definition of these elements of financial reporting according to the American conceptual framework is shown in Table 1.

The study of IFRS and GAAP allows us to assert that Ukrainian NARS developed on the basis of both of the aforementioned standards.

An item is reflected in the financial statements if it meets the recognition criteria.

Recognition, according to the American conceptual framework, is the process of formally recording, recording or including in the financial statements of an entity as an asset, liability, income and the like. There are four fundamental recognition criteria as follows:

- definition – the item must meet a certain definition;
- measurement – the item has an appropriate measurement that can be reliably measured;
- relevance – the information about it can influence the decision of users;
- reliability – the information about the element is neutral, fairly presented, and verifiable.

The main differences in the recognition criteria according to American and international standards are systematized in Table 1.

Having analyzed the recognition criteria under U.S. and international standards, it is clear to us that in general the approaches to the recognition of elements in reporting are the same, but the U.S. Conceptual Framework focuses more on relevance and reliability of information, cost/benefit constraints, and types of measurement, which are treated separately in IFRS (Skripnyk *et al.*, 2019).

Table 1

**Comparison of definitions of financial reporting elements  
in the U.S. conceptual framework**

| <i>Item</i>          | <i>Definition in US GAAP</i>                                                                                                                                                                                        | <i>Source</i>     | <i>Definition in IFRS</i>                                                                                                                                                       | <i>Source</i> | <i>Definition in NARS</i>                                                                                                                                                                                | <i>Source</i> |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <i>1</i>             | <i>2</i>                                                                                                                                                                                                            | <i>3</i>          | <i>4</i>                                                                                                                                                                        | <i>5</i>      | <i>6</i>                                                                                                                                                                                                 | <i>7</i>      |
| Asset                | The probable future economic benefits received or controlled by an individual company as a result of a transaction or past events                                                                                   | (SFAC 6, art. 25) | A resource controlled by an entity as a result of past events from which future economic benefits are expected to flow to the entity                                            | IAS 38        | Resources controlled by the entity as a result of past events, the utilization of which is expected to result in future economic benefits                                                                | NARS 1        |
| Liabilities          | The probable future cost of economic benefits arising from an individual company's existing obligations to transfer assets or provide future services to other companies as a result of past transactions or events | (SFAC 6, art. 35) | Existing indebtedness of the entity that arises as a result of past events and is expected to result in the retirement of resources of the entity that embody economic benefits | IAS 37        | Indebtedness of the entity arising from past events, the repayment of which in the future is expected to result in a decrease in the resources of the entity embodying economic benefits                 | NARS 1        |
| Shareholder's equity | The residual interest in the assets of a business after deducting all of its liabilities                                                                                                                            | (SFAC 6, art. 49) | Definition absent                                                                                                                                                               |               | The difference between the assets and liabilities of an enterprise                                                                                                                                       | NARS 1        |
| Owner investments    | The long-term investment of capital by owners for the purpose of making a profit                                                                                                                                    | (SFAC 6, art. 65) | Definition absent                                                                                                                                                               |               | Financial investments – assets that are maintained by an enterprise for the purpose of increasing profits (interest, dividends, etc.), increasing the value of capital or other benefits to the investor | NARS 13       |

**Continuation of table 1**

| 1                            | 2                                                                                                                                                                                                                          | 3                 | 4                                                                                                                                                                                                                      | 5      | 6                                                                                                                                                                                                                                                                                                                                                                                                             | 7      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| With-drawn funds of owners   | The withdrawal by owners of previously invested capital in the operation of an enterprise                                                                                                                                  | (SFAC 6, art. 71) | Definition absent                                                                                                                                                                                                      |        | Definition absent                                                                                                                                                                                                                                                                                                                                                                                             |        |
| Operating income             | Receipts of the enterprise's assets or repayments of its accounts payable (or a combination of both) from the supply or production of goods, services, or other transactions that do not constitute its principal activity | (SFAC 6, art. 82) | The gross inflow of economic benefits during the period arising in the ordinary course of the business when equity grows as a result of that inflow, rather than as a result of contributions from equity participants | IAS 18 | Income – an increase in economic benefits in the form of assets received or liabilities reduced, which leads to an increase in equity (excluding capital growth at the expense of owners' contributions). Main activity – operations associated with the production or sale of products (goods, works, services), is the main purpose of establishing an enterprise and provides the main share of its income | NARS 1 |
| Income from other activities | Receipts of the entity's assets or settlement of its accounts payable (or a combination of both) from the supply or production of goods, services, or other operations that do                                             | (SFAC 6, art. 84) | Definition absent                                                                                                                                                                                                      |        | Definition absent                                                                                                                                                                                                                                                                                                                                                                                             |        |

Continuation of table 1

| 1                                        | 2                                                                                                                                                                                                                                                                            | 3                 | 4                                                                                                                                                                                              | 5     | 6                                                                                                                                                                                                                                    | 7      |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
|                                          | not constitute its principal activity                                                                                                                                                                                                                                        |                   |                                                                                                                                                                                                |       |                                                                                                                                                                                                                                      |        |
| Expenses associated with core activities | Disposals or other use of assets or creation of payables (or a combination of both) as a result of the supply or production of goods, services, or other operations that constitute the principal activity of the business, which continues                                  | (SFAC 6, art. 80) | Definition absent                                                                                                                                                                              |       | An expense is a decrease in economic benefits in the form of an outflow of assets or an increase in liabilities that results in a decrease in equity (other than a decrease in equity due to a withdrawal or distribution by owners) | NARS 1 |
| Other expenses                           | Withdrawals or other use of assets or creation of accounts payable (or a combination of both) as a result of the supply or production of goods, provision of services, or other activities that constitute the core business of the business, which continues to be the case | (SFAC 6, art. 81) | Definition absent                                                                                                                                                                              |       | Definition absent                                                                                                                                                                                                                    |        |
| Comprehensive income                     | Changes in equity during the reporting period, due to all transactions and events, excluding events related to investments and withdrawals from the owner's side                                                                                                             | (SFAC 6, art. 98) | Change in shareholders' equity during the period as a result of transactions and other events, other than changes resulting from transactions with owners who act under their powers of owners | IAS 1 | Changes in equity during the reporting period as a result of economic transactions and other events (excluding changes in equity due to transactions with owners)                                                                    | NARS 1 |

Table 2

**Comparative Characteristics of Recognition Criteria Requirements Under U.S. and International Standards**

| <i>Characteristics of recognition criteria attributes</i>                                | <i>American conceptual framework</i>     | <i>Conceptual Framework of IFRS</i>                                                                    |
|------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Item definition                                                                          | Included to the criterion of recognition | Not included in the recognition criteria, but included in the determination of the recognition process |
| Application to elements                                                                  | Assets, liabilities, income, expenses    | Assets, liabilities, income, expenses                                                                  |
| Probability of inflow / outflow of future economic benefits                              | Determined by                            | Determined by                                                                                          |
| Reliability of measurement (estimation)                                                  | Determined by                            | Determined by                                                                                          |
| Relevance of information                                                                 | Determined by                            | Not specified                                                                                          |
| Reliability of the information                                                           | Determined by                            | Not specified                                                                                          |
| Cost/benefit limit                                                                       | Determined by                            | Not specified                                                                                          |
| Materiality threshold                                                                    | Determined by                            | Specified as one of the conditions for defining recognition criteria                                   |
| Different types of evaluation                                                            | Determined by                            | A separate section is devoted to types of evaluation                                                   |
| Different stages of recognition (first recognition, next valuation, halting recognition) | Not identified                           | Not identified                                                                                         |

In general, the following ten major differences between IFRS and US GAAP can be identified:

1. Global / local.
2. Rules and principles. IFRS is principle-based and looks at general patterns and provides more room for different interpretations of the same situations, while US GAAP is research-based and is guided by a specific set of rules that provide fewer exceptions and explanations.
3. Inventory methods. US GAAP allows the LIFO method to be used to value inventory at a time when IFRS prohibits it because LIFO does not reflect the exact flow of inventory.
4. Inventory changes. US GAAP does not allow positive market changes in the form of increases in the market value of assets and prohibits the reversal of write-downs, while IFRS does.
5. Development expenses. Under US GAAP development costs are recognized in full in the year of their occurrence, while IFRS allows you to capitalize them if certain criteria are met. IFRS allows you to reduce costs, obtain high rates of return, low level of debt and lower asset turnover ratio.

6. Intangible assets. Under IFRS, accounting for intangible assets must consider whether the asset will yield future economic benefits, while under US GAAP intangible assets are simply valued at fair market value. Goodwill is recorded on the balance sheet at cost less accumulated amortization, any adjustment will affect equity directly.

7. Income Statement. Extraordinary and unusual items must be separated and shown separately from the US GAAP income statement, while under IFRS such items are included in the income statement and are not separated.

8. Classification of Liabilities. Under US GAAP, all debt is classified into current and non-current liabilities, while under IFRS all debts are considered indivisible on the balance sheet.

9. Funds. IFRS allows for a revaluation model that is based on current-date fair value plus accumulated depreciation and impairment losses, while US GAAP mandates that property, plant, and equipment be valued using the cost model, which is the sum of historical cost excluding accumulated depreciation.

10. Quality Characteristics. Both IFRS and US GAAP are intended to ensure the relevance, reliability, compatibility, and understandability of accounting information. IFRS permits, under certain circumstances, decisions not to be made on the basis of that information, while US GAAP does not permit such a possibility.

11. Leases. US GAAP provides clear criteria for determining whether a lease is considered an operating lease. Operating leases are not reflected in the financial statements, while leases are capitalized. US GAAP requires that a lease be capitalized if the present value of the minimum lease payments equals 90% or more of the fair value of the leased asset. A lease is recognized if it has a term equal to at least 75% of the economic life of the asset that is classified as equity. IFRS does not set a precise mathematically expressed boundary between operating leases and leases, and this could result in a significant change in the level of return on assets, profitability of operating income and the like.

**Results and discussion.** U.S. companies must comply with US GAAP accounting rules when doing business internationally as well (Gaidarzhiyska *et al.*, 2018). Therefore, often legal entities whose parent companies are registered in the United States have to prepare financial statements in several versions – according to the national standards of the country where they are registered and/or according to IFRS, as well as according to US GAAP. The main differences in financial statements prepared under US GAAP and IFRS are shown in Table 3.

The use by an enterprise of national standards of different states or international accounting standards leads to different financial results, once again confirming the incomparability of the indicators of financial statements. On the other hand, the choice to apply international or national accounting standards



may be influenced by the understanding, the financial result will be displayed in the statements in the first and second case. The level of financial results may differ due to methods of evaluation, so the amount of profit is subjective and depends on the choice of procedures and accounting methods. Another factor to consider when choosing accounting standards is the industry in which the company operates and its volume. Large enterprises usually focus on IFRS, and medium and small enterprises on national accounting standards.

Table 3

**Differences between types of financial statements  
under IFRS, US GAAP and NARS**

| <i>Type of financial report</i> | <i>IFRS</i>                                                                                                                                                                                   | <i>US GAAP</i>                                                                                                                    | <i>NARS</i>                                                                                                                         |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <i>1</i>                        | <i>2</i>                                                                                                                                                                                      | <i>3</i>                                                                                                                          | <i>4</i>                                                                                                                            |
| balance sheet                   | IAS 1 recommends the division of assets and liabilities into "current" and "non-current", defines the minimum list of items that should be on the balance sheet                               | CON 5–6 recommends that assets and liabilities on the balance sheet be shown in descending order of liquidity                     | NARS 1 reflect the assets, liabilities and equity of an enterprise                                                                  |
| Statement of profit and loss    | IAS 1 allows the presentation of expense items by "function" and "nature", but when providing information on "function", the classification by "nature" should also be disclosed in the notes | CON 5–6 recommends expense recognition by function                                                                                | NARS 1 show income, expenses, financial results and comprehensive income                                                            |
| Statement of changes in equity  | IAS 1 shows the movement in all items of equity and accumulated profit (loss)                                                                                                                 | Requirements are similar to IFRS, but some information is permitted to be disclosed in the notes rather than in the report itself | NARS 1 discloses information on changes in the composition of own capital of an enterprise during the reporting period              |
| Statement of cash flows         | IAS 1 provides that dividend payments are reported in operating or financing activities and dividend receipts are reported in operating or investing activities                               | CON 5–6 additionally requires disclosure of significant non-cash transactions                                                     | NARS 1 discloses information on cash flows during the reporting period resulting from operating, investing and financing activities |

Since the beginning of the last century, the statements of large enterprises have disclosed any information that can affect their value, and thus both financial and non-financial. However, excessive disclosure of information may lead to loss of competitiveness of an enterprise, so there is a very fine line between the information which is necessary for the users of statements and the information which must remain a trade secret.

Modern reporting of large enterprises provides for the addition of financial information non-financial, digital information descriptive, obligatory to disclose that information, which is disclosed on a voluntary basis, as well as a combination of information of retrospective and prospective nature.

**Conclusion.** We can conclude that despite the global trend towards transition to international accounting and financial reporting standards, the United States continues to adhere to its own standards, and given the significant influence of this country on the world economy as a whole, it is also common for companies in other countries to apply US GAAP. At the same time there are significant differences in the information provided under IFRS and US GAAP, in particular, under American standards it is allowed to use LIFO method for valuation of inventories, it is prohibited to capitalize development costs and the like. Thus, for the purpose of decision-making by investors it seems reasonable to compare separately those companies which prepare statements under IFRS and those which submit them under US GAAP, because the differences between the two systems of standards do not allow making informed decisions due to the incomparability of financial information.

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#### **Abbreviations:**

|                |                                             |
|----------------|---------------------------------------------|
| <i>IFRS</i>    | International Financial Reporting Standards |
| <i>NARS</i>    | National accounting regulations (standards) |
| <i>GAAP US</i> | Generally accepted accounting principles    |
| <i>LIFO</i>    | Method of accounting for inventories        |
| <i>IASB</i>    | International Accounting Standards Board    |
| <i>MCBO</i>    | International Accounting Standards          |

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## SOCIO-ENTREPRENEURIAL APPROACH IN HIGHER EDUCATION INSTITUTIONS ON THE EXAMPLE OF INCLUSIVE EDUCATION

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council, Ukraine.

**Background and objectives.** In Ukraine, until the mid-2000s, social policy with regard to people with disabilities was primarily compensatory in nature. Now the situation is gradually changing, the objectives of social policy are recognized to ensure equal rights and opportunities for people with and without disabilities. With the signing (2008) and ratification (2012) of the UN Convention on the Rights of Persons with Disabilities, our country has assumed the obligation to ensure the full social participation of people with disabilities in society. One of the resources that increase the chances of people with disabilities to master various spheres of life can be higher professional education, especially in an inclusive format.

**Methods.** The study used: biographical method and interview method – to collect and summarize the information obtained; statistical method – to process the results of the survey, predictive method – to summarize various aspects of the use of inclusive education format in the system of higher professional education.

**Findings.** The potential of the institute of higher professional education as a channel of social inclusion is proposed to use both at the macro level through the use of the model of socio-entrepreneurial approach of forming a system of higher professional inclusive education, and at the micro level through the identification and description of practices of forming an inclusive format of education in a particular university and tracing the life trajectories of people who received higher professional education in an inclusive format.

**Conclusion.** The analysis of the successes and difficulties of higher professional education for people with disabilities shows that there is an objective need to consolidate the efforts of the higher education community with regional public organizations, executive authorities, regional and city institutions of health, education and social protection to support young people with disabilities.

**Keywords:** inclusive education; higher professional education; people with disabilities.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
| 20                      | 2                    | 2                   |

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## СОЦІАЛЬНО-ПІДПРИЄМНИЦЬКИЙ ПІДХІД У ЗАКЛАДАХ ВИЩОЇ ОСВІТИ НА ПРИКЛАДІ ІНКЛЮЗИВНОЇ ОСВІТИ

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**Постановка проблеми та завдання.** В Україні до середини 2000-х рр. соціальна політика щодо людей з обмеженими можливостями носила переважно компенсаційний характер. В даний час ситуація поступово змінюється, завданнями соціальної політики визнається забезпечення рівних прав та можливостей для людей з інвалідністю та без. З підписанням (2008) і ратифікацією (2012) Конвенції ООН про права інвалідів наша країна взяла на себе зобов'язання щодо забезпечення повного соціального участі людей з інвалідністю в житті суспільства. Одним з ресурсів, що підвищують шанси людей з обмеженими можливостями на освоєння ними різних сфер життя, може виступити вищу професійну освіту, особливо – в інклюзивну форматі.

**Методи.** У дослідженні були використані: біографічний метод і метод інтерв'ю – для збору та узагальнення отриманої інформації; статистичний метод – для обробки результатів опитування, прогнозний метод – для узагальнення різних аспектів використання формату інклюзивного навчання в системі вищої професійної освіти.

**Результати.** Потенціал інституту вищої професійної освіти як каналу соціальної інклюзії запропоновано використовувати як на макrorівні через використання моделі соціально-підприємницького підходу формування системи вищої професійної інклюзивної освіти, так і на мікрорівні через виявлення і опис практик формування інклюзивного формату навчання в конкретному університеті і простеження життєвих траєкторій людей, які отримали вищу професійну освіту в інклюзивну форматі.

**Висновки.** Проведений аналіз успіхів і труднощів вищої професійної освіти людей з обмеженими можливостями показує, що об'єктивно існує необхідність консолідації зусиль спільноти організацій вищої освіти з регіональними громадськими організаціями, органами виконавчої влади, регіональними та міськими закладами охорони здоров'я, освіти і соціального захисту населення для підтримки молодих інвалідів.

**Ключові слова:** інклюзивна освіта; вищу професійну освіту; люди з обмеженими можливостями здоров'я.

**Introduction.** Currently, the integration of people with disabilities into the everyday life of society is of great importance (Chambers, 2015), which is largely due to the increased awareness of the value of human diversity (Shved, 2015). Studying the history of the development of inclusive practices (Stentiford, 2020) in the system of Ukrainian education makes the process of socialization of a person (Barkas et al., 2020) with disabilities effective (Martínez et al., 2020), based on an individual approach to everyone (Kolupaeva, 2009). To date, the so-called "inclusion without borders" (Lorraine et al., 2017), which implies the widespread implementation of joint learning, which often has a negative impact on the educational process, has become widespread (Gunn, 2017). In recent years, the educational space of Ukraine has undergone significant changes (RFIE MESU, 2011), largely due to the need to bring the existing legislative framework in the country (LUE OIED, 2014; LUE PAPSEN, 2017) in line with international standards and requirements for ensuring equal rights to education for special categories of citizens (CIED, 2010). The values and principles of educational and social inclusion translated into varied educational environments (Brown, 2016) have significantly changed the landscape of education and defined the essence of the changes taking place at different levels of education (Osler, 2012). Applied to the level of higher education, the challenges (Agbenyega et al., 2014) came to the fore not only to create special conditions for students with disabilities (Outhred, 2012), but also to form in Ukrainian universities a system of resources (del Mar García-Vita et al., 2019) to ensure the accessibility of professional education (Barton, 1999), its quality and the possibility of further integration of young disabled people in the labor market, opening their own businesses (Forlin et al., 2014).

The purpose of the study is to propose a socio-entrepreneurial approach in higher education institutions on the example of inclusive. The study was conducted in 2020 on the basis of the data of universities in the "A" category of the Consolidated Rating of Higher Education Institutions of Ukraine TOP-2020 (CRUU, 2020).

#### **Materials and methods.**

**Data description.** The initial data for the research were students with disabilities (50 people) studying at institutions of higher education (HEIs); people under the age of 35 with disabilities (50 people). As a result of the survey the socio-economic characteristics of individuals with disabilities were differentiated. According to the results of the study, even with comparable disability groups and belonging to the same age group, differences in education of people with disabilities cause significant differences in socio-economic activity, material well-being, the breadth of social networks, family status – i.e. in the implementation of social needs of the individual (Table 1).

Table 1

**Characteristics of the professional situation of people with disabilities,  
as a percentage of respondents**

| Indicators                                                                     | Groups of people with disabilities with different levels of education |      |                               |      |                            |      |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------|------|-------------------------------|------|----------------------------|------|
|                                                                                | Have no professional education                                        |      | Have a professional education |      | Including higher education |      |
|                                                                                | 2019                                                                  | 2020 | 2019                          | 2020 | 2019                       | 2020 |
| Employment in the economy of people with disabilities                          |                                                                       |      |                               |      |                            |      |
| - employed in the economy                                                      | 7,8                                                                   | 9,0  | 21,9                          | 23,5 | 33,5                       | 32,2 |
| - not employed in the economy                                                  | 92,2                                                                  | 91,0 | 78,1                          | 76,5 | 66,5                       | 67,8 |
| Employed in the economy                                                        |                                                                       |      |                               |      |                            |      |
| According to the characteristics of employment                                 |                                                                       |      |                               |      |                            |      |
| - employed                                                                     | 60,0                                                                  | 85,0 | 79,3                          | 91,9 | 88,8                       | 90,1 |
| - are not employed                                                             | 40,0                                                                  | 15,0 | 20,7                          | 8,1  | 11,2                       | 9,9  |
| By class group                                                                 |                                                                       |      |                               |      |                            |      |
| - managers                                                                     | 5,2                                                                   | 0    | 7,6                           | 1    | 16,0                       | 2,5  |
| - specialists of the highest level of qualification                            | 0                                                                     | 0    | 25,7                          | 18,7 | 54,0                       | 45,5 |
| - mid-level specialists                                                        | 10,7                                                                  | 0    | 20,0                          | 8,8  | 12,5                       | 2,4  |
| - employees engaged in preparation of information and documents                | 5,4                                                                   | 1,9  | 4,3                           | 9,6  | 0                          | 6,3  |
| - service sector workers, housing and utilities workers                        | 20,1                                                                  | 19,4 | 8,6                           | 15,8 | 3,2                        | 14,2 |
| - qualified agricultural and industrial workers                                | 21,1                                                                  | 16,6 | 3,0                           | 19,5 | 0                          | 7,8  |
| - operators, operators, machinists and operators of installations and machines | 7,2                                                                   | 12,8 | 6,4                           | 9,5  | 0                          | 13,5 |
| - unskilled workers                                                            | 30,4                                                                  | 49,5 | 24,5                          | 17,1 | 14,3                       | 7,8  |
| Not employed in the economy                                                    |                                                                       |      |                               |      |                            |      |
| By availability of paid work before the beginning of the survey year           |                                                                       |      |                               |      |                            |      |
| - had a permanent job                                                          | 35,0                                                                  | 29,2 | 77,7                          | 73,2 | 75,5                       | 80,5 |
| - had a job, but not permanently                                               | 14,1                                                                  | 16,0 | 7,1                           | 13,4 | 4,5                        | 7,9  |
| - never worked                                                                 | 51,0                                                                  | 54,8 | 15,2                          | 13,4 | 19,8                       | 11,6 |

The higher the level of education of people with disabilities, the more frequently they are employed in the economy: among individuals with higher education a third are employed in the economy; compared to them the employment rate of people with any level of vocational education is 1.5 times lower, people without vocational education – lower by more than 3 times. Among those unemployed in the economy, people with vocational education,



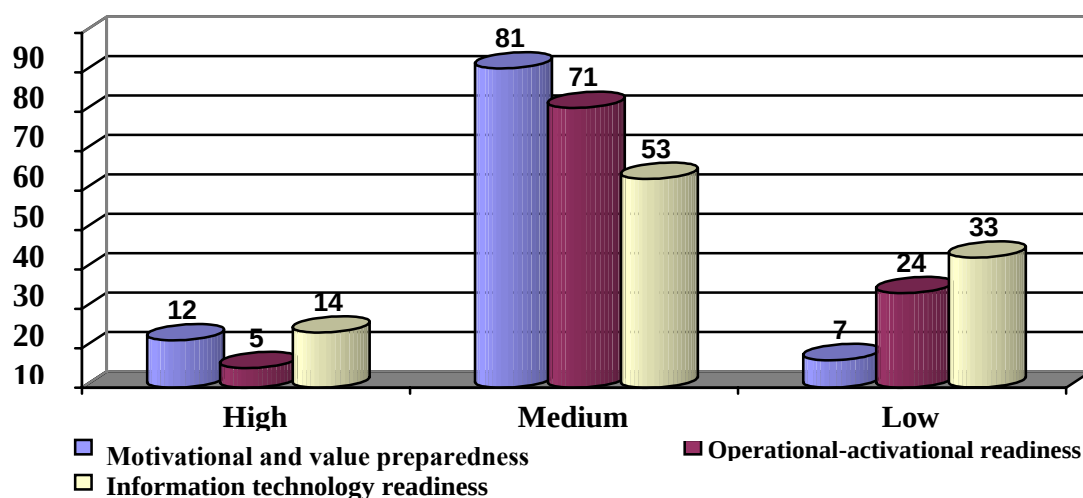
including higher education, have had work experience in the past in the vast majority (over 80%), while the majority of people with disabilities and without vocational education have never worked. People with disabilities who are employed in the economy are mostly employed and occupy positions that correspond to their level of education: the higher the level of education, the higher the professional position. Most people with higher education in the workplace occupy positions that correspond to their level of qualification, and only a small fraction are employed in unskilled labor. A large part of employees with disabilities without vocational education are employed in unskilled labor. Differences in education of people with disabilities contribute to the differentiation of their income – the higher the level of education, the smaller the proportion of poor people with disabilities, whose average per capita income is less than the regional subsistence minimum for the able-bodied population. More than 50% of people without vocational education live below the poverty line, while this indicator among those with higher education does not exceed 30%.

**Method description.** The following methods were used for the research: biographical method; interview method; statistical method; predictive method.

Biographical method and interview method were used to analyze the data obtained, a scheme was developed including the following key elements: 1) the result of overcoming (getting higher professional education, work, entrepreneurial activity, social activity, hobby); 2) the agents and resources involved in obtaining the result; 3) the way of access to external resources (participation in competition on general grounds or use of state benefits for people with disabilities); 4) the form of overcoming activity (inclusive or exclusive); 5) the subject of initiative to launch the overcoming process (the respondent himself, members of his close social environment or All the strategies of our respondents were divided according to their main sphere of implementation: labor/business activity, social activity, and getting higher professional education.

The statistical method allowed us to process the results of the survey, while the predictive method allowed us to draw appropriate conclusions.

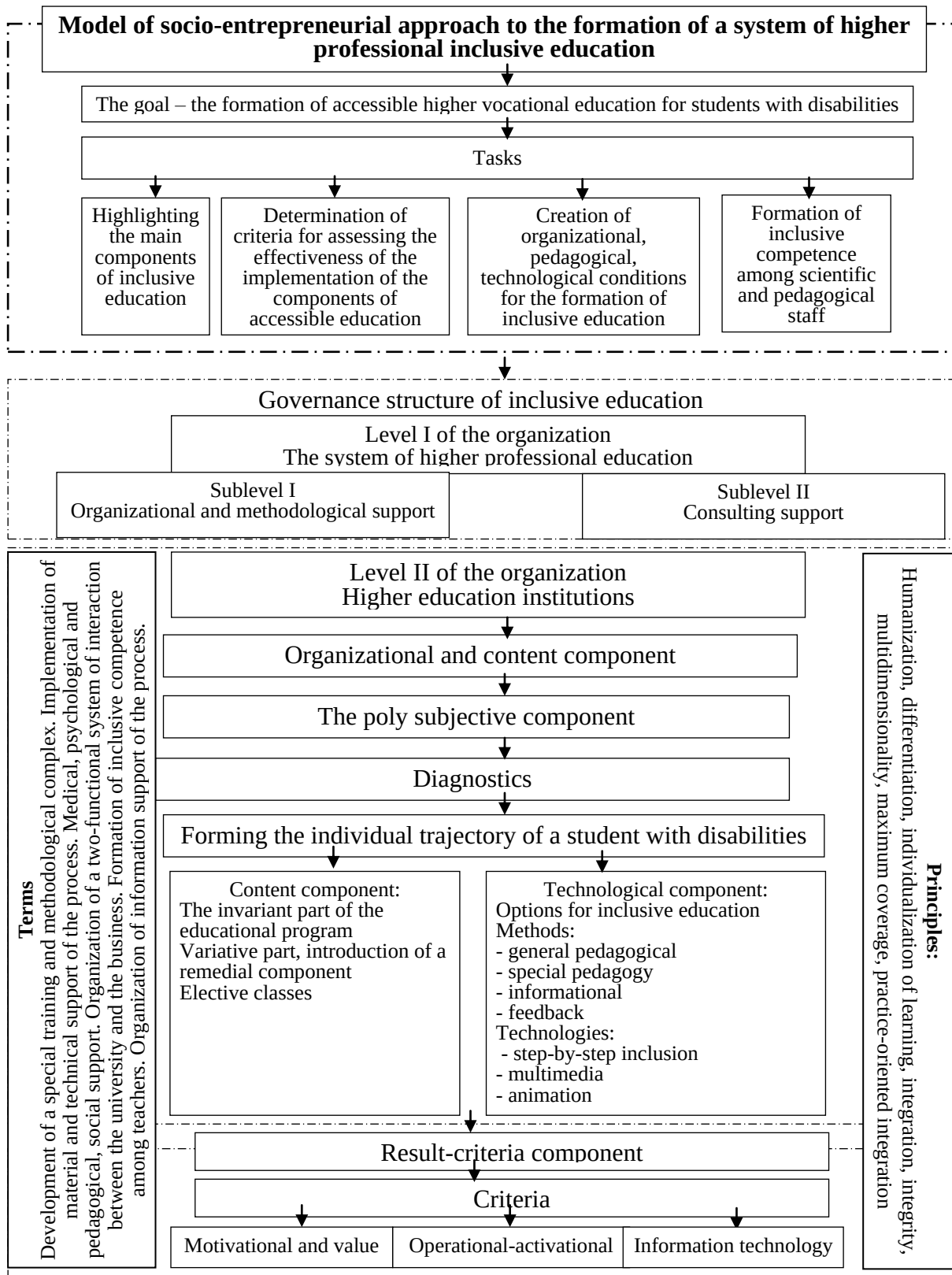
**Results and discussion.** Inclusive higher education is a resource that most increases the chances of people with disabilities for professional fulfillment, to open their own businesses, to improve their financial situation, to expand social networks, creative and spiritual growth. The studies made it possible to assess the relationship between the format in which people with disabilities received higher professional education and their social achievements. Figure 1 shows the degree of preparedness of HEI to educate people with disabilities in an inclusive format.



Source: calculated by the authors.

**Fig. 1. The level of motivational-value, operational-activational, information-technological readiness of HEI to work in the conditions of inclusive education**

Analysis of the data in Fig. 1 allows us to draw the following conclusions: the readiness of HEI to work in inclusive education conditions is formed insufficiently. This is confirmed by the presence of significant indicators of average and low levels for each of the considered criteria. The presence of predominantly average, as well as low level of motivational and value readiness for the work in conditions of inclusive education is explained by the lack of special knowledge of scientific and pedagogical staff (SPS) about the features of students with disabilities, their special educational needs and rates of progress in the educational process, low material interest in working individually with this category of students. The state of the operational-activational criterion for the preparedness to work in the conditions of inclusion is characterized as developed at an insufficient level. It is conditioned by the inability to design corrective and educational process taking into account heterogeneous composition of the group, ignorance of technologies of inclusive education organization and possibilities of its integration with practice, inability to provide personalized support to each student with disabilities in inclusive educational environment, its integration into society. Information and technological readiness of HEI to work in an inclusive education environment is also at a low level. This is due to significant difficulties in solving professional problems associated with the organization of information and distance learning of students with disabilities. However, the experience of HEI in the conditions of quarantine demonstrated a sufficient level of competence of SPS in the use of existing information and technological resources and opportunities for the organization of inclusive online practice, adequate assessment of their own educational activities in the aspect of the organization of distance learning for students with disabilities.



Source: proposed by the authors.

**Fig. 2. Model of socio-entrepreneurial approach of forming a system of higher professional inclusive education**

The analysis made it possible to develop a model of socio-entrepreneurial approach in institutions of higher inclusive education.

In the course of the study organizational-educational, informational-technological, motivational-valuable conditions, the implementation of which contributes to a more effective process of forming an accessible process of higher professional inclusive education, were substantiated. The formation of the system of organizational-educational, informational-technological, motivational-valuable conditions is carried out sequentially. At the first, diagnostic, stage the analysis of existing conditions, preparation for the organization and implementation of inclusive education, as well as the forecast of possible risks are carried out. At the second, information-technological, stage the implementation of activities is carried out, at the third, generalizing, – verification of the effectiveness of the model implementation is carried out. The structure of the developed model of formation of higher professional inclusive education is determined by the purpose of research and allows to trace the dynamics and different sides of the studied phenomenon. Based on the above, the system of criteria, indicators, formation of accessible education for students with special educational needs in the conditions of higher professional educational system is developed (Table 2).

Table 2

**Criteria, indicators, levels of formation of the model of inclusive education in the higher professional educational system**

| Criteria                                                                                                  | Indicators                                                                                                                  | Levels                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Organizational conditions                                                                                 |                                                                                                                             |                                                                                                                                                 |
| Multi-subject (teachers, parents, students, staff, and representatives of institutions and organizations) | - Tolerance of subjects of the integrated educational process                                                               | B – tolerant attitude to the whole process of inclusion<br>C – partial acceptance, values at the level of legal attitudes<br>H – non-acceptance |
|                                                                                                           | - Formation of a territorial data bank of teachers who have been retrained in the area of "Inclusive Education»             | B – the database is updated annually<br>C – the databank is not updated<br>H – no databank                                                      |
|                                                                                                           | - Holding training seminars on inclusive education                                                                          | B – takes place regularly<br>C – is held occasionally<br>H – is not held                                                                        |
| Methodological and educational conditions                                                                 |                                                                                                                             |                                                                                                                                                 |
| Normative and legal support                                                                               | - Availability of normative materials on the problem of inclusive education at the regional, municipal, institutional level | B – available<br>C – insignificant amount of information<br>H – not available                                                                   |
| Interagency cooperation                                                                                   | - Interaction with organizations and institutions of other agencies, public associations                                    | B – close cooperation<br>C – there are fragments of insignificant<br>H – is not conducted                                                       |

**Continuation of table 2**

| Criteria                             | Indicators                                                                                                     | Levels                                                                                                                                                              |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methodological support               | - Provision of reference and information publications, educational and methodical manuals                      | B – full collateral<br>C – provision is partial<br>H – is not provided                                                                                              |
|                                      | - Availability of diagnostic tools, special correctional methods, multimedia materials                         | B – constantly updated<br>H – database is not updated<br>C – database is not available                                                                              |
| Material and technical resources     | - Completeness of the material and technical base                                                              | B – fully formed<br>C – partially formed<br>H – not formed                                                                                                          |
| Information technology support       | - Number of modules, educational programs, placed on the university server                                     | B – full information support<br>C – partial information support<br>H – no information support                                                                       |
| <b>Diagnostics</b>                   |                                                                                                                |                                                                                                                                                                     |
| Organizational and content component | - The presence of a two-level diagnostic system (university – enterprise)                                      | B – the system is fully functional<br>C – presence of one of the system components<br>H – the absence of the diagnostic system                                      |
|                                      | <b>Didactic system</b>                                                                                         |                                                                                                                                                                     |
|                                      | - Availability of medical-psychological and pedagogical support                                                | B – availability of support with a full complement of specialists<br>C – availability of accompaniment with partial staffing of specialists<br>N – no accompaniment |
|                                      | - The use of technologies of stage-by-stage inclusion of students with disabilities in the educational process | B – mastery of technology<br>C – partial use of technology<br>H – no use of technology                                                                              |
|                                      | - The variable component of inclusive education                                                                | B – introduction of a corrective component<br>C – partial introduction of the correctional component<br>H – no correctional component                               |
|                                      | - Organization of optional integrative activities                                                              | B – the plan of activities is complete, meeting modern requirements for the inclusion of students with disabilities<br>C – the plan is superficial<br>H – no plan   |

Summarizing all the components, we can conclude that the model of the formation of higher professional inclusive education, based on the integrity of its constituent components – target, subject, content-organizational and effective-criterial, includes a system of organizational and methodological conditions, a

two-level management structure, a complex organizational and methodological conditions for the implementation of the management system of inclusive education, reveals the features of the implementation of the socio-entrepreneurial approach in higher education institutions.

