

MODERN MODEL FOR ANALYSIS OF PERFORMANCE IN ROMANIAN CLOTHING INDUSTRY BASED ON ECONOMIC VALUE ADDED

Ph.D. Teodora Maria SUCIU

“1 Decembrie 1918” University, Alba Iulia, Faculty of Economic Sciences, Romania

E-mail: teodora.avram@uab.ro

Abstract: *The present article aims to present the analysis of the financial performance of the clothing industry in Romania through the economic value added or opportunity cost, as it is also called in the specialized literature. We consider the model as a topical and dynamic one because it takes into account financial data in order to measure performance and improve the future financial situation. The factors of economic value added have strong links in the productivity process of the company, so that they can be considered as basic elements in the efficiency of the managerial decisions and the increase of the performance. The results of the study undertaken on the analysis of the performance with the help of the economic value added are favorable, which means that the cause-effect relationship between the foundation of the best managerial decisions and the increase of the economic value added.*

Key words: *economic value added, clothing industry, result of operating activities, Cost of invested capital.*

JEL Classification: *O12, G32, F12.*

1. Introduction

The management of the basic activity of the Romanian clothing industry is characterized by the ways of organizing the production in an efficient and effective way. It is materialized in the industry studied by series production and Lohn type production, which can generate commercial contracts, in the form of processing contracts on orders or in Lohn type regime.

The manufacture of a relatively large nomenclature of products periodically or in manufacturing batches of different sizes: small, medium or large is a feature of serial production (www.service-winmentor.ro). Within this type of production, the degree of specialization of the jobs that the companies offer is lower, compared to mass production and even different depending on the size of the manufacturing lots.

By turning the attention to the production of clothings by Lohn, by a definition given by professor Alexandru Puiu (Puiu, 2003, p. 55), it turns out that processing in Lohn system consists of an "international economic deal carried out on a contractual basis between two companies from different countries. in which one executes against a remuneration in money or in kind, of a custom product, made according to the models, drawings, usually with the raw materials and materials of the other company, which retains the right to market the respective product, under its own brand."

From the analysis of the economic performance resulting from the conclusion of a Lohn contract, we can find certain advantages, both to the producer (performer) and to the beneficiary. The manufacturer, by executing the production in the Lohn, can maintain the volume of the production, even if he does not have from his own sources of raw materials and materials for the realization of the finished product, but has the possibility to use his own techniques of manufacturing the products, because the beneficiary is interested only in the finished product. On the other hand, the benefit of the beneficiary from the conclusion of the contact in the Lohn, appears due to its opportunity to increase the volume of the business without having to invest in the actual production, because it has the possibility to use the production capacity and labor force of the executor. In this way one can only deal with the sale of clothing, managing to obtain more favorable economic results.

The economic performance is influenced in the clothing industry in Romania and by the place of activity. In most cases, the activity is carried out in rented spaces, where only the rent is required, thus exempting the financial resources necessary for investments in own constructions. The low specialized personnel who work in the companies in the clothing industry have a negative influence on the economic performance due to the need for qualification in the workplace, which leads to the increase of the operating cost.

In addition, the economic performance and its implications in the managerial product of the clothing industry is influenced by the flexibility of the production, which expresses "the capacity of the production system within it, to react to the unforeseen events that require the modification of the products offered on the market, the identification of the nature of the products used. and / or the volume of the request" (Bărbulescu and Băgu, 2002, p. 62).

We consider that the particularities of the economic performance in the Romanian clothing industry, due to the activities of manufacturing the clothings, require modern models of analysis and based on economic value added.

2. Literature Review

Economic Value Added - EVA, has ancient origins and was first discovered by Hamilton in 1877 and Marshall in 1890 (Petrescu and Apostol, 2009, p. 118). Hamilton and Marshall have shown in their research that a company is able to make a profit if it manages to make a bigger profit than its expenses and debts.

The researches in the analysis of the added value of the economy continued a century later when in 1961 appeared the work "Dividend Policy, Growth and the Valuation of Shares" written by Franco Modigliani and Merton Miller (1961, pp. 411-433), through which have shown that investment decisions are the main way to increase the value of companies and the price of shares.

However, the economic value added becomes popular only in 1991 with the emergence of the consulting firm Stern Steward Management Service in the United States of America (Henryani and Kusumastuti, 2013, p. 173).

The various research studies that discuss the economic value added (Trandafir, 2015, p. 37; Lin and Zhilin, 2008, p. 66; Sabol and Sverer, 2017, p. 21; Van der Poll, Booyse, Pienaar, Büchner and Foot, 2011, p. 123) considers that its role is to measure the financial performance achieved by a company and involves all available resources. Continuing to define the added economic value we can say that it is given by the researchers Bernard Morard and Florentina Olivia Balu (2009, p. 2) who considers that the added economic value is a business tool, which, if used correctly, helps to improve the company's performance and produces higher returns to stakeholders.

