CRITERIAL APPROACH TO ANALYSIS OF THE COST MANAGEMENT SYSTEM OF BUSINESS STRUCTURES

Abstract. The article presents the basic principles of a criteria-based approach to the analysis of the cost management system of business structures. The expediency of analysis for each stage of the cost management process is indicated. The stages of cost management are determined: development (adoption) of a solution, implementation of a solution and control. The method for calculating complex and resulting criteria for analyzing the effectiveness of the cost management system on the example of sewing enterprises is proposed. Among the main results of the proposed criterial approach, the assessment of the effectiveness of the cost management system of a business structure in the context of each stage of management and the possibility of comparing the effectiveness of cost management systems at different enterprises are determined. For each stage of management, the six local criteria have been developed and their quantitative characteristics are indicated to analyze the level of efficiency of the cost management system. Local criteria can take values from 0 to 1. For each of them, there are three options for the accepted value: the most and least effective and intermediate value. Local criteria are combined into a complex criterion. The complex criteria for each stage of management constitute the resulting criterion for assessing the cost management system of the business structure. The closer the obtained value of the resulting criterion is to 1, the more effective the cost management system at the enterprise becomes.

The analysis of indicators of five leading domestic enterprises of the garment industry was carried out according to the given methodology. It was found that the performance indicators of each of the studied enterprises are almost half of the optimal result. It is noted that the researched enterprises need to focus on improving the existing cost management systems. Moreover, each enterprise has the cost management system with the different operating efficiency at each stage of management. That is, the proposed methodology allows enterprises to identify problematic aspects in the context of management stages and to make changes to the cost management system in order to increase its efficiency.
Радіонова Н. Й.
доктор економічних наук, доцент,
професор кафедри обліку і аудиту,
Київський національний університет технологій та дизайну, Україна;
e-mail: radionova_n@ukr.net; ORCID ID: 0000-0002-8855-2963

Бреус С. В.
доктор економічних наук, доцент,
професор кафедри менеджменту та публічного адміністрування,
Київський національний університет технологій та дизайну, Україна;
e-mail: breus.svitlana@gmail.com; ORCID ID: 0000-0003-0624-0219

Денисенко М. І.
доктор економічних наук, професор,
професор кафедри економіки та сфери обслуговування,
Київський національний університет технологій та дизайну, Україна;
e-mail: profden3@gmail.com; ORCID ID: 0000-0001-8767-9762

Хаустова Є. Б.
доктор економічних наук, доцент,
завідувач кафедри підприємництва та бізнесу,
Київський національний університет технологій та дизайну, Україна;
e-mail: g.haystova@gmail.com; ORCID ID: 0000-0003-1436-6137

Матюх А. В.
Голова правління
Приватного акціонерного товариства «Хмільницька швейна фабрика “ЛІЛЕЯ”», Україна;
e-mail: lilyya-bux@ukr.net

КРИТЕРІАЛЬНИЙ ПІДХІД ДО АНАЛІЗУВАННЯ СИСТЕМИ УПРАВЛІННЯ ВИТРАТАМИ БІЗНЕС-СТРУКТУР

Анотація. Представлено основні засади критеріального підходу до аналізу системи упраування витратами підприємства. Зазначено доцільність аналізування за кожним етапом процесу управління витратами. Етапами управління витратами визначено: розроблення (прийняття) рішення, реалізація рішення і контролювання. Запропоновано методику обчислення комплексних і результатуючих критеріїв для аналізу ефективності системи управління витратами на підприємстві. Серед основних результатів запропонованого критеріального підходу визначено оцінювання ефективності системи управління витратами на підприємствах в розрізі кожного етапу управління і можливість порівняння ефективності систем управління витратами на різних підприємствах. Для кожного етапу управління розроблено по шість локальних критеріїв і зазначено їхні кількісні характеристики для аналізування рівня ефективності систем управління витратами. Локальні критерії можуть набувати значень від 0 до 1. Для кожного з них передбачено три варіанти прийняття значень: найбільш і найменш ефективні для підприємства та проміжне значення. Локальні критерії поєднуються в комплексній критерій. Комплексні критерії кожного етапу управління складають результуючий критерій оцінки системи управління витратами підприємства. Що ближче отримане значення результуючого критерію до одиниці, то ефективніша система управління витратами на підприємстві.

За наведеною методикою проведено аналізування показників п’яти провідних вітчизняних підприємств швейної промисловості. Установлено, що результативні показники кожного з досліджуваних підприємств майже удвічі менші від оптимального результату. Зазначено, що досліджуваним підприємствам варто зосередитися на поліпшенні чинних
system management by costs. In order to ensure effective management, it is essential to identify ways to effectively achieve the desired results according to the existing system, as well as identifying key problems and areas for improving the cost management system. For this, it is advisable to apply the criteria approach for each stage of the management process.

