

## **Financial Instruments to Create Value Added of the Entities Engaged in Foreign Economic Activity: Analytical Accounting Perspective**

**SOFIIA KAFKA**

Department of Accounting and Taxation,  
Ivano-Frankivsk National Technical University of Oil and Gas,  
15 Karpatska Str., 76019, Ivano-Frankivsk,  
UKRAINE

**TETYANA ORIEKHOVA**

International Economic Relations Department,  
Vasyl' Stus Donetsk National University,  
21, 600th Anniversary Str., 21000, Vinnytsia,  
UKRAINE

**NINA POYDA-NOSYK**

Accounting and Auditing Department,  
Ferenc Rakoczi II Transcarpathian Hungarian College of Higher Education,  
6, Kossuth square, 90202, Beregove, Transcarpathia,  
UKRAINE

**NATALYA MALYUGA**

Department of Accounting, Taxation and Audit,  
Polissia National University,  
7, Boulevard Stary, 10008, Zhytomyr,  
UKRAINE

**SVITLANA RASSADNYKOVA**

Department of Economics and International Economic Relations,  
International Humanitarian University,  
33, Fontanskaya Road, 65000, Odesa,  
UKRAINE

**OLENA VOLKOVA**

Department of Finance, Accounting and Taxation,  
Kherson National Technical University,  
24, Berislavske highway, 73008, Kherson,  
UKRAINE

*Abstract:* - The aim of the article was to justify the financial instruments to create value added of the entities engaged in foreign economic activity. The key method used to identify the correlations between the studied processes and phenomena was the correlation and regression analysis. Graphics simulation and the logical structure analysis were also applied to schematize the sequence of implementing the author's suggestions to improve the accounting and analysis of value added as a financial result of an entity engaged in foreign economic activity. The specific features of the value added of the entities engaged in foreign economic activity as an economic category are described. The ways to manage and optimize the value added of entities engaged in foreign economic activity were suggested. The author's hypothesis is grounded that the results of the created value added are determined by the priority of key impact factors (financial instruments) with a concurrent limitation of increasing costs for other factors. Based on the practical results and theoretical generalizations, the recommendations for structuring accounting, control and analysis of value added of entities engaged in foreign economic activity and taking into account the factors that affect it. The resource redistribution procedure for

financial instruments that affect the amount of value added while controlling costs, which is presented on the example of a particular company, constitute the practical significance of this article. Prospects for further research in this area are to develop cost control mechanisms for value-added components in terms of types of activities. This will allow for a more effective cost minimization of entities engaged in foreign economic activity and increase value added through optimizing the value added chain.

**Key-Words:** - Value added; Impact factors; Financial results; Performance; Export; Import; Foreign economic activity; Accounting; Analysis.

Received: October 23, 2021. Revised: August 3, 2022. Accepted: August 25, 2022. Published: September 8, 2022.

## 1 Introduction

### 1.1 Topicality

One of the key indicators of the country's economic development in the context of globalization, transnationalization and internationalization are intensification of foreign economic activity and promotion of international economic relations. Integration into the world economy allows for the latest areas of economic modernization, attracting foreign investment and advanced technologies, adding to the competitiveness of companies and providing access to world markets. Competition in the markets increase because of globalization processes, thus determining the need for the dynamic development and improvement of not only production and technological, but also organizational, economic and management systems of companies, in particular, the analytical accounting system. This is the reason why the existing domestic entities engaged in foreign economic activity (hereinafter referred to as the entities engaged in FEA) are forced to adapt their own analytical accounting to new conditions in order to have the opportunities for their viability, proper operation and development. In this context, one of the priority scientific and practical problems of these companies in a competitive environment is the creation of value added by the entities engaged in FEA in the key value added chains (marketing, logistics, sales) is.

### 1.2 Overlooked Issues

Modern theory, methodology and practice of management considers processes and effective approaches to their analysis, accounting, planning, organization, control of company performance as an important element of an effective management system. They are constantly measured, as well as financial and non-financial conditions of their formation are assessed, thus increasing the flexibility, competitiveness and viability of the system which is managed in the market conditions.

In this context, the creation of value added and enhancement of its growth, which is relatively uncommon in the scientific literature and practice, but an important economic category, remain significant issues of scientific and practical plan for accounting and analysis of company performance.

The issues of identifying the specific features of value added as a category that describes the activities of the entities engaged in FEA, which are important for understanding the process of achieving the financial results of the company, are poorly studied in scientific publications. Moreover, the issues of identifying the factors that determine the growth of value added of these entities, as well as financial instruments, resource base causing that growth have not yet been insufficiently investigated. Poor exploration of these issues determined the subject matter, topicality, aim and structure of this article.

### 1.3 Aim

The aim of the article was to justify the key financial instruments to create value added of the entities engaged in FEA, and to provide scientific and practical solutions for accounting and analysis of these instruments.

### 1.4 Objectives

The aim of the research involved a number of the following objectives:

1) identification of key factors — financial instruments that have the most significant direct impact on the value added of entities engaged in FEA;

2) grounding of the author's hypothesis that the results of the created value added are determined by the priority of key impact factors (financial instruments) with a concurrent limitation of increasing costs for other factors.

3) making generalized recommendations on the procedure of accounting, control and analysis of financial results and, in particular, the added value

of entities engaged in FEA, and the factors that affect it, on the basis of practical results obtained.

## 2 Literature Review

The need to obtain the most complete and operational information about the company's activities determines the need for continuous improvement of corporate analytical accounting systems of entities engaged in FEA. As author [1] noted, this is important for making timely and effective management decisions in the current dynamic environment of operation and development of these entities. In this regard, these economic entities should implement specific measures to make their system of accounting, control and analysis more efficient, using the successful experience of other countries, in particular author [2], as well as scientific and practical achievements, such as those provided by author [3].

The science and practice provide no single point of view on defining the concept of added value. It is also reasonable to summarize the existing achievements and note that in defining this economic category thematic dictionaries and scientific publications place an emphasis on "increment of value" [4; 5; 6], "the amount by which the value of the goods increases" [7; 8], "real contribution of the company to the value of the product" [9], etc. In the interpretation of value added the vast majority of scholars use the concept of "difference" between the value of the goods produced or sold and the value of goods and services used in production/activities.

In recent studies [10], value added is also defined as the market value of products produced by the company deducting external costs incurred (the value of raw materials, services purchased from suppliers). In general, the author of this article considers this definition to be the most important for revealing the subject matter, achieving the aim and fulfilling the research objectives.