**Conclusion.** The creation of conditions and the implementation of an inclusive educational format in higher education institutions is a serious challenge for all participants in the educational process. In the case of systematic problem solving and scaling up of successful practices, in the socio-humanistic sense, everyone benefits, not just people with disabilities. The receipt by an individual with a disability of higher professional education in an inclusive format in itself is a multiple overcoming of social exclusion, and also lays the foundation for further successful social inclusion.

**Acknowledgement.** The authors are grateful to the heads of institutions of higher education for their help in carrying out these studies.

**Conflict of interest.** I. Gryshchenko substantiated the research methodology, validation, conceptualization and control. V. Yatsenko collected and analyzed data, processed and provided the results.

#### Abbreviations:

|                   |                                                                                                                                                            |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>CIED</i>       | Concept of development of inclusive products                                                                                                               |
| <i>DH</i>         | Disabled health                                                                                                                                            |
| <i>HEI</i>        | Institutions of higher education                                                                                                                           |
| <i>LUE OIED</i>   | On Amendments to Legislative Acts of Ukraine on the Consecration of the Body of Exclusive Education                                                        |
| <i>LUE PAPSEN</i> | About modification of the Law of Ukraine "About education" concerning features of access of persons with special educational needs to educational services |
| <i>RFIE MESU</i>  | Regulatory framework for inclusive education: materials from the official website of the Ministry of Education and Science of Ukraine                      |
| <i>SPS</i>        | Knowledge of scientific and pedagogical staff                                                                                                              |

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3206.2020.2.4

# METHODOLOGICAL APPROACH TO EVALUATION OF COMPONENT INTELLECTUAL POTENTIAL IN BUSINESS PROCESSES OF INTEGRATED STRUCTURES

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**Background and objectives.** In today's information economy intangible assets play a more important role than tangible assets. An intellectual capital is used to determine intangible assets that enable a firm to increase its market value. In turn, the intellectual capital of an integrated business structure – a qualification, experience, staff motivation, knowledge, technology and communication channels are able to create added value providing a competitive advantage businesses.

**Methods.** The methods used: method of analysis of hierarchies – to establish the importance (priority) of the selected components of the potential of intellectual synergy; expert evaluation method – to assess the potential of intellectual synergy of the integrated business structure; graphical – for a visual representation of analytical calculations.

**Findings.** The results obtained in the pairwise comparison constituents potential intellectual synergy integrated business structure are as follows: within the component "human capital" greatest value on a scale of intensity has subconstituent "loyal employees" to part "structural capital" – "business model" for component "brand capital" – "trademarks

/brands". The results obtained when comparing the components together on a scale of intensity showed that the most important component of intellectual capital is the "human capital".

**Conclusion.** The study revealed the importance of examined components of intellectual potential synergies, which include three subsystems: the potential of human capital, structural capital potential, the potential of brand equity and the comparison of them in terms of each individual business units using the analytic hierarchy process. The conducted study proves that the integration of intellectual capital management into the overall management system of the integrated business structure is a necessary condition for the harmonious combination of all systems of individual business units. That study has significant implications for brand management of integrated business structures by providing empirical evidence that can improve understanding of the need to prioritize the components of intellectual capacity.

**Keywords:** intellectual synergy; brand capital; structural capital; human capital.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
| 21                      | 0                    | 5                   |

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## МЕТОДИЧНИЙ ПІДХІД ДО ОЦІНЮВАННЯ СКЛАДОВИХ ІНТЕЛЕКТУАЛЬНОГО ПОТЕНЦІАЛУ В БІЗНЕС-ПРОЦЕСАХ ІНТЕГРОВАНИХ СТРУКТУР

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**Постановка проблеми та завдання.** В умовах сучасної інформаційної економіки нематеріальні активи відіграють більш важливу роль, ніж матеріальні активи компанії. Інтелектуальний капітал використовується для визначення нематеріальних цінностей, завдяки яким фірма має змогу підвищити свою ринкову вартість. Своєю чергою, інтелектуальний капітал інтегрованої структури бізнесу – це кваліфікація, досвід, мотивація персоналу, знання, технології і канали комунікації, здатні створити додану вартість, що забезпечує конкурентні переваги бізнес-структури.

**Методи.** Використані методи: метод аналізу ієрархій – для встановлення важливості (пріоритетності) виокремлених складових потенціалу інтелектуального синергізму; метод експертного оцінювання – для оцінювання потенціалу інтелектуального синергізму інтегрованої структури бізнесу; графічний – для наочного представлення аналітичних розрахунків.

**Результати:** отримані результати в ході попарного порівняння складових потенціалу інтелектуального синергізму інтегрованої структури бізнесу, є такими: в рамках складової «людський капітал» найбільше значення за шкалою інтенсивності має підскладова «лояльність працівників», для складової «структурний капітал» – «бізнес-модель», для складової

«бренд-капітал» – «торгові марки/бренди». Результати, отримані під час порівняння складових між собою за шкалою інтенсивності, показали, що найбільше значення має складова інтелектуального капіталу – «людський капітал».

**Висновки:** проведене дослідження дозволило встановити важливість (пріоритетність) виокремлених складових потенціалу інтелектуального синергізму, який включає три підсистеми: потенціал людського капіталу, потенціал структурного капіталу, потенціал бренд-капіталу та порівняти їх в розрізі кожної окремої бізнес-одиниці за допомогою методу аналізу ієрархій. Проведене наразі дослідження доводить, що інтеграція управління інтелектуальним капіталом в загальну систему управління інтегрованою структурою бізнесу є необхідною умовою гармонійного поєднання всіх систем окремих бізнес-одиниць. Поточне дослідження має значні наслідки для управління брендами інтегрованих структур бізнесу шляхом надання емпіричних доказів, які можуть покращити розуміння необхідності визначення пріоритетності складових інтелектуального потенціалу.

**Ключові слова:** інтелектуальний синергізм; бренд-капітал; структурний капітал; людський капітал.

**Introduction.** In today's information economy intangible assets play a more important role than tangible assets. According to the leading international consulting organization "Interbrand", tangible assets account for only 5 to 12% of the total value of assets of leading corporations in the market (*Best Global Brands, 2020*).

Besides the concept of intangible assets there exists a broader concept – intellectual capital, which is used to determine intangible assets and through which the firm is able to increase its market value (*Ermolenko et al., 2011; Leontev, 2011*). In terms of global competition the intellectual capital becomes a major factor in the increased cost and competitive advantages in the market (*Seitkazieva et al., 2018*). The intellectual capital of an integrated business structure is qualifications, experience, staff motivation, knowledge, technology and communication channels that can create added value that provides a competitive advantage of the business structure.

In a view of above-mentioned, it is important to develop a methodological approach to prioritize the components of the intellectual potential of integrated business structures.

**Materials and methods.** There are different approaches to understanding the structure of intellectual capital (*Marchenko, 2012; Tarique et al, 2020; Carroll, 1979; Keller, 2003*). From our point of view, the intellectual capital has human, structural and client capital in its structure. Human capital is seen as the inalienable values of the organization (qualifications, knowledge, experience, etc.). Structural capital is the company's infrastructure (information technology, workflows, communication systems, information resources, etc.). The innovative part of structural capital is the intellectual property, which determines the value of the company (scientific and technical research and development, know-how, ideas, inventive activity). Customer capital (brand capital) is a value that lies in customer relationships (*Kryvoviaz, 2011*). These are trademarks and service marks; brand names; business reputation; presence of insiders in partner organizations or clients; availability of regular customers; repeated contracts with clients. Each of these components of the intellectual capital of the integrated business structure can be reliably quantified or only qualitatively assessed.

In modern conditions, there is no unambiguous interpretation of the category "intellectual capital of an integrated business structure" due to the setting of different goals. Recent studies clarify the understanding of the components of intellectual capital that gives grounds to formulate the following definition: intellectual capital – is the stock value of economic benefits of an integrated business structure in the form of intelligent competitive advantage, which brings a substantial marginal profit. In other words, intellectual capital is

a knowledge that can be turned into the value (*Zhenyuan et al, 2018; Banu, 2019; Godfred et al, 2019*).

In our study we propose to provide our own definition of the potential of intellectual synergy of integrated business structure and consider it as opportunities created by intellectual resources of business units, which are integrated considering the harmonious combination of all components of intellectual capital, its quantitative and qualitative changes. business acquires a new qualitative state in the form of a certain ratio of elements of intellectual capital, which provides a synergistic effect. Thus, at the stage of integration of business units it is important to assess the potential of intellectual synergy of business units involved in the integration process.

To assess the potential of intellectual synergies business units involved in the integration process we should identify all the intellectual capabilities of each individual business units, comparing their level of use, identify units that need restructuring and further recomposition and implementation of the best components of intellectual capital. The main task of the integrated business structure in the process of merger or acquisition is to assess the totality of all components of intellectual capital and ways to obtain and use them for an effective operation.

Schematically the assessment of environmental and object subsystems of integration and the effectiveness of the use of human, structural and brand capital in the integration process can be represented as follows. To represent the potential of intellectual synergy, the model of W. Edward Deming was used, who presented the potential of synergy of the team as follows (*Deming, 2010*):

$$A+B+C+D+\dots+(AB)+(AC)+(AD)+\dots+(DC)+(DB)+\dots+(CD)+(ABC)+(ABD)+(BCD)+\dots+(ABCD).$$

Taking into account the research and theoretical developments (*Ken, 2009; Saibonova, 2014; Carroll, 2000; Keynes, 1931*), the first component of intellectual capital – human capital, which will be considered as a set of the following components: education; work culture; key competencies; management competencies; professional qualification; employee loyalty; psychometric characteristics; knowledge of the secrets of production; creativity; the moral values; habits; experience.

Structural capital is that part of the intellectual potential of a business unit (intellectual property, information systems, instructions, regulations, standards, awards, diplomas, prizes, etc., received by the business unit), which remains even in the absence of staff. Structural capital also includes the strategy and culture of the business unit, structures and systems, organizational procedures, and so on.

Brand capital will be considered as a system of capital, reliable on a long-term trust and mutually beneficial relations of the business unit with its

customers and buyers. These include the brands themselves, brand name, sales channels, licensing and other agreements, the presence of their own people in partner organizations / customers, the presence of regular customers, repeated contracts with customers (*Chih-Hsing et al, 2020; Ganushchak-Efimenko et al, 2018*). Let's single out the main components of brand capital: business reputation; customer base; brand portfolio; order portfolio; trademark / brand; business cooperation; contracts (licenses, franchises).

The main idea of this technique is that the research and the study of the experience of using the intellectual capital of one business unit gives the ability to implement and compare it with the implementation of intellectual capital of another business unit or with the existing model (through the use of competitive integration benchmarking) and on the bases of results obtained by the estimation it identifies the potential for intellectual synergies in one or both of the business units undergoing the integration phase. This assessment of potential intellectual synergy needs an attraction of a significant amount of empirical data and intellectual abilities and professional evaluators. Thus, evaluating intellectual potential synergies of an integrated business structure, in our opinion, should be performed by using the method of expert evaluations.

Another stage is the formation of the structure of the potential of intellectual synergism, indicating the directions of possible synergy of its elements.

From our point of view, the structure of the intellectual potential synergies, according to the stages of peer review of the use of intellectual potential synergies IPS includes three subsystems: the potential of human capital, structural capital potential, the potential of brand equity. Each subsystem is divided into components that include elements of intellectual potential. The total amount of constituent subsystems in the structure of intellectual potential is thirty-three.

This amount of elements provides the most complete analysis of the level of use of intellectual potential, which directly affects its overall assessment. The distribution of subsystems by elements will help us to determine which of elements is used by the business unit, that furthermore will help us to eliminate this shortcoming in a timely manner.

It is proposed to establish the priority of the components which we have already identified and compare them in the context of each individual business unit using the method of hierarchy analysis (MHA). The method of hierarchy analysis is a mathematical tool of a systematic approach to complex decision-making problems. On the development of MHA worked such famous scientists as: R. Bellman, B.N. Brooke and W.N. Burkov, but the greatest popularity of this method was obtained due to the works of T. Saati. The proposed method provides an excellent opportunity to rationally structure a complex decision-

making problem in the form of a hierarchy, also it helps us to compare and quantify the alternative solutions (Saaty, 1987; Lipsey, 2001).

After the hierarchical structuring of the problem, the priorities of the criteria are set and each of the alternatives is evaluated according to the criteria. When using the method of analysis of hierarchies, a pairwise comparison of the elements of the problem is realized, taking into account their impact on their common characteristics. The results obtained during the pairwise comparisons can be represented as an inversely symmetric matrix. The element of the matrix  $a(i, j)$  is used to be the intensity of the demonstration of the hierarchy' element relative to the element of the hierarchy  $j$ , which is estimated on a scale of intensity from 1 to 9 (Saaty, 1987) (Table 1).

Table 1

**Interpretation of the intensity scale of the method of analysis of hierarchies for the determination of the priority of the components of intellectual potential**

| Numerical values of the intensity scale | Interpretation of numerical values                         |
|-----------------------------------------|------------------------------------------------------------|
| 1–2                                     | Equivalence of criteria                                    |
| 3–4                                     | Moderate advantage of one criterion over another           |
| 5–6                                     | Significant advantage of one criterion over another        |
| 7–8                                     | Superior advantage of one criterion over another           |
| 9                                       | A very significant advantage of one criterion over another |

The relative significance or probability of each individual object in the hierarchy is determined by estimating the corresponding element of the eigenvector of the priority matrix, normalized to unity. Priorities are synthesized starting from the second level. Local priorities are multiplied by the priority of the corresponding criterion, which is at a higher level and added for each element according to the criteria affected by the element.

In order to obtain information on the degree of inconsistency of the opinions obtained during the expert assessment, it is necessary to calculate the consistency index (CI) and the ratio of coherence (CR) (Lipsey, 2001).

The consistency index is determined by the following formula:

$$IC = (\lambda_{\max} - n) / (n - 1),$$

where  $\lambda_{\max}$  – is the maximum eigenvalue of the matrix of pairwise comparisons;

$n$  – is the number of elements to be compared (matrix size).

The consistency ratio is calculated by the formula:

$$CR = IC/RC,$$

where RC – is a random consistency.

The level of consistency is considered acceptable if  $CR \leq 10\%$ , otherwise, it is necessary to review and correct the matrix of pairwise comparisons.

**Results and discussion.** Thus, the results obtained during the pairwise comparison of subcomponents are as follows: within the component "human capital" the most important on the intensity scale is the subcomponent "employee loyalty", for the component "structural capital" – "business model", for the component "brand-capital" – "trademarks / brands". The results obtained when comparing the components on the scale of intensity showed that the most important component of intellectual capital is "human capital".

The result of the analysis by the method of hierarchies is a pairwise comparison of all sub-components within the selected alternatives – business unit 1 and business unit 2 (Table 2–5).

Table 2

**Typical conditions for the assessment of the potential of intellectual synergy of an integrated business structure**

| Possible synergy directions on IR subsystems | Weight of the direction | Possible synergy directions on IR subsystems                                                                                                  | Weight of the direction |
|----------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| HUMAN CAPITAL                                |                         | STRUCTURAL CAPITAL                                                                                                                            |                         |
| 1. Education                                 | 0,081                   | 1. Philosophy of the management                                                                                                               | 0,075                   |
| 2. Labor culture                             | 0,086                   | 2. Corporate culture                                                                                                                          | 0,072                   |
| 3. Key competencies                          | 0,088                   | 3. Business model                                                                                                                             | 0,076                   |
| 4. Management competencies                   | 0,083                   | 4. R&D                                                                                                                                        | 0,072                   |
| 5. Professional qualification                | 0,079                   | 5. Management processes                                                                                                                       | 0,035                   |
| 6. Employee loyalty                          | 0,092                   | 6. Informational technologies                                                                                                                 | 0,074                   |
| 7. Psychometric characteristics              | 0,079                   | 7. Data bases                                                                                                                                 | 0,072                   |
| 8. Knowledge of production secrets           | 0,079                   | 8. Knowledge bases                                                                                                                            | 0,075                   |
| 9. Creativity                                | 0,09                    | 9. Patents                                                                                                                                    | 0,074                   |
| 10. Moral values                             | 0,083                   | 10. Software                                                                                                                                  | 0,075                   |
| 11. Abilities                                | 0,079                   | 11. Trademarks                                                                                                                                | 0,074                   |
| 12. Experience                               | 0,081                   | 12. Know-how                                                                                                                                  | 0,075                   |
|                                              |                         | 13. Copyright                                                                                                                                 | 0,072                   |
|                                              |                         | 14. Production secrets                                                                                                                        | 0,035                   |
| BRAND CAPITAL                                |                         |                                                                                                                                               |                         |
| 1. Business reputation                       | 0,14                    | General assessment of the level of intellectual potential of the business unit<br>$In_1 \rangle In_2$<br>$In_1 \langle In_2$<br>$In_1 = In_2$ |                         |
| 2. Customer base                             | 0,139                   |                                                                                                                                               |                         |
| 3. Brand portfolio                           | 0,154                   |                                                                                                                                               |                         |
| 4. Portfolio of orders                       | 0,139                   |                                                                                                                                               |                         |
| 5. Trademarks / brands                       | 0,159                   |                                                                                                                                               |                         |
| 6. Business cooperation                      | 0,133                   |                                                                                                                                               |                         |
| 7. Contracts (licenses, franchises)          | 0,137                   |                                                                                                                                               |                         |
|                                              |                         | } Synergetic effect                                                                                                                           |                         |

Source: author's development.

Table 3

**Listing of application of hierarchies' analysis method (Expert Choice)  
for the structural capital of ISB assessment**

|     |                 |                                                        |                                                         |
|-----|-----------------|--------------------------------------------------------|---------------------------------------------------------|
| AID | Alternative     | structural capital<br>corporate culture 2<br>(L:0,350) | structural capital<br>business model 2<br>(L:0,350)     |
| A1  | business unit 1 | 1,000                                                  | 1,000                                                   |
| A2  | business unit 2 | 0,500                                                  | 0,250                                                   |
| AID | Alternative     | structural capital<br>IT-technologies 2<br>(L:0,350)   | structural capital<br>data bases 2<br>(L:0,350)         |
| A1  | business unit 1 | 1,000                                                  | 0,333                                                   |
| A2  | business unit 2 | 0,333                                                  | 1,000                                                   |
| AID | Alternative     | structural capital<br>knowledge bases 2<br>(L:0,350)   | structural capital<br>patents 2<br>(L:0,390)            |
| A1  | business unit 1 | 1,000                                                  | 0,333                                                   |
| A2  | business unit 2 | 0,200                                                  | 1,000                                                   |
| AID | Alternative     | structural capital<br>trademarks 2<br>(L:0,350)        | structural capital<br>know-how 2<br>(L:0,390)           |
| A1  | business unit 1 | 0,333                                                  | 1,000                                                   |
| A2  | business unit 2 | 1,000                                                  | 0,250                                                   |
| AID | Alternative     | structural capital<br>copyright 2<br>(L:0,370)         | structural capital<br>production secrets 2<br>(L:0,390) |
| A1  | business unit 1 | 0,333                                                  | 0,250                                                   |
| A2  | business unit 2 | 1,000                                                  | 1,000                                                   |

Table 4

**Listing of application of hierarchies' analysis method (Expert Choice)  
for the human capital of ISB assessment**

|     |                 |                                              |                                                  |
|-----|-----------------|----------------------------------------------|--------------------------------------------------|
| AID | Alternative     | human capital<br>moral values 1<br>(L:0,430) | human capital<br>abilities 1<br>(L:0,360)        |
| A1  | business unit 1 | 1,000                                        | 0,500                                            |
| A2  | business unit 2 | 0,333                                        | 1,000                                            |
| AID | Alternative     | human capital<br>experience 1<br>(L:0,350)   | human capital<br>education 2<br>(L:0,350)        |
| A1  | business unit 1 | 0,333                                        | 1,000                                            |
| A2  | business unit 2 | 1,000                                        | 0,333                                            |
| AID | Alternative     | human capital<br>work culture 2<br>(L:0,360) | human capital<br>key competencies 2<br>(L:0,370) |
| A1  | business unit 1 | 1,000                                        | 1,000                                            |
| A2  | business unit 2 | 0,333                                        | 0,333                                            |



**Continuation of table 4**

| AID | Alternative     | human capital<br>human capital 2<br>(L:0,370)    | human capital<br>professional qualification 2<br>(L:0,430)   |
|-----|-----------------|--------------------------------------------------|--------------------------------------------------------------|
| A1  | business unit 1 | 0,333                                            | 0,250                                                        |
| A2  | business unit 2 | 1,000                                            | 1,000                                                        |
| AID | Alternative     | human capital<br>employee loyalty 2<br>(L:0,390) | human capital<br>psychometric characteristics 2<br>(L:0,420) |
| A1  | business unit 1 | 1,000                                            | 0,500                                                        |
| A2  | business unit 2 | 0,200                                            | 1,000                                                        |

*Table 5*

**Listing of application of hierarchies' analysis method (Expert Choice)  
for the human capital of ISB assessment**

| AID | Alternative     | brand capital<br>business reputation 1<br>(L:0,640) | brand capital<br>client base 1<br>(L:0,590)          |
|-----|-----------------|-----------------------------------------------------|------------------------------------------------------|
| A1  | business unit 1 | 0,500                                               | 0,250                                                |
| A2  | business unit 2 | 1,000                                               | 1,000                                                |
| AID | Alternative     | brand capital<br>portfolio of brands 1<br>(L:0,910) | brand capital<br>order portfolio 1<br>(L:0,590)      |
| A1  | business unit 1 | 1,000                                               | 0,333                                                |
| A2  | business unit 2 | 0,500                                               | 1,000                                                |
| AID | Alternative     | brand capital<br>trademarks/brands 1<br>(L:0,970)   | brand capital<br>business cooperation 1<br>(L:0,610) |
| A1  | business unit 1 | 1,000                                               | 0,500                                                |
| A2  | business unit 2 | 0,250                                               | 1,000                                                |
| AID | Alternative     | brand capital<br>contracts 1<br>(L:0,720)           | brand capital<br>business reputation 2<br>(L:0,760)  |
| A1  | business unit 1 | 0,333                                               | 0,333                                                |
| A2  | business unit 2 | 1,000                                               | 1,000                                                |

In accordance with the results obtained it is possible to make the following conclusions:

- in order to achieve the maximum level of synergy in the process of integration of business units it is advisable to use the positive experience (apply competitive integration benchmarking) of business unit 1 on the components of "human and structural capital" and the experience of business unit 2 on the component of brand capital;

- the total value of CR is 9%, which indicates the absence of contradictions during the expert assessment. Summary information on assessing the potential of intellectual synergy is presented in table 2.

**Conclusions.** For the effective management of the intellectual capital of the integrated business structure it is necessary to use a comprehensive approach related to the management of all types of intangible assets. Modern high-tech business can be effective if its management controls all three capitals: material, financial and intellectual. Thus, the integration of intellectual capital management into the overall management system of the integrated business structure is a necessary condition for the harmonious combination of all systems of individual business units.

Only the construction of a fully functional system for the assessment of the potential of intellectual synergy of an integrated business structure will help maximize its value and viability. Since each individual business unit before an integration has its own business model, which may differ significantly from the business model of another business unit, it becomes appropriate to develop methods for assessing the potential of intellectual synergy of the integrated business structure.

**Conflict of Interest.** The authors declare that there is no conflict of interests regarding the publication of this article.

#### Abbreviations:

|     |                                                |
|-----|------------------------------------------------|
| CI  | consistency index                              |
| CR  | consistency ratio                              |
| MHA | method of hierarchies' analysis                |
| In  | an intellectual potential of the business unit |
| R&D | Research & Development                         |

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## THE FORECASTING THE LEVEL OF DEVELOPMENT OF INNOVATIVE POTENTIAL OF TEXTILE ENTERPRISES

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**Background and objectives.** The analysis of the main shortcomings of modern forecasting of innovative development of textile enterprises shows the need to build a well-functioning system for forecasting innovative development; development of a methodology for forecasting promising areas of innovative development, taking into account the peculiarities of the functioning of textile enterprises. Therefore, an urgent problem arises of finding effective mechanisms for objectively identifying the weak and strong aspects of the innovative activity of textile enterprises, establishing further priorities for the formation and development of the innovative potential of enterprises, determining the main vectors of innovative development, taking into account the competitiveness and results of R&D (research and development work).

**Methods:** The methods used: factor analysis – to identify the most significant indicators that affect the level of use of innovative potential; cluster analysis of K-means – for a reasonable division of enterprises into groups according to the levels of integrated business performance / use of innovation; taxonomy method – to

determine the boundary value of the levels of development of innovative potential as a result of the integration of individual business objects for each of the clusters into one structure; discriminant analysis – for object recognition for deciding which business objects to integrate into the business structure.

**Findings:** As a result of predicting the level of development of the innovative potential of textile enterprises, groups of factors were identified that stimulate and discourage the development of the innovative potential of textile enterprises.

**Conclusion:** To improve the efficient operation of textile enterprises, it was proposed to use special tools for managing innovation potential: active expansion of business activities, attraction of innovations, containment of achieved market positions, search for effective methods of using innovations, selective growth of certain types of activities, differentiated attraction of innovations, and revision of certain activities.

**Keywords:** forecasting; development level; innovation potential; textile enterprises; efficiency; factor analysis; K-means cluster analysis; taxonomy method; discriminant analysis.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
| 26                      | 8                    | 5                   |

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## ПРОГНОЗУВАННЯ РІВНЯ РОЗВИТКУ ІННОВАЦІЙНОГО ПОТЕНЦІАЛУ ТЕКСТИЛЬНИХ ПІДПРИЄМСТВ

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### Постановка проблеми та завдання.

Аналіз основних недоліків сучасного прогнозування інноваційного розвитку текстильних підприємств показує необхідність побудови налагодженої системи прогнозування інноваційного розвитку; вироблення методики прогнозування перспективних напрямів інноваційного розвитку з урахуванням особливостей функціонування промислових підприємств. Тому виникає нагальна проблема пошуку ефективних механізмів об'єктивного виявлення слабких і сильних аспектів інноваційної діяльності текстильних підприємств, встановлення подальших пріоритетів щодо формування та розвитку інноваційного потенціалу підприємств, визначення основних векторів інноваційного розвитку з урахуванням конкурентоспроможності та результатів НДДКР (науково-дослідної та дослідно-конструкторської роботи).

**Методи.** Використані методи: факторного аналізу – для виявлення найбільш значущих індикаторів, що впливають на рівень використання інноваційного потенціалу; кластерний аналіз К-середніх – для обґрунтованого поділу підприємств на групи за рівнями інтегрованої бізнес-результативності / використання інновацій; метод таксономії – для визначення граничної

величини рівнів розвитку інноваційного потенціалу в результаті інтеграції окремих бізнес-об'єктів для кожного з кластерів в одну структуру; дискримінантний аналіз – для розпізнання об'єктів для прийняття рішення про те, які бізнес-об'єкти слід інтегрувати в бізнес-структуру.

**Результати:** в результаті прогнозування рівня розвитку інноваційного потенціалу текстильних підприємств, були виділені групи факторів, які стимулюють і дестимулюють розвитку інноваційного потенціалу промислових підприємств.

**Висновки:** для поліпшення ефективної діяльності текстильних підприємств було запропоновано використання спеціальних інструментів управління інноваційним потенціалом: активне розширення бізнес-діяльності, залучення інновацій, стримування досягнутих позицій на ринку, пошук ефективних методів використання інновацій, селективне зростання певних видів діяльності, диференційоване залучення інновацій, ревізія певних видів діяльності.

**Ключові слова:** прогнозування; рівень розвитку; інноваційний потенціал; текстильні підприємства; ефективність; факторний аналіз; кластерний аналіз К-середніх; метод таксономії; дискримінантний аналіз.

**Introduction.** The main prerequisites of innovative development at textile enterprises are to increase and increase the efficiency of using all components of innovative potential, that is, integration of financial, market, resource, information, innovative, intellectual, scientific, technological, personnel, organizational and managerial potential of innovative enterprises (Sergacheva, 2017) references should be made in parentheses indicating the name and year – see sample (Bandura *et al.*, 2018; Belous, *et al.*, 2017).

The methodology for forecasting promising areas of innovative development should meet the following criteria (Bondarchuk *et al.*, 2011; Boychuk, 2016; Fedorak, 2019; Fedulova, 2013): based on a study that should be meaningful and constructive; The forecast should be carried out on the basis of quantitative data; presence of analysis of quality characteristics of enterprise activity and innovative changes; The existence of a logical relationship between formalized and informal characteristics of the processes and phenomena under study; The maximum possible consideration of even unverified, incomplete, inaccurate or contradictory information on current and future developments; Analysis of trends and trends today; explicit and hidden consumer demands, market opportunities, etc. The fundamental factors determining the forecasting of key areas of innovative development are: the intellectual and technological ability to use and introduce the achievements of science and technology into the production process; level of realization of technical and economic possibilities of production and marketing; foreign economic relations of the enterprise on the use of scientific and technical results; the use of channels for the promotion of goods and services that require the involvement of modern information and computer technologies; cost generation through efficient resource-saving technologies; implementation of joint projects for the development of knowledge-based products or technologies; patent ownership, know-how, etc. (Ganushchak-Efimenko *et al.*, 2016; Gurochkina, 2015; Hobta *et al.*, 2009).

Determining the components of predicting the innovative development of light industry enterprises makes it possible to systematically use them and combine them with modern principles of behavior of business entities that dictate constant change and modernization of the world market. The multifactorial nature of the operating conditions of modern light industry enterprises causes the adaptation of components of the innovation process forecasting into a successful business strategy (Honcharenko *et al.*, 2020; Kosteniuk, 2019; Moiseenko *et al.*, 2014; Nifatova *et al.*, 2018).

The ability of modern textile enterprises to be competitive and produce high-quality products is primarily determined by their level of development and the state of their innovative potential. Thus, the innovative potential of textile enterprises, taking into account the peculiarities of their activities, requires an

assessment of the level of their development, since it is the assessment of the innovative potential that will determine the main drivers of success and the key advantages of the enterprise, as well as the level of innovation of products and technologies, the use of which, as a result, forms the basis for the innovation competitiveness of textile enterprises (Palyvoda *et al.*, 2013; Puzyrova, 2019; Puzyrova, 2020; Serdyuk *et al.*, 2014). The innovative potential of the enterprise is a multi-vector economic concept with polystructural filling, which significantly complicates the task of analyzing and evaluating its implementation. Therefore, these issues need to be given considerable attention from the point of view of determining a unified methodology for assessing the use of innovative potential and diagnosing its implementation in the changing conditions of today (Sergacheva, 2017; Shcherbak *et al.*, 2012; Shilova *et al.*, 2012; Sidorchuk, 2014).

Therefore, there is an urgent need to search for new innovative startups, deepened ties with stakeholders, and a constant search for innovation in the business plane. The existing strategies of enterprises to improve the production, economic, financial, personnel, technological aspects of activities and other important processes determine the vectors of the future effective development of the enterprise and should be based on non-standard, innovative approaches to meet the needs of the market and consumers. In today's difficult conditions, the innovative potential, its formation and development is quite complex, but the most necessary component of ensuring the stable functioning, development, sustainability and business activity of any enterprise (Varenyk *et al.*, 2019; Voloshchuk *et al.*, 2015; Yankovets, 2008). That is why the complex indicator of the enterprise's ability to activity in the innovation plane is its innovative potential. The effective full realization of the innovative potential of textile enterprises determines their ability to continuous, cost-effective, production and commercial activities and the perception of new plans to improve their activities as innovative areas of development. It follows that only a complete readiness to perceive innovative development directions by the enterprise team will be the basic factor that will help to quickly introduce innovative approaches and implement innovative activities in order to achieve the desired results (Zakharchenko *et al.*, 2012; Zubko *et al.*, 2016).

#### **Materials and methods.**

**Data description.** The initial data for assessing the level of development of innovative potential of textile enterprises are given in Table 1. The research base consisted of 28 indicators of business and innovation of 10 textile enterprises for 2017–2019 years.



Table 1

**System of Indicators Affecting the Level of Integrated Business  
Performance/Use of Innovation by Textiles**

| Indicators                                                        | Designation     |
|-------------------------------------------------------------------|-----------------|
| Average number of employees, persons                              | X <sub>1</sub>  |
| Fixed assets (thousand UAH)                                       | X <sub>2</sub>  |
| Types of innovative products sold                                 | X <sub>3</sub>  |
| Volume of innovative textile products sold                        | X <sub>4</sub>  |
| Finished products (thousand UAH)                                  | X <sub>5</sub>  |
| Cost of innovative products sold (thousand UAH)                   | X <sub>6</sub>  |
| Proceeds from: sales of products (goods, works, services)         | X <sub>7</sub>  |
| Number of innovative products introduced                          | X <sub>8</sub>  |
| Acquisition of machinery, equipment and software                  | X <sub>9</sub>  |
| Financial result from operating activities: profit (thousand UAH) | X <sub>10</sub> |
| Number of new and/or improved types of machines, equipment        | X <sub>11</sub> |
| Equity (thousand UAH)                                             | X <sub>12</sub> |
| Gross profit (thousand UAH)                                       | X <sub>13</sub> |
| Number of patents, copyright certificates                         | X <sub>14</sub> |
| Proceeds from targeted financing (thousand UAH)                   | X <sub>15</sub> |
| Financial result from operating activities: profit (thousand UAH) | X <sub>16</sub> |
| Proceeds from operating leases (thousand UAH)                     | X <sub>17</sub> |
| Number of new processes put into production                       | X <sub>18</sub> |
| Export of innovative products                                     | X <sub>19</sub> |
| Number of research results acquired                               | X <sub>20</sub> |
| Expenditure on payment: goods (works, services) (thousand UAH)    | X <sub>21</sub> |
| Sales expenses (thousand UAH)                                     | X <sub>22</sub> |
| Administrative expenses (thousand UAH)                            | X <sub>23</sub> |
| Labor expenses (thousand UAH)                                     | X <sub>24</sub> |
| Material costs (thousand UAH)                                     | X <sub>25</sub> |
| Number of innovations introduced                                  | X <sub>26</sub> |
| Number of new processes put into production                       | X <sub>27</sub> |
| Other reserves (thousand UAH)                                     | X <sub>28</sub> |

**Method description.**

STEP 1. At the first stage, factor analysis was used. Using this method, you can identify the most significant indicators that affect the level of use of innovative potential. The rows of the final factor analysis table are equal to the number of indicators, the columns are equal to the number of factor loads of indicators. Factor loads reflect the correlation (dependence) of indicators and factors, the presence of red color indicates which factor the indicator belongs to, the sign (+) shows direct influence, the sign (-) shows negative influence. In this study, 2 factors were identified. The first reflects the integrated performance of enterprises. The second factor reflects the level of use of innovation. Factor analysis was performed with STATISTICA. In general, the situation of

increasing the level of development of innovative potential as a result of the integration of individual, including innovative, business objects, depending on two factors, is described by the following Equation (1):

$$I_i = \sum_{j=1}^N F_j, \quad (1)$$

where  $I_j$  is the value of the innovative potential of the  $i$ -th integrated enterprise;

$F_j$  –  $j$ -th factor (integrated business performance/level of innovation utilization);

$N$  is the number of detected factors.