Criterion — is an indicator, a feature on the basis of which an assessment of the quality of an economic object, process is formed, a measure of such an assessment [1, p. 154]. So, for each task, a measure of efficiency is determined, which shows the advisability of choosing a solution from alternative options. The criterion must meet the following requirements: be weighty and be critical in relation to the variable indicators, that is, it must be promptly changed when the parameters change depending on the decision made. In real conditions, as a rule, it is necessary to use not one, but several criteria, grouped for a complex analysis of indicators at each stage of management. It is especially important to take into account the relationship of individual criteria and the assessment of their impact on the growth or reduction of the generalizing criterion [2, p. 85].

For the study, two methods were combined: a method based on the determination of numerical indicators, which characterizes the functional components of the stages of cost
management, and an empirical method, which takes into account expert assessments of specialists from leading sewing enterprises in Ukraine. This made it possible to conduct research taking into account the assessment of experts of the appropriate level of qualification and to reduce the subjectivity of respondents.

To assess the cost management system in the garment industry, it is advisable to analyze each stage of cost management using a number of criteria. As a result of the calculations, the complex criteria will be obtained:

\[ KK = \sum_{i=1}^{n} a_i K_i, \]  

where \( KK \) — complex criteria;
\( a_i \) — coefficient of significance of local criteria’s;
\( K_i \) — local criteria’s;
\( n \) — number of local criteria for the relevant stage of cost management.

Source: generated by the author considering [3, p. 119].

The weighting coefficients can take values from 0 to 1. They are determined using the hierarchy analysis method developed by the American mathematician T. Saaty as a mathematical tool for a systematic approach to solving complex problems in the decision-making process [3, p. 128]. Local criteria can take values from 0 to 1. For each of them, there are three options for the accepted value: the most and least effective for the enterprise and an intermediate value (respectively \( K = 1, K = 0 \) and \( K = 0.5 \)). Thus, the complex criterion can be in the range from 0 to 1. Herewith, the closer the value of the complex criteria to 1, the more efficient the cost management system exists at the enterprise.

For a more complete analysis of the effectiveness of cost management at enterprises, we suggest using the resulting criterion:

\[ PK = \frac{\sum_{j=1}^{m} KK_j}{m}, \]

where \( PK \) — resulting criterion;
\( KK_j \) — complex criterion of \( j \)-stage;
\( m \) — the number of subsystems of the cost management system.

Source: generated by the author considering [3, p. 121].

The resulting criterion can also be in the range from 0 to 1. The closer the obtained value is to 1, the more effective the cost management system in the enterprise. The results of the proposed criteria-based approach are:
- defining the role of each stage in the overall cost management system at the enterprise;
- evaluation of the effectiveness of the cost management system at the enterprise,
- the ability to compare the effectiveness of cost management systems at different enterprises [4, p. 154].

Let’s consider each stage of cost management using the example of garment industry enterprises.

The stage of development (making) a decision is key in cost management system. Its implementation is carried out by top and middle managers of the enterprise [5, p. 267].

The effectiveness of the final decisions can be assessed only taking into account the final financial results in comparison with the actual data that existed before the decision was made [6, p. 9]. The ratio of the number of effective solutions to their total number is an indicator of the effectiveness of a particular system. Its functioning should be considered positive even in the presence of decisions that lead to unprofitableness, if this damage is covered by a positive value of the financial result obtained thanks to other decisions and is strategically justified [7, p. 57; 8, p. 280].
Criteria for evaluating the effectiveness of the cost management system at the stage of development (decision-making) was developed (Table 1) taking into account the peculiarities of the enterprises of the garment industry, which are associated with a constant change in the range of products due to the need to follow fashion trends in the sewing market:
1) Types of planning that are used in the enterprise.
2) Frequency of negative deviations between planned and actual indicators.
3) Evaluating the effectiveness of the planning process in the enterprise.
4) Quality of internal information base.
5) Completeness of application of the budgeting process.
6) Timeliness of revision of standards and norms.
7) Frequency of updating the regulatory regulatory and legal framework of the enterprise.
8) Systematic expenses on demand research and development of new fashion models.
9) Regularity of forecasting demand for new fashion models.
10) Forecasting environmental threats.
11) Timeliness of providing the necessary information on costs.

Table 1
Quantitative characteristics of local criteria for evaluating the cost management system at the stage of development (making) decision

| Criterion                                                                 | $K = 1$                                                                 | $K = 0.5$                                                                 | $K = 0$                                                                 |
|--------------------------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------------------|
| 1. Types of planning used in the enterprise                              | Combination of operational, short-term and long-term planning           | Operational and short-term planning                                      | Mostly short-term planning                                             |
| 2. Frequency of negative deviations between planned and actual results   | Not often                                                              | Periodically                                                            | Every month                                                           |
| 3. Evaluating the effectiveness of the planning process at the enterprise| High level of efficiency                                               | Middle level of efficiency                                               | Low level of efficiency                                                |
| 4. Quality of internal information base                                  | Regular maintenance and updating of the information base               | Updating the database once a month                                      | Updating the database from time to time (periodically)                 |
| 5. Completeness of application of the budgeting process                  | Applied in full                                                        | Used in separate divisions                                              | Individual elements are used                                           |
| 6. Timeliness of revision of standards and norms                         | Standards and norms are reviewed systematically                        | Several times a year                                                    | Once a year or less                                                    |
| 7. Frequency of updating the regulatory and legal framework of the enterprise | Regular operational updating of regulatory and legal framework         | Held monthly                                                           | Once a year                                                           |
| 8. Systematic expenses on demand research and development of new fashion models | Such expenses carried out systematically                               | Such expenses are carried out from time to time (periodically)           | Such expenses are not carried out                                      |
| 9. Regularity of forecasting demand for new fashion models               | Carried out for each seasonal group of new models                      | Periodically carried out on separate models                             | Once a year or less                                                    |
| 10. Forecasting of environmental threats                                 | Environmental forecasting is carried out regularly                     | Carried out several times a year                                        | Carried out once a year or less                                        |
| 11. Timeliness of providing the necessary information on costs           | Information is provided monthly, adjusted immediately if necessary     | Information is provided once a quarter                                  | Information is usually provided twice a year                          |