So, the concept of value added is described as a value which was added to the product throughout the chain from producer to final consumer. The practical meaning of this indicator is to measure the value created by the company at a certain stage of the production process [11]. When calculating it, the researchers [10; 12] focus on the amount of newly created (added) value added in the production process to the cost of raw materials (supplies) offered to end users. Value added includes wages, depreciation and profit, but does not include taxes. It is used in many countries as a basis for calculating and paying value added tax, VAT [13]. VAT is inherently a tool for withdrawing part of value added to the state budget.

The created value added is the main source of enhancing competitiveness of any company, in the

field of foreign economic activity in particular. The following model can describe its balanced creation [14]:

$$VA(\rightarrow \max) = NI(\rightarrow \max) - ME(\rightarrow \min) \quad (1)$$

where  $VA$  – value added;

$NI$  – net income: the amounts that the company retains upon payment of all taxes. When making the calculation for an entity engaged in FEA, you need to sum up all the company's revenues for the reporting period, except for the amounts that will be required to pay value added tax; excise duty; customs duty;

$ME$  – material expenses and related costs.

According to this model, maximizing the company's net income and (or) minimizing its material expenses provide the increase of value added. So, the components of net income and types of material expenses of the company are the sources of value added of entities engaged in FEA. In this regard, the financial instruments that form this indicator and affect its value are those that contribute to an increase in the amount of net income and minimization of material expenses.

Under the current conditions of the development of economic entities, some researchers, in particular [1; 15; 16], consider that such instruments are the promotion of effective activities in marketing, logistics and sales value chains. In these chains the value added is created not through direct changes in the volume of material resources and (or) increased sales, but indirectly — through actions that promote operating efficiency, intensification of operations and process optimization. This will ultimately promote fulfilling the potential to increase income and reduce costs resulting from effective marketing activities.

Improving the system of accounting and analysis of financial results of an entity engaged in FEA is characterized in scientific literature by the ways to meet the needs of presentation and interpretation of information used in management [17; 18] for the following purposes: planning and control of the company activity; decision-making in the company; optimizing resource consumption and saving assets.

Reviewing the financial instruments creating value added of the entities operating in a particular field of foreign economic activity (FEA), one should refer to the interpretation of the term "foreign economic activity" (in the literature). The research scientist [3; 19] defines foreign economic activity as a system of economic relations established in the course of exchanging resources of all kinds between states and their economic entities. These relations include all aspects of economic life: production, trade, finance, investment, accounting, analysis and control. The Law of Ukraine "On Foreign Economic Activity" considers FEA as the

activity of economic entities of Ukraine and foreign economic entities, which is based on particular relations between them, which is carried out both in Ukraine and abroad [20].

The entities engaged in FEA maintain accounting and operational records of foreign economic transactions, as well as statistical reporting, which they send to the State Statistics bodies of Ukraine. The entities engaged in FEA use a chart of accounts in force in Ukraine and instructions thereto for the accounting of foreign economic transactions, as well as the relevant changes and amendments that reflect the specific features of the type of foreign economic activity. These entities independently determine the procedure for analytical accounting of FEA, introduce appropriate subsidiary accounts, reflect this activity and its results in their annual financial statements.

The need to find ways to ensure effective accounting and analysis of value added of entities engaged in FEA is determined by the importance of quality accounting and analysis for effective decision-making by the management of the entities engaged in FEA, especially in the current dynamic changes occurring in the internal and external environment of companies. This issue is even more urgent in view of the need to ensure the improved readability of accounting and analytical information for a wide range of stakeholders (owners, investors, including foreign investment, state control authorities, etc.). Nevertheless, this situation determines the need to adapt accounting and analytical methodology and practice of the entities engaged in FEA to the operation in a global information environment of the investment, financial and capital markets.

## 3 Methods

### 3.1 Research Design

The article provides for studying the impact of particular financial instruments suggested by the author to increase the competitiveness of the entity engaged in FEA on the creation of value added of this entity. This study is to justify the dependence of certain financial instruments considered in this paper as legal documents which have a financial components (contracts, agreements, etc.), which reflect certain contractual relationships or which grant certain rights.

The article involved correlation and regression analysis [21; 22] to determine the correlation ratio between the resulting feature (value added of the entity engaged in FEA) and factor features (financial instruments) through multiple correlation tools with the Pairwise Comparison Matrix and regression model (for which the coefficients are

determined for the factors by programmable method).

The correlation of the resulting feature ( $Y$ ) with the factor features ( $X_1, X_2 \dots X_n$ ) is described through the linear multifactor regression equation, which is calculated using the formula:

$$Y = a_0 + \sum_{i=1}^n a_i x_i \quad (2)$$

The resulting feature ( $Y$ ) will be the value added of entities engaged in FEA (in UAH thousand). The author identifies the following groups of financial instruments, that are important under the current conditions for the creation and change of value added of entities engaged in FEA, as factor values:

$X_1$  – the instruments related to marketing activities of the entity engaged in FEA (contracted resources related to advertising and promotion of products on foreign markets, advertising and promotion of imported products on the domestic market, implementation of PR activities, exhibitions, market research and improvement activities and improvement of the company's competitive positions (related both to the import and export of products));

$X_2$  – the instruments related to the sales operations of the subject engaged in FEA (contracted resources related to commissions to intermediaries, agents' expenses, payment for consulting and information services related to the import and export of products, customs broker services, payment of banking fees for currency control, currency transfer, currency purchase before the goods are accepted for accounting);

$X_3$  – the instruments related to the logistics of the entity engaged in FEA (contracted resources related to the (both import and export) freight delivery, warehousing, insurance);

$X_4$  – the instruments related to investment activities intended to develop FEA of the entity under analysis (equity and financial resources of the owners);

$X_5$  – the instruments related to the servicing of debts resulted from FEA of the entity under analysis (borrowed capital, loans, external state support, etc.).

So, the model looks as follows:

$$Y = a_0 + a_1 X_1 + a_2 X_2 + a_3 X_3 + a_4 X_4 + a_5 X_5 \quad (3)$$

where  $a_0$ - $a_7$  – coefficients for variables calculated through the regression model by applying the Regression software solution of the Data Analysis package in MS Excel.