The magnitude of each factor is determined by Equation (2):

$$F_j = \frac{1}{\text{Expl}.F_j} \times \sum a_{ij} \times X_{ij}, \quad (2)$$

where  $\text{Expl}.F_j$  is the factor load of the  $j$ -th aspect of integrated business performance/use of innovation;

$a_{ij}$  – value of indicator

$X_{ij}$ ;  $X_{ij}$  –  $ij$ -th indicator.

STEP 2. In the second stage, cluster analysis of K-medium was used to reasonably divide enterprises into groups according to the achieved level of integrated business performance/use of innovations.

The methodology for using K-medium cluster analysis is as follows:

2.1. Prelaim all indicators to a dimensionless view using Equation (3):

$$z_{ij} = \frac{x_{ij} - \bar{x}_j}{S_j}, \quad (3)$$

where  $x_{ij}$  is the  $j$ -th indicator of the integrated business performance/use of innovation of the  $i$ -th integrated enterprise;

$\bar{x}_j$  – average of this indicator for all integrated enterprises;

$S_j$  is the standard deviation of this indicator for all integrated enterprises.

2.2. Minimizing the standard deviation of all indicators from the center of identified clusters (Equation (4)):

$$\min \left[ \sum_{i=1}^k \sum_{x(j) \in S_i} \|x^{(j)} - \mu_i\|^2 \right], \quad (4)$$

where  $x^{(j)} \in R^n$ ;

$\mu_i \in R^n$ ;

$\mu_i$  – cluster centroid (center)  $R_i$ .

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efficiency of entering a new business object into an integrated business structure. To do this, linear functions are compiled to recognize the belonging of a business object to a specific cluster. The calculated maximum value of one of the two recognition functions indicates that the business object belongs to one of the clusters and makes a corresponding decision.

**Results and discussion.** At the first stage, factor analysis was carried out to identify indicators that have an impact on the achieved level of integrated business performance and the level of innovation utilization (Table 2).

Table 2

**Results of factor analysis. Identification of indicators of integrated business performance/use of textile innovation (STATISTICA 10 listing)**

| Variable        | Factor Loadings (Unrotated) (data) Extraction:<br>Principal components (Marked loadings are >0,700000) |           |
|-----------------|--------------------------------------------------------------------------------------------------------|-----------|
|                 | Factor 1                                                                                               | Factor 2  |
| X <sub>1</sub>  | 0,95767                                                                                                | -0,127322 |
| X <sub>2</sub>  | 0,85974                                                                                                | -0,504269 |
| X <sub>3</sub>  | -0,54951                                                                                               | 0,615343  |
| X <sub>4</sub>  | 0,653250                                                                                               | 0,71571   |
| X <sub>5</sub>  | 0,87062                                                                                                | -0,256222 |
| X <sub>6</sub>  | -0,553222                                                                                              | -0,82454  |
| X <sub>7</sub>  | 0,90110                                                                                                | -0,091595 |
| X <sub>8</sub>  | -0,44270                                                                                               | 0,653259  |
| X <sub>9</sub>  | -0,38977                                                                                               | -0,83256  |
| X <sub>10</sub> | 0,77082                                                                                                | -0,553222 |
| X <sub>11</sub> | -0,65412                                                                                               | 0,674083  |
| X <sub>12</sub> | 0,85368                                                                                                | -0,514211 |
| X <sub>13</sub> | 0,94328                                                                                                | -0,253242 |
| X <sub>14</sub> | -0,40503                                                                                               | 0,725915  |
| X <sub>15</sub> | 0,19137                                                                                                | -0,001054 |
| X <sub>16</sub> | 0,82535                                                                                                | -0,543797 |
| X <sub>17</sub> | 0,75540                                                                                                | -0,599146 |
| X <sub>18</sub> | -0,67898                                                                                               | 0,537160  |
| X <sub>19</sub> | -0,38977                                                                                               | 0,724885  |
| X <sub>20</sub> | -0,54403                                                                                               | -0,806571 |
| X <sub>21</sub> | -0,90423                                                                                               | -0,318673 |
| X <sub>22</sub> | -0,60186                                                                                               | 0,401518  |
| X <sub>23</sub> | -0,89799                                                                                               | -0,012248 |
| X <sub>24</sub> | -0,82876                                                                                               | -0,062404 |
| X <sub>25</sub> | -0,91013                                                                                               | -0,412174 |
| X <sub>26</sub> | 0,401518                                                                                               | 0,84191   |
| X <sub>27</sub> | -0,50186                                                                                               | 0,558867  |
| X <sub>28</sub> | -0,65498                                                                                               | 0,556255  |
| Expl.Var        | 15,50256                                                                                               | 6,699616  |
| Prp.Totl        | 0,55366                                                                                                | 0,339272  |

Source: calculated by authors.

The first factor included 13 indicators (Table 2): the average number of employees; fixed assets; finished products; revenues from: sales of products (goods, works and services); financial result from operating activities: profit; equity; gross profit; financial result from operating activities: profit; income from operating leases; expenses for payment: goods (works, services); administrative costs; labour costs; material costs.

The second factor included 12 indicators: types of innovative products sold; the volume of innovative textile products sold; cost of innovative products sold (thousand UAH); Number of innovative products introduced; acquisition of machinery, equipment and software; number of new and/or improved types of machinery, equipment; number of patents, copyright certificates; number of new technological processes introduced into production; export of innovative products; Number of research results obtained; The number of innovations introduced; Number of new processes introduced into production. Three indicators (income from earmarked financing, marketing costs, other stocks, it turned out that the achieved level of development of innovative capacity does not affect.

The results of the factor analysis showed that the level of development of the innovative potential of textile enterprises is fully characterized by the two factors obtained. The first factor can be described as the achieved integrated performance of the business activities of individual business entities. It describes 55,366% of the variance and has the greatest impact on the technical, economic and organizational components of creating and developing an integrated business structure. The second factor describes 33.9272% dispersion. It characterizes the level of use of innovation by an individual enterprise. In accordance with Table 2, the magnitude of the effect of the first factor on the level of development of the innovative potential of textile enterprises is described by Equation (11):

$$F_1 = 1/15,50256 \cdot (0,95767x_1 + 0,85974x_2 + 0,87062x_5 + 0,90110x_7 + 0,77082x_{10} + 0,85368x_{12} + 0,94328x_{13} + 0,82535x_{16} + 0,75540x_{17} - 0,90423x_{21} - 0,89799x_{23} - 0,82876x_{24} - 0,91013x_{25}). \quad (11)$$

Thus, it was found that for groups of enterprises such indicators as: the average number of employees; fixed assets; finished products; proceeds from sales of products (goods, works, services); financial result from operating activities: profit; Equity and gross profits have a positive impact on the level of development of the innovative potential of textile enterprises, as they allow for the fuller use of available material, financial and human resources for effective activities in the vector of innovative development.

It was established that factors such as: financial result from operating activities; income from operating leases; expenses for payment: goods (works,

services); Sales costs administrative costs; labour costs; material costs have a negative value and require the introduction of optimization solutions for their further improvement.

The magnitude of the influence of the second factor on the level of development of innovative potential is determined by Equation (12):

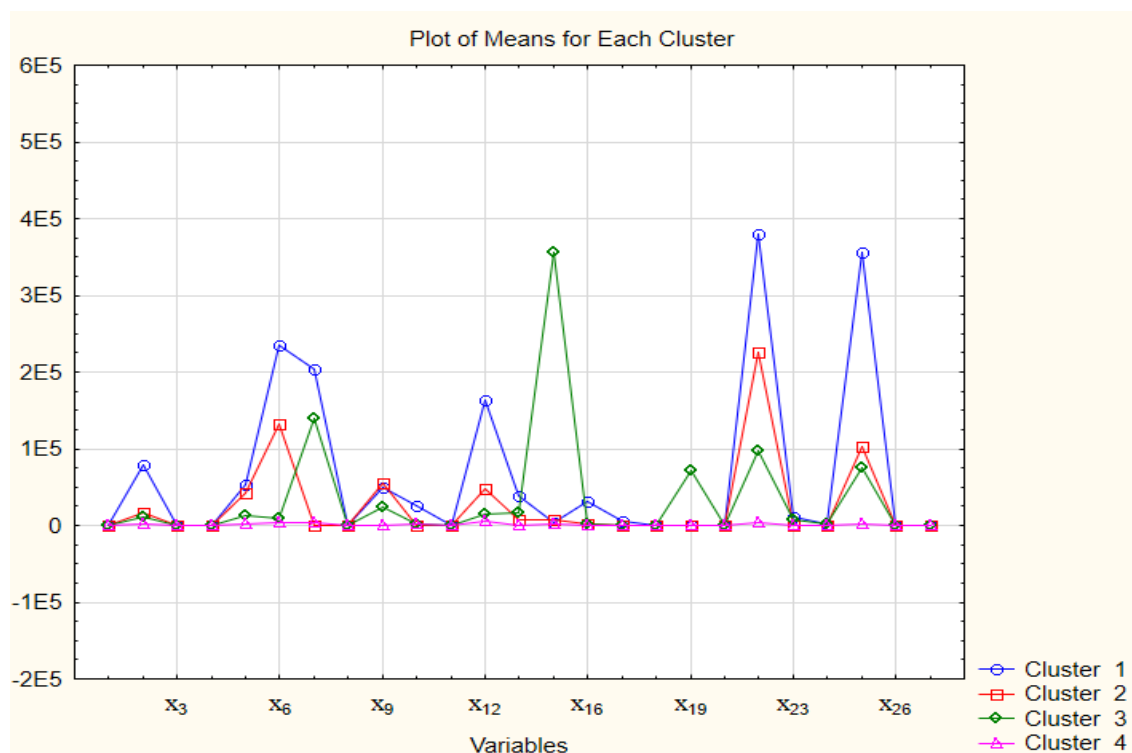
$$F_2 = 1/6,699616 \cdot (0,615343x_3 + 0,71571x_4 - 0,82454x_6 + 0,653259x_8 - 0,83256x_9 + 0,674083x_{11} + 0,725915x_{14} + 0,537160x_{18} + 0,724885x_{19} - 0,806571x_{20} + 0,84191x_{26} + 0,558867x_{27}). \quad (12)$$

Thus, it was established that for groups of enterprises such indicators as: types of innovative products sold; the volume of innovative textile products sold; Number of innovative products introduced; number of new and/or improved types of machinery, equipment; number of patents, copyright certificates; number of new technological processes introduced into production; export of innovative products; The number of innovations introduced; The number of new technological processes introduced into production positively affects the level of development of the innovative potential of textile enterprises, since it is they that meet the requirements of the market environment in the implementation of innovative products, the number of innovations introduced to the market, the export of innovative products and the introduction of new technological processes into production.

Indicators such as: cost of innovative products sold; acquisition of machinery, equipment and software; the number of research results is negative, since their share is very scarce and insufficient to ensure the full effective realization of innovative potential and innovative development of textile enterprises.

In the second stage, a cluster analysis of K-medium was carried out for the well-founded division of textiles into groups on the level of development of innovative potential. The K-average graph is shown in Figure 1.

Fig. 1 shows that in terms of the level of innovation potential development, all textile enterprises included in the integrated business structure are divided into four clusters. The number and composition of textile enterprises included in the obtained clusters are presented in Fig. 2–5.



Source: created by authors.

**Fig. 1. Graph of average values of indicators of the level of development of innovative potential of textile enterprises included in the integrated business structure**

| Members of Cluster Number 1 (Data)<br>and Distances from Respective Cluster Center<br>Cluster contains 1 cases |          |  |  |  |
|----------------------------------------------------------------------------------------------------------------|----------|--|--|--|
|                                                                                                                | Distance |  |  |  |
| П9                                                                                                             | 0.00     |  |  |  |

Source: calculated by authors.

**Fig. 2. Composition of 1 cluster**

| Members of Cluster Number 2 (Data)<br>and Distances from Respective Cluster Center<br>Cluster contains 1 cases |          |  |  |  |
|----------------------------------------------------------------------------------------------------------------|----------|--|--|--|
|                                                                                                                | Distance |  |  |  |
| П8                                                                                                             | 0.00     |  |  |  |

Source: calculated by authors.

**Fig. 3. Composition of 2 cluster**

| Members of Cluster Number 3 (Data)<br>and Distances from Respective Cluster Center<br>Cluster contains 1 cases |          |  |  |  |
|----------------------------------------------------------------------------------------------------------------|----------|--|--|--|
|                                                                                                                | Distance |  |  |  |
| П10                                                                                                            | 0.00     |  |  |  |

Source: calculated by authors.

**Fig. 4. Composition of 3 cluster**

| Members of Cluster Number 4 (Data)<br>and Distances from Respective Cluster Center<br>Cluster contains 7 cases |          |
|----------------------------------------------------------------------------------------------------------------|----------|
|                                                                                                                | Distance |
| П1                                                                                                             | 1177,367 |
| П2                                                                                                             | 922,295  |
| П3                                                                                                             | 810,615  |
| П4                                                                                                             | 1118,891 |
| П5                                                                                                             | 958,187  |
| П6                                                                                                             | 1272,177 |
| П7                                                                                                             | 2411,563 |

Source: calculated by authors.

Fig. 5. Composition of 4 cluster

Table 3

**Results of cluster analysis. Define the composition of textile clusters within the integrated business structure (STATISTICA 10 listing)**

| Enterprise                                                                                                                                                                                                                                                                     | Cluster/<br>Number of<br>enterprises | Identifying the level of<br>susceptibility of the population and<br>UTC resistance to COVID-19        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------|
| П9. PJSC "Cherkassk Silk Factory"                                                                                                                                                                                                                                              | 1 / 1                                | High level of integrated business<br>performance<br>High level of innovation utilization              |
| П8. PJSC "Knitted Factory "Rose"                                                                                                                                                                                                                                               | 2 / 1                                | Medium level of integrated business<br>performance<br>Low utilization of innovation                   |
| П10. CJSC "Worsted and Cloth Company<br>"Cheksil"                                                                                                                                                                                                                              | 3/1                                  | Medium level of integrated business<br>performance<br>Medium level of innovation<br>utilization       |
| П11. Garment factory "TK STYLE"<br>П12. Garment factory "TK-Korosten"<br>П13. Garment factory "TK-Lubny"<br>П14. PJSC "Steblevska cotton spinning and<br>weaving factory"<br>П15. OJSC "Boguslavskaya Cloth Factory"<br>П16. JSC "Trading House "YAROSLAV"<br>П17. JSC "Sofia" | 4/7                                  | High level of population<br>susceptibility to COVID-19<br>High level of infrastructure<br>development |

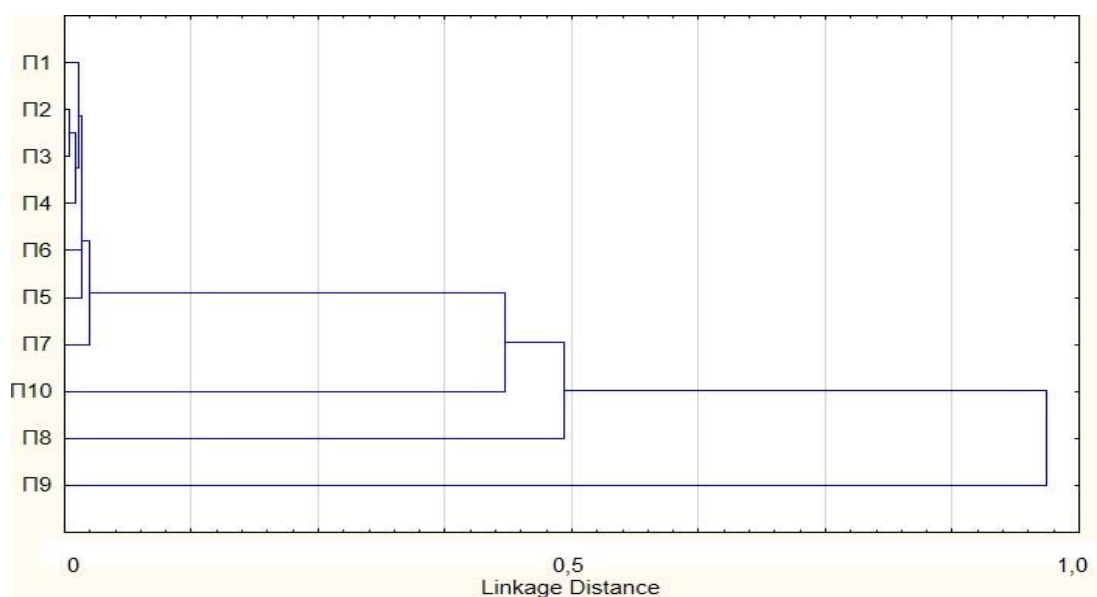
Source: created by authors.

As the data of Table 3 on the identification feature: "the level of integrated business performance/use of innovations": PJSC "Cherkassk Silk Factory" also got into Cluster 1, where there is a high level of integrated business performance and a high level of innovation use; the second cluster included an enterprise – PJSC "Knitted Factory "Rose" with an average level of integrated business performance and a low level of innovation; the third cluster included the company CJSC "Worsted and Cloth Company "Cheksil" with an average level of integrated business performance and an average level of innovation; the



enterprises got to the fourth cluster: Garment factory "TK STYLE", Garment factory "TK-Korosten", Garment factory "TK-Lubny", PJSC "Steblevska cotton spinning and weaving factory", OJSC "Boguslavskaya Cloth Factory", JSC "Trading House "YAROSLAV", JSC "Sofia" which are characterized by the high level of susceptibility of the population to COVID-19 and the high level of development of infrastructure.

In the third stage, integral indicators of the level of development of innovative potential for each of the clusters were calculated using taxonomy using the 5–10 equations. The value of the integral indicator of the level of development of innovative potential shows the boundary where the transition from one model of management of the development of innovative potential to another is carried out. The visualization of the indicator of the level of development of innovative potential of different enterprises was made in the form of a dendrogram (Figure 6–7) using the STATISTICA program.



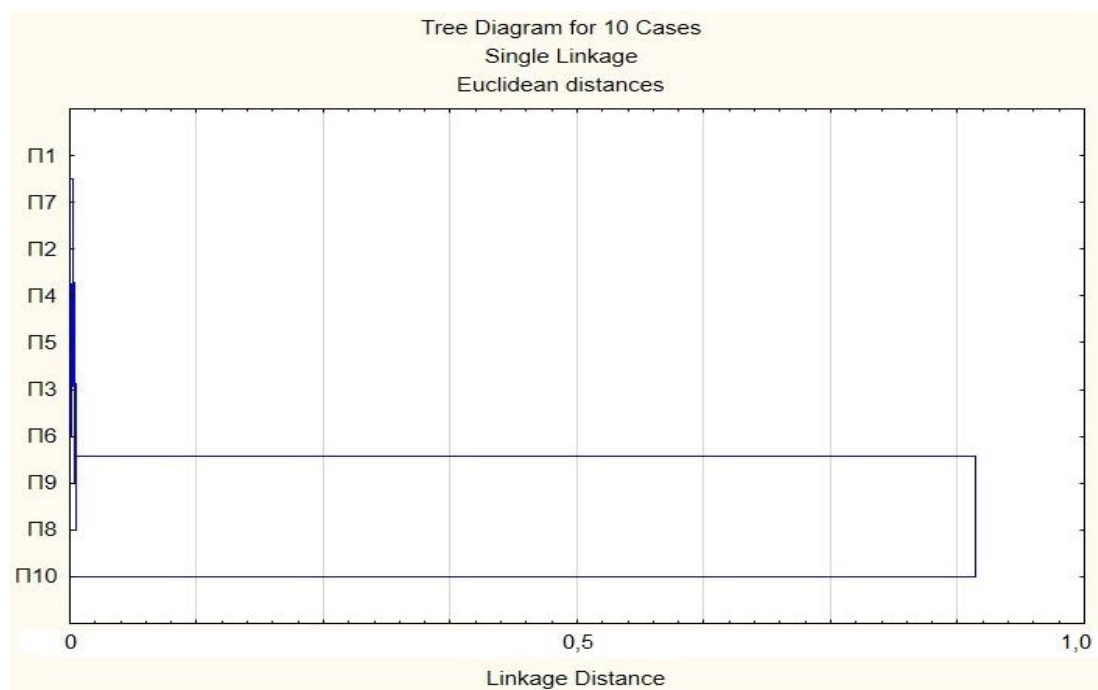
Source: created by authors.

**Fig. 6. Dendrogram of integrated indicators of the level of integrated business performance of textile enterprises**

An integral indicator of the level of integrated business performance of textile enterprises is used to visualize the results in matrix form and is located on the ordinate (OY) axis.

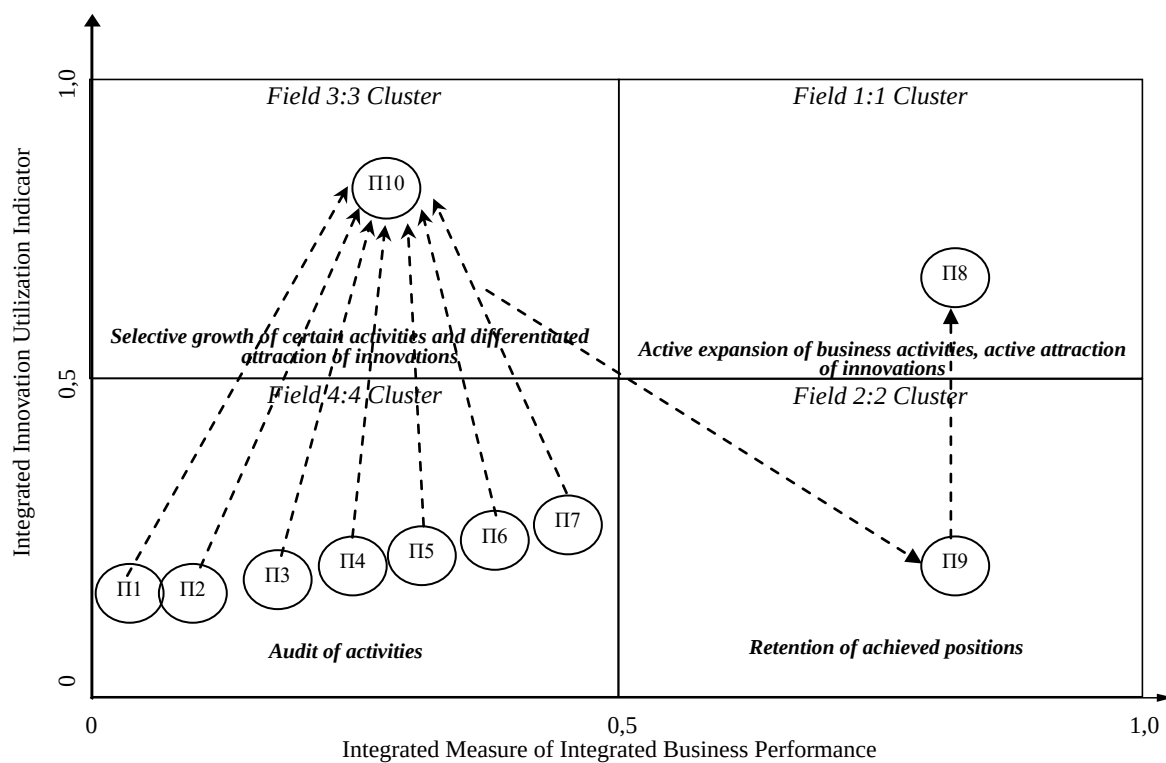
An integral indicator of the level of use of innovations by textile enterprises is used to visualize the results in matrix form and is located on the abscissa (OX) axis.

The positioning matrix of individual business entities depending on the value of the integral taxonomic indicator of the level of innovation indicator development is presented in Fig. 8.



Source: created by authors.

**Fig. 7. Dendrogram of integral indicators of the use of innovations by textile enterprises**



Source: created by authors.

**Fig. 8. Map of position of individual business entities depending on the value of the integral taxonomic indicator of the level of innovation indicator development**

At the last stage, discriminant analysis was used. With its help, the organization was organized to monitor the dynamics of the change in the value of innovative potential in the identified clusters. In the event of a deterioration or improvement of the situation, appropriate measures should be taken. The result of the discriminant analysis is shown in Table 5.

Table 5

**Results of discriminant analysis. Monitoring of changes in the level of development of the innovative potential of textile enterprises.  
(STATISTICA 10 listing)**

| Discriminant function of changing the level of development of innovative potential of textile enterprises of the $i$ -th cluster                                                                                                                                                                                                              | Condition for using the $i$ -th cluster innovation capacity management model | Proposed methods for managing innovation potential                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| $\text{Int}_1 = 0,262 + 0,81x_1 + 0,74x_2 + 0,75x_3 + 0,98x_4 + 0,27x_5 - 0,51x_6 + 0,21x_7 + 0,07x_8 - 0,86x_9 + 0,75x_{10} + 0,86x_{11} + 0,91x_{12} + 0,75x_{13} + 0,81x_{14} + 0,74x_{16} + 0,75x_{17} + 0,98x_{18} + 0,27x_{19} - 0,51x_{20} - 0,21x_{21} - 0,07x_{22} - 0,86x_{23} - 0,75x_{24} - 0,86x_{25} + 0,91x_{26} + 0,75x_{27}$ | $\text{Int}_1 = \max$                                                        | Introduction of measures for active expansion of business activities, active attraction of innovations, financing and stakeholders |
| $\text{Int}_2 = 0,321 + 0,73x_1 + 0,83x_2 + 0,62x_3 + 0,99x_4 + 0,19x_5 - 0,42x_6 + 0,19x_7 + 0,06x_8 - 0,77x_9 + 0,82x_{10} + 0,83x_{11} + 0,92x_{12} + 0,79x_{13} + 0,73x_{14} + 0,83x_{16} + 0,62x_{17} + 0,99x_{18} + 0,19x_{19} - 0,42x_{20} - 0,19x_{21} - 0,06x_{22} - 0,77x_{23} - 0,82x_{24} - 0,83x_{25} + 0,92x_{26} + 0,79x_{27}$ | $\text{Int}_2 = \max$                                                        | Ensure that market positions are maintained and find effective ways to use innovation                                              |
| $\text{Int}_3 = 0,428 + 0,69x_1 + 0,86x_2 + 0,59x_3 + 1,02x_4 + 0,17x_5 - 0,40x_6 + 0,17x_7 + 0,05x_8 - 0,75x_9 + 0,88x_{10} + 0,88x_{11} + 0,93x_{12} + 0,81x_{13} + 0,69x_{14} + 0,86x_{16} + 0,59x_{17} + 1,02x_{18} + 0,17x_{19} - 0,40x_{20} - 0,17x_{21} - 0,05x_{22} - 0,75x_{23} - 0,88x_{24} - 0,88x_{25} + 0,93x_{26} + 0,81x_{27}$ | $\text{Int}_3 = \max$                                                        | Selective growth of certain textile activities and differentiated attraction of innovations                                        |
| $\text{Int}_4 = 0,555 + 0,59x_1 + 0,88x_2 + 0,49x_3 + 1,03x_4 + 0,13x_5 - 0,37x_6 + 0,13x_7 + 0,03x_8 - 0,66x_9 + 0,98x_{10} + 0,98x_{11} + 0,99x_{12} + 0,88x_{13} + 0,59x_{14} + 0,88x_{16} + 0,49x_{17} + 1,03x_{18} + 0,13x_{19} - 0,37x_{20} - 0,13x_{21} - 0,03x_{22} - 0,66x_{23} - 0,98x_{24} - 0,98x_{25} + 0,99x_{26} + 0,88x_{27}$ | $\text{Int}_4 = \max$                                                        | Control and audit of certain activities, equipment modernization, increased share of financing, use of own raw materials           |

Source: created by authors.

The use of the proposed discriminant method of monitoring the level of development of innovative potential allows: to identify a possible deterioration (improvement) of the situation, to quickly propose a change in management methods and relevant mechanisms of influence.

**Conclusion.** As a result of forecasting the level of development of the innovative potential of textile enterprises, we identified groups of factors that stimulate or hinder the successful development of the innovative potential of textile enterprises. As a result, we grouped enterprises into four clusters according to the integral indicators of the levels of integrated business performance and the use of innovation. In order to improve the efficiency of these enterprises, we offer for each of the group of enterprises that belong to a certain cluster the following methods of managing innovative potential: for PJSC "Cherkasy Silk Plant" (cluster 1) – the introduction of measures to actively expand business activities, actively attract innovations, financing and stakeholders; for PJSC "Knitting Factory "Rosa" (cluster 2) – preservation (retention) of achieved positions in the market and search for effective methods of using innovations; for CJSC "Stone-cloth company "Cheksil" (cluster 3) – selective growth of certain types of activities of the textile industry and differentiated attraction of innovations; for enterprises that fell into cluster 4 – Garment factory "TK STIL", Garment factory "TK-Korosten", Garment factory "TK-Lubny", PJSC "Steblevska cotton spinning and weaving factory", OJSC "Boguslavskaya cloth factory", OJSC "Trading House "YAROSLAV", CJSC "Sofi" we propose to carry out control and audit of certain types of activities, modernization, reconstruction of equipment, increase the share of financing, and, if possible, switch to using our own raw materials.

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**Conflict of interest.** V. Shcherbak justified the methodology of the study and identified groups of factors that stimulate and discourage the development of the innovative potential of textile enterprises. P. Puzyrova proposed the use of special tools for managing innovative potential for textile enterprises.

### Abbreviations:

|                  |                                            |
|------------------|--------------------------------------------|
| %                | Percentage                                 |
| CJSC             | Close (private) joint stock company        |
| Eq.              | Formula of calculation                     |
| Expl. Var        | Explanatory Variable                       |
| Fig.             | Figure                                     |
| JSC              | Joint stock company                        |
| OJSC             | Open (public) joint stock company          |
| PJSC             | Public joint stock company                 |
| Prp. Totl        | Percentage of the total variance explained |
| R&D              | Research and Development work              |
| STATSTICA        | Statistical analysis software package      |
| Var              | Variable                                   |
| III, ... , III10 | Enterprise1, ..., Enterprise10             |

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## FEATURES OF THE USE OF PUBLIC-PRIVATE PARTNERSHIPS IN THE PRACTICE OF ROAD TRANSPORT SERVICES

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**Background and objectives.** Public-private partnership (PPP) is one of the most popular forms of cooperation between the state and business in the world. For Ukraine, PPP is one of the most promising ways to attract investment in the existing state and municipal infrastructure. The Law of Ukraine "On Public-Private Partnership" (2010) allows the implementation of projects in the format of the classic PPP. Most projects involved the development of infrastructure facilities and mining, which is typical for this kind of cooperation between the state and business

**Methods.** The study used: expert, statistical, comparative, scenario analysis; analysis of empirical data using methods of grouping, generalization, classification methods.

**Findings.** The components of PPP relations are defined, the criteria for the classification of its forms, the essence and economic content of the category "public-private partnership", the features of public-private partnership in the market of road transport services in Ukraine are substantiated. The qualitative analysis of 111 concession projects has allowed to

reveal the regularity and to present the variant of possible combination of experts' indications at certain parameters. Mean values and standard deviations of the expert testimonies were determined and distributions of the obtained data array of 111 concession PPP projects were constructed. The definition of the "quality" of expert assessments and evaluation of the effectiveness of 111 PPP projects for the provision of road transport services is formed

**Conclusion.** The components for public-private partnership in the market of road transport services have been defined: PPP implies a contractual form (agreements, contracts, etc.), in which the rights and obligations of each party are clearly defined; implementation of projects in the market of road transport services implies mutual economic benefit for all project participants through the best interaction, focused on better results for lower cost; public-private partnership is characterized by increased.

**Keywords:** public partner; public-private partnership; service market; road transport.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
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| 20                      | 0                    | 1                   |



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## ОСОБЛИВОСТІ ВИКОРИСТАННЯ ДЕРЖАВНО-ПРИВАТНОГО ПАРТНЕРСТВА В ПРАКТИЦІ НАДАННЯ ПОСЛУГ АВТОМОБІЛЬНИМ ТРАНСПОРТОМ

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### Постановка проблеми та завдання.

Державно-приватне партнерство (ДПП) – одна з найбільш популярних в світі форм співпраці між державою та бізнесом. Для України ДПП – один з найбільш перспективних способів залучення інвестицій в існуючу державну і комунальну інфраструктуру. Закон України «Про державно-приватне партнерство» (2010) дозволяє реалізовувати проекти в форматі класичного ДПП. Більшість проектів стосувалося розвитку інфраструктурних об'єктів і видобутку корисних копалин, що характерно для подібного роду співпраці між державою та бізнесом.

**Методи.** У дослідженні були використані: експертний, статистичний, порівняльний, сценарний аналіз; аналіз емпіричних даних за допомогою методів групування, узагальнення, методи класифікації.

**Результати.** Визначено складові відносин ДПП, обґрунтовано критерії класифікації його форм, сутність і економічний зміст категорії «державно-приватне партнерство», особливості державно-приватного партнерства на ринку автотранспортних послуг в Україні. Проведений якісний аналіз 111 концесійних проектів дозволив виявити закономірність і представити

варіант можливого поєднання показань експертів при певних параметрах. Визначено середні значення, середньо-квадратичні відхилення за показниками експертів, побудовані розподілу одержуваного масиву даних 111 концесійних проектів ДПП. Сформовано визначення «якості» оцінок експертів і оцінка ефективності 111 ДПП проектів надання послуг автомобільного транспорту.

**Висновки.** Визначено складові для державно-приватного партнерства на ринку послуг автомобільного транспорту: ДПП має на увазі під собою договірну форму (угоди, контракти тощо), в якій чітко фіксуються права і обов'язки кожної зі сторін; реалізація проектів на ринку послуг автомобільного транспорту має на увазі під собою обопільну економічну вигоду для всіх учасників проекту шляхом найкращого взаємодії, орієнтованого на кращі результати за нижчу вартість; державно-приватне партнерство характеризується підвищеними ризиками, з чого випливає необхідність чіткого поділу основних ризиків і витрат між його учасниками.