Source: generated by the author.
The quantitative characteristics of local criteria, depending on the survey participants’ answer options, are summarized in Table 1.

The results of the cost analysis are used to prioritize various possible solutions in the following areas:
- operational cost management;
- pricing and development of an assortment policy;
- making effective management decisions [9, p. 125].

15 experts (economists, accountants, marketers, managers) working at domestic garment enterprises were involved in the expert evaluation: PJSC «Khmilnyk clothes factory “Lileia”», JSC «Sewing factory «Zoryanka»», JSC «Santa Ukraina», JSC KVTF «Kremteks», JSC «Uzhhorod sewing factory».

On the basis of expert assessments, the coefficients of the significance of local criteria for sewing enterprises at the stage of development (adoption) of a decision were calculated (Table 2).

As can be seen from the data of the Table 2, the criteria «Timeliness of providing the necessary information on expenses» and «Types of planning used in the enterprise» received the greatest significance, according to experts. The lowest score is given to the criterion «Consistency of spending on demand research and development of new models», which is unacceptable for sewing enterprises, considering the specifics of their products.

### Significance of local criteria evaluating the effectiveness of the cost management system at the stage of developing (making) decisions

| # | Criterion                                                   | Significance |
|---|------------------------------------------------------------|--------------|
| 1 | Types of planning used in the enterprise                   | 0.13         |
| 2 | Frequency of negative deviations between planned and actual results | 0.07         |
| 3 | Evaluating the effectiveness of the planning process at the enterprise | 0.09         |
| 4 | Quality of internal information base                       | 0.10         |
| 5 | Completeness of application of the budgeting process       | 0.08         |
| 6 | Timeliness of revision of standards and norms              | 0.07         |
| 7 | Frequency of updating the regulatory and legal framework of the enterprise | 0.09         |
| 8 | Systematic expenses on demand research and development of new fashion models | 0.05         |
| 9 | Regularity of forecasting demand for new fashion models    | 0.08         |
| 10| Forecasting of environmental threats                       | 0.07         |
| 11| Timeliness of providing the necessary information on costs | 0.20         |
| Total |                                                        | 1.0          |

Source: calculated by the author based on the results of expert evaluation.

The quality of the cost management system functioning at the stage of solution implementation can be assessed by the number and volume of the detected deviations of actual costs from planned ones, as well as the share of these deviations in the total planned costs in the context of: cost centres; cost items; cost carriers [10, p. 216].

To assess the cost management system of the sewing enterprises at the stage of implementing the solution, it is advisable to apply the following criteria:
1) frequency of identifying the reasons for deviations of actual costs from the standard;
2) monitoring of the current organizational structure of the enterprise;
3) presence of an organizational structure for cost management;
4) degree of detailing of the information on expenses by places of their occurrence;
5) presence of information links between structural units;
6) communicating the tactical and strategic goals of the enterprise to employees;
7) improving the level of qualification of employees;
8) use of various methods of influence on employees in the event of negative deviations;
9) application of methods to stimulate employees based on the results of their work;
10) provision of the cost management process with appropriate software products.

Quantitative expression of the criteria for the second stage of enterprise cost management is shown in the Table 3.
Quantitative characteristics of local criteria for assessing the cost management system at the stage of implementing the solution

| Criterion                                                                 | $K = 1$                                      | $K = 0.5$                                  | $K = 0$                                      |
|---------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------|---------------------------------------------|
| 1. Frequency of identifying the reasons for the deviation of actual costs from the standard | Detected regularly                          | Carried out from time to time             | Not carried out                             |
| 2. Monitoring of the current organizational structure of the enterprise   | Carried out regularly                       | Carried out from time to time             | Not carried out                             |
| 3. Presence of an organizational structure for cost management           | According to the organizational structure of the enterprise, a cost management structure has been created | Each structural unit is a centre of responsibility | No organizational structure for cost management |
| 4. The degree of detailing of the information on expenses by places of their occurrence | Centres of responsibility                   | Separate divisions of an enterprise        | Enterprise as a whole                       |
| 5. Presence of information links between structural units                 | Presence of two-way information links between all divisions of an enterprise | Presence of links on specific issues       | No system connections                       |
| 6. Communicating the tactical and strategic goals of the enterprise to employees | Carried out regularly                       | Carried out from time to time             | Not carried out                             |
| 7. Improving the level of qualification of employees                     | Carried out every 3 years                   | Carried out periodically                  | Absent                                      |
| 8. Use of various methods of influence on employees in the event of negative deviations | Monetary and moral influence                | Monetary influence                        | Moral influence or lack of measures         |
| 9. Application of methods to stimulate employees based on the results of their work | Surcharges and allowances, bonuses, awarding with certificates of honour, valuable gifts | Cash bonuses                             | Lack of stimulation methods                 |
| 10. Provision of the cost management process with appropriate software products | Standard accounting programs                | Software of own development               | Software is not used                        |

Source: developed by the author.