The model calculation and determination of the factors that primarily affect the change in the value added of the entity engaged in FEA is tested in the article on the example of *Odeskabel PJSC* [23] —

the largest manufacturer of cable and wire products in Ukraine, which is actively engaged in FEA in two areas:

- exporting a significant part (about 30%) of its own products abroad;
- actively importing industrial equipment, raw materials and supplies for the organization of stable production.

Based on the information of management accounts and financial accounting of the company, the data on financial instruments related to the proposed analytical model (2) and value added for 2016-2021 were distinguished and summarized. These data were the basis for the study conducted in the following experiment stages:

1) identification of key factors ( $X$ ) — financial instruments that have the most significant direct impact on the result ( $Y$ ) for the analysed period;

2) building a regression model (2), which served as the basis for forecasting the value added of the company for the next three years in view of the author's hypothesis about the priority of key impact factors (financial instruments  $X$ ) on value added while limiting the increase in costs for others factors;

3) forecasting options comparison:

- maintaining current trends of changes for all factors;

- maintaining current trends of changes only for key factors and limiting (controlling increase of) costs for other factors (which have less impact on the result);

- drawing management conclusions and providing recommendations based on the comparison results;

4) providing generalized recommendations regarding the procedure of accounting, control and analysis of financial results and, in particular, the added value of entities engaged in FE, as well as the factors that affect it relying on the practical results obtained. It is proposed to build a model for managing the value added of the entity engaged in FEA of the  $i^{\text{th}}$  e-commerce company as one of the ways to structure the research results of the study. The author proposes the following model:

$$Z_{VAFEA_i} = f(X_1, X_2, X_3, X_4, \dots, X_n)_i \rightarrow \max(p_1, p_2, p_3, p_4, \dots, p_n)_i \quad (4)$$

where  $Z_{VAFEA_i}$  — the target function of effective management of the value added (VA) of the  $i^{\text{th}}$  entity engaged in FEA;

$X_{1..n}$  —  $n$ - factors — financial instruments that have a significant direct impact on the result;

$p_{1..n}$  —  $n$ - development priorities of the entity engaged in FEA, which contribute to an increase in the value added of this entity.

### 3.2 Research Methods and Tools

The key method used in the research to identify the correlation between the studied processes and phenomena is the correlation and regression analysis [21; 24]. This method allows studying the correlation — a relationship that is manifested in a large number of observations in the form of a dependence between the mean of the resulting feature and factor features. This article considers the correlation between the mean of the resulting factor  $y$  with several factor features  $x$ , that is, the multiple correlation is determined.

The study of correlations is reduced to fulfilling the following objectives: 1) identify where there are (there are no) correlations between the studied features; 2) measure the correlation rate between two (or more) features through special coefficients (correlation analysis); 3) determine the regression equation — a mathematical model where the mean of the resulting feature is considered as a function of one or more variable factor features (regression analysis). The correlation and regression analysis involves a comprehensive study of correlations (fulfilling all three objectives). **The Data Analysis package in MS Excel** is the tool that allows making this substantiation using software solutions involved in the study.

The linear correlation coefficient calculated in the paper relies on the assumption that the deviation of the factor feature from the mean ( $x - \bar{x}$ ) are random and must be randomly combined with different deviations ( $y - \bar{y}$ ), provided complete independence of the features  $x$  and  $y$ . It is assumed that there is a correlation between  $x$  and  $y$  in case of a significant prevalence of coincidences or differences of the deviations [21; 24].

$$t_x = \frac{x - \bar{x}}{\sigma_x} \quad t_y = \frac{y - \bar{y}}{\sigma_y} \quad \dots \quad (5)$$

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{[n \sum x^2 - (\sum x)^2][n \sum y^2 - (\sum y)^2]}} \quad (6)$$

The linear correlation coefficient can take values from -1 to +1, where the sign is determined in the course of the solution. This coefficient is both a measure of the correlation rate, and an indicator that describes the extent of approximation of the correlation between  $x$  and  $y$  to the linear one. Therefore, in some cases the proximity of  $r$  to 0 may mean no correlation between  $x$  and  $y$ , while in others it indicate that the correlation is not linear [21; 24].

Selection of the regression equation is a mathematical description of the change of mutually correlated quantities based on the empirical (actual) data. The regression equation should determine the mean of the resulting feature in case of a particular value of the factor feature  $x$ , provided that other

factors affecting  $y$  and not related to  $x$  are not taken into account. The least-squares method was used in the article to calculate the regression equation parameters ( $a_0$ - $a_7$  coefficients) through the software solutions of the Data Analysis package in MS Excel. This method is to calculate the following theoretical values of the resulting feature, which would provide a minimum sum of squared deviations from empirical values [21; 24].

$$S = \sum (y - \hat{y}_x)^2 \rightarrow \min \quad (7)$$

The study also involves graphics simulation and logical structure analysis to schematize the sequence of implementing the author's suggestions to improve the accounting and analysis of value added as a financial result of an entity engaged in foreign economic activity.

The calculation of the model (2) proposed in the article and determination of the factors that

primarily affect the change in the value added of the entity engaged in FEA was tested on the example of Odeskabel PJSC using the company's data of management accounts and financial accounting.

## 4 Results

### 4.1 Identification of Key Factors - Financial Instruments that have the Most Significant Direct Impact on the Value Added

Table 1 presents the results of analysis and forecasting the dependence of the value added of Odeskabel PJSC on the impact of factors — financial instruments — through correlation and regression analysis (which was carried out through Data Analysis software solutions package in MS Excel).