**Ключові слова:** державний партнер; державно-приватне партнерство; ринок послуг; автомобільний транспорт.

**Introduction.** Interaction of institutions of the state, business and civil society is carried out by application of various forms and methods (Aguillón, 2020), in particular by means of public-private management, which is widespread in the world practice and is considered to be more effective than purely state management (Yashchenko, 2018). The state must have the power to determine the goals and tasks of development (Sanchez *et al.*, 2016), grant permission for activities within its competence to representatives of the private sector (Baporikar, 2020), adopt the necessary regulations and the like (Cheung *et al.*, 2011). Private management is characterized by flexibility, mobility, speed of decision-making, ability to innovate (Chou *et al.*, 2016). Most developed countries have combined the best features of public and private management (Chou *et al.*, 2015), applying the mechanism of public-private partnership (Yasheva, 2012). Although the authorities have identified public-private partnership (PPP) as one of the key mechanisms of implementation of the policy of modernization of the economy of Ukraine (Bondar, 2010), in the initial stage of solving important socio-economic problems, implementation of partnership relations of institutions of the state, business and civil society in our country. This necessitates a scientific justification of PPP (Castelblanco *et al.*, 2020), the definition of the main characteristics and principles of its application, especially in certain areas of public administration (Wang *et al.*, 2020).

In the conditions of limited budget funding for the implementation of various types of large-scale projects, public authorities at various levels have to intensify their efforts to find new alternative mechanisms to attract financial resources. One of the alternatives in this case can be a form of financing of socially important projects successfully tested in many countries around the world on the basis of the use of public-private partnership. In the most general form such partnership envisages cooperation of public authorities and the private sector in the implementation of joint activities, distribution of work and risks between partners in the implementation of specific projects. Public-private partnership agreements are actively used in many countries of Europe and the world, in particular in the UK, Spain, France, Germany, Poland, Portugal (Damoah *et al.*, 2020). At the same time, in Ukraine this type of partnership has not yet received the proper level of development, which necessitates its activation in terms of development of investment and innovation activities (Li *et al.*, 2020).

However, the problem is the ambiguity and diversity in understanding the essence of the concept of public-private partnership, given the existence of a number of different approaches to the interpretation of its content (Song *et al.*, 2020). Also requires further development of the justification of the importance of intensifying this type of partnership in the market of road transport services (Viana *et al.*, 2020).

The purpose of the article is to define the essence and characteristics of public-private partnerships and the peculiarities of their use in the practice of road transport services.

**Materials and methods.**

**Data description.** The source data for the study were 111 concession contracts: 108 contracts with village councils for the collection, transportation of solid waste; 2 contracts for the operation of the road Lviv-Krakivets, the highway Lviv-Brody, 1 contract for the operation of the bus station of Druzhneane village council.

**Method description.** The article applies a system analysis to determine the components of PPP relations, justified the criteria for the classification of its forms. Synergetic approach became the basis for the analysis and determination of the essence and economic content of the category "public-private partnership", the features of public-private partnership in the market of road transport services in Ukraine.

Qualitative analysis of 111 concession projects was carried out by the method of expert evaluations. The method of expert interviews made it possible to identify a pattern and present a variant of a possible combination of expert indications under certain parameters.

In order to assess PPP factors, the mean values and mean square deviations of expert testimony were determined, and distributions of the resulting data set were constructed, both by coefficient of variation and the harmonic mean of the coefficient of variation. Based on the results of the calculations, a definition of the "quality" of the experts' evaluations has been formed and the final result of the data consistency analysis has been presented for each factor table. After the correction carried out in accordance with the analysis, the final results of the generalization of the expert survey are shown. Evaluation of the effectiveness of PPP projects for the provision of road transport services is given.

**Results and discussion.** The following forms of PPP from the world practice can be used for the market of automobile services:

- Institutional forms (special economic zones (SEZ), development institutions, state companies, joint ventures), But they are not widely used in practice in the field of transport infrastructure.

- contractual forms of PPP, which include various types of agreements, are predominant in the development of transport infrastructure on the basis of PPP in the world and Ukrainian practice. For the application of this form it is proposed to use the following criteria:

- source of funding: at the expense of the budget (compensation by the state during the life cycle of the object), or at the expense of extra budgetary sources (expenses are compensated by the users of the object). It is also possible to

finance from both sources, for example, if the object does not provide a sufficient level of income;

- a stage of the life cycle of the object of PPP, in which the partnership is carried out: "D" (design), "B" (build), "R" (rehabilitate), "O" (operate);

- ownership of the object: PPP implies the state's ownership of the object or its transfer to the state upon completion of the contract ("T" – transfer). If the object is privately owned or it is supposed to be privatized, this type of relationship is outside the PPP framework.

The classification of PPP models based on these criteria is presented below in accordance with Table 1.

Table 1

**Classification of PPP models by criteria of life cycle stage,  
source of funding and ownership of the object**

| Life Cycle Stages /<br>Source of Funding                                 | Design and<br>construction | Design and<br>reconstruction | Design,<br>construction and<br>maintenance | Design,<br>reconstruction<br>and maintenance | Construction<br>and maintenance | Reconstruction<br>and maintenance |
|--------------------------------------------------------------------------|----------------------------|------------------------------|--------------------------------------------|----------------------------------------------|---------------------------------|-----------------------------------|
| State ownership of the facility                                          |                            |                              |                                            |                                              |                                 |                                   |
| <i>Budget financing</i>                                                  | DB                         | DR                           | DBO*                                       | DRO*                                         | BO*                             | RO*                               |
| <i>Extra budgetary funding**</i>                                         | x                          | x                            | DBFO                                       | DRFO                                         | BFO                             | RFO                               |
| Transfer of ownership of the facility after the contract is completed*** |                            |                              |                                            |                                              |                                 |                                   |
| <i>Budget financing</i>                                                  | x                          | x                            | DBOT                                       | DROT                                         | BOT                             | ROT                               |
| <i>Extra budgetary funding</i>                                           | x                          | x                            | DBFOT                                      | DRFOT                                        | BFOT                            | RFOT                              |

\* these models can be referred to life cycle contracts (LCC).

\*\* these models can be implemented in Ukraine within the framework of the concession legislation or, with regard to roads within the framework of civil-law contracts. The implementation of these models assumes the stage of operation, at which the return of investments of the private partner is carried out, in this regard, the classification does not assume the models of "design – construction – financing" (DBF) and "design – reconstruction – financing" (DRF).

\*\*\* taking into account the budget legislation, the implementation of these models in Ukraine is possible only with the involvement of extra budgetary funding.

The main models of public-private partnerships used in the implementation of infrastructure projects in the European Union are most appropriate for the conditions of the road transport services market. Such models include the following ones: "Service Contract" – an agreement between a public body and a private company for the transfer of simple, short-term operational public needs. This is the simplest and most limited in the degree of private sector involvement of the PPP model. In this model, the private company provides the operation of public assets (infrastructure facilities) for a short period of time. Management

and liabilities remain with the state, which retains financial risks, risks of residual value of fixed assets, etc. In return, the state receives highly qualified private sector services for the operation of the transport facility, thereby providing some budgetary savings in operating costs compared to the operation of this facility by the state structure. In addition, the state has the function of quality control of services provided by the private sector in the operation of the infrastructure facility.

The O&M model – "Operation and Management Contract" – is an agreement between a public body and a private company under which the responsibility for the management and operation of an infrastructure facility is transferred to the private sector. Remuneration to the private sector is paid on a fixed or differentiated basis, with bonuses linked to the achievement of specific targets.

"Leasing" is a transaction in which a private company receives the revenues generated by a public asset, an infrastructure facility, in exchange for fixed lease payments and the obligation to operate the facility, keeping it in serviceable condition (operational readiness). Since the private party assumes the demand risks in this case, it is certainly interested in achieving maximum operational efficiency. However, this agreement can become profitable for the private company only if the services it provides in the operation of the infrastructure object will meet the requirements of the users of these services. This PPP model is the most successful for the provision of public transport services.

**Conclusion.** Public-private partnership as a form of economic interaction between the public and private sectors of the economy, in contrast to traditional relations, creates its own basic models of property relations, financing and management methods at different levels of the economy, in different sectors and spheres of life. The development of PPP is influenced by many factors, just causes a variety of forms and models of PPP. In terms of classifying PPP models in the market of road transport services, four key elements of different schemes for the formation of public-private partnership relations are identified: the definition of operations to service the project, the establishment of a special commercial enterprise, the definition of funding sources, the definition of forms of ownership (on the constructed object) after the end of the project.

The models of public-private partnerships change from short-term simple contracts (with or without investment requirements) to a long-term and very complex form called BOT (Build, Operate, Transfer). Most projects with private participation can be attributed to one of the existing and reviewed groups of PPP models. However, the boundaries between these groups and, accordingly, PPP models are not always clearly delineated and some projects may be assigned to

more than one PPP model. In this case, the project is considered to belong to the model that better reflects the risks of the private sector.

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**Abbreviations:**

|           |                                        |
|-----------|----------------------------------------|
| BO        | Construction and maintenance           |
| BOT       | Build, Operate, Transfer               |
| DB        | Design and construction                |
| DBF       | Design – construction – financing      |
| DBO       | Design, construction and maintenance   |
| DR        | Design and reconstruction              |
| DRF       | Design – reconstruction – financing    |
| DRO       | Design, reconstruction and maintenance |
| LCC       | Life cycle contracts                   |
| O&M model | Operation and Management Contract      |
| PPP       | Public-private partnership             |
| RO        | Reconstruction and maintenance         |
| SEZ       | Special economic zones                 |

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## SYSTEM MANAGEMENT FOR SUSTAINABLE DEVELOPMENT: MODELS AND PROBLEMS

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**Problem statement and tasks.** It is known that the state of the Ukrainian economy is unsatisfactory and needs significant improvement. To change the situation for the better, the President of Ukraine issued a Decree "On Sustainable Development Goals of Ukraine for the period until 2030", which is a guide to the latest development of the country focused on people. Besides, the Cabinet of Ministers of Ukraine approved the Principles of Social Responsibility adopted by the United Nations. However, the real sustainable development of the country can not be achieved without advanced management systems that ensure at different organizational levels of management the adoption and implementation of a set of agreed management decisions adequate to situations and their changes. Therefore, the purpose of this paper is to analyze the state of system management in Ukraine, as well as the state of training of Ukrainian specialists in specialty "management", on which the creation, application, and improvement of management systems in organizations (companies, institutions) depend to the greatest extent.

**Research methods.** In the course of this research methods of comparative analysis, data analysis by their grouping, and generalization of information have been applied.

**Results.** Conceptual models of sustainable development of both individual organizations and Ukraine as a whole are proposed. The key role of modern system management in ensuring competitiveness and sustainable development is pointed out. The state of system management in Ukraine and the state of training specialists

in specialty "management" in the Ukrainian higher education institutions are analyzed; shortcomings are identified and suggestions for their elimination are provided. An inadequate translation of the "management" concept's definition in the DSTU ISO 9000:2015 is revealed and the causes and consequences of this fundamental error are investigated.

**Conclusions.** Since Ukraine got its independence until today, due attention has not been paid to system management development there. There is no central executive body responsible for the development of system management in the country as a whole. The problem of system management improvement has not been reflected either in any government policy or in any development strategy for specific life spheres. Public sector organizations, in particular, executive governmental authorities and business companies mainly use outdated imperfect management systems. In the country, there is a confusion in the understanding of the "management" concept, which has led to the inadequate definition of knowledge areas and specialties. The stage of manager's education in the Ukrainian higher education institutions does not meet the needs of Ukraine's development and its economy in the conditions of a globalized saturated market. To eliminate the mentioned shortcomings and improve the situation, it is urgent to change the attitude to this extremely important component of state-building.

**Keywords:** sustainability; management; leadership; management; standards; management systems; managers.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
| 24                      | 1                    | 0                   |

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## СИСТЕМНИЙ МЕНЕДЖМЕНТ ДЛЯ СТАЛОГО РОЗВИТКУ: МОДЕЛІ ТА ПРОБЛЕМИ

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**Постановка проблеми та завдання.** Відомо, що стан української економіки незадовільний і потребує суттєвого покращення. Для зміни ситуації на краще Президент України видав Указ «Про цілі сталого розвитку України на період до 2030 року», який є дороговказом щодо новітнього розвитку країни, зорієнтованого на людину. Крім того, Кабінет Міністрів України схвалив Принципи соціальної відповідальності, прийняті Організацією Об'єднаних Націй. Однак, реального сталого розвитку країни неможливо досягти без застосування досконалих систем менеджменту, що забезпечують на різних організаційних рівнях управління прийняття та реалізацію сукупності узгоджених управлінських рішень адекватних ситуаціям та їх змінам. Тому метою даної роботи і визначено: провести аналіз стану системного менеджменту в Україні, а також стану підготовки українськими ЗВО фахівців за спеціальністю «менеджмент», від яких у найбільшій мірі залежить створення, застосування та удосконалення систем менеджменту в організаціях (компаніях, установах).

**Методи дослідження.** В процесі дослідження були застосовані методи порівняльного аналізу, аналізу даних шляхом їх групування, узагальнення інформації.

**Результати.** Запропоновані концептуальні моделі забезпечення сталого розвитку, як окремих організацій, так і України в цілому. Вказано на ключову роль сучасного системного менеджменту у забезпеченні конкурентоспроможності та

сталого розвитку. Проаналізовано стан системного менеджменту в Україні та стан підготовки в українських ЗВО фахівців за спеціальністю «менеджмент»; виділені недоліки та надані пропозиції з їх усунення. Виявлено неадекватний переклад визначення самого поняття «менеджмент» в ДСТУ ISO 9000:2015 та досліджено причини і наслідки цієї принципової помилки.

**Висновки.** В Україні від часу отримання незалежності і до сьогодні не приділяється належної уваги розвитку системного менеджменту. Не призначено центральний орган виконавчої влади, відповідальний за розвиток системного менеджменту в країні в цілому. Питання удосконалення системного менеджменту не відображені в жодній державній політиці і стратегії розвитку сфер життєдіяльності. Організації публічного сектору, зокрема органи виконавчої влади, і бізнесові компанії використовують переважно застарілі недосконалі системи управління. В країні існує плутанина у розумінні самого поняття «менеджмент», що призвело до неадекватного визначення галузей знань та спеціальностей. Стан підготовки менеджерів в українських ЗВО не відповідає потребам розвитку України та її економіки в умовах глобалізованого насиченого ринку. Для усунення відзначених недоліків та покращення ситуації необхідно терміново змінити відношення до цієї надзвичайно важливої складової державотворення.

**Ключові слова:** сталий розвиток; менеджмент; керівництво; управління; стандарти; системи менеджменту; менеджери.

**Introduction.** "There are no underdeveloped countries, there are only undermanaged ones" (Drucker, 2012). These words of Peter Drucker – one of the most famous and influential contemporary theorists and gurus in the field of management are fully true for today's Ukraine and the vast majority of its organizations (companies, institutions). All our successes and failures are the result of management decisions that we make (or do not make) and put into practice at any level of governance. Under the conditions of the global economy and fierce competition, the cost of management decisions can be very high. That is why in developed countries and advanced companies, management decisions are formed and made in modern integrated balanced management systems, which allow responding to situations faster and more adequately, feeling a need for improvement earlier than others, implementing agreed effective management decisions. All this indicates the relevance and necessity of studying the state of system management in Ukraine to form proposals for its significant improvement.

The main purpose of this article is to identify bottlenecks in the field of system management in Ukraine and draw the attention of the government, scientific and technical community, and business to key issues in this area and proposals for their elimination to ensure competitiveness and sustainable development of the country.

The paper considers three main blocks: conceptual models of sustainable development of organizations and Ukraine as a whole (Decree of the President of Ukraine "On Sustainable Development Goals of Ukraine for the period until 2030", 2019; Order of the Cabinet of Ministers of Ukraine "On approval of the Concept of state policy implementing in the field of promoting the development of socially responsible business in Ukraine for the period until 2030", 2020; Kalyta, 2019), where the modern management systems shall be the main components; actually management systems (Nassim Taleb, 2015; Tom Peters, 2020; Frederick Lal, 2017; Kalyta, 2016; Kalyta, 2018), which in Ukraine are mostly obsolete and inefficient and subject to significant improvement; understanding of peculiarities of modern system management and the quality of managers' education in the Ukrainian higher education institutions (Baeva and others, 2007; Besedin & Nagaev, 2005; Girnyak & Lazanovsky, 2000; Kalyta, 2020; Komarnytskyi, 2006; Khmil, 2003; DSTU ISO 9000:2001, 2001; DSTU ISO 9000:2007, 2008; DSTU ISO 9000:2015, 2015; ISO 9000:2000, 2000; ISO 9000:2005, 2005; ISO 9000:2015, 2015; The Concept of State Policy in the Field of Quality Management of Products, Processes and Services, 2002; The list of knowledge areas and specialties for preparing higher education applicants, 2015).

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### **Materials and methods.**

**Data description.** The paper considers three objects, which are interconnected, but in fact, they are independent and based on different groups of data. The first object is sustainable development, the second – system management, and the third – understanding of management and manager education.

The following data were used to study the first object: UN materials on the Sustainable Development Goals and Principles of Social Responsibility and the Decree of the President of Ukraine on Sustainable Development Goals, 2019 and the Order of the Cabinet of Ministers of Ukraine on approval of the UN Social Responsibility Principles, 2020; Kalyta, 2019.

The data contained in the materials on the state of system management in Ukraine and the results of monitoring the implementation of the Cabinet of Ministers of Ukraine commission by the executive authorities dated 28.08.2017, as well as in domestic (Kalyta, 2016, 2018) and foreign (Nassim Taleb, 2015; Tom Peters, 2020; Frederick Lal, 2017) publications were used to study the second object.

The third object is studied based on the use of: definition of term "management" and related notions, which can be found in international standards ISO 9000:2000, ISO 9000:2005, ISO 9000:2015 and state standards of Ukraine DSTU ISO 9000:2001, DSTU ISO 9000:2007, DSTU ISO 9000:2015 as well as in Ukrainian regulatory documents, monographs and textbooks (Khmil, 2003; Besedin & Nagaev, 2005; Girnyak & Lazanovsky, 2000; Baeva etc., 2007; Komarnytsky, 2006) and the List of knowledge areas and specialties approved by the Order of the Ministry of Education and Science of Ukraine, 2015; Concept of the state policy of Ukraine in the field of quality management of products, processes and services, 2002; Decisions of the seminar-meeting for managers and specialists in management and quality, standardization and certification of higher education institutions of Ukraine on the subject: "Business excellence – the basis of competitiveness and sustainable development of organizations and economy", 2018; Kalyta, 2020.

**Method description.** In the course of research of all three objects methods of the comparative analysis, data analysis by their grouping, logical generalization of the information were applied.

### **Results and discussion.**

**Sustainable Development.** If we want to overcome difficulties, survive, and live as in developed countries, it is necessary to ensure *sustainable development*, both of each organization and Ukraine as a whole. This would be in line with global development trends and contribute to our inclusion in the global movement towards a dignified life. It would help us to better understand and orient ourselves to the values that are supported by the world elite.

And, first of all, these are widely known *17 Sustainable Development Goals of the UN*, which have been adapted to the conditions of Ukraine in 2017, and in 2019 they were put into effect by the Decree of the President of Ukraine. *Ten principles of social responsibility* of the UN approved by the Cabinet of Ministers of Ukraine should be added to this.

The Goals and Principles are, like the "golden couple", where goals guide you where you need to move to achieve success, and the Principles suggest what you need to become to be able to achieve great goals. Focusing on the Goals and adherence to the principles allows the organization to bring its organizational (business, corporate) culture closer to the level that is inherent in the best companies in the world.

Taking into account the mentioned Goals and Principles, it is possible to build a conceptual model of the sustainable development system of Ukrainian organizations. According to this model, the activity of each organization should be aimed at achieving the Sustainable Development Goals, and the organization itself should strive to adhere to the Principles of Social Responsibility in its activity. However, the question arises: what shall be the mechanism (driver) that will help the organization not to present episodic demonstrations but to direct all its daily activity to comply with the Principles and to move step by step towards these goals realizing that the Goals and Principles are only external statements and the organization itself must ensure the approaching to the Goals.

Considering that all our achievements are the result of our management decisions, we can conclude that the role of such a mechanism has to be played by modern *management systems* (where decisions are formed and made). It is only necessary to implement disaggregated Objectives and Principles. But previously, at the level of the relevant industries, it is advisable to centrally disaggregate the Goals and Principles to the level of actions, which could be implemented by organizations into their work programs and plans.

Such a conceptual model can be applied by any Ukrainian organization that seeks to improve its excellence, competitiveness and achieve sustainable development. However, to focus on the Goals and to bring the whole of Ukraine to the Principles, the sustainable development of individual organizations is obviously not enough. We need the vast majority of them. A need to involve in the improvement processes not only individual organizations arises here. The government must create favorable conditions for all economic actors in the country. And for this purpose, the Goals, principles, and issues of improvement based on system management, first of all, should be reflected in state policies for the development of all areas of Ukraine's activity. The general ***Conceptual Model of the System for Ensuring Sustainable Development of Ukraine*** is shown in Fig. 1.

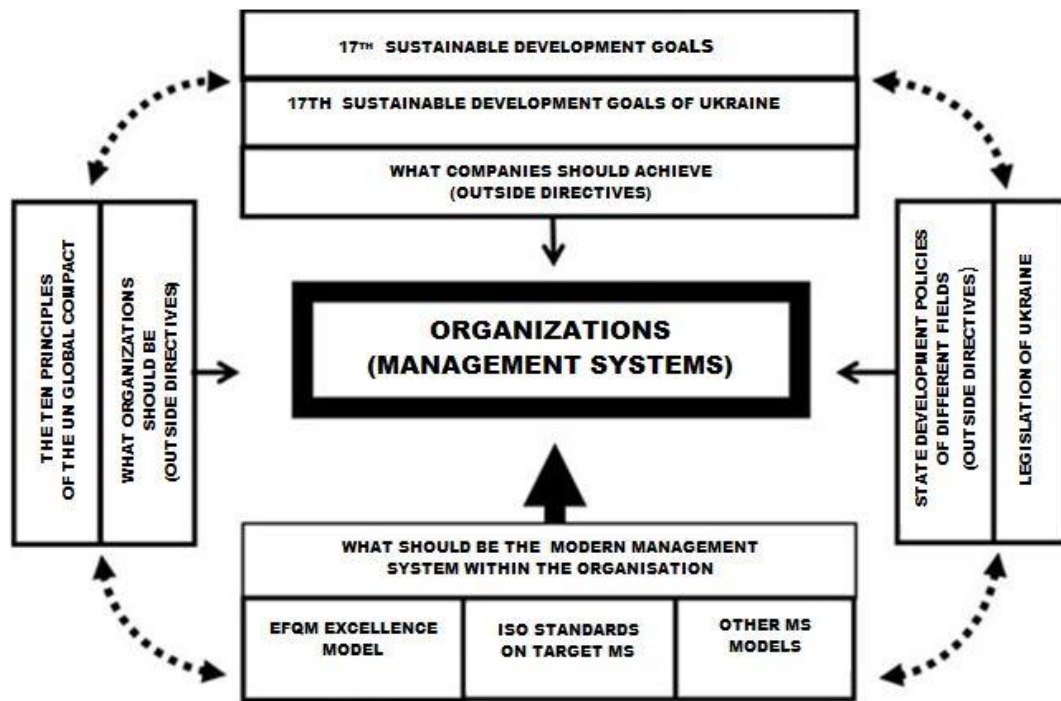


Fig. 1. Conceptual model of sustainable development of Ukraine

Considering the particular urgency for the significant increase efficiency of management systems at various levels of organizational management, it is reasonable to identify problems and their application in Ukrainian organizations.

### **System Management.**

*World experience in management systems improvement.* Considering the constant escalation of competition in the global market, the world is doing a lot of work aimed at management systems improvement. For the target management systems, international management standards (ISO) consolidating the best world practice are adopted. On each continent, the best practice of system management as a whole is generalized and reflected in excellence models (models of an ideal organization). In Europe, it is the EFQM Model (a trend-setter for organization excellence), which is a practical tool that helps organizations better understand what a holistic management system is, identify its place in business excellence, understand gaps in its operations and make the necessary decisions to succeed. ISO standards and models of excellence are periodically reviewed and improved. Standards and models are, in essence, external guidelines for those who develop or improve their management systems. But there are many organizations that also independently seek and invent their own creative solutions. Thus, Japanese companies have applied new management concepts: "6 Sigma", "Kaizen", "Lean Production", etc., which have demonstrated high efficiency and have been spread to all continents of the

world. Many proven methods and tools are widely used in modern management systems for the preparation and justification of management decisions.

*New paradigms of competitiveness.* However, recently, in the context of the Industry 4.0, organization leaders' and staff's behavior has been further rethought in terms of maintaining their competitiveness. This was evidenced by the annual EFQM Forum, which took place in Milan in August 2016. The main leitmotif of the speeches delivered by leaders of the most successful European organizations was as follows: operational excellence, quality of processes performance, stable production of high-quality products is not enough for sustainable success now; ISO 9001, kaizen, lean manufacturing, etc. have become well known; their application is no longer a sufficient condition for success at a global saturated market. To keep customers in the new conditions, it is not only necessary to strive to meet their requirements, but also to arouse their admiration; to keep the staff and get the desired contribution, you have to do everything to make them happy and proud that they work for your company, you need to actively build an environment where the organization could continue its sustainable growth. Therefore, it is necessary to ensure further improvement of management systems.

According to the world gurus, the management of the future shall serve the highest goals and be focused on solutions of socially significant, noble tasks, absorb the ideas of a community and citizenship, provide not only efficiency but also adaptability, innovative development, inspiration, and social responsibility, eliminate fear and rely on trust stimulating the exchange of information, expression of opinion, take a risk, to turn a strategy development into an ever-evolving process. The management of the future assumes that a leader is an architect of society, who provides opportunities for cooperation, creativity, innovation. And control should be largely carried out through peer observation and self-discipline.

*And at this time in Ukraine...* The use of the advantages of modern system management in Ukraine is unsatisfactory. The vast majority of Ukrainian enterprises use outdated inefficient management systems that do not ensure their competitiveness in modern conditions. The situation is not better in the public sector, in particular in public authorities. As a result of the monitoring, it was revealed that the overwhelming majority of leaders and specialists of domestic executive authorities are not at all aware and do not understand what is really happening in the world and Ukraine in the field of system management and excellence, why they need to improve themselves and contribute to the improvement of organizations related to the spheres of their management.

One of the key reasons for this situation, in our opinion, is the unsatisfactory education of management specialists in Ukraine. The fact is that modern management systems are very complex, but at the same time, they can

not be obtained from the outside "turnkey". Each organization should develop its own unique management system. Such systems should be created by specially trained specialists. And for this, by definition, *managers* are more suitable than others. That is why there is a need to pay special attention to managers and the *quality of their training* in educational institutions of Ukraine.

***Understanding of Management and Manager Training.*** It all starts with definitions. The importance of a common understanding of terms was pointed out in the seventeenth century by the eminent scientist Rene Descartes, who noted that "***People would get rid of a half of their troubles if they could agree on the meanings of terms***".

However, as the analysis showed, there are many contradictions in the understanding of terms in the field of management in Ukraine. But the main thing is that the definition of the term "management" in the international standard ISO 9000:2015 is incorrectly translated. This, in turn, contributed to the fact that Ukrainian scholars specializing in research and teaching of management do not mostly understand the concept of "management" quite adequately: they believe that "management" is a component of "administration", that the use of the term "management" is acceptable only for business, etc.

***The problem of translating ISO 9000 in Ukraine.*** In the international standard ISO 9000:2015 "Quality *management* systems – Fundamentals and vocabulary" the term "***management***" is defined in paragraph 3.3.3 as "***coordinated activities to direct and control an organization*** (3.2.1)". Where "direct" translates as "to lead", "guide", and control – "to govern" (in the world the term "control" is used more as "management", instead of only "control", and for the concept "control" the term "monitoring" is mainly used. That is, in the standard ISO 9000:2015 the definition of the term "management" in addition to "lead" also means activities on "guiding" or defining directions of the organization development.

Then in translation into Ukrainian "***management***" should be understood as a coordinated "***direction***" and "***control***" activity of the organization where "direction" expresses the guiding nature of the activities of a person or a group of people, who lead activities of a particular team and focuses on determining the organization development directions. Among its main functions: definition of the organization's values, objectives, and culture; creation and implementation of a management model in the organization, etc. By the way, this includes decision-making regarding the implementation of the above-mentioned Sustainable Development Goals and the Principles of Social Responsibility in the organization's activities. While control is an activity of an operational nature and its functions are aimed at achieving the organization's objectives within a model and methodology established by top management. In



standard ISO 9001:2015, this is reflected in the Deming cycle: Plan-Do-Check-Act.

The correctness of this interpretation of the term "management" is confirmed by a letter of explanation, which has just been received at our request on behalf of ISO/TC-176 (the developer of ISO 9000). By the way, in the same letter, it is noted that the ISO official languages are English, French and Russian and an excerpt from the official version of GOST R ISO 9000-2015 is given: p. 3.3.3 Management: "Coordinated activity on direct and control of the organization (3.2.1)".

In the Ukrainian standard DSTU ISO 9000:2015, which is declared as identical to the standard ISO 9000:2015, item 3.3.3, is formulated as follows: "Control; Management is a coordinated action to direct and control the activity of the organization", which can not be called a successful translation. It is not clear on what grounds the term "management", which is given in ISO 9000:2015 and is widely used in Ukraine (for example, the specialty "management"), has been replaced by term "control" and "direction", which, in their turn, are defined as "спрямування" ('sryamuvannya') and "контролювання" ('kontrolovannya'). But, what is here, for example, 'kontrolovannya'? It is known that this is only one of the functions of the control. And where is here, planning, etc.? The logic of this definition is generally difficult to explain. This translation does not meet the ISO 9000:2015 and is confusing. Although in the wording specified in DSTU ISO 9000:2015, there is already equivalence between the term "management" and "direction and control". It should be noted that the erroneous definition of management was first laid down in DSTU not in 2015, but 2001 and has existed for about 20 years.

This fundamental error has led to the following similar consequences. Thus, all international standards, which are called "management systems" with their identical translation into Ukrainian, had to be "renamed" from "management systems" to "control systems". It is very interesting how it is done in DSTU ISO 21001:2019 Educational organizations. Management systems in educational organizations. Requirements and guidelines for use (ISO 21001:2018, IDT). In section "Terms and definitions" it is written: "3.4 Control system; management system is... ».

***The problem of understanding the relationship between the terms "management" and "control".*** The incorrect definition of the term "management" causes a misunderstanding of the relationship between the terms "management" and "control".

According to, for example, the mentioned DSTU ISO 21001:2019 the terms "control" and "management" are ***equivalents***. On the other hand, in 2015 the Ministry of Education and Science introduced knowledge area 07 – "Control and Administration", which included the specialty "management". This

determines that **"management" is a component of "control and administration"** and this guided all people involved in the training of specialists in the specialty "Management". It is interesting that until 2015 this knowledge area was called **"Management and Administration"**. On the contrary, according to ISO 9000:2015, "management" is "direct" and "control". That is, control (as well as direct) is a component of management.

Simultaneously, with the growth of competition in the developed world, they develop and improve the processes for an organization's mission and vision defining, policies development, etc. to obtain additional competitive advantages. As a result, this activity stood out and in 2000 the definition of the term "management" as "coordinated activity on the direction and control of the organization" has appeared in the standard ISO 9000:2000.

The term "direction" is not new in Ukraine. We can often hear: "under the direction of the government/leader we have succeeded". Isn't this the well-known "principle of the first leader"? It is known that without the interest of the "first" the improvement of the organization's management system based on, for example, ISO 9001 is almost hopeless. Another thing is when the first leader is aware and interested, and improvement is realized under his **personal direction**. This is usually a prerequisite for success. On the contrary to the operational nature of "control", the direction is characterized by such concepts as perspective, strategy, purpose, and so on.

On the other hand, the term "control" is inherent in technical and social systems. Therefore, the statement that control in the social system is a component of control in general, may have a right for its existence. But, taking into account that "management" is acceptable only for social systems and it is broader than "control", comparing it with the term "control" is at least incorrect. It is like comparing cars to their engines being their spare parts.

Opponents have repeatedly asked the question: "What's the difference between control and management? What can it change?". It can change very important things. "Narrowing" the term "management" and using "control" instead causes decreased attention to the direction activity, which is fundamental for the implementation of control.

That is why in Ukraine such modern processes as defining of mission, vision, policies, etc., which influence the formation of a corporate culture of an organization, have not received due attention and are mainly formally perceived. Problems that harm Ukraine and its organizations in ensuring excellence and competitiveness are associated with this reason.

**Problems related to the area of application of the term "management"**. In Ukraine, the widely spread opinion is that the term "management" should only be used in business and commercial organizations. But for the public sphere, in particular, for the governmental bodies, this term is unacceptable. And the

Ministry of Education and Science of Ukraine has introduced a separate knowledge area 28 – "public control and administration", which included specialty 287 – "public control and administration", where the term "management" is never mentioned.

However, as we know, item 3.3.3 of the International Standard ISO 9000:2015 states that management is coordinated activities to direct and control an **organization (3.2.1)**. That is, it is said here that the term "organization" is defined in item 3.2.1 of the same standard. In turn, in item 3.2.1 of ISO 9000:2015 (and DSTU ISO 9000:2015), it is stated that "organization" is a person or a group of people having own functions with responsibilities, authorities, and relationships to achieve its objectives". And note 1 to item 3.2.1 clarifies that: "The concept of an organization includes, but is not limited to, a sole-trader, a company, a corporation, a firm, an enterprise, an **authority**, a partnership...". That is, the standard clearly states that the term "management" is extended to the public sphere, in particular the authorities.

This is, so to speak, from a formal point of view. But let's consider this question in essence. The public sector includes central, regional and local government bodies, public corporations, as well as self-governing non-governmental non-profit organizations that create public services, including education and health care. How do they differ from private sector organizations in the aspect we are considering? Aren't they, in addition to operational control, also direct their organizations? Perhaps they should not develop the mission and vision of their organization, define values, including attitudes to sustainable development goals and principles of social responsibility, policies, prospects for their development, strategic goals, governance models, etc., aren't they? And, if they have to, then we have "direct" and "control", which together make "management".

Public authorities deserve special attention. After all, in addition to supporting the effective operation of their institution, they also must ensure the development of the spheres of life of the country assigned to them. Let's take, for example, the Ministry of Economic Development, Trade, and Agriculture of Ukraine. This is a huge institution with a complex structure, that employs more than a thousand people. And to put everything in order in the body itself, of course, it should have its own management system. But the Ministry of Economy is the main body in the system of central executive bodies to ensure the formation and implementation of state economic, price, investment, and foreign economic policy. The main tasks of the Ministry of Economy include: ensuring the formation and implementation of state policies and strategies for economic development, implementation of forecasting and state regulation of the national economy, etc. That is, it determines the **directions of economic development** and, accordingly, performs strategic "direction" and not

operational "control". And this should also be reflected in the management system of the ministry. We could get the same conclusions about other authorities, in particular the Ministry of Education and Science of Ukraine, which is the main body in the system of central executive bodies that ensures the formation and implementation of state development policy in the fields of education and science.