The generalized results of the calculating the coefficients of significance of local criteria for assessing the cost management system at the stage of implementing the solution according to the experts’ data are given in the Table 4.

Table 4

The significance of local criteria for assessing the effectiveness of the cost management system at the stage of implementing the solution

| #  | Criterion                                                                                                         | Significance |
|----|-------------------------------------------------------------------------------------------------------------------|--------------|
| 1  | Frequency of identifying the reasons for the deviation of actual costs from the standard                           | 0.14         |
| 2  | Monitoring of the current organizational structure of the enterprise                                           | 0.04         |
| 3  | Presence of an organizational structure for cost management                                                     | 0.09         |
| 4  | The degree of detailing of the information on expenses by places of their occurrence                              | 0.21         |
| 5  | Presence of information links between structural units                                                             | 0.06         |
| 6  | Communicating the tactical and strategic goals of the enterprise to employees                                     | 0.06         |
| 7  | Improving the level of qualification of employees                                                                  | 0.07         |
| 8  | Use of various methods of influence on employees in the event of negative deviations                               | 0.14         |
| 9  | Application of methods to stimulate employees based on the results of their work                                  | 0.09         |
| 10 | Provision of the cost management process with appropriate software products                                       | 0.10         |
|    | Total                                                                                                             | 1.0          |

Source: calculated by the author based on the results of expert evaluation.
At the control stage, information is collected for cost analysis with the mandatory observance of the following requirements:
- efficiency;
- quality;
- collection of information directly at the place of origin [11, p. 187].

The more accurately these requirements are met, the higher the efficiency and quality of the management decisions made on the basis of the information received [12, p. 195].

Correct organizing and control largely predetermines the efficiency of cost management by timely presentation of information on the state and movement of inventory items and other cost components [13, p. 107; 14, p. 179].

Based on the indicated at the control stage, the following criteria can be distinguished:
1) method used to analyze costs;
2) presence of an organizational unit dealing with cost analysis;
3) frequency of cost analysis;
4) completeness of cost analysis;
5) reliability of the information provided for cost analysis;
6) timeliness of providing of the analytical information;
7) depth of the cost analysis at the enterprise;
8) degree of automation of the cost analysis;
9) systematic search for cost optimization reserves;
10) operativeness of cost regulation.

The quantitative expression of the specified criteria of the subsystem of analysis and cost control for the options of experts’ answers is summarized in the Table 5.

Table 5
Quantitative characteristics of local criteria for assessing the cost management system at the stage of cost control

| Criterion                                      | $K = 1$                              | $K = 0.5$                              | $K = 0$                              |
|-----------------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|
| 1. Method used to analyze costs              | Normative                            | Cost element analysis                 | Not carried out                      |
| 2. Presence of an organizational unit dealing with cost analysis | Carried out by an employee of the cost management center | Entrusted to the economic department or accounting | There is no such unit |
| 3. Frequency of cost analysis                | Carried out monthly                  | Carried out quarterly                 | Not carried out                      |
| 4. Completeness of cost analysis             | Carried out at all locations of operations | Carried out selectively               | Not used                             |
| 5. Reliability of the information provided for cost analysis | All information provided is completely accurate | Existence of isolated cases of providing false information | Information provided is often inaccurate |
| 6. Timeliness of providing of the analytical information | Information always provided in a timely manner | There are cases when information comes with a delay | Information usually arrives untimely |
| 7. Depth of the cost analysis at the enterprise | Cost evaluation by summary indicators, analysis by items and cost elements | Analysis only by items and cost elements | Analysis not carried out |
| 8. Degree of automation of the cost analysis | Cost analysis is fully automated      | Automated individual operations (calculation of results, formulas) | No automation                       |
| 9. Systematic search for cost optimization reserves | Carried out regularly                | Carried out from time to time         | Carried out not regularly            |
| 10. Operativeness of cost regulation         | Carried out monthly                  | Carried out quarterly                 | Carried out every six months         |

Source: developed by the authors.
The coefficients of the significance of local criteria for assessing the cost management system at the control stage are given in the Table 6.