Table 1. The results of analysis and forecasting of the dependence of the value added of Odeskabel PJSC on the factors — financial instruments — through correlation and regression analysis

Year	Y (value added of the entity engaged in FEA), UAH thousand		$X_1$ – the instruments related to the marketing activities of the entity engaged in FEA, UAH thousand	$X_2$ – instruments related to the sales activity of the entity engaged in FEA, UAH thousand	$X_3$ – instruments related to the logistics activity of the entity engaged in FEA, UAH thousand	$X_4$ – instruments related to the investment activity intended to develop FEA, UAH thousand	$X_5$ – instruments related to servicing the debt resulted from FEA, UAH thousand
2016	30,351.20		4,500.50	6,541.20	8,230.00	7,015.00	351.00
2017	32,280.50		3,220.00	7,650.00	7,228.00	7,122.00	350.00
2018	31,617.70		4,515.22	7,280.00	7,450.00	8,135.00	360.00
2019	34,597.60		4,984.20	9,489.90	8,070.00	8,926.00	480.00
2020	42,485.70		7,594.50	10,920.40	8,200.00	8,831.00	910.00
2021	38,127.70		6,188.40	10,719.20	8,700.00	9,064.00	1,254.00
Total	115,211.00		18,767.10	31,129.50	24,970.00	26,821.00	2,644.00
Average annual value	38,403.67		6,255.70	10,376.50	8,323.33	8,940.33	881.33
Average annual growth rate	<b>1.05</b>		1.11	1.11	1.01	1.05	1.33
Forecast	$Y_{mod}$ — forecast according to the plan of intensification of marketing and sales tools	$Y_{avr}$ — forecast for average annual growth rates	Forecast for average annual growth rates	Forecast for average annual growth rates	Average annual value	Average annual value	Average annual value
2022	42,862.81	40,130.94	6,881.69	11,913.35	8,323.33	8,940.33	881.33
2023	47,135.86	42,239.43	7,652.65	13,240.54	8,323.33	8,940.33	881.33
2024	51,885.83	44,458.69	8,509.98	14,715.58	8,323.33	8,940.33	881.33
Average annual growth rate	<b>1.10</b>	1.05		1.11	1.00	1.00	1.00

(forecast)							
------------	--	--	--	--	--	--	--

Source: calculated by the author

Line 2 presents data on the value added of the entity engaged in FEA under research for 2016-2021. Lines 3-7 provide aggregated data on financial instruments that affect the creation of value added (according to Model (2)). The average annual values and the average annual growth rate are determined

for these values. The impact rate of the instruments — factors ( $X_1$ - $X_5$ ) on the value added — the result ( $Y$ ) is determined through the Correlation function of the Data Analysis package in MS Excel. Table 2 shows the results of determining the correlation rate — the Pairwise Comparison Matrix.

Table 2. The Pairwise Comparison Matrix for the correlation rate between the value added of Odeskabel PJSC and the factors — financial instruments — for 2016-2021

	$Y$	$X_1$	$X_2$	$X_3$	$X_4$	$X_5$
$Y$	1					
$X_1$	0.91087	1				
$X_2$	0.938282	0.824055	1			
$X_3$	0.520382	0.697155	0.593848	1		
$X_4$	0.743187	0.742292	0.874556	0.548191	1	
$X_5$	0.809038	0.778939	0.86243	0.756664	0.719345	1

Source: calculated by the author through the Correlation function of the Data Analysis package in MS Excel

The results in Table 2 were the basis for identifying the factors that have the greatest direct impact on the resulting feature — the value added rate:

$X_1$  — the instruments related to the marketing activities of the entity engaged in FEA — 0.91 correlation rate;

$X_2$  — instruments related to the sales activity of the entity engaged in FEA — 0.93 correlation rate.

## 4.2 Building a Regression Model and a Subsequent Analysis of Options for Implementing the Model Of Changes in the Value Added of Odeskabel PJSC under the Impact of Financial Instruments

The coefficients — parameters of the regression model were determined using the Regression function of the Data Analysis package in MS Excel:  $a_0 = 37297.88$ ;  $a_1 = 1.832918$ ;  $a_2 = 2.154892$ ;  $a_3 = -2.07143$ ;  $a_4 = -1.75965$ ;  $a_5 = 0.286469$ ;

and the following regression model was built on their basis and on the basis of (2):

$$Y = 37297.88 + 1.832918 \cdot X_1 + 2.154892 \cdot X_2 - 2.07143 \cdot X_3 - 1.75965 \cdot X_4 + 0.286469 \cdot X_5, \quad (8)$$

This model was the basis for:

— forecasting the company's value added for the next three years in view of the author's hypothesis about the priority of the key impact factors (financial instruments  $X$ ) on the value added, while limiting the increase of costs for other factors. The forecasting results are presented in Line 2 of Table 1 in the block " $Y_{\text{mod}}$  — forecast according to the plan of intensification of marketing and sales tools".

— forecasting the company's value added for the next three years, while maintaining current trends for all factors. The forecasting results are presented in Line 2 of Table 1 in the block " $Y_{\text{avr}}$  — forecast for average annual growth rates"

The forecast options for the next three years were the basis for the calculation of the average annual growth rate of value added. Relying on the analysis of the forecast data, we made the following statements:

— given that the changes in the current trends maintain in the key factors only, which include:

$X_1$  — the instruments related to the marketing activities of the entity engaged in FEA — 0.91 correlation rate;

$X_2$  — the instruments related to the sales activity of the entity engaged in FEA — 0.93 correlation rate;

— while in case of limiting (controlling an increase in) costs for other factors (which have less impact on the result), namely:

$X_3$  — instruments related to the logistics activity of the entity engaged in FEA — 0.52 correlation rate;

$X_4$  — instruments related to the investment activity intended to develop FEA — 0.74 correlation rate;

$X_5$  — instruments related to servicing the debt resulted from FEA — 0.81 correlation rate;

a significantly higher — 10% — average annual growth rate of value added is achieved, instead of a 5% annual increase for the case of maintaining current trends of changes in financial instruments.

Therefore, a twofold increase in the dynamics of the indicator is achieved through the implementation of the analytical and management

solution suggested in the article. Figure 1 presents generalized results of the implementation of this solution, as well as its comparison with the option

that involves maintaining current trends in the indicators.