By the way, some Ukrainian public sector organizations, including the governmental bodies, implemented the quality management system by ISO 9001 many years ago. And last year a separate international standard ISO 18091:2019 was adopted, which is directly named: "Quality **management** systems – Guidelines for application of ISO 9001 in **local government**".

For a better understanding, it is useful to familiarize yourself with the history of the emergence of the term "management" in ISO 9000 and its implementation in Ukraine. Standards ISO 9000:1987 and ISO 9000:1994 did not yet have a glossary and they are referred to ISO 8402 Quality Management and Quality Assurance – Glossary. Thus, in the ISO 9000:1994, there was a reference to ISO 8402-94, which did not mention the term "management". Here in item 3.4 was only defined the term "control" as "methods and activities of an **operational nature** used to meet the established requirements". And only in the ISO 9000:2000 an own vocabulary appeared, where for the first time the definition of the term "management" had been included. So, the definition of the term "management" is already 20 years old. In Ukraine, this term was officially introduced in 2001 by an "identical" translation of ISO 9000:2000.

In scientific works, terms can be defined in different ways. But if at the international level in ISO (uniting 164 countries) the term was agreed by the vast majority of countries, then we must respect the common sense and accept this term as the main one. This is very important for Ukraine because it seeks to integrate into the European and world community.

And a number of questions arise. How could it happen that in Ukraine, when introducing the international standards ISO 9000 series, such a fundamental concept as "management" was defined incorrectly, but none of the scientists, teachers, and management specialists paid attention to it? Why has not a higher education institution that trains managers for Ukraine complied with international management standards for 19 years? And in general, how could it happen that the International Organization for Standardization (ISO) has built a single **integrated balanced system of terms and their definitions in the field of systems management**, and Ukraine, which is a member of ISO, ignores its standards. This is especially related to the Ministry of Economy, which **"ensures the formation and implementation of state policy in the field of standardization"** and the Ministry of Education and Science of Ukraine. And why do not the heads of these bodies respond properly to the appeal of the

professional community? Their answers are always formal, without trying to get to the heart of the problem. And they are written like by a copy-machine: we work according to a certain law, following a certain strategy and a government decree, and so on. Do the laws of Ukraine, development strategies and government decrees call for officials to perform work that harms Ukraine?

***The problem of splitting management training.*** But Ukraine was particularly harmed by the erroneous Concept of State Policy in the Field of Product Quality Management, which was developed by Gosstandart without understanding the problem. In 2002, the Concept was approved by the Cabinet of Ministers of Ukraine. The Concept combined incompatible, such as "digging from the fence until noon". It confuses the concepts: "product quality" and "organization management system". The Concept narrows the focus on product quality assurance. At the same time, targeted management systems that do not refer to product quality (environmental management, production safety management, energy efficiency, etc.) are pointed referred to "product quality management" without proper arguments. And what is most important, the Concept has created confusion in the training of management specialists in the institutions of higher education of Ukraine.

Following the Concept, inadequate training in systems management is provided in the institutions of higher education. In addition to specialty "quality management", other target management systems that do not refer to quality management have been included for specialty "Quality, Standardization and Certification". This was only done because international standards have been also adopted for them. But the worst thing is that at the same time the question of target management systems and engineering of their design has practically excluded from the specialty "management". As a result, the vast majority of managers who graduate from institutions of higher education are not sufficiently trained to ensure organizations' success in a highly competitive environment. And specialists studying in specialty "Quality, Standardization and Certification" cannot effectively improve management systems of organizations due to the lack of training in the basic management topics. Besides, students are only trained about the standards and do not take into account that in a saturated market, standards set minimum requirements, incl. in the management systems, and the competition occurs mainly above the norms of standards.

As a result, even those organizations that improve themselves based on standards for management systems have typical shortcomings. They mainly create separate local target management systems that are not harmonized with each other, are not integrated into an organization's overall management system, do not cover all its objectives. They hardly ever use modern methods and tools for preparing management decisions. Management systems are often formally implemented, without changing the outdated business culture. They do not take

into account that in a saturated market, the norms of standards are only the minimum level of requirements. And although in 2019, due to the long-term demands of the public the Concept was finally canceled, the confusion in organizing the training of managers still persists today.

***Small causes have created huge problems.*** Due to the lack of specialists who adequately understand modern system management in Ukraine neither the authorities nor the business has yet a proper attitude towards business culture and system management. It has caused a number of negative consequences: the central government body responsible for the development of system management throughout the country has not yet been appointed, scientists have not been involved in the research of problems in this extremely important area and, accordingly, system management has not yet received proper attention. These issues have not been reflected in any state development policy. Authorities and businesses (with a few exceptions) are still continuing to use outdated management systems with corresponding consequences. And the current state of Ukraine, its economy, as well as the standard of living of the vast majority of citizens do not need any comments.

**Conclusion.** The research results and generalized many years' practical experience allow us to draw the following main conclusions.

**1. Conceptual issues.** According to the ISO 9000:2015, management is a coordinated activity to direct and control an organization; in the DSTU ISO 9000:2015 the definition of the term "management" does not correspond to that specified in ISO 9000:2015, is erroneous and is subject to correction; replacement of the phrase "management system" to "control system" in the state standards of Ukraine, identical to the international ISO standards, is a mistake and is subject to correction; the concept "control" is a component of the concept "management", not conversely; the concept "management" is not limited to business, but is also extended to the public sector, in particular to public authorities.

**2. Training of management specialists in higher education institutions of Ukraine.** Introduction of target management systems based on standards that do not relate to product quality into the specialty "Quality, standardization and certification" is a mistake that should be corrected; exclusion of target management systems based on standards (as well as outside and above the norms of standards) from the curriculum of specialty "management" is a mistake that should be corrected; in the vast majority of higher education institutions in Ukraine, the issues of integrated management systems (which combine financial management, project management, target management systems based on standards, etc.) and engineering design of modern management systems are insufficiently covered in training.

**3. System management in business.** The vast majority of Ukrainian enterprises and business organizations use inefficient outdated management systems that do not ensure their competitiveness in a globalized saturated economy; enterprises that improve themselves based on standards for management systems, create mainly separate target management systems, not integrated into the overall management system of the organization, almost do not use modern methods and tools for preparing management decisions, often implement management systems formally, without changing outdated business culture, do not take into account that under the conditions of saturated market norms of standards are only the minimum level of requirements.

**4. System management in the public sector.** The introduction of a separate knowledge area "Public Control and Administration" and the specialty of the same name that except the concept of "management" is a mistake that should be eliminated; public sector organizations, in particular governmental institutions (including the Ministry of Education and Science, its subordinate organizations and higher education institutions), should create and implement modern management systems.

**5. System management at the state level.** There are no regulations on the development of system management in state policies and strategies for the development of the civil service, education, and the economy of Ukraine; the issues of system management development should be reflected in state policies and development strategies of all spheres of Ukraine's activity; there is no central government body in Ukraine responsible for the development of system management in the country and it should be appointed as soon as possible; it is reasonable to adopt the Concept of the state policy in the field of system management.

**6. Sustainable development and management systems.** It is almost impossible to ensure sustainable development of Ukrainian organizations (companies, institutions) without the use of modern management systems and change of organizational culture; it is impossible to achieve sustainable development of Ukraine as a whole without the state's support in the development of Ukrainian organizations based on management systems improvement.

To eliminate these problems, the authorities should take the following priority actions:

– The Cabinet of Ministers of Ukraine as soon as possible should create a working group of authorized representatives of various branches of government, scientists, and management specialists, who should be appointed to comprehensively study the problems noted and prepare reasoned proposals. The emergence of officials in authorities, who delve into the problems of system management, would promote systemic changes for the better. Otherwise, as

many years of experience show, it is impossible to reach those persons who are empowered to make appropriate decisions. Taking into account the proposals of this group, the Cabinet of Ministers should appoint a central government body responsible for the development of system management in the country and adopt a balanced Concept of State Policy in the Field of System Management.

– The Ministry of Education of Ukraine should create a working group to study problems in the field of system management in education and prepare proposals to improve the situation and consider the development of system management in education for the period 2021–2023 on the next Board of the Ministry.

– The Ministry of Economy of Ukraine should ensure urgent correction of errors in DSTU ISO 9000:2015 and other standards regarding the translation of the term "management".

To prevent such mistakes in the future and to build a modern system management infrastructure, it is also advisable to have in this area its "general designer" having the appropriate authorities. As Academician Sergei Korolev was in the area of space exploration or Academician Viktor Glushkov was in the area of computer science, at one time. The same role in the formation of the Japanese economic miracle was played by Edwards Deming, a world-known guru in management and quality, who, to the point, said the wise words: "It is not necessary to change yourself. Survival is not mandatory".

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#### **Abbreviations:**

|      |                                                |
|------|------------------------------------------------|
| DSTU | State Standard of Ukraine                      |
| IHE  | Institution of higher education                |
| MESU | Ministry of Education and Science of Ukraine   |
| IS   | International Standard                         |
| EB   | Executive body                                 |
| UN   | United Nations                                 |
| Fig. | Figure                                         |
| MS   | Management system                              |
| EFQM | European Foundation for Quality Management     |
| IDT  | Identical                                      |
| ISO  | International Organization for Standardization |

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# FEATURES OF THE INFLUENCE OF THE MARKET ENVIRONMENT ON THE INNOVATIVE DEVELOPMENT OF AGRICULTURAL ENTERPRISES

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**Introduction.** Research and analysis of the theoretical foundations allowed to determine the relationship between scientific and technological progress, innovation processes in the economy. The dominant role in economic development is played by scientific and technological progress, the core of which is innovation. The variety of types, forms and definitions of innovations necessitates the study of the essence of innovative development of agricultural enterprises, their main features and role in a market economy.

**The hypothesis** of the research is to substantiate the recommendations and proposals for improving the efficiency of innovation of agricultural enterprises as a priority sector, taking into account the European integration vector of the state.

**The purpose** of the study is to substantiate the peculiarities of the influence of the market environment on the innovative development of agricultural enterprises.

**The methodology** of scientific research is general and special research methods: dialectical – for analysis and understanding of the essence and content of the categorical series "innovation", "innovation process", monographic – in highlighting the views of scientists on the research issues; strategic analysis – to determine the priority areas

for intensifying the innovative development of agricultural enterprises.

**Conclusions and prospects** for further research. Based on the concept of growth cycles, it can be concluded that in a market environment, the organization of innovation is associated with the division and cooperation of labor, providing the necessary resources, selection and implementation of procedures for effective implementation of the innovation cycle. Therefore, the peculiarities of the influence of the market environment on the innovative development of agricultural enterprises, in our opinion, should be considered in terms of innovation systems. Factors that create a favorable market environment that allows the surveyed enterprises to be able to make significant upgrades, determine the four attributes of the country: the conditions for the factors; state of demand; related and supporting industries; stable strategy and structure. They each and all together form the basis of the country's competitive advantages, the space that each state creates and maintains for its industries.

**Keywords:** innovations; innovative development; competitiveness; innovation cycle; agricultural enterprises.

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## ОСОБЛИВОСТІ ВПЛИВУ РИНКОВОГО СЕРЕДОВИЩА НА ІННОВАЦІЙНИЙ РОЗВИТОК СІЛЬСЬКОГОСПОДАРСЬКИХ ПІДПРИЄМСТВ

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**Вступ.** Дослідження і аналіз теоретичних основ дозволили визначити взаємозв'язок науково-технічного прогресу, інноваційних процесів в економіці. Домінуючу роль в економічному розвитку відіграє науково-технічний прогрес, стрижнем якого виступає інновація. Різноманітність видів, форм і визначень інновацій обумовлює необхідність дослідження сутності інноваційного розвитку підприємств аграрної сфери, їхніх основних ознак і ролі в ринковій економіці.

**Гіпотеза наукового дослідження** полягає у обґрунтуванні рекомендацій та пропозицій щодо підвищення ефективності інноваційної діяльності підприємств аграрної сфери як пріоритетної галузі з врахуванням євроінтеграційного вектору держави.

**Метою дослідження** є обґрунтування особливостей впливу ринкового середовища на інноваційний розвиток підприємств аграрної сфери.

**Методологією наукового дослідження** є загальнонаукові та спеціальні методи дослідження: діалектичного – для аналізу та осмислення сутності і змісту категоріального ряду «інновація», «інноваційний процес», монографічного – при висвітленні поглядів науковців на досліджувану проблематику; стратегічного аналізу –

для визначення пріоритетних напрямків активізації інноваційного розвитку підприємств аграрної сфери.

**Висновки та перспективи подальших досліджень.** На основі концепції циклів зростання можна зробити висновки що в ринковому середовищі організація інноваційної діяльності пов'язана з розподілом і кооперацією праці, забезпеченням необхідними ресурсами, вибором і реалізацією процедур ефективного здійснення інноваційного циклу. Тому, особливості впливу ринкового середовища на інноваційний розвиток підприємств аграрної сфери, на наш погляд, слід розглядати з точки зору інноваційних систем. Чинники, які складають сприятливе ринкове середовище, що дозволяє досліджуваним підприємствам бути здатними до істотних оновлень, обумовлюють чотири атрибути країни: умови для факторів; стан попиту; поріднені і підтримуючі галузі; стійка стратегія і структура. Вони кожній окремо і всі разом складають основу конкурентних переваг країни, той простір, який кожна держава створює і підтримує для своїх галузей.

**Ключові слова:** інновації; інноваційний розвиток; конкурентоспроможність; інноваційний цикл; підприємства аграрної сфери.

**Problem statement.** The natural environment for the intensification of investment and innovation activities of agricultural enterprises is the real sector of the economy with appropriate legal, socio-economic regulators and infrastructure.

In the agricultural sector of Ukraine, the external environment of operation and development of enterprises does not fully meet the requirements of a market economy. As is known, for the most part, a characteristic feature of the current economic state of the national economy is the insensitivity of agricultural enterprises to innovation. Factors that hinder the innovative activity of agricultural enterprises in Ukraine can be divided into two main groups – economic and industrial.

Among the economic difficulties are insufficient cash flows, insufficient state financial support, significant and inflated cost of innovations, low solvent demand for new products, high economic risk, and so on. Among the most unfavorable production factors are the low innovative potential of agricultural enterprises, lack of information about new technologies, lack of information about markets, insufficient opportunities for cooperation with other enterprises and organizations, the outflow of qualified personnel and more.

**Analysis of recent research on the problem** of the market environment on the innovative development of agricultural enterprises is devoted to scientific works of such domestic and foreign researchers as O. Alimov, O. Amosha, Y. Bazhal, P. Belenky, V. Geets, N. Goncharova, O. Lapko, B. Malysky, L. Fedulova, D. Chervanyov, T. Yefimenko, A. Pryhozhyn, N. Alter, D. Archibudzhi, D. Arthur, S. Baker, R. Burgelman, T. Burns, P. Drucker, M. Porter, R. Nelson, E. Roberts, D. Tees, M. Tushman, B. Twiss, S. Winter, S. Harrison and others. At the same time, the intensification of innovation activity of agricultural enterprises should be based on the generally accepted innovation theory, and not be replaced by various alternative concepts.

**The purpose of the study** is to substantiate the peculiarities of the influence of the market environment on the innovative development of agricultural enterprises.

**Presentation of the main material** In the modern world on the concentration of innovations the first places are occupied by the USA, Japan, China and others. According to M. Porter (2000), the competitiveness of a nation depends on the following factors: the ability of a particular nation's industry to innovate and modernize; the company's ability to achieve competitive advantage through innovation; known creation of competitive advantages through innovation; awareness that there is only one way to maintain the achieved competitive advantage – to constantly improve them; the presence of four attributes of competitive advantage "diamond rules".

Thus, M. Porter clearly correlates the competitive advantages of the company and its ability to conduct and implement innovations, ie to organize innovative business as a key factor in success in competition.

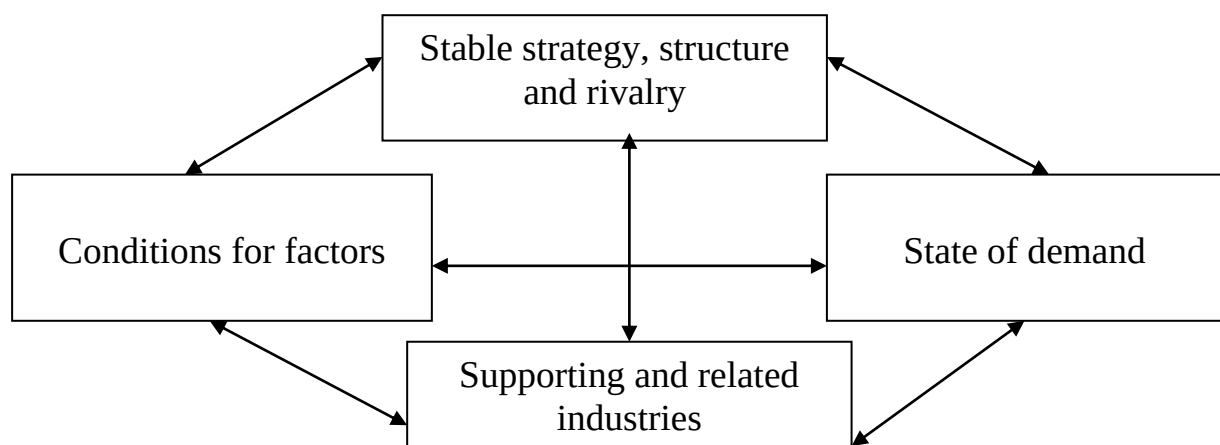
The author M. Porter studied the competitiveness of ten sufficiently influential countries in the world market: Britain, Germany, Denmark, Italy, Korea, Singapore, USA, Switzerland, Sweden and Japan. He questions the established explanations for the nation's competitiveness:

- macroeconomic (for example, low budget deficit and bank loan rate - in South Korea, the opposite);
- cheap local labor in export industries (not so in Germany, Sweden, Switzerland);
- surplus of natural resources (not so in Korea, Japan);
- government intervention in the economy (on the contrary in Italy and Taiwan). The only reasonable explanation for the competitiveness of individual nations is the presence in these countries of firms that have managed to use their distinctive advantages to create competitive advantages. The most promising method of achieving such benefits is innovation.

Once a company achieves a competitive advantage through innovation, it can only maintain it through continuous improvement. Almost any achievement can be repeated (Porter, 2000). Competitors will immediately and inevitably bypass any company that stops improving and implementing innovations. Sometimes the initial benefits, such as customer relationships, economies of scale in existing technologies, or the reliability of sales channels, are sufficient to allow an inert company to maintain its position for years or even decades. However, sooner or later more dynamic competitors will find ways to circumvent these advantages based on their innovations. There are factors that make up a favorable market environment that allows companies to be able to make significant upgrades. These are the four attributes of the country, the attributes that each and all together form the basis of the country's competitive advantages, the space that each state creates and maintains for its industries. Here are the attributes:

- 1) conditions for factors. The country's position in factors of production, such as the availability of skilled labor, or infrastructure, to compete in this area;
- 2) the state of demand. The nature of domestic demand for an industry product or service;
- 3) related and supporting industries. The presence or absence in the country of supplier industries or other supporting industries that are competitive internationally;
- 4) stable strategy and structure. The existing conditions in the country for the creation, organization and management of companies, as well as the nature of internal competition. These factors determine the emergence of a national

environment in which companies are born and learn to compete (Fig. 1). Each of the vertices of the diamond shown in the figure – and the whole of it as a whole – illustrates the components for success in competition: the availability of resources and skilled labor are necessary to ensure a competitive advantage in the industry; information that shapes the opportunities that companies experience and the areas in which they use their resources and employee skills; the purpose of owners, managers and individual employees; and, importantly, the pressure that a company experiences that forces it to invest and innovate (Porter, 2000).



*Fig. 1. Rhombus M. Porter*

Each of these four components of success determines the appropriate place on the diamond of competitive advantage of the country; the action of one of the components often depends on the condition of the other three. In general, a weak position in any of the components limits the ability of this industry to progress and renew.

However, the positions in the rhombus also have the properties of mutual reinforcement; they make up the system. Two elements, internal competition and geographical concentration, are particularly strong in the transformation of the rhombus into a single system – internal competition due to the fact that it stimulates improvement in all other key positions, and geographical concentration – due to the emergence and strengthening of interaction between the four factors. Another effect of the systemic nature of the rhombus is that countries rarely have only one competitive industry; the rhombus rule forms an environment that supports clusters of competitive industries. Competitive industries are not scattered in the economy unsystematically – they are usually connected to each other by vertical (buyer – seller) or horizontal (general consumers, technology, channels) links. Such groups do not disperse physically: they tend to concentrate geographically. One competitive industry helps the

emergence of another in the process of mutual strengthening. Once the cluster is formed, there is mutual support for all industries in the group. The benefits extend forward, backward and horizontally. Aggressive competition in one industry extends to other industries within the cluster – through technology transfer, market position development and diversification of existing companies. Market entry from other industries in the middle of the cluster accelerates modernization, stimulating research approaches and promoting the introduction of new strategies and skills. Through the channels of suppliers and consumers, in contact with many competing companies, there is a free dissemination of information and innovation. The benefits of clusters in innovation and productivity growth over an isolated location may be more important than the benefits in current performance. Firms in the cluster are often able to respond more adequately and quickly to customer needs.

Participation in the cluster also provides benefits in accessing new technologies or methods of work.

Agricultural enterprises in the cluster quickly learn about advances in technology, the availability of new components and equipment, new concepts in service and marketing, etc. Cluster membership makes it possible to directly monitor the activities of other enterprises. In contrast, an isolated firm has worse access to information and is forced to pay more; it also has a growing need to allocate resources to achieve new knowledge within its own structure. The potential advantages of clusters of agricultural enterprises in creating opportunities for innovation are very large. The company within the cluster is much faster to find sources for new components, services, equipment, as well as the elements necessary for the introduction of innovations, regardless of what these elements are – a new production line, a new process or a new supply model.

These and other innovation-driven benefits are exacerbated by direct pressures – competitive pressures, equalization pressures, and ongoing comparisons. The similarity of the main environment in which firms exist (for example, the cost of labor, similar aids), together with the presence of a large number of competitors, forces them to be creative in the question of their difference. M. Porter's fundamental work and his theory of innovation clusters became the theoretical basis for further applied research. Thus, based on the theory of clusters, the concept of growth cycles appeared, which allows a new look at the dynamics of competition in the modern market environment, and calls into question the classical economic theory of marginal cost (Porter, 2000).

This concept states that large companies that are developing aggressively and have a competitive advantage of innovation, face, above all, the problem of maintaining their growth and the smooth operation of the innovation pipeline. The results of many applied studies suggest that large companies are creating



new markets in which there are virtually no rivals, and are able to maintain a competitive advantage for a long time.

This is a paradox in terms of classical microeconomics, which argues that it is impossible to constantly achieve outstanding results. The situation is the same with traditional strategic schemes: they are not very useful in understanding the dynamics of new markets and ways of their active formation by companies to ensure their own advantage. The existence of industries with ever-increasing profitability refutes the traditional view that industry markets are quick to respond to declining profitability in the struggle of companies for access to limited resources. The stronger the competition, the faster the return on additional investment decreases. Firms will soon reduce their investments to a level that allows them to receive average industry profits, after which the structure of the industry will stabilize. However, in industries with ever-increasing profitability, the return on additional investment does not decrease, but increases. Some companies continue to increase investment, their profitability is growing, and as a result, one or two firms dominate the market, while others can not withstand the investment race.

**Research Findings and Prospects.** In today's knowledge-based global economy, there are many markets in which growing profitability has played a significant role for a long time. First, if competing companies are unable to provide the same scale of investment in innovation, the increase in profitability of individual firms can continue long enough, which determines the results of the industry as a whole.

Secondly, the marginal cost of production of many knowledge-based goods is zero, and in such cases, obtaining additional market share leads to a disproportionately large increase in profits. Third, profitability is rising periodically around the world as companies seek to benefit from the globalization of the economy and enter more and more large-scale regional markets. An efficient market environment allows for the mobilization of significant funds and maintain the smooth functioning of the financial source.

Based on the theory of innovation clusters and the concept of growth cycles, we can conclude that in a market environment, the organization of innovation in agricultural enterprises is associated with the distribution and cooperation of labor, providing the necessary resources, selection and implementation of procedures for effective innovation cycle.

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# FUNCTIONAL SUPPORT OF THE ORGANIZATIONAL AND ECONOMIC MECHANISM MANAGEMENT OF INNOVATION AND INTEGRATION POTENTIAL ENTERPRISES

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**Introduction.** The results of the analysis of social development over the period of human history show that it is based on various innovations that periodically radically changed the foundations of civilization. In a market economy, we should not abandon the methods of scientific planning, systems analysis, forecasting, optimization and programming, but on the contrary, dramatically improve the quality and efficiency of their application at all levels of government and all problems that need urgent solution.

**The hypothesis** of scientific research is to model the innovation process in enterprises as a necessary condition for the functional support of the organizational and economic mechanism of management of integrative and innovative development of existing potential.

**The purpose** of the study is to substantiate at the theoretical level the elements of the functional support of the organizational and economic mechanism for managing the integration and innovation potential of enterprises.

**The methodology** of scientific research is general and special research methods: abstract-logical method – to substantiate

and specify the main provisions of integrative-innovative development of enterprise potential; in the analysis of social phenomena and clarification of the economic essence of the categorical series, dialectical-logical – to determine the presence of a synergistic effect of forms of network organization of production by determining the functional support of organizational and economic mechanism of integrative and innovative development of enterprises.

**Conclusions.** It is determined that the substantiation of functional bases of organizational and economic mechanism of management of integration and innovative development of potential is based on transition to new business model which essence consists in transfer of accents in activity of the enterprise on growth of added value, increase of competitiveness provided not only by production of knowledge-intensive products. and the development of the knowledge economy, new organizational structures, types of services.

**Keywords:** innovations; integration potential; commercialization of innovations; organizational and economic mechanism; capacity management.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
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**ФУНКЦІОНАЛЬНА  
УПРАВЛІННЯ  
ЕКОНОМІЧНИМ  
ІННОВАЦІЙНО-ІНТЕГРАЦІЙНИМ  
ПОТЕНЦІАЛОМ ПІДПРИЄМСТВ**

**ПІДТРИМКА  
ОРГАНІЗАЦІЙНО-  
МЕХАНІЗМОМ**

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**Вступ.** Результати аналізу суспільного розвитку за період історії людства свідчать, що він базується на різного роду нововведеннях, які періодично докорінно змінювали основи цивілізації. В умовах ринкової економіки не слід відмовлятися від методів наукового планування, системного аналізу, прогнозування, оптимізації та програмування, а навпаки, різко підвищувати якість і ефективність їх застосування на всіх рівнях управління і з усіх проблем, що потребують нагального вирішення.

**Гіпотеза наукового дослідження** полягає у моделюванні інноваційного процесу на підприємствах, як необхідної умови функціонального забезпечення організаційно-економічного механізму управління інтегративно-інноваційним розвитком наявного потенціалу.

**Метою дослідження** є обґрунтування на теоретичному рівні елементів функціонального забезпечення організаційно-економічного механізму управління інтегративно-інноваційного потенціалу підприємств.

**Методологією наукового дослідження** є загальнонаукові та спеціальні методи дослідження: абстрактно-логічний метод – для обґрунтування і конкретизації

основних положень інтегративно-інноваційного розвитку потенціалу підприємств; при аналізі суспільних явищ та уточненні економічної сутності категоріального ряду, діалектико-логічний – для визначення наявності синергетичного ефекту від форм мережевої організації виробництва шляхом визначення функціонального забезпечення організаційно-економічного механізму інтегративно-інноваційного розвитку потенціалу підприємств.

**Висновки.** Визначено, що обґрунтування функціональних засад організаційно-економічного механізму управління інтегративно-інноваційним розвитком потенціалу базується на переході до нової підприємницької моделі, суть якої полягає в переносі акцентів у діяльності підприємства на ріст доданої вартості, підвищення конкурентоспроможності, що забезпечується не тільки виробництвом наукомісткої продукції, але й розвитком економіки знань, нових організаційних структур, видів послуг.

**Ключові слова:** інновації; інтеграційний потенціал; комерціалізація інновацій; організаційно-економічний механізм; управління потенціалом.

**Statement of the problem.** Organizational and economic mechanism (OEM) management of innovation and integration potential of enterprises should work in harmony, as a holistic system that ensures the continuity of the innovation process – from obtaining research results and developing an innovative product to its commercial use.

**Analysis of recent research.** World scientists who in their research focus on the problems of theory and practice of management of integrative and innovative potential in production are: R. Burgelman, P. Drucker, S.J. Klein, T. Kuhn, F. Kodam, R. Roswell, B. Santo, K. Freeman, J. Schumpeter and others. A large number of works not only by foreign but also domestic scientists O. Amosha, N. Verkhohlyadova, L. Vorotina, A. Galchynsky, V. Geets, V. Gerasymchuk, L. Hanushchak-Yefimenko are devoted to the formation of innovation policy and innovation processes. M. Yermoshenko, S. Yerokhin, S. Illiashenko, O. Kuzmin, O. Manoilenko, B. Paton, V. Solovyov, P. Khariv, D. Chervanev, O. Chubukova, M. Chumachenko, N. Chukhrai, V. Shevchuk, A. Shegdy, V. Shcherbak, A. Yakovleva and others) insufficient attention is paid to the issues of determining the expediency of introducing innovations in entrepreneurial activity.

**The purpose of the study** is to substantiate at the theoretical level the elements of the functional support of the organizational and economic mechanism for managing the integration and innovation potential of enterprises.

**Presentation of the main material** Organizational and economic mechanism of management of innovation and integration potential of enterprises (IIP) can be defined as a set of organizational forms, economic methods and levers of external and internal influence on IIP, which are aimed at its fullest implementation and development in order to increase the efficiency of financial and economic activities. The whole OEM management of the IIP can be divided into two components: intra-corporate and external mechanism. The state is the subject of application of the external mechanism of management of IIP, and it consists of all regulatory levers by means of which the state creates the corresponding economic and organizational conditions for increase of innovative activity of the enterprises. This part of the OEM does not depend on internal efforts and should be perceived by him as a condition of the external environment, which affects the financial and economic activities of enterprises. Intra-corporate OEM is created by the enterprise itself, its effectiveness depends on the forms, methods and tools used by each company. The main elements that make up the intra-corporate organizational and economic mechanism.

The OEM of the IIP management usually cannot be separated from the general internal corporate organizational and economic mechanism, it is organically built into it and is an integral part of it.

We believe that the creation of an OEM that can provide effective management of IIP is an individual process of an individual enterprise, it is based on specifics. In this case, managers can use forms, methods, economic levers, already known in economic science and practice, to learn from other companies, or to introduce organizational and economic innovations.

In our opinion, the main conditions necessary for innovation should include the following:

- availability of corporate development strategy;
- economic interest in innovation;
- readiness and ability of management to perceive innovations;
- flexibility of the organizational structure of corporate governance.

OEM management of IIP should be aimed primarily at:

1) implementation of a single innovation policy: coordination of activities in this area in production units;

2) study of projects to create new products;

3) development of plans and programs of innovation activity;

4) control over the development of new products and their implementation;

5) providing innovative activities by qualified personnel;

6) providing finances and material resources for innovation programs. The improvement of OEM is to improve the traditional, as well as the use of new specific organizational forms, economic methods and incentives aimed at ensuring a clear functioning of the system "R&D – production – sales – post-sales service". Given that foreign corporations have accumulated extensive experience in the rational organization of innovation, stimulating research and development, obtaining new technologies and products, strengthening their competitive position, we consider it appropriate to study and use foreign experience in practice, usually taking into account domestic economic conditions.

In particular, the practice of leading companies in developed countries shows that their success is associated with the development of a holistic system of innovation management. These companies have created an innovative structure and management culture in which the directions of technological development are integrated into general strategic plans, growth policy is directly linked to the constant development of promising products and penetration into new areas of business. They are characterized by decentralization of creative management and extensive use of the principles of small business, based on the use of so-called "venture capital" – free funds of the company and its branches. Improving innovation management for most companies is an important means of supporting their activity in the developed industries and expansion in new areas. The integrated use of new management principles is of great importance for increasing the efficiency of innovations. The main ones are the following:

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- creating an atmosphere that stimulates the search and development of innovations;
- the focus of all innovation activities on consumer needs;
- definition of priority directions of innovative work proceeding from the purposes and tasks of firm;
- reducing the number of levels in management in order to accelerate the process of "research – production – sales";
- maximum reduction of terms of development and implementation of innovations, organization of work not on the "relay" principle, but on the basis of simultaneous parallel solution of innovative tasks. In the direction of implementation of these principles in companies is the search for effective organizational forms of innovation management, which are part of the organizational and managerial link of the OEM. The generalization of data on the activities of foreign companies showed that the search goes in two directions. The first is related to the separation of departments that deal with innovation and long-term development problems of the firm. The second direction reflects the need to create a mechanism for integration and coordination of units, cross-functional interaction in the development and implementation of innovations. Most often, corporations use both approaches with priority use of one of them.

Note that in large corporations there is a tendency to organizational separation of units dealing with issues of long-term development (this includes R&D services, strategic planning, socio-political and economic forecasting, human resources development, organizational design, etc.) from the units responsible for current production and economic and management activities.

Summarizing the reasons for the growing interest of companies in new forms of cooperation, we can say that they take into account the complexity and cost of research, reducing the life cycle of science-intensive goods, the need for integrated use of various technologies to solve global business problems. Under such conditions, the cooperation of specialized companies in one or more industries is very effective in order to share costs and reduce the risk of successful competition with competitors in foreign markets. On this basis, for example, scientific and technical alliances are created, which can be defined as stable associations of firms of different sizes with each other and / or with universities, public laboratories on the basis of an agreement on joint R&D funding, product development or improvement. Sometimes scientific and technical alliances are divided into research (created to implement a specific research project) and research and production (for the development and production of new products). If partners from different countries take part in such cooperation, scientific and technical alliances become international. By creating new technologies beyond rigid national borders, international science

and technology alliances reduce the impact of individual factors, such as limited resources or tight government regulation. We emphasize that one of the main tasks of OEM is to create a favorable climate for innovation in the company and increase the company's ability to innovate. To do this, companies use various forms of material and moral incentives. Much attention is paid to encouraging and supporting the desire of employees for continuous training and retraining, encouraging the combination of professions and experimentation in different departments of the company by providing additional material and financial resources, awarding inventors and innovators, creating conditions for "teamwork", exchange of information between them. In developing directions for improving the OEM, in our opinion, it is necessary to proceed from what the main functions of this mechanism should perform and analysis of how fully these functions are performed in a particular enterprise. The most important feature of innovations is, in our view, their rather long life cycle, which can be roughly represented as the successive implementation of three phases: research, production and distribution (commercialization). Hence the need to develop a mechanism to ensure the passage of these phases by combining certain organizational and managerial forms with economic methods and levers. The specific decision to build such a mechanism depends on the scheme of organization of innovation, which chooses the company:

1. in the phase of using research:

1.1. uses the results of R&D performed by own forces, and in parallel acquires documentation and the necessary rights for the manufacture of new products (services) from third-party organizations that carry out R&D;

1.2. uses the results of R&D performed by own forces;

1.3. will acquire documentation and necessary rights from third-party developers of innovations.