### Table 6

| #  | Criterion                                                                 | Significance |
|----|---------------------------------------------------------------------------|--------------|
| 1  | Method used to analyze costs                                            | 0.11         |
| 2  | Presence of an organizational unit dealing with cost analysis            | 0.09         |
| 3  | Frequency of cost analysis                                               | 0.11         |
| 4  | Completeness of cost analysis                                           | 0.10         |
| 5  | Reliability of the information provided for cost analysis                | 0.14         |
| 6  | Timeliness of providing the analytical information                       | 0.10         |
| 7  | Depth of the cost analysis at the enterprise                             | 0.07         |
| 8  | Degree of automation of the cost analysis                                | 0.04         |
| 9  | Systematic search for cost optimization reserves                          | 0.11         |
| 10 | Operativeness of cost regulation                                         | 0.12         |
|    | **Total**                                                                 | **1.0**      |

*Source:* calculated by the authors based on the results of expert assessments.

The data of the Table 6 indicate that at each sewing enterprise, whose representatives acted as experts during the testing, considerable attention is paid to the reliability of the information provided. At the same time, the degree of automation of cost analysis at these enterprises is not at a sufficiently high level, although today the software market offers significant diversity of software not only for accounting, but also for solving the analytical tasks of management.

Performing analysis by help of the specified criteria at each stage of cost management should show the existing problems: technical — for the acquisition and installation of more modern analysis and control tools; organizational — regarding the allocation of responsibility centres in terms of the effectiveness of functioning of the cost management system.

It is necessary to analyze the indicators of the studied enterprises of the clothing industry according to this method.

As an example, let us consider the data on the operational activities of PJSC «Khmilnyk clothes factory “Lileia”». The company uses a combination of operational and short-term planning. According to the Table 1 and Table 2 the first local criterion has value 0.5; wherein the coefficient of the significance is equal to 0.13. Negative deviations from the planned indicators occur at the enterprise often, the second criterion is 0. Planning at the enterprise shows the average degree of efficiency, i.e. 0.5 and has significance coefficient 0.09. Due to the fact that the regulatory framework is updated periodically, the fourth criterion is equal to 0.5 and its significance is equal to 0.1. The enterprise does not apply budgeting, accordingly \( K = 0 \). The sixth local criterion is equal to zero, since the standards are revised once a year. At the enterprise, the regulatory and legal framework is updated monthly, so the corresponding criterion is equal to 0.5 and has a significance of 0.09. The expenditures on demand research and demand model development are carried out periodically, the information necessary for making a decision is not always provided on time, the eighth and eleventh local criteria acquire a value of 0.5 each (the significance coefficients are, respectively, 0.05 and 0.2). The regularity of demand for new models is carried out for each seasonal group, so the criterion corresponds to one, and its significance is 0.08. The company does not forecast environmental threats, and the appropriate criterion is zero.

The complex criterion \( KK_i \) for assessing the cost management system at the stage of developing (making) a decision for PJSC «Khmilnyk clothes factory “Lileia”» is calculated using the formula (1):

\[
KK_i \text{Lileia} = (0.5 \cdot 0.13) + 0 + (0.5 \cdot 0.09) + (0.5 \cdot 0.1) + 0 + 0 + (0.5 \cdot 0.09) + (0.5 \cdot 0.05) + (1 \cdot 0.08) + 0 + (0.5 \cdot 0.2) = 0.41.
\]

The value of the complex criterion is equal to 0.41 out of a possible 1.0. Therefore, at the stage of development (decision-making) the cost management system of PJSC «Khmilnyk clothes factory “Lileia”» does not work effectively enough.
In the same way the complex criterion for the stage of realization of the decision on PJSC «Khmilnyk clothes factory “Lileia”» is calculated:

$$KK_2^{Lileia} = 0 + (1 \cdot 0.04) + 0 + (0.5 \cdot 0.21) + (1 \cdot 0.06) + (0.5 \cdot 0.07) + (1 \cdot 0.14) + (0.5 \cdot 0.09) + (0.5 \cdot 0.1) = 0.54.$$

According to the results of calculations at PJSC «Khmilnyk clothes factory “Lileia”», the complex criterion of the decision implementation stage is equal to 0.54, which shows higher results than the complex criterion of the decision-making stage, but it is still almost twice lower than the maximum possible value 1.0.

Similarly, it is necessary to calculate a comprehensive criterion for the stage of cost control:

$$KK_3^{Lileia} = (0.5 \cdot 0.11) + (0.5 \cdot 0.09) + (1 \cdot 0.11) + (1 \cdot 0.10) + (1 \cdot 0.14) + (1 \cdot 0.10) + (1 \cdot 0.07) + (1 \cdot 0.04) + (0.5 \cdot 0.11) + (0.5 \cdot 0.12) = 0.78.$$

The value of the complex criterion is calculated for PJSC PJSC «Khmilnyk clothes factory “Lileia”» for the stage of the cost control and it is equal to 0.83 out of a possible 1.0. Thus, it allows us to conclude that the cost management system at the enterprise works most effectively at the control stage.

To calculate the resulting criterion ($PK$) was used the formula (2):

$$PK^{Lileia} = (0.41 + 0.54 + 0.78) / 3 = 0.58.$$

The estimated value of the resulting criterion shows that the cost management system at PJSC PJSC «Khmilnyk clothes factory “Lileia”» can work more efficiently.