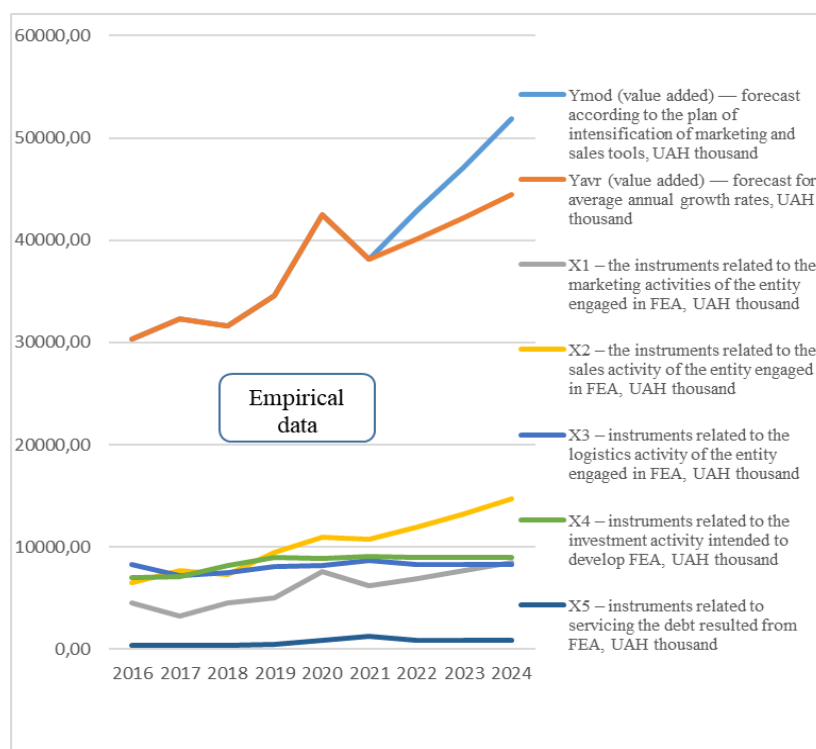


Fig. 1: Options for implementing the model of changes in the value added of Odeskabel PJSC under the impact of factors — financial instruments

Source: compiled by the author

### 4.3 Making Generalized Recommendations for the Procedure of Accounting, Control and Analysis of Value Added of Entities Engaged in FEA and the Impact Factors

The main feature of the calculation of the value added of an entity engaged in FEA through the proposed model is that financial instruments that have a certain impact on the value added are the object of evaluation. So, *distinguishing the values of financial instruments and reporting with the inclusion of those values in the analytical accounting database are important areas of improving the system of accounting and analysis of entities engaged in FEA.*

In this sense, it is more important to assess the effectiveness of individual segments, activities, rather than to determine the financial result of the entity engaged in FEA as a whole. Provided limited financial resources, the former which will allow:

- identifying the most profitable segments and activities, while giving up unprofitable segments (activities);
- finding the most rational resource consumption structure to provide maximum (or planned) added value.

Information on financial instruments to create value added can be used for the preparation of interim and annual management accounts and financial statements, as well as for the marginal

analysis.

Therefore, the inclusion of the metrics of financial instruments to create value added of the entity engaged in FEA in the accounting and reporting system will ensure more effective costs management through the use of value added and factors that determine its increase resulting from the proposed model. This way of management can significantly improve the company's performance through the following opportunities:

- enhancing the potential of the accounting, reporting, analysis and control system, as well as rationing the elements and items of costs incurred in order to obtain particular financial results;
- identifying cause-effect relationships, the company's resource management levers;
- making well-founded operational and investment decisions;
- determining the real financial result at the level of value added both for particular areas of activity (FEA) and for the company in general.

So, the optimal scale of activities that will yield the expected positive financial result in the form of increased value added (Figure 2) will be promoted by improving the system of accounting and analysis of entities engaged in FEA through distinguishing the values of financial instruments and reporting with the inclusion of those values in the analytical



accounting.

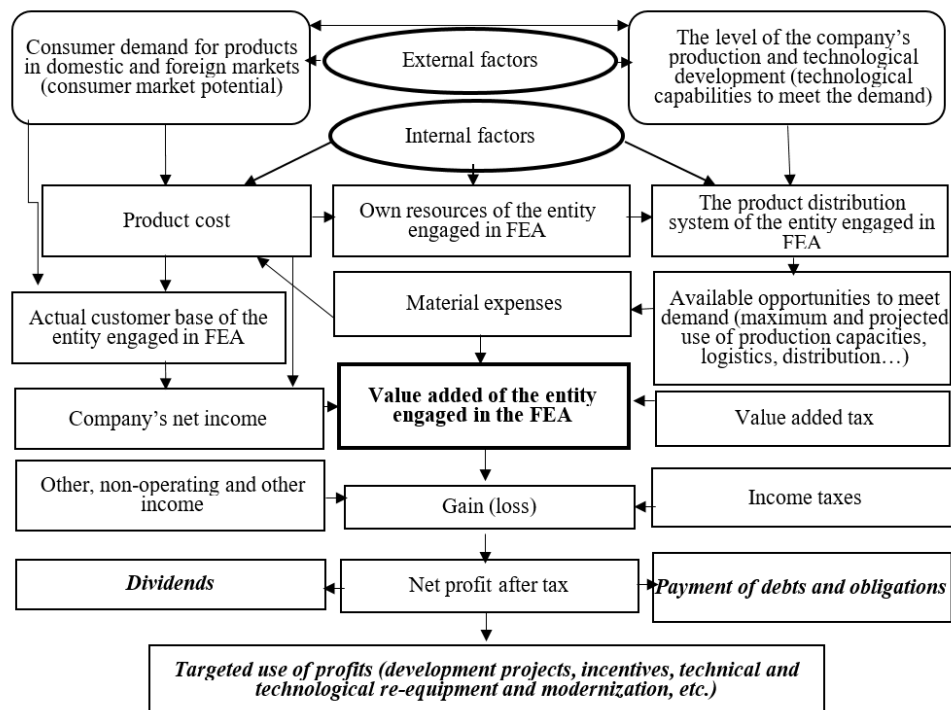


Fig. 2: The chart of formation and distribution of financial results of the entity engaged in FEA

Source: compiled by the author

This approach provides the rational use of available production resources and fulfilling the potential for the development of the entity engaged in FEA. The model presented in this research is proposed for this purpose, where the financial instruments — the factors that have an impact on the company's value added — are the main variables.

In view of the results of the study, based on Model (3) suggested in the research, the author intends to provide maximization of the target function of effective management of value added of the entity engaged in FEA  $Z_{VAFEA_i} = f(X_1, X_2, X_3, X_4, \dots, X_n)_i \rightarrow \max(p_1, p_2, p_3, p_4, \dots, p_n)_i$  through the following development priorities of the entity engaged in FEA ( $p_{1..n}$ ), which will promote the increase of added value of this entity:

$p_1$  – improving the company's performance through a set of management decisions to improve business processes that yield a synergistic effect of optimizing the company's functions;

$p_2$  – creation of added value through the development of marketing and sales activities of the entity and their conversion into profit to be used for payment of dividends, repayment of debts and liabilities, implementing development projects, for incentives, technical and technological re-equipment and modernization, etc. (see Figure 2);

$p_3$  – improvement of the system of management accounts and analysis of the entity engaged in FEA by distinguishing the values of financial instruments that have an impact on value added, as well as

reporting with the inclusion of these values in the analytical accounting database;

$p_4$  – creating an information and analytical database for effective management decisions based on the model suggested in this research, which provide efficient resource distribution to support financial instruments that have a significant effect on value added with a simultaneous control of the costs for other instruments.