2. in the commercialization phase:

2.1. sells innovative products and services, as well as R&D results (documents and rights to use);

2.2. sells innovative products (services).

The second specific feature of innovation is high risk, which is measured by the financial costs that increase the company as it moves from the research phase of the innovation life cycle to the dissemination phase. Accordingly, it requires the use of special mechanisms to reduce, neutralize, distribute financial risk. It is the need to neutralize and share the financial risks that accompany innovation, has led to the emergence of venture financing mechanisms in the West and the constant practical improvement of their application by Western companies. In particular, quasi-risk forms of their organization in corporations have become an effective method of accelerating innovation processes in the United States, the main ones being internal ventures and "relatives" programs.



Internal ventures are formed using the principles of organization of small firms (companies) in terms of corporate structures. Large corporations create special units to find and finance the most significant in terms of commercial innovations of a production nature.

If the company does not carry out R&D on its own, it can use the services of small venture firms that specialize exclusively in R&D. This kind of division of labor between large corporations and small innovative firms formed the basis for the emergence and active development of specialized venture capital companies, which invented specific mechanisms for promoting innovations and financing innovative projects of small ventures. Venture capital companies practice the use of a risk-sharing mechanism that reduces the entrepreneurial risk of investors and increases the ability of small innovative firms to obtain financing. The essence of the risk-sharing mechanism is that the venture capital company invests in the projects of not one but several small firms, carefully approaching the selection of business plans for innovative projects. The next specific feature of innovation, without which it is impossible to effectively use IIP, is the dominant role of intellectual capital, the main carrier of which is the human resources component of IIP. This requires the formation of a special corporate subculture – innovation culture. Innovative culture is characterized by a high educational level of staff, continuous learning process, creative atmosphere, desire for continuous improvement and experimentation, willingness to take risks, interest in innovation, dynamism in terms of creating opportunities to work creatively and encourage employees to innovate.

**Conclusions and prospects for development** Based on the above specific features of innovation, we formulate the necessary functional support of the OEM management of IIP:

- 1) ensuring compliance of the innovation strategy with the general strategy of the corporation's development;
- 2) long-term and current planning of innovation activities;
- 3) ensuring the reproduction and development of IIP;
- 4) the use of organizational forms of innovation, which provide effective management of IIP;
- 5) reducing the risks of innovation;
- 6) optimization of volumes and structure of expenses for innovative activity;
- 7) financial support of innovation activity;
- 8) creating a system of motivation for creative work of staff;
- 9) increasing the economic efficiency of IIP management;
- 10) constant monitoring of IIP management.

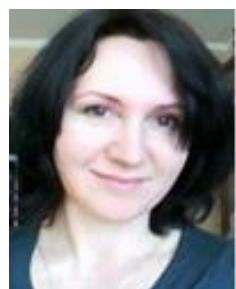
Execution of these functions should provide organizational forms, management decisions, economic methods and levers which are united in

system and make OEM of management of IIP built in the general organizational and economic mechanism of activity of corporation.

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# PECULIARITIES OF MANAGEMENT OF INSURANCE COMPANY SERVICES UNDER THE INFLUENCE OF THE COVID-19 PANDEMIC

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**Background and objectives.** In One of the elements of Ukraine's financial market infrastructure is the insurance market. Insurance services occupy the second place by the level of capitalization among nonbank financial markets. The current stage of development of insurance market in Ukraine, as well as any other state, is indirectly influenced by the consequences of COVID-19 pandemic. At this time, insurance companies are playing an important role in the life of the country. For their part, they fall under the influence of the negative external environment of company development. Adaptation of the insurance market to the changes is necessary. It is connected with the modernization of financial instruments of the insurance industry and implementation of innovative technologies in the organization of insurance activity. This necessitates the search for innovative ideas in the management of insurance company services.

**Methods.** The following general analysis methods were used: the

leveling and grouping methods, the average values and indices methods, the graphical methods, the integrated assessment methods.

**Findings.** Obtained results of the insurance market situation, impact of the COVID-19 pandemic on the activity of insurance companies was assessed, the trend of insurtech solutions for improvement of relations with clients was recommended.

**Conclusion.** The conducted research enabled to investigate indirect influence of pandemic COVID-19 on the market of insurance companies services and interconnection of the market with Ukrainian economics and the world. The conducted research helped to determine necessity of implementation of new approaches to management of insurance company services, in particular the necessity of using insurtech solutions for improvement of relations with clients.

**Keywords:** financial market; insurance services; post-pandemic development; digital technologies; insurtech solutions.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
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## ОСОБЛИВОСТІ УПРАВЛІННЯ ПОСЛУГАМИ СТРАХОВИХ КОМПАНІЙ ПІД ВПЛИВОМ ПАНДЕМІЇ COVID-19

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**Постановка проблеми та завдання.** Одним з елементів інфраструктури фінансового ринку України є страховий ринок. Страхові послуги займають друге місце за рівнем капіталізації серед небанківських фінансових ринків. На сучасний етап розвитку страхового ринку України, як і будь-якої держави, безпосередньо впливають наслідки пандемії COVID-19. В цей час страхові компанії відіграють важливу роль в житті країни. У свою чергу, вони підпадають під вплив негативного зовнішнього середовища розвитку компанії. Необхідна адаптація страхового ринку до змін. Вона пов'язана із модернізацією фінансових інструментів страхової індустрії та впровадженням інноваційних технологій в організацію страхової діяльності. Це зумовлює необхідність пошуку новітніх ідей в управлінні послугами страхових компаній.

**Методи.** Використані методи загального аналізу: методи порівняння і групування, методи

середніх величин та індексів, графічні методи, методи комплексної оцінки.

**Результати.** Отримані результати стану ринку страхових послуг, визначено вплив наслідків пандемії COVID-19 на діяльність страхових компаній, запропоновано використовувати напрямок insurtech-рішень для покращення взаємозв'язку з клієнтами.

**Висновки.** Проведене дослідження дозволило дослідити безпосередній вплив пандемії COVID-19 на ринок послуг страхових компаній та взаємозв'язок ринку з економікою України та світу. Проведене дослідження допомогло встановити необхідність впровадження новітніх підходів до управління послугами страхових компаній, а саме необхідність використання insurtech-рішень для покращення взаємозв'язку з клієнтами.

**Ключові слова:** фінансовий ринок; страхові послуги; постпандемічний розвиток; цифрові технології; insurtech-рішення.

**Introduction.** The basis for ensuring social and political stability in the country is the appropriate development of the civil society (On National Security of Ukraine: The Law of Ukraine, 2018).

The main factor of formation of economic development in Ukraine in 2020 was the factor of COVID-19 pandemic. Under the influence of the COVID-19 pandemic, significant changes in the life and activity of all countries of the world have occurred.

The main function of insurance is to protect individuals and entities from contingent losses in case of insurance events. At the same time insurance companies fall under the potential negative impact of risks that could jeopardize their ability to pay and have a negative impact on the consumers of insurance services (National Bank of Ukraine, 2020). Insurance services take the second place for the level of capitalization among non-bank financial markets (Results of insurance companies for the first quarter of 2020). The conducted research will be relevant to reflect the process of indirect influence of COVID-19 pandemic on the market of insurance companies services and will show the interconnection of the market with Ukrainian economy and the world. The conducted research will help to determine the necessity of implementation of new approaches to management of insurance company services, in particular the necessity to use approaches of insurtech solutions for improvement of relations with clients.

**Materials and methods.** This work is based on the analysis of Eurostat and IMF data (Growth from Knowledge, 2019) and data from the NBU, the Ministry of Economy (UKRAINE: the impact of COVID-19 on the economy and society). Besides it is used analysis of new approaches to management of the insurance company (Malovychko, 2014; Havrylenko, 2021).

**Results and discussion.** The civil society is a society of economically independent, socially and spiritually mature people.

According to the Law of Ukraine "On National Security of Ukraine" among the priorities of national interests are:

- The steady development of the national economy, the civil society and the state to ensure the increase in the level and quality of life of the population.
- Integration of Ukraine into the European political, economic, legal and social space, joining the European Union and the Organization of the Pacific Atlantic Treaty, development of equitable and mutually beneficial relations with other countries.

These postulates are politically and economically grounded because Ukraine is a full-fledged player on the economic map of Europe. Moreover, it is the largest country in Western Europe.

All European countries introduced sanitary and epidemiological measures (quarantine zones, temperature checks, discontinuation of mass events, closure

of educational and cultural and entertainment institutions). Restrictions on entry and exit to countries and resettlement in other countries were set to varying degrees. Labor activity was regulated by setting limits and introducing new distance forms of work and education. These regulatory measures have caused a significant decline in economic development in all countries of the world. For example, according to Eurostat data, in the second quarter of 2020, GDP volume decrease in comparison with the same period of 2019 in Germany was 11.7%, Spain – 22.1%, France – 19.3%, Austria – 12.8%, Lithuania – 3.8%. According to the latest data from the U.S. Department of Commerce, the U.S. economy in the second quarter of 2020 decreased by 32.9% on a year-over-year basis.

In Ukraine, the second quarter was the most important period in the economy, namely in March. This was the period of the most severe quarantine measures. Remembering the quarantine restrictions both in Ukraine and around the world contributed to a gradual renewal of business activity. According to the NBU Business Activity Index was 45.5 p.p. in June 2020 compared to 29.9 p.p. in Q1 2020.

The analysis of Ukrainian economy 2020 shows that in the period from June till June there was an increase in the turnover of retail trade by 3.0% only, and all other types of economic activity showed a decrease: agriculture – by 18.7%, the volume of freight traffic – by 19.6%, the volume of passenger traffic – by 55.9%, wholesale turnover – by 0.5%, industrial production – by 8.3%, construction – by 5.5%. As a result, the drop in GDP for the first half of the year according to the estimates of the Ministry of Economy was 6.5%, i.e. \$ 5 billion.

According to IMF forecasts, Ukraine's GDP in 2020 will fall from the previously forecast 7.7% to 8.2%. And the renewal of the Ukrainian economy will take place at a faster pace than predicted. In 2021, GDP is projected to grow by no more than 1.1%.

At the same time, prices on the consumer market rose by 2.4% in June 2020. That is why it is absolutely logical that Ukraine has been in the last place in the rating of European countries for purchasing power capacity of the population for three years in a row. In 2019, according to the list compiled by Growth from Knowledge, the purchasing power of the population per person in Ukraine was 1830 euros. As compared to Europeans, the average amount per person was 14,739 euros. The highest purchasing power was in Lichstein (67550 euros per capita), followed by Switzerland (42067 euros per capita). The countries with low purchasing power, apart from Ukraine, were Moldova and Kosovo.

In accordance with this situation, it is quite natural that the consumers' confidence in the reliability of the insurance company falls. And the confidence of the consumer – is one of the main conditions for the development of the

insurance market. At the same time the volume of insurance market during this situation decreased.

Total number of insurance companies as of 31.03.2020 was 225, including "life" IC – 22 companies, "non-life" IC – 203 companies (as of 31.03.2019 – 265 companies, including "life" IC – 27 companies, "non-life" IC – 238 companies). The number of insurance companies tends to decrease, so as of 31.03.2020 compared to the same date of 2019, the number of companies decreased by 40 companies (Results of insurance companies for the first quarter of 2020).

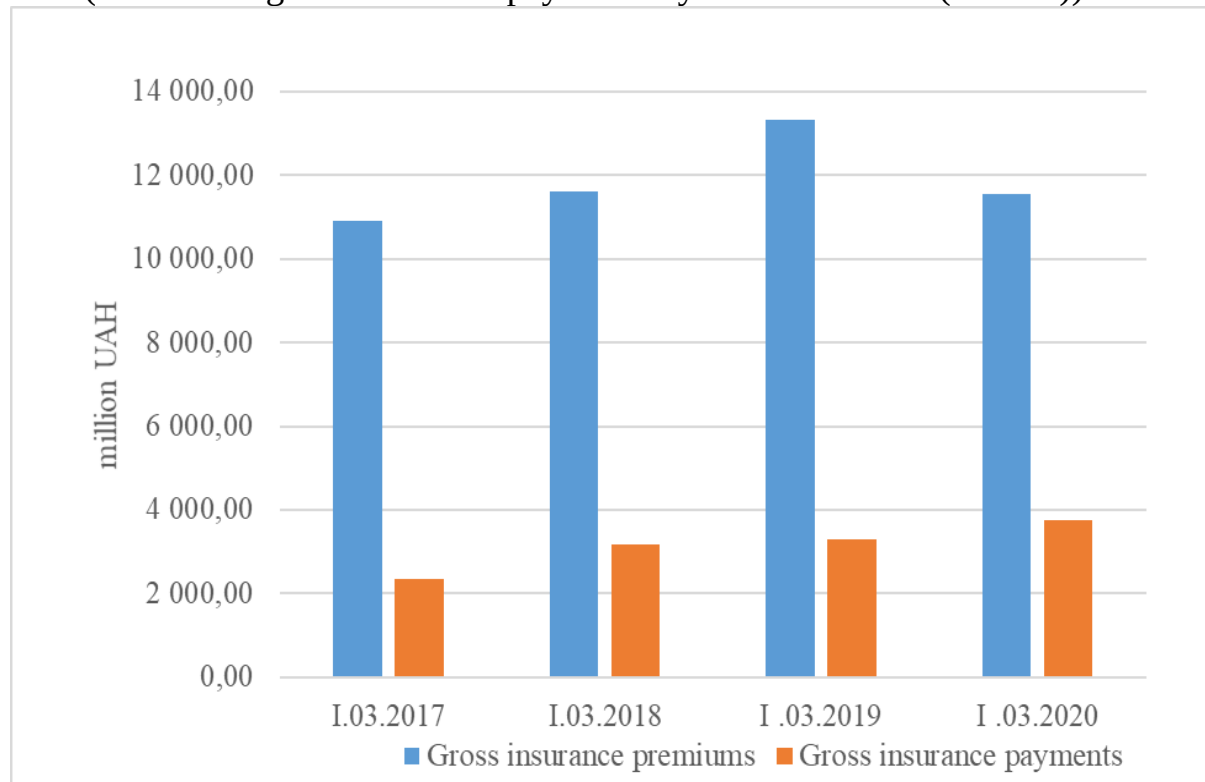
In comparison with Q1 of 2019 by 1 782,3 mln UAH (13.4%) the volume of gross insurance premiums has decreased, the volume of net insurance premiums 2 has decreased by 4,9 mln UAH (0,1%). The decrease in gross insurance premiums has occurred more or less for all types of insurance, namely: property insurance (decrease in gross insurance payments by 873,4 mln UAH (43,0%); insurance against natural perils and risks of calamities (decrease in gross insurance payments by 791,0 mln UAH (49.2%)); third parties liability insurance (decrease in gross insurance payments by 270.0 mln UAH (41,1%)); insurance of luggage (decrease in gross insurance payments by 243,4 mln UAH (39.1%)); insurance of financial risks (decrease in gross insurance payments by 209.9 mln UAH (19,3%)). The share of net insurance premiums in gross insurance premiums for Q1 2020 was 83,7%, that is 11,1 p.p. more compared to Q1 2019. (Results of insurance companies for the first quarter of 2020).

According to the analysis of indicators of insurance market for the last four years (Fig. 1) (Results of activity of insurance companies in the first quarter of 1918–2020), the volume of insurance market has not changed significantly.

Compared to 2019, in 2020 the number of insurance contracts decreased by 5,520.8 thousand units (or by 12.0%), while by 1,710.0 thousand units (or by 10.7%) the number of voluntary insurance contracts decreased. Voluntary insurance contracts have decreased by 1,027.0 thousand units (or by 10.7%), including the decrease of the number of contracts for insurance against accidents by 1,027.0 thousand units (or by 12.0%). (or by 11.6%), the number of contracts for financial risk insurance contracts has decreased by 411.1 thousand units (or by 27.6%), the number of contracts for health insurance against accidents has decreased by 278.2 thousand units (or by 20.8%). The number of obligatory insurance contracts decreased by 4,220.0 thousand units (or by 14.6%) due to the reduction of contracts for insurance against accidents on transport by 4,205.4 thousand units (or by 15.6%) (Results of insurance companies' activity in the 1st quarter of 2020). The total gross insurance premiums/insurance payments increased by 438.7 mln UAH (13.2%) compared to Q2 of 2019. (13.2%), the volume of net insurance payments increased by 410.3 mln UAH (12.6%). (12,6%). The increase in gross insurance payments in the 1st quarter of 2020 has



had little effect on the majority of insurance types, thus gross payments have increased for such types of insurance as: auto insurance (an increase in gross insurance payments by 165,9 mln UAH (10.2%)), health insurance (nonpermanent health insurance (an increase in gross insurance payments of 119.6 mln UAH (18.4%)), insurance against natural risks and risks of acts of God (increase in gross insurance payments by 94.5 mln UAH (2 times)).



**Fig. 1. The main indicators of activity of the insurance market during 2017–2020**

At the same time, gross insurance payments against catastrophic events decreased by 33.0 mln UAH (45.6%), financial risks by 25.8 mln UAH (6.3%), insured property by 15.1 mln UAH (9.6%). The level of gross payments compared to the same period of 2019 increased by 7.7 p.p. and amounted to 32.5%. The level of net insurance payments as of 31.03.2020 was 37.8%, which is 4.2 percentage points more compared to the same period of the last year (Results of insurance companies for the first quarter of 2020).

Under the influence of post-pandemic development the following comorbid processes are predicted in the Ukrainian economy (UKRAINE: the impact of COVID-19 on the economy and society, 2020):

- Increase in the level of unemployment through the return of workers and mass dismissal of employees.
- Mass bankruptcy of medium and small businesses.
- Acceleration of inflationary processes.

- Inability of the medical system to cope with the consequences of the spread of COVID-19 in Ukraine.

- Increased insolvency of many sectors of the economy.
- A significant drop in the disposable income of the population.
- Preservation of a high level of corruption.

All these facts speak of the instability of the insurance market and the need for new approaches to insurance company management.

Large insurers are urged to focus on using insurtech solutions to create data-driven models to improve customer interactions.

Startups are expected to have a big impact on health insurance, with insurtechs growing more than 1,000% in premiums collected between 2020 and 2025 (Insurance premiums for the insurtech sector will exceed \$556 billion in 2025).

The ability to collect and use customer data through mobile devices, API calls to electronic medical records, and digital therapeutic tools will increase – all of which are considered critical to driving digital transformation.

We are now definitely living in the age of digitalization, and this implies a significant change in all business processes. The main insurance trends will be (Havrylenko, 2021):

- Transformation of all products into the format of electronic policies, rapid and frequent launch of new products (including traditional, a large set of personal insurance products and products from the category of microinsurance).

- Expanded use of electronic payment services, intensified use of "connecting things" data in many types of insurance.

- Start of real use of "big data", providing clients with incomparably greater opportunities for self-configuration and change of products.

- Widespread use of bots in sales and service (including claims handling), digitalization in claims handling.

**Conclusions.** The conducted research allowed to investigate the indirect influence of COVID-19 pandemic on the market of insurance companies services. It established the interrelation of the insurance market with the Ukrainian economy and the world economy. The conducted research helped to determine the necessity of implementation of new approaches to the insurance companies services management, in particular the necessity of using insurtech solutions for increasing the relations with the clients. In addition the use of electronic payment services, activation of the use of data "connecting things" in many types of insurance. It is necessary to transform all products in the format of electronic policies, rapid and frequent launch of new products.

**Conflict of Interest.** The authors declare that there is no conflict of interests regarding the publication of this article.

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## APPLICATION OF COMPETITIVE MARKETING STRATEGIES IN BRAND MANAGEMENT

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**Introduction.** Against the background of marketing and globalization of higher education, many organizations and enterprises not only face stiff competition and quality problems in the market. Despite all the current challenges, they need to implement brand management tools. The urgent task for universities was how to apply the brand's marketing strategy to the brand management of universities, implement the optimal distribution of tangible and intangible resources, create a good brand image, expand popularity and reputation and gain competitive advantage.

**The hypothesis** of scientific research is that for the formation of an effective brand it is necessary to use the tools of strategic marketing.

**The aim** is to study the theoretical and methodological foundations of brand formation in educational institutions using modern competitive marketing strategies.

**The research methodology** is a comparative analysis to reflect trends in the development of the brand of education; systematization and classification – for the classification of structural elements of the object of study; system approach – for the formation of

theoretical foundations of regulation of brand management processes.

**Results.** Based on the law on higher education and reliance on the mechanism and legislation of the market, this article examines brand management and argues that university brands should be optimized, coordinated and integrated to take full advantage of internal and external resources. It is necessary to strengthen the concept of brand management, explain the position of the university brand, create a strong university brand, strengthen the dominant university brand, create a crisis management system for university brands, increase the basic competitiveness of universities and gain greater benefits.

**Conclusions.** University brand management should be based on the marketing strategy of enterprise brands, make full use of their own resources, strengthen the concept of brand management, determine the position of the university brand and create a strong university brand. universities, the university brand is undoubtedly a dazzling edge of the sword.

**Keywords:** brand; marketing; strategy; brand management; competitive potential.

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## ЗАСТОСУВАННЯ КОНКУРЕНТНИХ СТРАТЕГІЙ МАРКЕТИНГУ В УПРАВЛІННІ БРЕНДОМ

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**Вступ.** На тлі маркетингації та глобалізації вищої освіти багато організацій та підприємств не лише стикаються з жорсткою конкуренцією та проблемами якості на ринку. Незважаючи на всі нинішні проблеми, вони мають впроваджувати інструменти управління брендами. Нагальним завданням для університетів стало те, як застосувати маркетингову стратегію бренду до управління брендом університетів, реалізувати оптимальний розподіл матеріальних та нематеріальних ресурсів, створити гарний імідж бренду, розширити популярність та репутацію та отримати конкурентні переваги.

**Гіпотеза наукового дослідження** полягає в тому, що для формування ефективного бренду необхідно використовувати інструменти стратегічного маркетингу.

**Метою** є вивчення теоретичних та методологічних основ формування бренду в навчальних закладах із використанням сучасних конкурентних маркетингових стратегій.

**Методологією дослідження** є порівняльний аналіз для відображення тенденцій розвитку процесів становлення бренду освіти; систематизація і класифікація – для класифікації структурних елементів об'єкту дослідження; системний підхід – для формування теоретичних основ регулювання процесів управління брендом.

**Результати.** На засадах дотримання закону про вищу освіту та опори на механізм та законодавство функціонування ринку в цій статті досліджено управління брендом і обґрунтовано, що університетські бренди слід оптимізувати, координувати та інтегрувати для повного використання внутрішні та зовнішні ресурси. Необхідно посилити концепцію управління брендом, пояснити позицію університетського бренду, створити потужний університетський бренд, посилити домінуючий університетський бренд, створити систему управління кризовими ситуаціями університетських брендів, підвищити основну конкурентоспроможність університетів та отримати більші переваги.

**Висновки.** Університетський бренд-менеджмент повинен базуватися на маркетинговій стратегії брендів підприємств, повною мірою використовувати свої власні ресурси, зміцнювати концепцію управління брендом, визначати позицію університетського бренду та створювати сильний університетський бренд. університетів, університетський бренд, безсумнівно, є сліпучим краєм меча.

**Ключові слова:** бренд; маркетинг; стратегія; управління брендом; конкурентний потенціал.

**Formulation of the problem.** Brand marketing means that starting from the consumer demand of consumers, enterprises use various marketing strategies to show their products and services to target customers, so as to form a brand image of enterprise brands, products and services in the minds of customers. and finally form the marketing strategy and process of brand benefit. The continuous development and improvement of the market economy not only provides people with an exchange platform and economic perspective, but also brings more affairs into the commercial considerations of competition and profitability. taking care of university management from the perspective of brand has become a new dimension. Today, with the marketization of higher education, how to apply brand marketing strategy to university brand management, realize the optimal allocation of tangible and intangible resources, establish a good brand image, expand popularity and reputation, and then gain competitive advantage has become an urgent task for the development of universities. University brand management is that under the premise of following the educational law and guided by the market operation mechanism and law, the university optimizes and integrates the elements of university brand resources, makes full use of internal and external resources, and improves the value of university brand. enhance the core competitiveness of the university, realize the best combination of social and economic benefits of the university, and finally realize the sustainable development of the university. This paper attempts to apply brand marketing strategy to university brand management, and limit the scope of its application.

**An analysis of recent research and an unresolved part of the problem.** Research on the formation of marketing strategies and brand management is reflected in the work of scientists such as T.W. Xu (2008), Tian Fuhu (2006), Xu Tongwen (2006), Yu Mingyang, Zhu Jida & Wu Mei (2004), J. Paul (2019), K.L. Keller & T.O. Brexendorf (2019), L. Ganushchak-Efimenko, V. Shcherbak & O. Nifatova (2018) and others.

**The aim** is to study the theoretical and methodological foundations of brand formation in educational institutions using modern competitive marketing strategies.

**Research results.** Traditional university is an elite education model. With the development of social economy, especially the rapid development of information and knowledge, the society needs a large number of knowledgeable workers. Universities can only meet this demand in order to get their own development. The transformation of Chinese universities is also carried out under this objective reality. Universities have shifted from elite education to mass education, from planned management to market management, and from universities as the main body to consumers as the main body. The higher education market is gradually taking shape.

In the competition of higher education market, how to gain competitive advantage and self-development is a problem that every university has to face.

Universities need to design and standardize their development path with more diverse and powerful market means. The implementation of university brand management will help universities solve many difficulties they face, not only provide high-quality educational products and human resources products for the society, but also provide students and society with deeper pursuits. world outlook, values, ideological innovation, cultural orientation and spiritual pursuit.

When the brand of the university becomes a famous brand, it will become an important source of the core competitiveness of the university. Social resources will accelerate the convergence of famous universities, and the charm of famous brands will make consumers incomparably loyal. To a certain extent, famous universities can expand in many interest points (Xu, 2008).

The effective implementation of university brand management will fully integrate all kinds of resources within the university. First of all, integrate the intangible resources of universities. At present, the educational concept, educational purpose, educational content, educational mode, discipline construction, speciality setting and management of the university are all constructed based on the planning system, which should be integrated with the modern university concept and management model. Secondly, the tangible resources of universities are integrated. Unreasonable allocation of resources, low efficiency, poor efficiency and serious waste are common problems in Chinese universities, and it is also an important reason why some universities are not competitive. Universities need to integrate this with brand strategy to make resources more effective. Thirdly, the brand management of the university can improve the cohesion of the university. The good image and high reputation of the university brand not only effectively improve the character of the university and the spirit of teachers but also make the scientific research of the university have a more clear goal and orientation.

With the intensification of competition among universities and the gradual formation of the buyer's market, the subjective spirit and individualism of consumers will be more and more obvious. The implementation of university brand management is conducive to accurately convey the positioning and characteristics of the university to consumers. Because of its integrity, clarity and unity, brand strategy brings great convenience to the identification and choice of consumers and optimises the matching of supply and demand.

Brand marketing strategy can be divided into three levels. First, from the external characteristics, such as brand name, image design and packaging and other brand overall quality externalization. Second, from the internal quality, mainly to enhance the actual content of the social value of the brand. For example, starting from the quality and special functions of the brand, carry out comprehensive generalization and artistic promotion to carry out brand marketing. Third, start from the spiritual value to expand the new value of the brand, such as brand image



advertising and so on. The application of brand marketing strategy to university brand management can be carried out from the following aspects.

With the continuous improvement of the degree of marketisation of higher education in China, in the face of fierce competition in talent, funds and quality, the value of the university brands is becoming more and more favoured by people. The pursuit of brands, especially famous brands, has become an important strategy for developing universities, and brands have also become an important index for consumers to invest in education and cognitive evaluation. University brand management can not only enable universities to gain a competitive advantage in the fierce competition but also help to integrate all kinds of university resources and consumers to identify and choose them. Superior brands have high loyalty and attractiveness in the eyes of consumers, which attract more talents for the development of the university, enhance the internal integration and cohesion of the university, and strive for more external support. and then provide more favourable protection for the development of the university. Therefore, universities should strengthen the concept of brand management and let the brand become the symbol of the core competitiveness of universities to occupy an active position in the fierce market competition.

University brand positioning refers to the process and result that universities establish a brand image related to the target market on the basis of educational goals and consumer needs, according to their unique advantages in their own development, and form characteristics and advantages within a specific category, level, field and scope, in order to make consumers understand and understand the characteristics of the brand, so as to make the brand occupy a special position in the minds of consumers. University brand positioning is the foundation of university brand construction and the premise of successful brand management. First, clear target orientation. First of all, universities should make a reasonable positioning of their own school-running level, talent training objectives, key development disciplines and other aspects, and make clear their own development direction, so as to lay a good foundation for the brand construction of the school. Second, do a good job of characteristic orientation. The characteristic is the unique high-quality style formed by the accumulation of the university in the long-term running of the school, which is unique to the university and superior to other schools. In university brand positioning, we should expand and strengthen our existing advantages, and at the same time, combine social needs and our own reality, cultivate and develop new characteristics, and form the competitive advantage of the brand. Third, find the vacancy location (Tian Fuhu, 2006). After defining the long-term goals and characteristic goals of development, universities should also actively look for new areas that have not been occupied by the market or have yet to be developed, and concentrate resources to develop new brand advantages.

The positioning of the brand only points out the direction for the development of the university brand, and defines the university's goals, characteristics and space for development. It does not mean that the university brand has been formed or will be formed, but practice its internal skills and constantly enhance the gold content of the brand. Building a strong university brand is not only the core of university brand, but also an important means to enhance the core competitiveness of the brand. The main contents are as follows. First, to design a set of unique university brand image logo. The university should design a unified and unique school emblem or image logo to enhance the brand image of the university. Through the brand image logo, in order to arouse people's recognition of the profound connotation of the university behind the brand image. The design of unique brand image is an important part of university brand management. Second, strengthen the brand quality of universities. Quality is the core of forging brand, and brand quality is the organic combination of product quality and service quality felt by consumers. The establishment and dissemination of university brand are determined by the quality of university education. It is particularly important to strengthen the quality system in university brand management. First of all, pay attention to the development of characteristic disciplines. Characteristic is the soul of quality. In university brand management, we should adhere to the development principle and strategy of non-equilibrium, attach importance to and strengthen discipline planning, optimize discipline development model, and make discipline specialty have brand characteristics, so as to improve the quality of university brand. Secondly, strengthen the construction of teaching staff. Brand quality comes from excellent teachers, and high-quality teachers are the premise and guarantee of high-quality brands. Only famous teachers can bring up famous schools. Universities should improve their educational level and quality by strengthening the construction of innovative teams and academic echelons. Thirdly, improve the quality of cultivating talents. To some extent, the quality of a university is reflected by the quality of the talents it trains. The quality of the university refers to the degree to which the university meets the needs of the society, including not only the quality of university products, the quality of teachers, the quality of teaching and scientific and technological research, but also the social satisfaction with the talents trained by the university. It is the sum of the quality of talents trained by universities and the quality of services provided by universities (Xu Tongwen, 2006). With the rapid expansion of the scale of higher education, the demand for talents and services that universities can provide has changed from quantity to quality. Therefore, universities should make great efforts to train high-quality talents and provide high-quality "products" for the society to meet the needs of the society.

While universities continue to build strong brands by practicing their internal skills, they should also pay attention to actively promoting and publicizing superior brands in order to enhance brand awareness, reputation and characteristics. "the smell of wine is also afraid of the depth of the alley." Today, when there are many colleges and universities, consumers' understanding of the target colleges and universities is often very vague, especially when the differences between universities are not very obvious. consumers' cognitive evaluation and behavior choices of universities are largely influenced by external propaganda factors. Under the premise of practising internal skills and ensuring quality, universities should also pay attention to the promotion and promotion of university brands. First, it is necessary to refine and state the outstanding points of the university and do a good job in publicising the characteristics of the university brand. In the tide of marketization of higher education, universities expand the teaching scale one after another and move towards the direction of running comprehensive universities. different universities tend to be the same in specialty setting and curriculum setting, and the differences between universities are gradually narrowing. In this case, consumers have a great blindness in their choice of target colleges and universities. Universities should make full use of news media, advertisements and other communication tools and large-scale activities to spread their unique school-running ideas, characteristic specialties, outstanding figures, excellent achievements, and so on, so as to enhance the popularity and characteristics of universities in the eyes of consumers. so that consumers can strengthen their understanding and understanding of the brand and form a strong and lasting emotional identity and loyalty to the brand. Second, to realise the networking of university brand management. University brand management should make full use of the network as a convenient way to show consumers the characteristics of the university, release important activities and events, and publicize the outstanding achievements of the university through words and pictures, so as to make the university brand vivid, vivid and plump, so as to win consumers' high attention to the university and improve the popularity and reputation of the university. Third, using the focus effect of major events to promote university brands. It is an important strategy for university brand promotion to use activities or major events to focus on the eyes of Chinese people and even the world. Universities can make use of the good opportunity of celebrating the school or obtaining major scientific and technological achievements to publicize and promote the university brand, attract more people's attention, and establish a good image of the university.

In the process of its development, the university will inevitably encounter some unexpected events. If it can not be effectively prevented and dealt with in time, the brand that the university has worked so hard for many years will be

destroyed, and the long-term development of the university will be affected. Therefore, it is necessary to establish a university brand crisis management system. The main contents are as follows. First, to establish the crisis prevention system of the university brand. University brand is formed by the public's subjective judgment of university information. Universities should actively interfere with consumers' cognitive process and actively guide the public to establish correct evaluation criteria for universities to win a good reputation of consumers. At the same time, universities should, to a certain extent, take the initiative to "cater" to the preferences of consumers, listen patiently to consumers' comments on universities, especially pay attention to consumers' poor reputation of universities, discover their shortcomings in time and improve them, to avoid the expansion and deterioration of the situation and prevent university reputation problems from happening shortly. Second, to establish a university brand crisis management system. In the event of a crisis that destroys the school's reputation, the school should deal with it promptly and reduce the adverse impact on the school's reputation to a minimum through various public relations or remedial measures.

University brand is operable and can be managed by commercial brand marketing strategy. However, higher education belongs to quasi-public goods, so there should be a clear boundary and scope to apply brand marketing strategy to university brand management.

The value of university brand mainly refers to its social benefits. A strong university brand means that the university has made a great contribution to the society, so we must adhere to the dominance of social benefits in the university brand management (Yu Mingyang, Zhu Jida & Wu Mei, 2004). On the one hand, under the guidance of the law of education, university brand management is to effectively optimize and integrate the resource elements of the school, improve the utilization efficiency of resources, achieve the social goal of educating people, and realize social benefits; on the other hand, the brand management of the university should also follow the law of the market economy, through the effective management of the university brand resources, so that the school can obtain the maximum operating income and realize the economic benefits of the university. The brand management of the university obtains the corresponding economic return while ensuring the realization of the educational goal. when considering its own economic return, the university should not pursue the economic benefit purely like the enterprise, but should consider its social benefit. take the realization of social benefits as the starting point and destination of its brand management.