The management of the enterprise should pay more attention to the first stage of cost management.

Similarly, complex and resulting criteria were calculated for other enterprises, the activities of which were studied in the work. The results obtained are grouped in the Table 7.

### Table 7

| Criterion                                                                 | PJSC «Khmilnyk clothes factory “Lileia”» | JSC «Sewing factory “Zoryanka”» | JSC «Santa Ukraina» | JSC KVTF «Kremtks» | JSC «Uzhhorod sewing factory» |
|---------------------------------------------------------------------------|------------------------------------------|---------------------------------|---------------------|-------------------|-------------------------------|
| 1. Types of planning used in the enterprise                               | 0.07                                     | 0.07                            | 0.06                | 0.13               | 0.07                          |
| 2. Frequency of negative deviations between planned and actual results   | 0.00                                     | 0.00                            | 0.04                | 0.04               | 0.04                          |
| 3. Evaluating the effectiveness of the planning process at the enterprise | 0.04                                     | 0.05                            | 0.00                | 0.00               | 0.09                          |
| 4. Quality of internal information base                                   | 0.05                                     | 0.00                            | 0.05                | 0.05               | 0.10                          |
| 5. Completeness of application of the budgeting process                   | 0.00                                     | 0.04                            | 0.04                | 0.04               | 0.04                          |
| 6. Timeliness of revision of standards and norms                          | 0.00                                     | 0.06                            | 0.04                | 0.07               | 0.07                          |
| 7. Frequency of updating the regulatory and legal framework of the enterprise | 0.04                                     | 0.05                            | 0.00                | 0.00               | 0.00                          |
| 8. Systematic expenses on demand research and development of new fashion models | 0.03                                     | 0.00                            | 0.03                | 0.05               | 0.03                          |
| 9. Regularity of forecasting demand for new fashion models                | 0.08                                     | 0.08                            | 0.04                | 0.00               | 0.00                          |
| 10. Forecasting of environmental threats                                 | 0.00                                     | 0.00                            | 0.03                | 0.07               | 0.04                          |
| 11. Timeliness of providing the necessary information on costs            | 0.10                                     | 0.10                            | 0.10                | 0.10               | 0.10                          |

$$KK_1 = 0.41$$

In the same way, the complex criterion for the stage of cost control was calculated (Table 7).
The main conclusion, that can be made by analyzing the data in the Table 7, is in the fact that the cost management system does not work efficiently at the studied enterprises of the garment industry. Even the most successful enterprise in terms of the resulting criterion JSC «Uzhhorod sewing factory» did not achieve the maximum result (1.0).

The analysis of the resulting criteria of each of the surveyed enterprises shows that their performance is almost half the maximum result. The difference in cost management systems in the sewing factories is negligible. If according to the resulting criterion for JSC «Uzhhorod sewing factory» the cost management system works efficiently, then the same is true for all the enterprises. It can be assumed that the cost management system in the garment industry is inefficient.

### Table 7 (continued)

| Criterion                                                                 | PJSC «Khmilnyk clothes factory “Lileia”» | JSC «Sewing factory “Zoryanka”» | JSC «Santa Ukraina» | JSC KVTF «Kremteks» | JSC «Uzhhorod sewing factory» |
|---------------------------------------------------------------------------|------------------------------------------|---------------------------------|---------------------|---------------------|-------------------------------|
| 1. Frequency of identifying the reasons for the deviation of actual costs from the standard | 0.00                                     | 0.07                            | 0.07                | 0.07                | 0.14                          |
| 2. Monitoring of the current organizational structure of the enterprise   | 0.04                                     | 0.04                            | 0.04                | 0.02                | 0.02                          |
| 3. Presence of an organizational structure for cost management            | 0.00                                     | 0.00                            | 0.00                | 0.09                | 0.09                          |
| 4. The degree of detailing of the information on expenses by places of their occurrence | 0.11                                     | 0.11                            | 0.11                | 0.21                | 0.11                          |
| 5. Presence of information links between structural units                  | 0.05                                     | 0.03                            | 0.03                | 0.03                | 0.06                          |
| 6. Communicating the tactical and strategic goals of the enterprise to employees | 0.06                                     | 0.00                            | 0.06                | 0.06                | 0.03                          |
| 7. Improving the level of qualification of employees                      | 0.04                                     | 0.08                            | 0.04                | 0.04                | 0.07                          |
| 8. Use of various methods of influence on employees in the event of negative deviations | 0.14                                     | 0.07                            | 0.14                | 0.07                | 0.14                          |
| 9. Application of methods to stimulate employees based on the results of their work | 0.05                                     | 0.09                            | 0.00                | 0.00                | 0.00                          |
| 10. Provision of the cost management process with appropriate software products | 0.05                                     | 0.06                            | 0.05                | 0.05                | 0.10                          |
| **KK**<sub>1</sub>                                                        | **0.54**                                 | **0.55**                        | **0.54**            | **0.64**            | **0.76**                      |
| 1. Method used to analyze costs                                           | 0.06                                     | 0.06                            | 0.11                | 0.11                | 0.06                          |
| 2. Presence of an organizational unit dealing with cost analysis           | 0.05                                     | 0.05                            | 0.05                | 0.09                | 0.09                          |
| 3. Frequency of cost analysis                                             | 0.11                                     | 0.11                            | 0.11                | 0.06                | 0.06                          |
| 4. Completeness of cost analysis                                          | 0.09                                     | 0.05                            | 0.10                | 0.05                | 0.05                          |
| 5. Reliability of the information provided for cost analysis               | 0.14                                     | 0.14                            | 0.14                | 0.07                | 0.00                          |
| 6. Timeliness of providing of the analytical information                   | 0.10                                     | 0.10                            | 0.10                | 0.00                | 0.10                          |
| 7. Depth of the cost analysis at the enterprise                            | 0.07                                     | 0.04                            | 0.04                | 0.04                | 0.07                          |
| 8. Degree of automation of the cost analysis                              | 0.04                                     | 0.04                            | 0.02                | 0.04                | 0.00                          |
| 9. Systematic search for cost optimization reserves                        | 0.06                                     | 0.11                            | 0.06                | 0.11                | 0.11                          |
| 10. Operativeness of cost regulation                                       | 0.06                                     | 0.06                            | 0.05                | 0.12                | 0.06                          |
| **KK**<sub>2</sub>                                                        | **0.78**                                 | **0.76**                        | **0.78**            | **0.69**            | **0.60**                      |
| **PK**                                                                   | **0.58**                                 | **0.59**                        | **0.58**            | **0.63**            | **0.65**                      |