Therefore, creation of more effective (optimized) operating conditions for this entity provides for the improvement of the analytical accounting system and the system of support for management decisions in terms of value added of the entity engaged in FEA. The improvement dynamics can be monitored through the extent of the company's development priorities, which will be reflected in the added value and consequently — the amount of profit.

## 5 Discussions

Value added is a category that describes the company's financial performance. Each commercial company generates income and expenses of a certain structure that can have a different impact on value added, as [25; 26; 27] stated. In this context, the common point between this study and the research by [2; 28] is that substantiation of the management decisions of entities engaged in FEA, and especially management of the company's costs and revenues as a separate area of management, is closely related to accounting and analysis.

The International Federation Of Accountants (IFAC) developed the International Good Practice Guidance entitled Evaluating and Improving Governance in Organizations [29]. This Guidance indicates the areas of activity where the company should use the accounting and analysis tools should be used: establishing strategic activities; ensuring the achievement of the company's goals; ensuring risk management in the company; verifying the resource efficiency. According to the author, accounting and analysis of value added becomes an element of cost and revenue management system rather than a self-sufficient system in this context. In the accounting and analysis system, the information which is important for the company's management is generated based on contrasting the dynamics and amount of costs and revenues. Therefore, the results of this research completely meet the IFAC recommendations and represent scientific and practical significance. This aspect is also in line with the results obtained by [30; 31], thus providing additional opportunities for improving the analytical accounting system to support management decisions on value added of the entity engaged in FEA. Moreover, in contrast to the works mentioned, this article focuses not only on management accounts, but also covers the aspects analytical accounting of economic entities in view of their interdependence. The latter allows both to create better conditions for the operation and development of the entity, and to improve its performance.

As noted in this article, one of the main results of an effective system of accounting and analysis of financial results of entities engaged in FEA is obtaining analytical information required to substantiate and make management decisions in the company. These decisions relate primarily to improving performance in the long run (strategic perspective), which is in line with the findings of authors [32]. From this perspective, this system can become a flexible tool to enhance the development of entities engaged in FEA, which will provide a combined effect of the latest approaches and tools of management accounts together with strategic management [33].

It should also be emphasized that a certain freedom to choose the solutions and requirements for accounting and analysis of financial results according to international standards [29] does in no way imply the use of accounting policy as a tool for creating the company's positive image by presenting only positive results of its performance. It shall not contradict the main accounting principle — true and fair view [34; 35], which is a separate problem for discussion. Consequently, the possibility of implementing specific actions to improve management and organization of accounting and control of financial results is determined in this article to be the main guideline

for improving the accounting and analysis of value added of entities engaged in FEA in view of the current conditions and trends in accounting and analytical practice is. Solving current problems of the operation detected through the analysis can be one of the areas of improving efficiency.

The practical value of the article lies in the fact that its methodological base and the results of its approbation make it possible to improve the implementation of the involvement of specific financial instruments to make the most of the potential for increasing the added value because of the specifics of the subjects of foreign exchange.

The practical significance of this article is the procedure for redistribution of resources by financial instruments that affect the value added while controlling costs presented on the example of a particular company.

At the same time, this work has certain limitations, primarily regarding its practical use, which consists of the need to constantly control the factor of subjective interpretation and determine the structure of the formation of added value by the persons who define it. To some extent, the results of this work contribute to the minimization of such an interpretation, but not to the full size, especially concerning the number of losses in the course of activity that is acceptable for a particular company. This actualizes the need to reveal the issues of cost control, which determines the direction of further research based on the article's findings.

Developing cost control mechanisms for value-added components in terms of types and activities are the prospects for further research in this area. This will allow for a more effective minimization of the costs incurred by entities engaged in FEA and increased added value by optimizing the value-added chain.

## 6 Conclusion

The important issues of support that the analytical accounting provide for the management process in the field of foreign economic activity at the company level are considered in the article. The special contribution of this article to solving the problems of science and practice is as follows. Firstly, the impact of particular financial instruments suggested by the author to enhance the competitiveness of the entity engaged in FEA on the creation of value added of this entity is explored. What is in this work is also important, that the key factors — financial instruments that have the most significant direct impact on the value added of these entities — are identified. The conclusion that follows from the analysis of the obtained data on the example of Odeskabel PJSC is that a significantly higher average annual growth rate of value added is achieved in case of maintaining the current trends of

changes only for key factors, represented by tools related to marketing and sales of the entity engaged in FEA, with simultaneous limitation (control of increase in) costs for other factors (which have less impact on the result).

The necessary conditions for effective accounting and analytical practice of recording value added in the reporting of FEA entities are determined, which primarily include the form and presentation, detailing and adaptation of accounting records to the needs and capabilities of enterprises operating in a particular field (FEA), as well as the extent to which the company is free to choose the most rational and convenient way of accounting and recording costs for certain activities, elements, items.

The appropriateness of using the capabilities of analytical accounting systems based on international accounting and reporting standards is determined on the above ground. The need to implement a set of measures and involve tools to enhance the increase in the value added of the entity engaged in FEA was identified. Special consideration is given to the need to find theoretically substantiated ways to provide the management of companies to the possible extent with objective, complete and timely information on the amount and dynamics of value added, which is required to make well-founded and effective management decisions. This improvement will enhance the capacity for converting the available limited resources of domestic companies into financial results (added value) as an economic value.