Today's products have entered a homogeneous era in the face of a large number of similar competitors, enterprises generally use a variety of promotion means to strengthen publicity to attract the attention of consumers. Enterprises

adhere to the need to "do well". What is more, it is necessary to "say well" marketing concept and carry out strong advertising, making a certain brand a household name overnight. However, it is inevitable that there will be some nominal or exaggerated short propaganda. In the brand management of the university, it is important to actively promote the university brand. However, the most fundamental thing is to improve the quality of running a university by practising its internal skills. University brand publicity is more about the publicity of characteristics and achievements, such as the concept of running a university, characteristic specialities, outstanding people, excellent achievements and so on, rather than random propaganda.

Commercial brands generally express themselves through corresponding products or services as carriers. On the other hand, the carrier of the university brand is diverse. It is an organic whole composed of brand elements, such as the concept of the university, the president of the university, the teachers of the university, the students of the university, the discipline of the university, the academic activities of the university, the campus culture of the university, the service of the university, the image logo of the university and so on. Any link that has problems will have an impact on the university brand. In university brand management, we should establish the overall concept and realise the organic management of various brand elements.

**Conclusions and suggestions.** Under the premise of respecting the inherent law of education, university brand management should actively learn from the brand marketing strategy of enterprises, make full use of their superior resources, strengthen the concept of university brand management, define the positioning of university brand, and create a strong university brand. Pay attention to the promotion of superior brands, the establishment of a brand crisis management system, improve the competitiveness of universities. If university management is a sharp sword for universities to compete, the university brand is undoubtedly the dazzling edge of the sword.

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# MODELING OF THE CLUSTER ORGANIZATION OF DEVELOPMENT OF TOURIST AND RECREATIONAL BUSINESS ON THE BASIS OF MARKETING

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**Introduction.** The model of cluster organization of tourism and recreational entrepreneurship development on the basis of marketing has been improved, built on the basis of economic and mathematical modeling methods.

**The hypothesis of scientific research** is in substantiation of management of the cluster organization of development of tourist and recreational business on the basis of marketing.

**The purpose of the study** is a substantiation of features of the cluster organization of development of tourist and recreational business on the basis of marketing.

**Research methodology** there are general scientific and special research methods: dialectical – for analysis and understanding of the essence and content of the categorical series "tourist and recreational entrepreneurship", monographic – in highlighting the views of scientists on the research issues; strategic analysis – to determine the priority areas of intensification of cluster development of tourism and recreational entrepreneurship on the basis of marketing.

**Conclusions and prospects for further research.** The novelty of the approaches is to create an integrated model for assessing the level of loyalty of tourist and recreational services from the standpoint of its perception by the client, which allows to assess the level of innovativeness of tourist and recreational services by key parameters, which will ultimately allow tourism and recreational enterprises to determine their management decisions. competitiveness. The proposed author's scientific and methodological approach to assessing the level of loyalty of tourist and recreational services will comprehensively assess the service, customer interface, system of tourist and recreational services technology, identify possible areas for improvement, accounting for which will allow tourism and recreation companies to determine a set of management decisions. competitiveness.

**Keywords:** cluster development; competitiveness; tourist and recreational entrepreneurship; marketing bases of tourist and recreational entrepreneurship development.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
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| 10                      | 1                    | 0                   |

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## МОДЕЛЮВАННЯ КЛАСТЕРНОЇ ОРГАНІЗАЦІЇ РОЗВИТКУ ТУРИСТИЧНО-РЕКРЕАЦІЙНОГО ПІДПРИЄМНИЦТВА НА ЗАСАДАХ МАРКЕТИНГУ

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**Вступ.** Удосконалена модель кластерної організації розвитку туризму та рекреаційного підприємництва на основі маркетингу, побудована на основі методів економічного та математичного моделювання.

**Гіпотеза** наукових досліджень полягає в обґрунтуванні управління кластерною організацією розвитку туристично-рекреаційного бізнесу на основі маркетингу.

**Метою** дослідження є обґрунтування особливостей кластерної організації розвитку туристично-рекреаційного бізнесу на основі маркетингу.

**Методологія** дослідження: загально-наукові та спеціальні методи дослідження: діалектичний – для аналізу та розуміння сутності та змісту категоріального циклу «туристично-рекреаційне підприємництво», монографічний – для висвітлення поглядів науковців на проблеми дослідження; стратегічний аналіз – визначити пріоритетні напрямки інтенсифікації кластерного розвитку туризму та рекреаційного підприємництва на основі маркетингу.

**Результати:** запропоновано науково-методологічний підхід до оцінки

рівня лояльності туристично-рекреаційних послуг дозволить комплексно оцінити послугу, інтерфейс клієнта, систему технологій туристичних та рекреаційних послуг, визначити можливі напрямки вдосконалення, облік яких дозволить компаніям з туризму та відпочинку визначити сукупність управлінських рішень. конкурентоспроможність.

**Висновки** та перспективи подальших досліджень. Новизна підходів полягає у створенні інтегрованої моделі оцінки рівня лояльності туристично-рекреаційних послуг з позиції сприйняття його клієнтом, що дозволяє оцінити рівень інноваційності туристично-рекреаційних послуг за ключовими параметрами, які зрештою дозволить підприємствам туризму та рекреації визначати свої управлінські рішення. конкурентоспроможність.

**Ключові слова:** розвиток кластеру; конкурентоспроможність; туристичне та рекреаційне підприємництво; маркетингові основи розвитку туристично-рекреаційного підприємництва.



**Formulation of the problem.** Intensification of socio-economic development of Ukraine requires the formation of the market of tourist and recreational services, in which a significant role directly or indirectly belongs to the policy of the state, which performs market regulation functions, including tourism and recreation in the innovative model of development. Modern conditions put forward realities in which tourist and recreational services must be considered in different areas: qualitative and quantitative, which uses methods of statistical research and economic and mathematical modeling, as all sectors of the economy, including the market of tourist and recreational services, are a system of a certain hierarchy, structure, proportions and relationships.

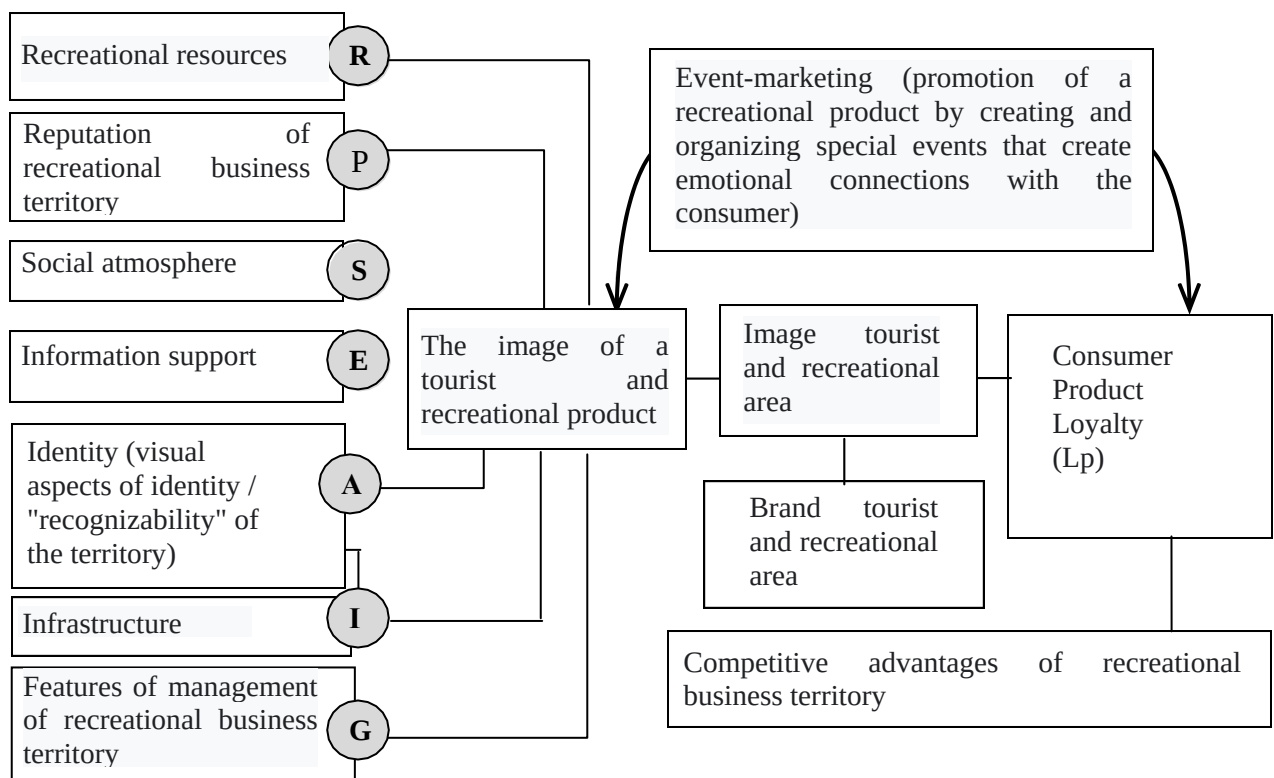
**Analysis of recent research on the problem.** Foreign studies of the formation and development of local innovative marketing systems in the tourism and recreation sphere are represented by the works of D. Aaker, V. Kumar, J. Day, O. Ishchenko, A. Kostecki, S. Kostina, F. Kotler, K. Asplund, I. Raine, D. Haider and others. Questions of the impact of innovative transformations on the efficiency of social production, research in the field of the concept of innovative cluster business activity are contained in the works of such scientists as L. Bogatchyk, Y. Bondarenko, M. Voynarenko, L. Hanushchak-Yefimenko, I. Kulinyak, K. Strakhorchuk and others.

**The purpose of the study** is a substantiation of features of the cluster organization of development of tourist and recreational business on the basis of marketing

**Presentation of the main material** The complex nature of tourist and recreational services inevitably affects many different actors and areas, creates space for innovative combinations of consumer values and priorities, as well as expands opportunities to attract new customers and achieve the integration of used tourist and recreational business resources. Among other things, the assessment of the level of innovative development of tourism and recreational business services is especially important in a saturated market and increasing rates of change in consumer demand and benefits in tourism and recreation, which make their rules in quantitative and qualitative evaluations of these services. The high level of development of indicators of the image of the tourist-recreational territory is connected with the level of loyalty of consumers of the tourist-recreational product that as a result provides development of competitive advantages of the tourist-recreational business complex. The approach used to study the dependence of these elements of the tourist and recreational business complex allowed to develop a model of formation of competitive advantages of the tourist and recreational business complex (Fig. 1).

According to the proposed model of formation of competitive advantages of tourist and recreational business territory, its image, image and brand of tourist and recreational business territory are the main components of territorial

marketing – an important element of economic development of tourist and recreational business complex. recreational product (residents, business community, visitors, investors and exporters). The proposed scientific and methodological approach to determining the level of loyalty of consumers of tourist and recreational product is based on a comprehensive evaluation system that concentrates seven determinants of loyalty (tourist and recreational resources, reputation, social atmosphere, information support, identity, infrastructure and management). type of loyalty (high, stimulated, potential and inertial) and characterizes the uniqueness of the tourist and recreational territory of Ukraine, creates opportunities for the development of its competitive advantages. One of the current purposes of the marketing system of tourist and recreational areas is to provide justification for decisions on the effective use of the potential of tourist and recreational areas by the relevant enterprises of the tourist and recreational sphere, the main purpose of which is to meet the needs of tourism and recreational services. The management system, a component of which is considered the marketing of tourist and recreational areas, is able to ensure integrated coordination of market interests, non-profit institutions and consumers, which allows to develop and implement effective policies for tourism and recreation, with the necessary management structures, powers, levers of influence.



Source: author's development.

**Fig. 1. Model of formation of competitive advantages of tourist and recreational business complex**

**Research Findings and Prospects.** The main purpose of marketing tools in the management of tourist and recreational areas is the ability to balance the interests of many regional market actors and implement the priorities of the socio-economic system of the tourist and recreational complex in the direction of sustainable development. The developed model of formation of competitive advantages of tourist-recreational territory and scientific-methodical approach to definition of level of loyalty of consumers of tourist-recreational product, allow to estimate level of satisfaction of needs of the population in tourist-recreational product, to use tourist-recreational potential effectively, to balance interests of set of subjects. -recreational market; to implement the general orientation of the socio-economic system of the tourist and recreational complex of Ukraine. The complex nature of tourist and recreational services inevitably affects many different actors and areas, creating space for innovative combinations of consumer values and priorities, as well as expands opportunities to attract new customers and achieve the integration of resources used. Innovations in tourism and recreation services are often seen as technological innovations that can be innovative insofar as they are integrated with new technologies. The analysis of the achieved level of innovative development of tourist and recreational services requires improving the mechanism of marketing management of this development, to build cognitive models of marketing-oriented management of tourist and recreational complex of Ukraine, which will provide a basis for modeling marketing-oriented management of tourist and recreational complex of Ukraine.

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## HIGHER EDUCATION IN UKRAINE: REALITY AND PERSPECTIVES

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Ukraine.

**Background and objectives.** Sustainable development of the country requires the establishment of a close dialogue between the three subjects of higher education – the university, business and the state. The need to strengthen cooperation is due to the discrepancy between the real state of development of the economy and education sector, the inconsistency of staff quality with modern labor market needs, lack of innovation and research component of universities, which negatively affects the state of the national economy and reflected in various international rankings. To solve this problem it is necessary to study the state of higher education in Ukraine and prospects for its development.

**Methods.** The graphical method is used to study the dynamics of higher education, logical – to build a system for monitoring the employment of higher education.

**Findings.** An effective model of cooperation in Ukraine should include several areas of activity. The state must ensure the financial independence of universities through government; to promote the creation of the appropriate material and technical base of the university; to create conditions under which business will be interested in cooperation with educational institutions as bases of practice and for the purpose of carrying out joint with university research works in priority spheres.

**Conclusion.** Business structures should provide information on the needs of the market in qualified personnel and on promising areas of activity. Universities must provide quality curricula, readiness to establish technology parks, innovative firms on the basis of universities in order to conduct research.

**Keywords:** higher education; applicants for higher education; employment.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
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| 21                      | 3                    | 0                   |

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## ВИЩА ОСВІТА В УКРАЇНІ: РЕАЛІЇ ТА ПЕРСПЕКТИВИ

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**Постановка проблеми та Результати.** Ефективна модель **завдання.** Для сталого розвитку співпраці в Україні має включати країни необхідне встановлення декілька напрямів діяльності. тісного діалогу між трьома Держава шляхом владних суб'єктами сфери вищої освіти – повноважень має забезпечити університетом, бізнесом та фінансову незалежність державою. Необхідність посилення університетів; сприяти створенню співпраці обумовлена відповідної матеріально-технічної невідповідністю між реальним бази ВНЗ; створити умови при яких станом розвитку сфери економіки та бізнес буде зацікавлений у освітньо-наукового сектора, співробітництві із учбовими невідповідністю якості кадрів закладами в якості баз практики та з сучасним потребам ринку праці, метою проведення спільних з відсутністю інноваційно- університетами науково-дослідних дослідницької складової діяльності робіт в пріоритетних сферах. університетів, що негативно впливає **Висновки.** Від бізнес структур має на стан національної економіки та надходити інформація щодо потреб відображається в різних ринку в кваліфікованих кадрах та міжнародних рейтингах України. стосовно перспективних напрямів діяльності. Для вирішення цієї проблеми з боку університетів необхідно дослідити стан вищої мають бути забезпечено якісні освіти в Україні та перспективи її навчальні програми, готовність до розвитку. заснування технопарків,

**Методи.** Графічний метод інноваційних фірм на базі використаний для дослідження університетів з метою проведення динаміки здобувачів вищої освіти, науково-дослідних робіт. логічний – для побудови системи **Ключові слова:** вища освіта; здобувачі моніторингу працевлаштування вищої освіти; працевлаштування здобувачів вищої освіти.

This study analyzes the quantitative and qualitative indicators of the development of the higher education system in Ukraine. It highlights the vector of changes happening in higher education, as well as their outcomes. The main causes of issues in Ukrainian higher education are indicated. The significant reasons include the excess number of higher education institutions; lack of quality managerial human resources in higher education management, lack of established cooperation between universities and business structures, insufficient level of quality of teaching staff in higher education, lack of funds in higher education institutions to create conditions for operation of technological platforms in universities that would create opportunities for entering the market and profiting from a combination of academic and teaching activities, relatively low salaries of academic and teaching staff, lack of conditions for the implementation of research and innovation function of research and teaching staff, low level of scientific and teaching function of academic and teaching staff due to large teaching and administrative workload.

The necessity to create conditions for development of integration of business with education and science in order to make students, teachers and lecturers focus on studying and practically solving economic issues, and implementing research innovations.

The paper substantiates the necessity to establish a triple model of partnership dialogue between universities, businesses and the government in order to create conditions for increasing research and innovation functions of domestic higher education institutions and to develop an updated system of higher education institutions (business HEIs) in Ukraine that will meet the requirements of current domestic and global employers, to generate scientific and industrial designs, to promote economic development and progress through the use and generation of new knowledge and innovative activities of economic entities.

Education ensures the quality of human capital assets, which is the basis of any country's economic condition. In 2006, the European Union (hereinafter the EU) recognized Ukraine as a market economy country. In 2014, Ukraine and the EU also concluded the Association Agreement. According to Chapter 23 "Education, Training and Youth" of Ukraine – EU Association Agreement, the parties shall bear responsibility for the education content and the organization of educational systems, as well as their cultural and linguistic diversity. The parties shall facilitate cooperation in education, training and youth policy in order to improve mutual understanding, scale up intercultural dialogue and enhance knowledge of relevant cultures. The parties shall scale up cooperation in higher education, in particular for the following purposes: reforming and modernizing higher education; promoting convergence in higher education under the Bologna Process; improving the quality and importance of higher education; deepening

cooperation between higher education institutions; capacity building of higher education institutions (hereinafter referred to as HEIs); activating the mobility of students and teachers/lecturers (Association Agreement between Ukraine...: International document dated June 27, 2014).

The experts from the Organization for Economic Co-operation and Development (hereinafter OECD) assessed the higher education sector in 2014 as a very important part of the public sector in Ukraine in terms of the following indicators: expenditures, public employment and the number of population it served. In 2014, public expenditures on education accounted for 5.9% of Ukraine's GDP, while public and private expenditures on education combined accounted for 6.9% of the GDP or USD 9,211 million (OECD, 2017).

Corruption of teachers/lecturers, global non-recognition of degrees awarded by Ukrainian universities, failure of teaching to meet the labor market requirements; weak material and technical base of HEIs were emphasized as the main shortcomings of higher education in 2015/2016. Moreover, there were also problems with management and funding.

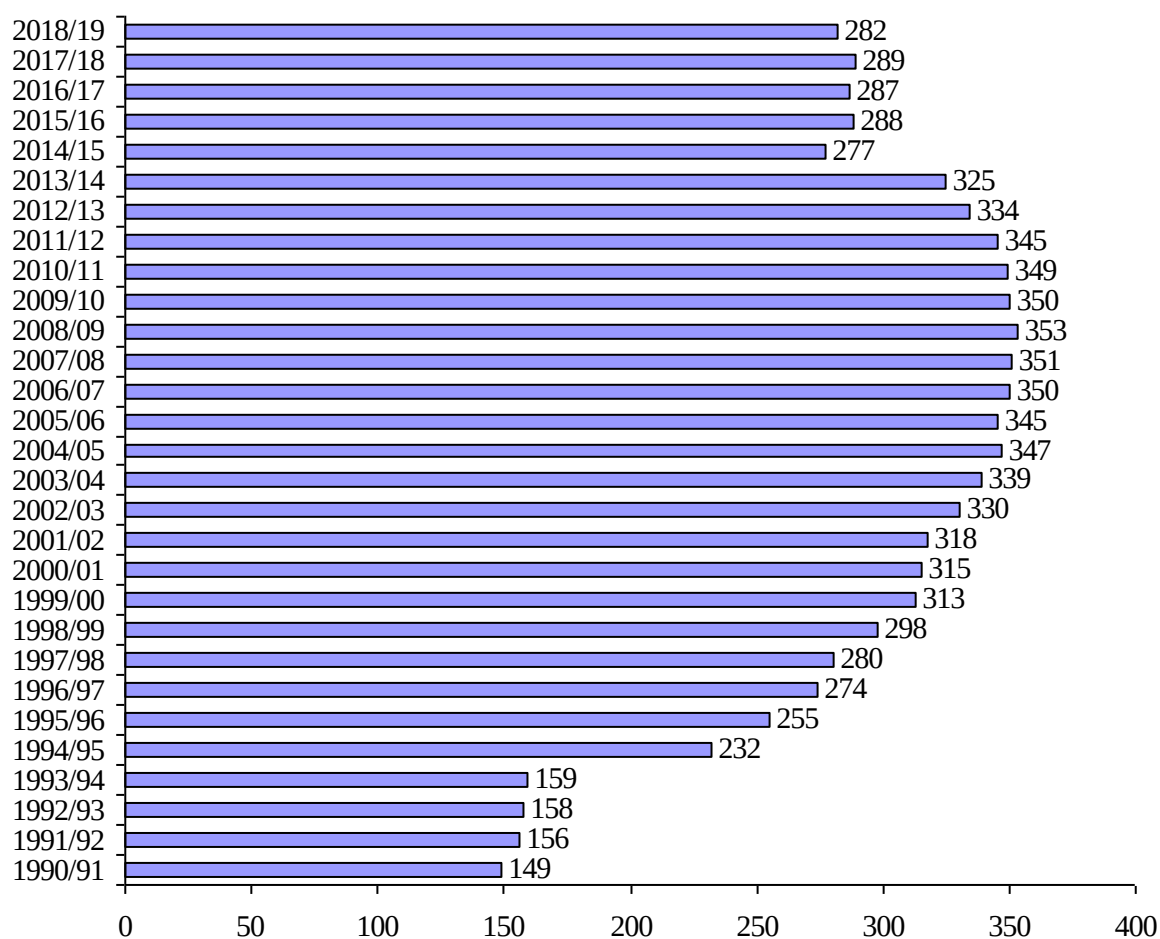
In early 2015, the Ministry of Education and Science of Ukraine started the process to optimize the number of universities by checking the compliance of educational activities of universities and their branches with the licensing conditions. Some of them were closed. Indicators of the number of HEIs over time are presented by a graph in Fig. 1. According to the State Statistics Service of Ukraine, the number of higher education institutions decreased by 5.1% during 2014/2015–2019/2020 (State Statistics Service of Ukraine. Institutions of higher education, [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)).

Starting from 2019, the strategy of the Ministry of Education and Science of Ukraine suggests the incorporation of universities, encouraging them to do so through increased funding: the new funding system should become a tool to incorporate universities. Sufficient funding will be provided to large higher education establishments (hereinafter HEEs).

According to the statistical data of the State Statistics Service of Ukraine, (State Statistics Service of Ukraine. Institutions of higher education, [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)), starting from 2008, Ukraine has been experiencing a gradual decrease in the number of students, postgraduate students and PhD students. At the beginning of the academic year of 1990–1991, there were 881,300 degree-seeking applicants. Starting from the academic year of 2007–2008, the number of degree-seeking applicants has been dropping (see Fig. 1).

The decrease in the number of HEEs, demographic and economic crisis, the annexation of Crimea and the military aggression of the Russian Federation in eastern Ukraine are the reasons for the decrease in the number of degree-seeking applicants.





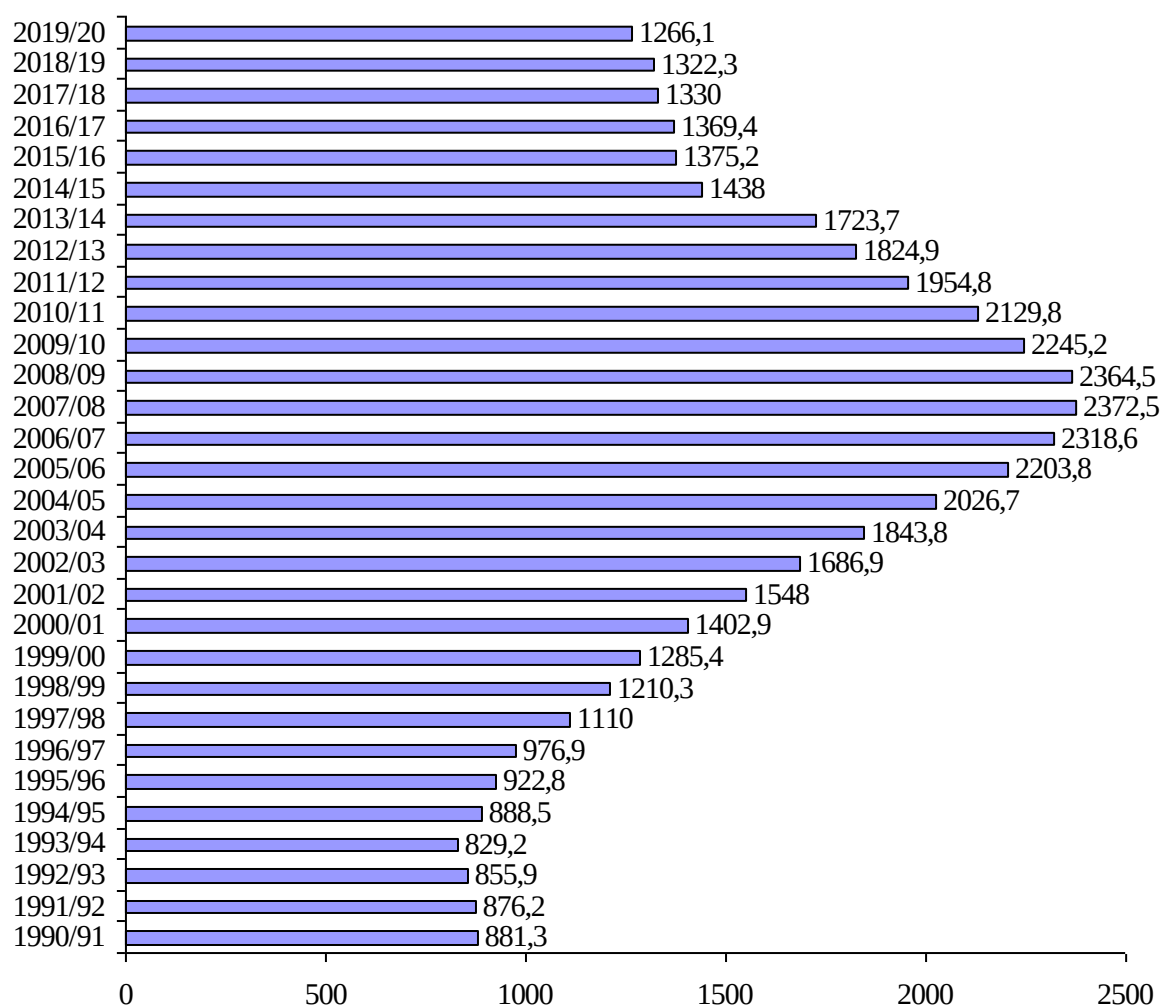
Source: State Statistics Service of Ukraine. Institutions of higher education, [www.ukrstat.gov.ua](http://www.ukrstat.gov.ua).

**Fig. 1. Number of higher education establishments**

During academic years of 2014/2015–2019/2020, the number of degree-seeking applicants decreased by 5.4% as compared to the previous academic year (Fig. 2).

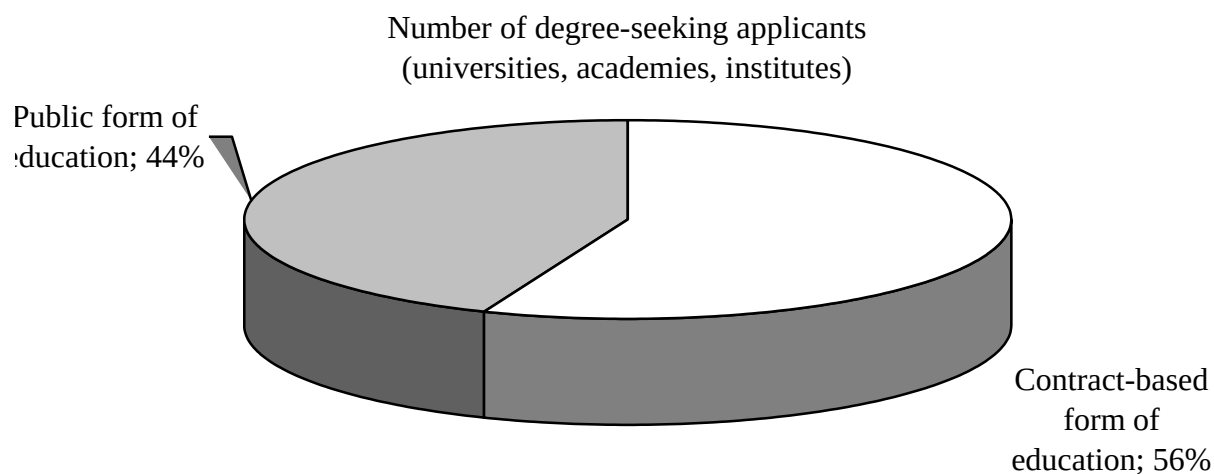
According to the data from the register of subjects of educational activity of the Unified State Education Database (hereinafter USED) (Data from the register of subjects of educational activity, [registry.edbo.gov.ua](http://registry.edbo.gov.ua)), there were more degree-seeking applicants enrolled in Ukrainian HEEs on contract-based form of education than at the expense of the public budget: out of 1.3 million degree-seeking applicants, 56% study on the contract bases, while 44% study at the expense of the public budget (see Fig. 3).

According to statistical data from the State Statistics Service of Ukraine, in 2018, 260,000 students received scholarships in Ukrainian higher education establishments, which is only 20% of the number of people studying at the expense of the public budget.



Source: Data from the register of subjects of educational activity, registry.edbo.gov.ua.

**Fig. 2. Dynamics of the number of degree-seeking applicants**



Source: Data from the register of subjects of educational activity, registry.edbo.gov.ua.

**Fig. 3. Number of degree-seeking applicants according to the form of education**

This situation is caused by the changes in the scholarship system carried out in 2017 by the Ministry of Education and Science of Ukraine. A student performance ranking was introduced with an emphasis on qualitative indicators of educational, academic, social activities, and not only quantitative ones. The main difference from the old system was that academic scholarships were now awarded not to all students who passed their exams with "good" and "excellent" marks, but only to those who scored high (up to 45% of the total number of students) in the HEE's ranking. The minimum scholarship in universities today amounts to UAH 1,300, while the so-called increased scholarship is UAH 1,660.

Employment indicators are among the indicators of the quality of educational services. Ukraine does not have an employment monitoring system. Therefore, it is impossible to tell the percentage of young people who have found a job at all and according to their major in particular. According to the data published by the Ministry of Education and Science of Ukraine, in December 2019, almost 50% of the officially registered unemployed people were people with higher education. For comparison, the share of unemployed people with vocational education is only 30% (vnz.org.ua, 24.12.2019).

The employment monitoring system is expected to start working in the academic year of 2021/2022. This is due to innovations in the system of funding higher education establishments. The employment rate of degree-seeking applicants will become one of the indicators that will significantly affect the funding of educational institutions.

An updated principle of public funding of institutions in accordance with the results of their work has been applied to the higher education system. Thus, bigger financial support will be awarded to higher education establishments, which, inter alia, will have higher employment rate of their graduates, more international grants and which will be included in international rankings.

According to the data of the State Statistics Service of Ukraine (State Statistics Service of Ukraine, 02.07.2020), at the beginning of the academic year of 2019/20, the teaching staff of universities, academies and institutes included 133,459 people. Of those, 5,966 persons were research officers, 104,710 – researchers and teachers/lecturers, – 22,783 – teachers/lecturers.

78,680 teachers/lecturers of HEEs have an academic degree (59% of their total number), incl. the degree of Doctor of Sciences – 15,584 (11.7%), Doctor of Philosophy / Candidate of Sciences – 63,096 (47.3%) (Kvit, S., Yeremenko, O., ed., 2021).

Throughout 1991-2020, the system of higher education in Ukraine experienced unsystematic changes, which resulted in its lack of competitiveness. There is still an excessive number of HEEs. According to the criteria of the leading world Shanghai ranking, as of early 2021, Ukraine has no world-class

higher education institutions (in the top 500 group) and sub-world class universities (candidates for world class, group 501–1000).

The reason for the low competitiveness of Ukrainian higher education can be attributed to its imperfect network and the low level of interconnection between businesses, universities and research institutions, low level of technology transfer, mismatch between education quality and content and market needs.

In order to improve the quality of higher education, HEEs should actively cooperate with businesses.

Cooperation between universities and businesses is very important for the development of human capital assets and economic growth in the world. Such cooperation brings educational institutions and companies closer, which allows for better distribution and comparison of skills in the economy and leads to a more efficient distribution of labor and increased productivity.

There are different levels of cooperation depending on how deep the interaction is.

As a rule, cooperation between universities and businesses is divided into cooperation in research and development activities and cooperation in education. Research and development is more common because its results are clearer and faster than results from cooperation in education.

For universities, the following factors can serve as incentives for cooperation: the need to improve work capacities of students by providing practical experience; attracting more (as well as talented) students to universities; understanding the importance of research, as new discoveries, devices or other innovations can be directly and immediately applied and put into production to help people in need; access to funding.

For business, the following factors are important: personal relationships that can contribute to the development of the company in the future; demand for productive employees as curricula become more tailored to market needs and awareness of the company among students rises; improvement of the corporate image as investing in education benefits society as a whole.

Cooperation between universities and businesses is important for a number of reasons. Thus, cooperation between universities and businesses increases the work capacity of students. The university, which aims at teaching its students the skills needed by the labor market, is interested in such cooperation that allows students to gain practical experience. The availability to cooperate with businesses attracts more students to HEEs. Universities that work with businesses to provide more opportunities for their students can use this as a competitive advantage to attract more students.

By actively cooperating with businesses, universities receive practical and financial support for research.

Lack of funding or resources from both businesses and universities can be obstacles to business-university cooperation. In a situation of limited funding, both universities and businesses need to cut non-core investments. As many types of cooperation, such as scientific cooperation or entrepreneurship support, may require large investments, funding for such activities may be reduced (Halan-Muros, Pleva, 2016).

Cultural differences can also be a problem. The working culture of businesses and universities is different. While the business is primarily profit-oriented, universities pursue such goals as generating and disseminating new knowledge. Such differences in fundamental motivation lead to differences in all aspects of work culture, from communication styles to differences in bureaucratic levels, as well as to different time horizons used in planning. All these differences complicate the understanding and cooperation between businesses and universities.

Specific characteristics of a particular business can be another obstacle to cooperation. Business people want privacy and therefore oppose the publication of any research results, while dissemination of research results can be a major goal for universities.