Source: developed and calculated by the author.
factory» the better indicators at the stages of decision-making and implementation (is equal to 0.76), but at PJSC «Khmelnyk clothes factory “Lileia”» the highest indicators were achieved at the control stage (is equal to 0.78).

The analysis of the above data clearly proves that these enterprises need to focus on developing ways to improve existing cost management systems. The application of the proposed criterion approach will allow companies to determine which stage of cost management should be paid more attention.

Conclusions. The proposed criterial approach to the effectiveness of the cost analysis takes into account each stage of control and is based on the study of local criteria, the indicators of which are used to calculate the resulting criterion. The study conducted on the basis of data from enterprises in the garment industry showed the feasibility of the proposed approach to the analysis of the effectiveness of the cost management system of enterprises (on the example of sewing enterprises).

At the same time, the research carried out has shown that the problems of the effectiveness of the cost management system are relevant for domestic sewing enterprises. This is due to a number of aspects:
- firstly, cost reduction along with an increase in production is one of the main sources of profit at the enterprise, but due to the specifics of sewing products, they cannot be made in large quantities;
- secondly, the analysis indicates a high share of costs per 1 UAH of production volume;
- thirdly, in modern conditions it is necessary to keep separate accounting and planning of variable and conditionally fixed costs, which is associated with their different role in the formation of profits due to the independence of the latter from the volume of production, which is unstable in modern conditions;
- fourthly, the share of conditionally fixed expenses is high;
- fifthly, not all sewing enterprises have an effective cost management mechanism.

The above is a promising area for further research.

Література

1. Економічна енциклопедія : у 3-х т. / відп. ред. С. В. Мочерний. — Київ : Видавничий центр «Академія», 2000—2002.
2. Ткаченко С. А. Критерійний підхід в основі визначення оптимальності підсистеми «Бюджетування». Матеріали за 5-а міжнародна національна практична конференція [«Найновітні науки постійного»]. Софія : «Філ ГРАД-БГ» ООД, 2009. T. 7 : 6. Критерій. С. 84—88.
3. Saaty Th. L. The Hierarchon: A Dictionary of Hierarchies. Pittsburgh, Pennsylvania : RWS Publications, 1992. Р. 496.
4. Skrypnyk M., Radionova N., Vlasiuk T., Bondarenko S., Grygorevska O. Accounting and verification of sustainable enterprise development reporting. IBIMA Business Review. 2019. Vol. 2019. P. 1—10.
5. Прядко В. В. Обліково-аналітичне забезпечення управління витратами. Економічний аналіз. Тернопіль, 2018. Т. 28. № 4. С. 265—270.
6. Бельтовсько Є. І., Бенищенко Н. О. Управління витратами на основі функціонально-вартісного аналізу. Вісник ХНУРЕ. 2017. Вип. 7—10.
7. Гайдучок Т. С., Мостапанюк В. А. Механізм управління операційними витратами лісогосподарських підприємств Поліського регіону України: облікове та аналітичне забезпечення. The Scientific Method. 2017. Vol. 1. № 6. P. 55—65.
8. Олійник Л. В. Принципово-критерійний підхід до конвертації управління активами підприємства в інституційну систему економіки. Економічний аналіз. 2013. Вип. 12. Ч. 3. С. 279—283.
9. Шищенко О. В., Радіонова Н. Й. Аналіз стратегій зниження затрат на виробничих підприємствах. Інфраструктура ринку. 2017. Вип. 5. С. 123—127.
10. Kaplan R. S., Cooper R. Cost and Effect: Using Integrated Cost System to Drive Profitability and Performance. President and Fellows of Harvard College, Boston : Harvard Business Press, 1998. 358 p.
11. Radionova N., Skrypnyk M. I., Voronkova T. Dual nature of industrial enterprise cost management system. Baltic Journal of Economic Studies. 2019. Vol. 5. № 2. P. 184—190.
12. Roche-Anderson J. M., Bragg S. M. Controllship. The Work of the Managerial Accountant. 7-th ed. Hoboken, N. J., 2004. Р. 193—198.
13. Breus S. V., Khaustova Y. B., Denysenko M. P. Balanced scorecard: formation with perspective to ensure economic security of higher educational institutions. Науковий вісник Полісся. 2017. № 4 (12). Ч. 1. С. 104—109.
14. Бреус С. В. Розроблення моделі оцінювання економічної безпеки закладів вищої освіти. Фінансово-кредитна діяльність: проблеми теорії та практики. 2018. Т. 2. № 25. С. 176—182.