#### References:

- [1] Malyarets, L., Draskovic, M., Proskurnina, N., Dorokhov, O., & Vovk, V. Analytical support for forming the strategy of export-import activity development of enterprises in Ukraine, *Problems and Perspectives in Management*, Vol. 16, No. 3, 2018, pp. 423-431. Retrieved from [https://www.businessperspectives.org/images/pdf/applications/publishing/templates/article/assets/10873/PPM\\_2018\\_03\\_Malyarets.pdf](https://www.businessperspectives.org/images/pdf/applications/publishing/templates/article/assets/10873/PPM_2018_03_Malyarets.pdf).
- [2] Panigrahi, S. Economic Value Added and Traditional Accounting Measures for Shareholder's Wealth Creation, *Asian Journal of Accounting and Governance*, Vol. 8, 2017, pp. 125-136. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3082663](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3082663)
- [3] Fedoronko, N. I. Analysis of the efficiency of export and import operations, *Global and national economic problems*, 2016. Retrieved from [global-national.in.ua/archive/10-2016/26.pdf](https://global-national.in.ua/archive/10-2016/26.pdf) [global-national.in.ua](https://global-national.in.ua).
- [4] Agustina, N., Sadalia, I., Silalahi, A.S. Relationship of Economic Value Added (EVA) and Financial Performance of PT. LC Industry Indonesia Period 2013-2017, *International Journal of Research and Review*, Vol. 7, 2020, pp. 480-485. Retrieved from [https://www.ijrrjournal.com/IJRR\\_Vol.7\\_Issue\\_1\\_Jan2020/IJRR0067.pdf](https://www.ijrrjournal.com/IJRR_Vol.7_Issue_1_Jan2020/IJRR0067.pdf)
- [5] Oxford Dictionary. *Definition of Value Added*, 2022. Retrieved from <http://www.oxforddictionaries.com/definition/english/value-added>
- [6] Gujarati, D. N. *Basic econometrics*. Gary Burke, New York, McGraw-Hill/Irwin, 2020. Retrieved from [http://www.uop.edu.pk/ocontents/gujarati\\_book.pdf](http://www.uop.edu.pk/ocontents/gujarati_book.pdf).
- [7] Ferguson, R., Rentzler, J., & Yu, S. Does Economic Value Added (EVA) Improve Stock Performance Profitability?, *Journal of Applied Finance*, Vol. 4, 2005, pp. 101-113. Retrieved from [https://www.researchgate.net/publication/228258107\\_Does\\_Economic\\_Value\\_Added\\_EVA\\_Improve\\_Stock\\_Performance\\_or\\_Profitability](https://www.researchgate.net/publication/228258107_Does_Economic_Value_Added_EVA_Improve_Stock_Performance_or_Profitability).
- [8] Chester, K.M., Chau, K.P., & Kan, C.W. The logic of innovative value proposition. A Schema for characterizing and predicting business model evolution, *Journal of Business Research*, Vol. 112, 2020, pp. 520-538. Retrieved from <https://ideas.repec.org/a/eee/jbrese/v112y2020i520-538.html>.
- [9] Kravchuk, I. A. Theoretical bases of research of formation of added value, *Visnik KhDU Seriya Ekonomichni nauki*, Vol. 22, No. 1, 2017, pp. 59-62. Retrieved from [https://khntusg.com.ua/wp-content/uploads/2019/11/visnik\\_khntusg\\_185.pdf](https://khntusg.com.ua/wp-content/uploads/2019/11/visnik_khntusg_185.pdf).
- [10] Nugroho, M. The Effect of Economic Value Added (EVA), Market Value Added (MVA), Refined Economic Value Added (REVA) on Stock Prices and Returns Stock at Manufacturing Industries Who Listed on Indonesia Stock Exchange (BEI), *Archives of Business Research*, Vol. 6, 2018, pp. 173-188. Retrieved from <https://journals.scholarpublishing.org/index.php/ABR/article/view/5843>.
- [11] Omneya, A.K., Ashraf, S., & Eldin, B.B. Is Economic Value Added Momentum (EVA Momentum) a Better Performance Measurement Tool? Evidence from Egyptian Listed Firms, *American Journal of Industrial and Business Management*, Vol. 11, 2021, pp. 297-319. Retrieved from [https://www.scirp.org/pdf/ajibm\\_2021032915430396.pdf](https://www.scirp.org/pdf/ajibm_2021032915430396.pdf).