While cooperation between universities and businesses has many advantages, it is important to note that there are also some disadvantages, especially in Ukrainian context. Firstly, sometimes, when companies are too active in attracting students, the latter start working full-time before graduating from universities and sacrifice the quality of knowledge acquired to keep the job. Secondly, teachers and researchers can also leave the university and move to the private sector, after gaining new skills through cooperation and seeing that salaries in the private sector are much higher. Thirdly, there may be some form of informal cooperation where businesses pay university administrations for product promotion or the use of their facilities for research. And such informal payments mean tax evasion and lack of transparency.

Establishing a constructive dialogue between the government, business and universities is possible only if the interests of all parties are consistent and there is interest in productive and mutually beneficial cooperation. The government has the greatest role as a party that should provide the necessary conditions for partnership for both universities and business organizations, develop a system of motives and incentives for research and development, which should be further reflected in designs, company activities and innovative development of the country's economy in general. In the current context of the development of the knowledge economy, the university acts as a source of innovations that results in the necessity of having more academic and financial independence, and also freedom.

**Conclusions.** The study demonstrates that there is a need to establish a close dialogue between the three actors in higher education – the university, the business and the government. The need to enhance cooperation is driven by the mismatch between the actual condition of the development of the economy and the education and research sector, the non-compliance of the quality of human resources with the latest needs of the labor market, lack of innovation and research component in university activities, which negatively affects the national economy and is reflected Ukraine's place in various international rankings. An effective model of cooperation in Ukraine should include several areas of activity. The government, through its powers and authorities, must ensure the financial independence of HEIs; promote the establishment of an appropriate material and technical base of the universities create conditions under which businesses will be interested in cooperation with educational institutions as practice bases and for the purpose of carrying out joint research activities in priority areas with universities. Business structures should provide information on the market needs in qualified human resources and on promising areas of work. Universities should ensure quality educational programs, willingness to establish technology parks, innovative companies on the basis of universities in order to conduct research and development.

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## INNOVATION AND INVESTMENT VECTORS TO ENSURE BUSINESS DEVELOPMENT IN UKRAINE

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**Introduction.** The conducted research testifies to the limited possibilities of the state in the field of financing of education, basic researches and innovative activity of development of business.

**The hypothesis of the research** is to substantiate the recommendations and proposals for improving the efficiency of innovation in business with the possibility of multi-vector investment.

**The purpose** of the study is to substantiate the innovation and investment support for business development.

**The methodology** of scientific research is general and special research methods: dialectical – for analysis and understanding of the essence and content of the categorical series, monographic – in highlighting the views of scientists on the research issues; strategic analysis – to determine the priority areas for intensifying the innovative development of entrepreneurship.

**Conclusions and prospects for further research.** The formation of vectors of cooperation based on the unity of science and education, business and

government, namely: integration of developed strategic vectors of education; science; purposeful state policy of innovative development; bridging the institutional gap between science and education, government and business. It is determined that investment activity is one of the most important factors of sustainable growth and dynamic development of the Ukrainian economy, as it is the basis for reproduction and expansion of production and innovation potential of domestic enterprises, increasing their competitiveness and efficiency. However, the lack of a comprehensive high-performance system of innovation and investment management, adequate to the changing market environment and aimed at ensuring the rational use of investment resources, highlights the problem of improving and developing scientific and methodological approaches and tools to ensure business development, which will accelerate its social development. economic development through the investment mechanism.

**Keywords:** innovation and investment support of business development; competitiveness; innovation cycle.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
| 10                      | 0                    | 0                   |

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## ІННОВАЦІЙНО-ІНВЕСТИЦІЙНІ ВЕКТОРИ ЗАБЕЗПЕЧЕННЯ РОЗВИТКУ ПІДПРИЄМНИЦТВА В УКРАЇНІ

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**Вступ.** Проведені дослідження свідчать про обмежені можливості держави в області фінансування освіти, фундаментальних досліджень та інноваційної діяльності розвитку підприємництва.

**Гіпотеза наукового дослідження** полягає у обґрунтуванні рекомендацій та пропозицій щодо підвищення ефективності інноваційної діяльності в підприємстві з можливістю різновекторного забезпечення інвестиційної діяльності.

**Метою дослідження** є обґрунтування інноваційно-інвестиційного забезпечення розвитку підприємництва.

**Методологією наукового дослідження** є загальнонаукові та спеціальні методи дослідження: діалектичного – для аналізу та осмислення сутності і змісту категоріального ряду, монографічного – при висвітленні поглядів науковців на досліджувану проблему; стратегічного аналізу – для визначення пріоритетних напрямків активізації інноваційного розвитку підприємства.

**Висновки та перспективи подальших досліджень.** Обґрунтовано формування векторів кооперації на основі єдності науки і освіти, бізнесу та влади, а саме: інтегрування розроблених стратегічних векторів

розвитку освіти; науки; цілеспрямовану державна політику інноваційного розвитку; усунення інституціональних розривів між наукою і освітою, владою та бізнесом. Визначено, що інвестиційна діяльність виступає одним із найважливіших факторів стійкого зростання та динамічного розвитку української економіки, оскільки становить підґрунтя для відтворення і розширення виробничо-інноваційного потенціалу вітчизняних підприємств, підвищення їх конкурентоспроможності й ефективності функціонування. Проте відсутність на багатьох з них цілісної високоефективної системи інноваційно-інвестиційного менеджменту, адекватного вимогам мінливого ринкового середовища та спрямованого на забезпечення раціонального використання інвестиційних ресурсів, актуалізує проблему вдосконалення і розвитку науково-методичних підходів та інструментарію забезпечення розвитку підприємства, застосування яких сприятиме прискоренню його соціально-економічного розвитку через механізм інвестування.

**Ключові слова:** інноваційно-інвестиційне забезпечення розвитку підприємства; конкурентоспроможність; інноваційний цикл.

**Problem statement.** The constant lack of financial resources is accompanied by special requirements for innovative projects subject to state funding, a limited list of areas for research and innovation, rigorous selection of projects and control over innovation activities of enterprises.

The lack of public funding for innovation must be compensated by private capital (Hanushchak-Efimenko & Shcherbak, 2016).

But investment support for innovation in business development from non-state sources is complicated by a number of problems related, firstly, to the lack of own funds of enterprises implementing innovation, and secondly, to difficult access to borrowed and attracted sources of investment resources.

**Analysis of recent research on the problem.** The issue of determining the sources of investment is devoted to many studies of various economists, whose views have changed significantly depending on the stages of economic development of society as a whole.

**The purpose** of the study is to substantiate innovation and investment support for business development.

**Presentation of the main material.** Consideration of financial support of various activities, including investment, is inextricably linked with the formation of the resource base. In this case, despite the fact that real investment is the basic beginning for the activities of economic entities, it is important to study the flows of investment activities.

This is due to the fact that:

first, financial flows are inextricably linked to the exchange of goods and money carried out in the production of goods and services;

secondly, the normal functioning of the economy requires stable and systematic work of relevant financial institutions that regulate and control independently all financial flows;

thirdly, the implementation of any type of investment activity (for the extended process of reproduction) is impossible without the involvement of borrowed funds, which are financial flows between the lender and the borrower.

The importance of using borrowed funds in the process of investment is reflected, in particular, the following data: according to statistics, the share of equity in large Japanese corporations is – 36.4% (in the US a similar figure – 40.5%); share capital accounts for one quarter of equity for Japanese corporations (28% in the US); other means – borrowed capital (bank loans, international credit, bonds, mortgages). The share of equity for domestic enterprises is about 60% (Yermoshenko & Hanushchak-Iefimenko, 2010).

Ukraine lacks "normal" sources of financing for the investment process, the capital structure is extremely distorted, and there are no mandatory sources of investment financing for a developed market economy. As a result, investment

activities are virtually blocked. In such conditions, it is important to stimulate the formation of "normal" sources of financing the investment process.

However, the consideration of the financial security of investment activities would not be complete without taking into account at least the following two aspects.

The first aspect. It is necessary to take into account the innovative orientation of investment activities.

This is due to the fact that in the context of accelerating STP, most investment projects have an innovative focus (Ganushchak-Efimenko, Shcherbak & Nifatova, 2018).

In this case, the system of investment in innovation contains a certain number of interdependent elements and must include at least the following components: sources of investment resources for innovation; developed structure of mobilized capital investment taking into account its value; hedging mechanism and investment risk prevention

At the same time, the features of the innovation process create conditions for the mutual influence of innovation and investment cycles in the process of creating innovations and opportunities for their interaction.

Thus the task of definition of their mutual influence consists in necessity: first, optimization of volumes of additional investment resources and rational use of available means; secondly, reducing the duration of investment and innovation cycles; third, achieving the effect (scientific, technical, economic or social) as a result of the origin, implementation and realization of an innovative idea.

In addition, the innovation cycle is characterized by the movement of money capital, risky in the form and purpose of providing, which is expressed in the following characteristics: in the purpose and nature of the use of funds in the innovation process – high risk of losing advanced capital for a number of reasons: innovation; possible erroneousness of the idea underlying the innovation project; difficulties of technical implementation of the project; unpredictability of the market reaction to the appearance of a novelty, etc.; investments in innovations are characterized by a significant time lag from the moment of advancement of financial and credit funds in innovations, to the moment of receiving commercial return from them; high uncertainty of the results of innovation activity denies the guaranteed nature of repayment of borrowed funds, which naturally implies an increase in the "price" of invested capital, as well as the entry of the lender in the right to co-own the innovation.

In this regard, the following trend is observed: borrowing funds to invest in innovation is possible only if the financial return from the use of the created innovation will be greater than from alternative areas of investment. The second

aspect is related to the need to take into account the fact that different stages of innovation use different sources of funding.

Thus, the financing of basic research and applied work is carried out mainly at the expense of budget funds, as well as at the expense of the customer. Since the result of applied research is not always predictable, at this stage there is a possibility of a negative result.

Research and development works and experimental developments can be financed both at the expense of budgetary funds, and at the expense of own means of the enterprises. To finance the stage of serial production, as a rule, use the resources involved. At the stage of commercialization of the invention, usually use the funds of venture investors.

Creation of a new specialized enterprise for the implementation of an innovative project is recommended in the following cases (Gryshchenko et al., 2019):

1. The parent multi-product enterprise allocates a specialized subsidiary for the development of innovations and operations with the new product, because it does not want to be directly responsible for the obligations arising in connection with the development of technically and commercially risky innovations.

2. A company specialized in innovation is founded by the authors (developers) of innovations that need outside investors, but share the risks of innovation with private founders-owners of relevant intellectual property, requiring them to participate in the company with real property contributions. The main factors that determine the possibility of using a source of investment innovation, it is proposed to consider the following:

- size and type of enterprise that implements innovations;
- creditworthiness of the enterprise, its financial position and financial management indicator;
- radical innovation;
- the size and nature of the potential effect of innovation;
- the level of risk associated with the implementation of innovation;
- the degree of dependence of the enterprise (whether the innovative enterprise is independent or it is founded by a corporation);
- time reserve for innovation development. According to this list, you can determine the following conditions for choosing sources of investment in innovation:

The size and type of enterprise that implements innovations.

Large enterprises tend to have more powerful financial and production potential and the ability to allocate funds to invest in innovative development. Small start-ups do not have the required amount of own funds. Therefore, such a source of investment as self-financing is mostly unacceptable for them.

Creditworthiness of the enterprise, its financial position.

Also, an important indicator of financial management – the ratio between own and borrowed funds, which forms an indicator of the weighted average cost of capital.

Radical innovation.

The radical nature of innovation also determines the possibility of its investment by the capital of venture investors, as for the development and implementation of radical innovations are often created specialized enterprises – ventures. This determines the features of investing in such innovations.

The size and nature of the potential effect of innovation.

The greater the potential effect of innovation, the higher the interest from private investors. In this case, if the implementation of innovation ensures the presence of social, environmental, budgetary effect, its financing may be partially or fully carried out by the state.

The level of risk associated with the implementation of innovation.

Development and implementation of innovations is quite a risky business. The risk may be related to the unsuccessful result of research, as well as to the fact that the innovation will not find commercial use. Thus, for example, the high level of risk associated with the implementation of innovations will make it impossible to obtain long-term loans.

The degree of dependence of the enterprise (whether the innovative enterprise is independent or it is founded by a corporation).

For most companies specializing in innovation, self-financing as a source of funding for innovation is unacceptable, because the innovative business is often a start-up and does not have the appropriate funds. When a new enterprise is established by a large corporation, which is able to invest in the authorized capital of the subsidiary large monetary or tangible assets, self-financing is able to make a significant contribution to the overall financing of the innovation project. The use of complex sources of innovation funding is quite complex and expensive for a small innovative enterprise. The most realistic for such enterprises is innovative credit, although this method of financing is often very complex and expensive for the lender.

Reserve time for the creation and development of innovation.

In the case where the decisive factor influencing the choice of source of innovation investment will be the time during which the innovation will be developed and launched on the market, the use of borrowed funds mobilized on the open market and self-financing funds, if they have not accumulated in the required amount, are not taken into account.

Thus, the sources of funding for innovation of enterprises are quite limited. The main ones, in fact, are two:

- funds of the founders themselves, which is created for the development of innovation, as well as related persons. For example, a subsidiary is created in the form of a new venture business;

- funds of third-party specialized investors and creditors, who deeply and on the basis of additional information provided to them analyze the possible degree of confidence both in the initiators of the innovation project and in this project.

**Conclusions** A well-established way to increase competitiveness is to build a knowledge-based economy. The country's ability to create knowledge, including scientific knowledge, its dissemination and effective use for the development of production are becoming the main factors of growth in such an economy, along with traditional sources – investment and labor resources.

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# FEATURES OF FORMATION OF THE BUSINESS DEVELOPMENT MANAGEMENT SYSTEM IN THE CONDITIONS OF INNOVATIVE ECONOMY

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**Introduction.** In modern conditions of innovative economy, business development management acts as a general economic vector of rational consumption of resources and efficient functioning of production systems. It is known that even those companies that have similar potentials often differ in the results of their activities. Under these conditions, the difference in results can be explained only by the unequal degree of accuracy of the target orientation of the control system. In other words, other things being equal, the magnitude of the result will be greater the more successful the business development management system in an innovative economy.

**The purpose** of the study is to define and substantiate the management system of business development in an innovative economy.

**The methodology** of scientific research is general and special methods of research of economic phenomena: analysis and synthesis – to determine the complex concepts of business development management; extrapolations – to identify new trends in business development and changes in the economy; grouping and

classification – to systematize the factors influencing business development, etc.

**Conclusions and prospects for further research.** Features of formation by business development which includes a set of means and methods of the directed influence on interests of business which are in constant dynamic transformation under the influence of external and internal conditions with orientation on rational use of resources and maintenance of necessary proportions of functioning of its economic complex are substantiated. It is determined that the special place of business development management in the conditions of innovative economy is due to the fact that it guarantees the integration of economic processes. The formation of a business development management system reflects the ability to streamline processes in business in accordance with the inherent internal laws of economic activity

**Keywords:** business development; competitiveness; innovative development; knowledge economy; principles; management methods and functions; integration of economic processes.

| NUMBER<br>OF REFERENCES | NUMBER<br>OF FIGURES | NUMBER<br>OF TABLES |
|-------------------------|----------------------|---------------------|
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## ОСОБЛИВОСТІ ФОРМУВАННЯ СИСТЕМИ УПРАВЛІННЯ РОЗВИТКОМ БІЗНЕСУ В УМОВАХ ІННОВАЦІЙНОЇ ЕКОНОМІКИ

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**Вступ.** В сучасних умовах інноваційної економіки управління розвитком бізнесу виступає як загальноекономічний вектор раціонального споживання ресурсів та ефективного функціонування виробничих систем. Відомо, що навіть ті підприємства, які мають близькі за рівнем потенціали, часто розрізняються за результатами їх діяльності. В цих умовах різницю в результатах можна пояснити лише неоднаковим ступенем точності цільової орієнтації системи управління. Інакше кажучи, при інших рівних умовах, величина результату буде тим більша, чим вдалішою буде система управління розвитком бізнесу в умовах інноваційної економіки.

**Метою дослідження** є визначення та обґрунтування системи управління розвитком бізнесу в умовах інноваційної економіки.

**Методологією наукового дослідження** є загальнонаукові та спеціальні методи дослідження економічних явищ: аналіз і синтез – для визначення складних понять управління розвитком бізнесу; екстраполяції – для визначення нових тенденцій у розвитку бізнесу і змін в економіці; групування і класифікації

– для систематизації факторів, що впливають на розвиток бізнесу та ін.

**Висновки та перспективи подальших досліджень.** Обґрунтовано особливості формування розвитком бізнесу яка включає сукупність засобів і методів спрямованого впливу на інтереси бізнесу, що знаходяться у постійній динамічній трансформації під впливом зовнішніх та внутрішніх умов з орієнтацією на раціональне використання ресурсів і забезпечення необхідних пропорцій функціонування її господарського комплексу. Визначено, що особливе місце управління розвитком бізнесу в умовах інноваційної економіки зумовлене тим, що воно гарантує інтеграцію економічних процесів. Формування системи управління розвитком бізнесу відбиває можливості впорядкувати процеси в підприємстві відповідно притаманним внутрішнім закономірностям господарської діяльності

**Ключові слова:** забезпечення розвитку бізнесу: конкурентоспроможність: інноваційний розвиток: економіка знань: принципи: методи та функції управління: інтеграція економічних процесів.

**Problem statement.** Further innovative development of Ukraine's economy largely depends on solving the main task – ensuring sustainable and dynamic growth covering all aspects of economic life, a deeper understanding of economic laws, phenomena and trends. The focus was on the fundamental foundations of economic relations, as practice requires not only the full realization of the opportunities inherent in the modern economy, but also the scientific development of their further effective use.

In modern conditions, the essence and importance of qualitative transformations of productive forces, the effectiveness of priority structural changes, the development of a new economic mechanism with a focus on achieving a high final socio-economic result.

In an attempt to break free from dogmatism, economics tries to identify the internal driving forces of the economy, factors and reserves of significant qualitative growth, to study the world experience of management as a prerequisite for further rapid progress of society.

**Analysis of recent research on the problem.** The methods of solving the specified problems of management of development of business in the conditions of innovative economy offered in this article can be considered as continuation of scientific developments of scientists-economists O.I. Amoshi, Ya.G. Bersutsky, V.M. Grinyova, M.I. Ivanova, O.M. Kizima, T.S. Klebanova, M.M. Lepi, P.A. Orlova, V.S. Ponomarenko, O.M. Tridida, B.G. Shelegedy and others.

**The purpose** of the study is to define and substantiate the management system of business development in an innovative economy.

**Presentation of the main material.** The special place of management of business development in the conditions of innovative economy is caused by the fact that it guarantees integration of economic processes in business. Business development management systems are the basis for the formation of management models for the development of existing business potential, taking into account the conditions and factors of economic system development. Today, in the "era without regularities" (according to P. Drucker), management is an integral part of human existence, it allows you to effectively implement the strengths and weaknesses – to eliminate. Without management, no joint activity of people is possible. Management is a key, decisive factor of civilization, because "all the art of management ... is to take into account in time and know where to focus their main forces and attention" (studopedia.ru).

It is clear that the management of business development has certain features, in particular (westudents.com.ua):

- 1) the presence of economic potential, the causal link between its components, the presence of control and managed subsystems;
- 2) the dynamic nature of economic potential;

- 3) the ability of the system to a changing environment;
- 4) storage, transmission and conversion of information.

In this regard, the basis for building a management system for business development in an innovative economy, adopted and the article, is the application of a systematic approach, which allowed a comprehensive assessment of the level of resource use.

In the economic literature there are many concepts and definitions of the system. Some scientists have defined the system as "a set of elements organized in such a way that the change, exclusion and introduction of a new element naturally affects all other elements". W. Ashby understood the system as the whole set of variables that the experimenter chooses from among the variables of the real "machine". L. Bertalanffy gave his concept of the system, defining it as a "complex of elements that interact" ([westudents.com.ua](http://westudents.com.ua)).

Foreign scientists call the system an organized complex whole; a set or combination of objects or parts that form a complex whole.

Some scientists have moved away from defining a system as a set of elements and viewed it as a process.

Theoretical and methodological foundations of the development of business development management system in an innovative economy is to determine a set of management laws, methods, functions and principles of influence on the processes of its formation and use. In recent years, the study of the laws of the management system devoted their work to M.M. Yermoshenko and S. Yerokhin (2011), and others.

The peculiarity of the formation of the management system of business development in an innovative economy is the definition of a set of organizational and methodological special and general scientific principles. Among the main ones are:

1. The business development management system is based on general management principles.

2. Management of business development in an innovative economy should be carried out at all stages of its reproduction – the formation, development and use.

3. Business development management in an innovative economy is comprehensive, which involves the development of a single system of indicators for assessing the level of potential.

4. Systematic resource provision of the business development management process takes into account the specifics of the process, the uncertainty of the structure and scope of needs.

5. The complexity of assessing the management of business development in an innovative economy involves a plurality of areas and multifaceted analysis and, in particular, the assessment of the negative impact of factors.

6. Provision of business development management in the conditions of innovative economy with information-technological tools, which allows to carry out forecast, planned, analytical and operational management calculations with the use of an adequate arsenal of methods and tools.

7. The effectiveness of business development management in an innovative economy. According to Peter F. Drucker, performance is a consequence of "doing the right things". And efficiency is a consequence of the fact that "doing things right" is done. Both the first and the second are equally important. Management decisions are well grounded in terms of theory and supported by research, are only ideas, opinions. A successful solution will be when it is implemented in practice, ie converted into action effectively and efficiently.

8. Flexibility and ability to respond to changes in the process of business development management in an innovative economy To disclose the content of the process of business development management in an innovative economy, you can specify this activity through the study of management functions.

The main functions include the following:

1) determination of goals and priorities of business development in the conditions of innovative economy;

2) regulation of economic problems of business development management in an innovative economy;

3) assessment of business development management in an innovative economy in terms of resource sources;

4) the effectiveness of business development management in an innovative economy, taking into account the priorities of saving the most scarce and valuable resources;

The management system of business development in an innovative economy is determined by the interdependence of the constituent elements.

The given system is based on modeling of structure, interrelations, ways of rational use of resources and efficiency of means of regulation. Modeling the business development management system in an innovative economy reflects the ability to streamline the processes of formation and use of resources in accordance with the inherent internal and external patterns. According to scientists, among the sources of improving the efficiency of management of special importance are management methods that allow to form a management system for business development by the interaction of various factors that determine the conditions of innovative economy.

Others argue that the use of economic methods makes it possible to develop a methodology for modeling control and managed systems, to study information processes, to quantify information. The main purpose of business development management in an innovative economy, as a system of

interdependent levers that provide targeted, coordinated and stimulating impact is to ensure the rational use of existing capacity.

The task of management is not only to equip people with a theoretical understanding of this necessary function, but also to help practice develop principles and recommendations. System management will be effective only if it is based on principles established in accordance with the law and are a reflection of the internal relationships and interdependencies of the system.

**Conclusions and prospects for further research** Thus, the features of the business development management system in an innovative economy include:

- effective management, which is directly related to all components of the national and regional economy and the environment in which it is carried out, so the lack of positive and long-term effects (results) in at least one of the interrelated areas indicates the presence of negative trends there are no positive changes;

- adequacy of business response to the transformation of economic relations. The business development management system should be a flexible integrated link that will change, adapting to the conditions of the innovative economy.

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**Загальні відомості щодо подання рукопису статей в журнал:**  
**«Менеджмент» Київського національного університету технологій та дизайну**  
**“Management” of Kyiv National University of Technologies and Design**

Редакційна колегія журналу «Менеджмент» приймає до розгляду наукові статті авторів за матеріалами досліджень і науково-технічних розробок. Представлені статті розглядаються редакційною колегією журналу «Менеджмент», проходять подвійне сліпе рецензування, після отримання позитивної рецензії приймаються до публікації.

**ЗАГАЛЬНІ ВИМОГИ ДО ПОДАННЯ РУКОПISУ СТАТЕЙ**  
**в журнал «МЕНЕДЖМЕНТ»**

Для публікації автори подають до редакції журналу: рукопис статті з анотаціями українською та англійською (польською) мовами. Основний текст статті виконується англійською (польською) мовою.

**Структура статті:** Назва; Анотація; Ключові слова; Вступ; Матеріали та методи; Результати та обговорення; Висновки; Подяки та посилання.

**Титульна сторінка**

Титульний лист повинен включати:

- Ім'я (імена) автора (ів)
- Коротку і інформативну назву
- Місце роботи (а) і адреса (а) автора (ів)
- Адреса електронної пошти, телефон та ORCID кожного автора

**Назва статті**

Назва довжиною до 17 слів не повинна містити назви населених пунктів, країн або міст дослідження, а також скорочень. Уникайте складних і технічних виразів і не використовуйте розпливчасті вирази. Подається англійською (польською) та українською мовами.

**Анотація**

Резюме від 200 до 300 слів, має структуру: постановка проблеми, мета дослідження, основна гіпотеза, використані методи, результати, висновки. Анотація не повинна містити скорочень або посилань. Подається англійською (польською) та українською мовами.

**Ключові слова:** Вкажіть від 5 до 7 ключових слів, які можна використовувати для індексування. Ключові слова не повинні повторювати слова з назви статті або містити скорочення і повинні бути написані в алфавітному порядку через крапку з комою. Аббревіатуру слід визначати при першій згадці і послідовно використовувати в подальшому в тексті. Подається англійською (польською) та українською мовами.

**Вступ**

У вступі повинна бути вказана мета дослідження і чітко позначений пробіл у знаннях, який буде заповнений при дослідженні огляду літератури. Дата і місце проведення дослідження, що проводилося протягом усього дослідження, повинні бути вказані в кінці цього розділу.

**Матеріали та методи**

Розділ «Матеріали і методи» повинен містити достатньо інформації, щоб можна було повторити експериментальну роботу. Він повинен включати чіткі описи і пояснення процедур вибірки, дизайну експерименту, основних характеристик вибірки і описової статистики, перевірених гіпотез, точних посилань на літературу, використані методи, кількість даних, які використовуються в статистичних тестах.

**Результати та обговорення**

Розділ «Результати» повинен описувати результат дослідження. Дані повинні бути представлені якомога лаконічніше – при необхідності в формі таблиць або рисунків, слід уникати дуже великих таблиць. Обговорення повинно бути інтерпретацією результатів і їх значення з посиланням на роботи інших авторів.



## **Текст**

Інтервал – 1,15; шрифт – 12 пт. Поля – по 2 см з кожного боку. Тільки Microsoft Word, doc, docx. Шрифт – Times New Roman. Всі нетекстові об'єкти повинні бути побудовані із застосуванням засобів Microsoft Word (Microsoft Excel Chart, Microsoft Equation і т.д.)

## **Таблиці**

Не оформляйте таблиці і графіки у вигляді фотографій. Таблиці повинні бути розміщені всередині тексту. Таблиці повинні бути розміщені в тексті, повинні мати чітку і раціональну структуру з послідовним порядком номерів. Всі таблиці повинні бути пронумеровані (1, 2, 3 і т. д.). Для кожної таблиці необхідно надати заголовок (підзаголовок) таблиці, яка пояснювала б компоненти таблиці. Вкажіть будь-які раніше опубліковані матеріали, вказавши першоджерело у вигляді посилання в кінці заголовка таблиці. Виноски до таблиць повинні бути позначені верхнім індексом малими літерами (або зірочками для значень значущості та інших статистичних даних) і поміщені під основною частиною таблиці.

## **Цифри**

Рисунки / ілюстрації повинні бути виконані в художньому оформленні високої якості, в межах 200–300 dpi і надані окремо в форматі Excel. Переконайтеся, що цифри чіткі і мають розмір, що дозволяє розбірливо відтворити їх в журналі. Рисунки слід розміщувати всередині тексту. До рисунків слід зробити наступні примітки:

- Кожен рисунок повинен мати короткий підпис, точно описує, що зображено на рисунку. Включайте підпис в текстовий файл статті, а не в файл рисунка.
- Підписи до рисунків починаються з терміну Fig. Рисунки повинні бути з підписами нижче в обмеженій кількості.
- В кінці підпису знаки не ставляться.
- Внизу рисунку необхідно зробити посилання на раніше опубліковані матеріали, вказавши першоджерело у вигляді посилання в кінці підпису до рисунку.

## **Висновки**

У цьому розділі слід виділити основні важливі відкриття і вказати, в чому полягає додана вартість основного відкриття, без посилань на літературу.

## **Внесок авторів**

Вкажіть внесок кожного учасника виконання статті. Напишіть ініціали та прізвище авторів, а також їх роль в написанні статті.

## **Подяки**

Подяки людей, гранти, фонди і т. д. повинні бути поміщені в окремий розділ перед списком літератури. У цьому розділі необхідно вказати фінансову підтримку дослідження, якщо така існує. При цьому повинен бути включений номер гранту фінансової підтримки.

## **Конфлікт інтересів**

Заява про конфлікт інтересів виглядає наступним чином: «Автори заявляють про відсутність конфлікту інтересів щодо публікації цієї статті».

## **Скорочення**

Список всіх скорочень, які використовуються в тексті статті. Вони повинні бути визначені в тексті при першому використанні (унікайте додавання скорочень в анотацію статті). Список скорочень повинен бути наданий в алфавітному порядку. Якщо стаття не містить скорочень, необхідно сказати в цьому розділі «Не застосовується».

## **Посилання**

Всі номери зі списку літератури повинні бути процитовані по всьому тексту статті, а також в розділі «Посилання», оформленому відповідно до стилю посилань журналу Менеджмент. Посилання слід перераховувати спочатку в алфавітному порядку, а потім

в хронологічному порядку. Кількість посилань з одного журналу не повинно перевищувати 3–5 цитувань, що є середнім допустимою кількістю. Рекомендується, щоб кількість посилань переважно було не менше 25–30. Авторам також постійно рекомендується посилалися на публікації не раніш, чим за останні 10 років. Обсяг, номер і сторінки всіх посилань повинні бути вказані в форматі журналу Менеджмент.

#### **Цитування та перерахування веб-посилань**

Як мінімум, повинен бути зазначений повний URL. Також повинна бути надана будь-яка додаткова інформація, якщо вона відома (імена авторів, дати, посилання на вихідну публікацію і т. д.). Переконайтеся, що всі посилання, цитовані в тексті, також присутні в списку літератури.

#### **Всі цитати в тексті повинні бути представлені в наступному вигляді:**

1. Один автор: ім'я автора (без ініціалів, якщо немає двозначності) і рік публікації;
  2. Два автора: імена обох авторів і рік публікації;
  3. Три або більше авторів: ім'я першого автора, за яким слід «і ін.» і рік публікації.
- Посилання можуть бути зроблені прямо (або в дужках). Групи посилань слід перераховувати спочатку в алфавітному порядку, а потім в хронологічному порядку. Приклади: «як показано (Jones, 2015). (Kramer *et al.*, 2000) недавно показали ... »

#### **Список літератури**

Список літератури слід спочатку розташувати в алфавітному порядку, а потім при необхідності впорядкувати в хронологічному порядку. Кілька посилань від одного і того ж автора (ів) в один і той же рік повинні позначатися буквами «а», «b», «с» і т. д., розміщеними після року публікації.

Джерел повинно бути не менше 20–25 позицій, мовами оригіналу, оформляється згідно з ДСТУ 8302:2015 та ДСТУ 3017: 2015.

Окремо подається **References** списку літератури оформленого за вимогами:

транслітерація с укр – <http://www.slovnkyk.ua/services/translit.php>

транслітерація с рус – <http://www.fotosav.ru/services/transliteration.aspx>

#### **Приклади оформлення списку References:**

##### *Журнальна стаття*

Nouri, J., Lorestani, B., Seif, F. (2011) Phytoremediation potential of native plants grown in the vicinity of Ahangaran lead-zinc mine. *Environmental Earth Sciences*, 62 (3): 639–644. DOI: 10.1007/s12665-010-0553-z. Retrieved from: <https://link.springer.com/article/10.1007/s12665-010-0553-z>.

##### *Книга*

Davis, M. (2005). *Introduction to Environmental Engineering*. 3rd. ed. McGraw Hill Inc.

##### *Глава книги*

Mettam, G.R., Adams, L.B. (2019). How to prepare an electronic version of your article? In: Jones, B.S., Smith, R.Z. (eds.). *Introduction to the electronic age*. E-Publishing Inc., New York.

##### *Доповідь конференції*

Brown, J. (2005). Evaluation Studies of Transparent Governance. In: UNDESA. 6th. Global Forum on Government Renewal: Towards Cooperative and Transparent Governance. Seoul, Republic of Korea, 24–27 May. United Nations: New York.

##### *Дисертація*

Trent, J.W. (2015). *Experimental acute renal failure*. Candidate of Sciences. Dissertation, University of California. University of California, USA.

##### *Інтернет-документ*

Cartwright, J. (2007). Big stars also have the weather. IOP Publishing Physics Web. Retrieved from: <http://physicsworld.com/cws/article/news/2007/jun/26/big-stars-have-weather-too>.

Зверніть увагу, що посилання на електронні сайти повинні використовуватися тільки в тому випадку, якщо є очікування, що сайт буде підтримуватися.

#### **Авторство**

Порядок авторства повинен бути спільним рішенням співавторів. Визнання авторства має ґрунтуватися на істотному внеску в концепцію і дизайн, виконання або аналіз і інтерпретацію даних. Всі автори повинні брати участь в написанні статті або її критичному перегляді на предмет важливого інтелектуального змісту, повинні прочитати і затвердити остаточну версію рукопису і схвалити її відправку в цей журнал.

#### **Попередження плагіату і порушення етики публікації**

Всі статті, що знаходяться на розгляді або опубліковані в журналі Менеджмент, підлягають перевірці з використанням програмного забезпечення для запобігання плагіату. Плагіат – серйозне порушення публікаційної етики. Інші порушення включають дублюючу публікацію, фабрикацію і фальсифікацію даних, а також неправомірне визначення вкладу учасника. Таким чином, плагіат, шахрайські або свідомо неточні твердження є неетичною поведінкою, неприпустимі, а відправка одній і тій же рукописи в більш ніж один журнал одночасно є неетичною поведінкою при публікації і неприпустимо. Стаття буде перевірена на предмет виявлення плагіату. Загальна схожість (індекс подібності) не повинна перевищувати граничне значення 10%. В іншому випадку стаття буде відхилена редакцією.

**Редакція лишає за собою право на незначне редагування та скорочення, зберігаючи при тому головні висновки та авторську стилістику.**

**СТАТТІ, ОФОРМЛЕНІ БЕЗ ДОТРИМАННЯ ЗАЗНАЧЕНИХ ВИМОГ, РОЗГЛЯДАТИСЯ НЕ БУДУТЬ !**

**Остаточний висновок щодо публікації схвалює редакційна колегія журналу та повідомляє автора (-ів) телефонним дзвінком або повідомленням по електронній пошті.**

**АЛГОРИТМ ОФОРМЛЕННЯ АВТОРСЬКИХ ДАНИХ:**

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| Фото автора                                                                            |                   |                   |

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**Статті приймаються на поштову скриньку:** [management\\_KNUTD@knutd.edu.ua](mailto:management_KNUTD@knutd.edu.ua).

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