© Радіонова Н. Й., Бреус С. В., Денисенко М. І., Хаустова С. Б., Матюх А. В.
References

1. Mochernyi, S. V. (Ed.). (2000). Ekonomichna entsyklopediia [Economic Encyclopedia]. Kyiv: Vydavnychyi tsentr «Akademiia» [in Ukrainian].

2. Tkachenko, S. A. (2009). Kryterialnyi pidkhid v osnovi vyznachennia optymalnosti pidsystemy «Biudzhetuvannia» [Criteria approach based on determining the optimality of the subsystem «Budgetings»]. Sofiia: «Bial HRAD-BH» OOD.

3. Saaty, T. L. (1992). The Hierarchon: A Dictionary of Hierarchies. Pittsburgh: RWS Publications.

4. Skrypnik, M., Radionova, N., Vlasiuk, T., Bondarenko, S., & Grygorevska, O. (2019). Accounting and verification of sustainable enterprise development reporting. IBIMA Business Review, 1—10.

5. Priadko, V. V. (2018). Oblikovo-analityche zabezpechennia upravlinnia vytratamy. Ekonomichniy analiz [Accounting and analytical support of cost management. Economic analysis]. Ternopil [in Ukrainian].

6. Bieltiukov, Ye. A., & Beznoshchenko, N. O. (2011). Upravlinnia vytratamy na osnovi funktsionalno-vartisnoho analizu [Cost management based on functional-cost analysis]. Visnyk Khmelnytskoho natsionalnoho universytetu. Ekonomichni nauky —Bulletin of Khmelnytsky National University. Economic sciences, Vol. 2, 2, 7—10 [in Ukrainian].

7. Haiduchok, T. S., & Mostepaniuk, V. A. (2017). Mekhanizm upravlinnia operatsiinymi vytratamy lisohospodarskykh pidpryiemstv Polishoho rehionu Ukrainy: oblikove ta analitychne zabezpechennia [Mechanism of operational costs management of forestry enterprises of Polissya region of Ukraine: accounting and analytical support]. The Scientific Method, 55—63 [in Ukrainian].

8. Oliynyk, L. V. (2013). Pryntsypovo-kryterialni pidkhody do konverhentsatsii upravlinnia aktyvamy pidpryiemstva v instytutsiiiu systemu ekonomiky [Principle-criterion approaches to the convergence of enterprise asset management into the institutional system of the economy]. Ekonomichniy analiz — Economic Analysis, Vol. 12, 3, 279—283 [in Ukrainian].

9. Zinchenko, O. V., & Radionova, N. Yo. (2017). Analiz strategii znyzhennia zatrat na vyrobnychykh pidpryiemstvakh [Analysis of cost reduction strategies in manufacturing enterprises]. Infrastruktura rynku — Market infrastructure, Vol. 5, 123—127 [in Ukrainian].

10. Kaplan, R., & Cooper, R. (1998). Cost and Effect: Using Integrated Cost System to Drive Profitability and Performance. Boston: Harvard Business Press.

11. Radionova, N., Skrypnik, M. I., & Voronkova, T. (2019). Dual nature of industrial enterprise cost management system. Baltic Journal of Economic Studies, Vol. 5, 2, 184—190.

12. Roche-Anderson, J. M., & Bragg, S. M. (2004). Controllership. The Work of the Managerial Accountant. Hoboken, N. J., P. 193—198.

13. Breus, S. V., Khaustova, Y. V., & Denysenko, M. P. (2017). Balanced scorecard: formation with perspective to ensure economic security of higher educational institutions. Naukovyi visnyk Polissya — Scientific Bulletin of Polissya, 4 (12), 1, 104—109.

14. Breus, S. V. (2018). Rozroblennia modeli otsiniuvannia ekonomichnoi bezpeky zakladiv vyshchoi osvity [Development of a model for assessing the economic security of higher education institutions]. Finansovo-kredytna dialnist: problemy teorii ta praktyky — Financial and credit activities: problems of theory and practice, Vol. 2, 25, 176—182 [in Ukrainian].

The article is recommended for printing 08.01.2021 © Radionova N., Breus S., Denysenko M., Khaustova Ye., Matiukh A.