- [12] Baseri, M., Atefat, M., & Baseri, S. EVA's and REVA's Relative and Growing Information on Benefit Predictions in Tehran Stock Exchange Market Accepted Companies, *Proceedings of European Online Journal of Natural and Social Sciences*, Vol. 2, 2013, pp. 401-408. Retrieved from <https://www.semanticscholar.org/paper/EVA-%E2%80%99-s-and-REVA-%E2%80%99-s-relative-and-growing-on-in-Baseri-Atefat/aeb68659db878ddd7196847f2cc4fdb0a3b1bde8>
- [13] Kosalathevi, T. Impact of Economic Value Added on Market Value Added: Special Reference to Selected Private Banks in Sri Lanka, *Developing Country Studies*, Vol. 3, 2013, pp. 102-107.
- [14] Kyriazis, D., & Anastassis, C. The Validity of the Economic Value Added Approach: An Empirical Application, *European Financial Management*, Vol. 3, 2007, pp. 71-100. Retrieved from [https://www.researchgate.net/publication/227687898\\_The\\_Validity\\_of\\_the\\_Economic\\_Value\\_Added\\_Approach\\_an\\_Empirical\\_Application](https://www.researchgate.net/publication/227687898_The_Validity_of_the_Economic_Value_Added_Approach_an_Empirical_Application)
- [15] Nakhaei, H., Hamid, N.I.N., Anuar, M.A., & Nakhaei, K. Is Refined Economic Value Added more Associated with Stock Return than Accounting Measures? The Malaysian Evidence, *Society and Economy in Central and Eastern Europe*, Vol. 38, 2016, pp. 69-85. Retrieved from <https://www.scirp.org/%28S%28351jmbntvnsjt1aadkposzje%29/reference/referencespapers.aspx?referenceid=2952771>
- [16] Ceryova, D., Turcekova, N., Adamickova, I., & Moravcikova, D. Modern Innovative Approaches of Measuring Business Performance, *Proceedings of International Conference, Italy*, Vol. 1, 2018, pp. 423-430. Retrieved from <https://econpapers.repec.org/bookchap/tkpmk1p18/423-430.htm>
- [17] Sheveleva, E. Value concepts and value creation model in integrated reporting, *Review of Business and Economics Studies*, Vol. 6, No. 2, 2018, pp. 30-43. Retrieved from [https://rbes.fa.ru/jour/article/view/85?locale=en\\_US](https://rbes.fa.ru/jour/article/view/85?locale=en_US)
- [18] WEF. *Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation*. World Economic Forum, 2020. Retrieved from <https://www.weforum.org/reports/measuring-stakeholder-capitalism-towards-commonmetrics-and-consistent-reporting-of-sustainable-value-creation>
- [19] Maenuddina, R.B., Hussain, A., Hafeez, M., Khan, M., & Wahi, N. Economic Value Added Momentum & Traditional Profitability Measures (ROA, ROE & ROCE): A Comparative Study, *Test Engineering and Management*, Vol. 83, 2020, pp. 13762-13774. Retrieved from [https://www.scirp.org/\(S\(lz5mqp453edsnp55rrgict55.\)\)/reference/referencespapers.aspx?referenceid=2953792](https://www.scirp.org/(S(lz5mqp453edsnp55rrgict55.))/reference/referencespapers.aspx?referenceid=2953792)
- [20] Verkhovna Rada of Ukraine. *Law of Ukraine "On Foreign Economic Activity"*, 1991. Retrieved from <https://zakon.rada.gov.ua/laws/show/959-12#Text>
- [21] Ghlibov, R.V. Correlation-regression analysis of production cost, *Visnyk ZhNAEU*, Vol. 2, No. 57, 2016, pp. 170-176. Retrieved from [https://er.knutd.edu.ua/bitstream/123456789/14661/4/Internauka\\_2019\\_%E2%84%9610%2830%29\\_P020-025.pdf](https://er.knutd.edu.ua/bitstream/123456789/14661/4/Internauka_2019_%E2%84%9610%2830%29_P020-025.pdf)
- [22] Fayed, A. M., & Dubey, S. An Empirical Study of Impact of EVA Momentum on the Shareholders Value Creation as Compared to Traditional Financial Performance Measures—With Special Reference to the UAE, *International Journal of Economics and Finance*, Vol. 8, 2016, pp. 23-38. Retrieved from [https://www.researchgate.net/publication/301831672\\_An\\_Empirical\\_Study\\_of\\_Impact\\_of\\_EVA\\_Momentum\\_on\\_the\\_Shareholders\\_Value\\_Creation\\_as\\_Compared\\_to\\_Traditional\\_Financial\\_Performance\\_Measures\\_-\\_With\\_Special\\_Reference\\_to\\_the\\_UAE](https://www.researchgate.net/publication/301831672_An_Empirical_Study_of_Impact_of_EVA_Momentum_on_the_Shareholders_Value_Creation_as_Compared_to_Traditional_Financial_Performance_Measures_-_With_Special_Reference_to_the_UAE)
- [23] PJSC "Odeskabel". *Official site of PJSC "Odeskabel"*, 2022. Retrieved from <https://odeskabel.com>
- [24] Rawlings, J.O., Pantula, S.G., & Dickey, D.A. *Applied Regression Analysis. A research tool*, New York, Springer-Verlag, 2018. Retrieved from <https://link.springer.com/book/10.1007/b98890>
- [25] Delafenestre, R. New business models in supply chains: A bibliometric study, *International Journal of Retail & Distribution Management*, Vol. 47, No. 12, 2019, pp. 1283-1299. Retrieved from <https://www.semanticscholar.org/paper/New-business-models-in-supply-chains%3A-a-study-Delafenestre/d07dab101c0d21bdfbe2e670922c80d2f874d91e>
- [26] Porter, M.E., & Kramer, M.R. Creating shared value. In G. Lenssen, & N. Smith (eds.), *Managing sustainable business*, (pp. 323-346), 2019. Retrieved from [http://link.springer.com/10.1007/978-94-024-1144-7\\_16](http://link.springer.com/10.1007/978-94-024-1144-7_16)
- [27] Costa, C.R., & Haftor, D.M. Value creation through the evolution of business model

themes, *Journal of Business Research*, Vol. 122, 2021, pp. 353-361. Retrieved from <https://www.diva-portal.org/smash/get/diva2:1519534/FULLTEXT01.pdf>

- [28] Gupta, V. K., & Sikarwar, E. Value Creation of EVA and Traditional Accounting Measures: Indian Evidence, *International Journal of Productivity and Performance Management*, Vol. 65, 2016, pp. 436-459. Retrieved from <https://ideas.repec.org/a/eme/ijppmp/v65y2016i4p436-459.html>
- [29] IFAC. *Official site of International Federation of Accountants*, 2022. Retrieved from <https://www.ifac.org/>
- [30] Peng, F., Yifeng, W., & Nan, X. Value added mechanism and organisational model optimisation of agricultural products circulation value chain from the perspective of game theory, *Acta Agriculturae Scandinavica, Section B — Soil & Plant Science*, Vol. 71, No. 3, 2021, pp. 215-223. Retrieved from <https://www.tandfonline.com/doi/full/10.1080/09064710.2021.1879927>
- [31] Nemzoff, C., Clarke, L., & Chalkidou, K. *DIBs: Value for Money or Just an Interesting Financing Mechanism?* Center for Global Development, 2019. Retrieved from <https://www.cgdev.org/blog/dibs-value-money-or-just-interesting-financing-mechanism>.
- [32] Schoenmaker, D., & Schramade, W. Investing for long-term value creation, *Journal of Sustainable Finance and Investment*, Vol. 9, No. 4, 2019, pp. 356-377. Retrieved from <https://www.tandfonline.com/doi/full/10.1080/20430795.2019.1625012>
- [33] Deyneha, I. O., Akimova, L. M., Kratt, O. A. Regional features of marketing mix formation in rural green tourism. *Actual Problems of Economics*, Vol. 9, No. 183, 2016, pp. 184-194.
- [34] Crous, C., & Van Wyk, M.C. Balancing quantitative and qualitative value-creation reporting, *South African Journal of Economic and Management Sciences*, Vol. 24, No. 1, 2021. Retrieved from [https://www.researchgate.net/publication/354259154\\_Balancing\\_quantitative\\_and\\_qualitative\\_value-creation\\_reporting](https://www.researchgate.net/publication/354259154_Balancing_quantitative_and_qualitative_value-creation_reporting)
- [35] Karia, N. Knowledge of value creation and sustainability performance, *Medcave Journal of Business Management*, Vol. 2, No. 1, 2019, pp. 1-10. Retrieved from <https://www.semanticscholar.org/paper/Knowledge-of-value-creation-and-sustainable-Karia/1150b6c5fbc4aba5053fade714235850630f6c2c>

## **Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)**

This article is published under the terms of the Creative Commons Attribution License 4.0

[https://creativecommons.org/licenses/by/4.0/deed.en\\_US](https://creativecommons.org/licenses/by/4.0/deed.en_US)