The Romanian professor Nicolai Tabără together with Roxana Manuela Dicu (2007, p. 373) considers that the economic value added a financial management tool with which to take restraint measures regarding the company's strategy or even the guidelines, therefore it can be considered an indicator for measuring the overall performance at the company level.

In another opinion, Joel Stern, John Shiely and Irwin Ross (2001) believe that economic value added is not just a measure of financial performance, but an important part of the integrated financial management system, which leads to decision making. optimal as a result of a thorough analysis.

It is considered that the economic value added would have as main advantages the following (Daraban, 2017, p. 170; Berber, Pascula and Radosevic, 2012, pp. 83-84):

- encourages long-term thinking at all levels of the company, changing the mentality of managers and employees in analyzing and measuring financial performance;

- contributes to improving the decision-making of stakeholders by the stakeholders, as a result of an efficient and effective analysis;
- the analysis of the added economic value presents as the main element - the cost of capital. When the company is analyzed on the basis of the classical indicators, they appear to be profitable, although in reality they are not, therefore the added economic value will correct the errors that have appeared, unless the managers already use their own capital, in which case the tests are in vain;
- helps improve the performance of stocks and also adds more informational content to explain the profitability of stocks.

According to the study undertaken by Zhen-Jia-Liu (2018, p. 305), the economic value added is used for the economic value evaluation, the evaluation of the funds, the efficient allocation of resources and implies the use of adjustment elements to reflect the economic value of a company. At the same time, the economic value added is considered to be the only criterion that calculates the value of the company in real terms.

3. Research methodology

Based on the opinion of Narcyz Roztocki and Kim LaScola Needy (1999, pp. 2-4) determining the economic value added, it can be done in the following stages: Stage 1 - Examination of the financial data of the company, Stage 2 - Identification of the company capital, Stage 3 - Determining the result from the operational activity, Step 4 - Determining the cost of the invested capital, Step 5 - Determining the actual economic value added.

The most widely used method found in the literature (Grant, 2003, p. 5; Sharma and Kumar, 2010, p. 201; Kramer and Peters, 2001, p. 41), in order to determine the economic value added it is based on the calculation of the economic profit, as part of the Result from the operational activity that can be determined over a certain period of time, from which it is necessary to reduce the Cost of invested capital:

$$EVA = RAO - CCI \quad (1)$$

Therefore we can say that the EVA determination consists of two separate but related stages. The result from the operational activity is an indicator that can be found in the Income Statement, therefore it does not present problems in the determination. The problem, however, arises when determining the Cost of the invested capital that can be calculated by multiplying the Capital invested and the Weighted average Cost of the capital:

$$EVA = RAO - (IC \times CMPC) \quad (2)$$

Professor Vasile Burja (2013, pp. 516-517) shows that by discovering the formula, the calculation relation of the economic value added becomes in these cases:

$$EVA = \left(\frac{RAO}{IC} - CMPC \right) \times IC \quad (3)$$

By analyzing formula (3), the presence of the Return rate of the invested capital is ascertained, and following the deduction of the Cost of the invested capital it is obtained which shows the increase of the profitability produced by the operational activity of the Capital invested. Under these conditions, the economic value updated becomes:

$$EVA = (ROIC - CMPC) \times IC \quad (4)$$

In order to establish the significance of the variables according to which the economic value added (EVA) of formula (1) and (4) is determined, we present the table 1 with their calculation method:

Table 1. Factors specific to economic value added

Indicator	Calculation formula	Explanation
Result from the operational activity (RAO)	$RAO = VO - ChO$	Reflects the size of the profit or loss resulting from the basic activity, disregarding the interest and taxes recorded
Capital invested (IC)	$IC = Cp + DTS + DTL$	Reflects the amount of equity and payment obligations
Weighted average cost of capital (CMPC)	$CMPC = \left(\frac{Cp}{IC}\right) \times CCP + \left(\frac{DTS+DTL}{IC}\right) \times CD \times (1 - Ip)$	Reflects the discount rate as a weighted average presented at market value, specifying the costs for all financing sources
Rate of return on invested capital (ROIC)	$ROIC = \frac{Rn}{IC}$	Reflects the performance and efficiency of the investments made by the stakeholders
Cost of capital invested (CCI)	$CCI = IC \times CMPC$	Reflects the recovery rate used in the allocation of capital resources invested

Source: Burja, V., 2013. Economic Value Added and Stakeholders' Interests. *Annals of Faculty of Economics, University of Oradea, Faculty of Economics*, 1(2), pp. 515-517.

where: *VO* - Operating income
ChO - Operational expenses
Cp - Equity
DTS - Short-term debt
DTL - Long-term debt
CCP - Cost of equity
CD - Cost of debts
Ip - Income tax
Rn - Net result for the financial year

The factors of influence of the added economic value can be presented as follows and by a synoptic diagram:

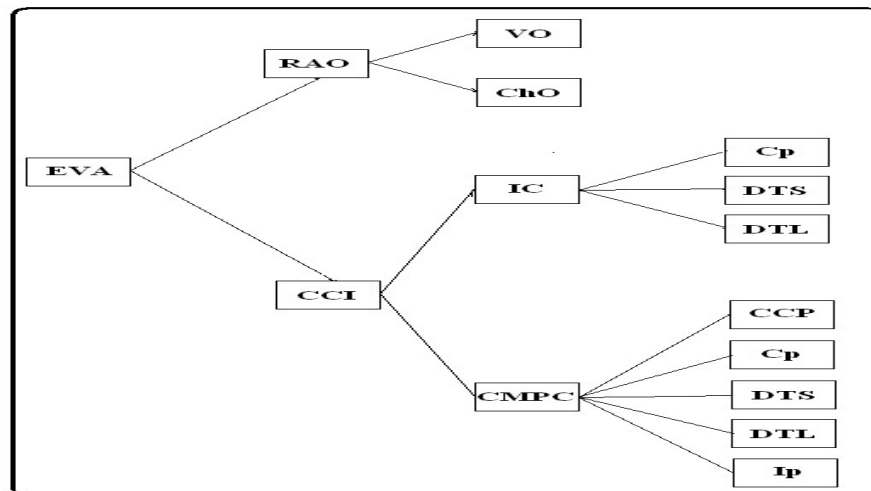


Figure 1. Factors of influence of the economic value added

Source: Own processing

The measurement of the causal relation between the economic value added and the influence factors, is made on the basis of the factorial analysis. Therefore, the factors that influence the change of the economic value added are divided into two categories (Burja, 2009, p. 330):

A. The influence of the invested capital

$$\Delta EVA(IC) = \Delta IC \times (ROIC_0 - CMPC_0)$$

B. The influence of debt on the return on invested capital (\hat{ROIC})

$$\Delta EVA(\hat{ROIC}) = IC_1 \times [(ROIC_1 - CMPC_1) - (ROIC_0 - CMPC_0)]$$

B.1. The influence of the average cost of the invested capital

$$\Delta EVA(CMPC) = -IC_1 \times \Delta CMPC$$

B.2. The influence of the return on invested capital

$$\Delta EVA(ROIC) = IC_1 \times \Delta ROIC$$

In order to present from a practical perspective how to determine the added economic value, we have chosen to study it at CONF Ltd. - the fictitious name of the company, in order to protect its identity. However, we mention that the company data is real, as it is active in the Romanian clothing industry and having CAEN - 1413 - Manufacture of other clothings (excluding underwear).

4. Results and Discussion

Using the data provided by CONF Ltd. in the following we present an empirical study to determine the economic value added, for which we have as analysis period the period 2014-2020. In order to illustrate in a detailed manner the size of the main economic-financial indicators that influence the added economic value, present table 2:

Table 2. The level of economic and financial indicators at CONF Ltd.

Indicator symbol	U.M.	Year						
		2014	2015	2016	2017	2018	2019	2020
VO	lei	41,870,946	36,235,389	38,372,171	32,855,138	32,441,245	37,706,603	38,352,081
ChO	lei	36,616,229	33,555,040	35,256,287	32,754,849	30,785,662	36,076,600	37,716,963
Cp	lei	8,587,267	8,793,858	9,193,284	7,140,654	7,946,399	8,799,795	8,906,532
CCP	%	5.12	5.39	6.22	4.58	4.86	5.42	5.79
DTS	lei	8,661,424	9,207,237	5,236,106	6,036,964	7,024,288	8,964,762	5,786,473
DTL	lei	0	0	4,812,876	1,026,106	407,393	100,000	100,000
ChD	lei	68,381	19,659	38,856	73,999	177,084	206,566	174,784
CD	%	4.98	2.01	2.94	5.39	12.04	16.48	11.92
Ip	lei	845,432	478,811	555,360	69,203	217,651	247,569	168,521
IC	lei	17,248,691	18,001,095	19,242,266	14,203,724	15,378,080	17,864,557	14,793,005
CMPC	%	-21,136	-4,918.80	-8,522.30	-1,849.80	-12,655	-20,691	-7,985.10

Source: Own processing based on the financial statements of CONF Ltd.

where: *ChD* - Interest expenses

Following the analysis, we can observe an oscillating evolution both in the level of the operating income, the operational expenses, as well as the own capital. However, if we analyze the base period with the reference period, we find that the operating revenues decreased by 3,518,865 lei as a result of the increase of the operating expenses. We believe that the registered situation appeared due to the increase of productivity at CONF Ltd. from 2014 to 2020. The cost of equity and debt was estimated taking into account the asset valuation model - CAPM (Raquel Fonseca, 2017), using data from the financial market during the analysis period. We observe oscillating values of the capital invested in CONF Ltd. which means that it would be necessary to identify some methods that will lead to the increase of the own capital and the reduction of the debts regardless of their nature. Regarding the weighted average cost of capital, a negative percentage is observed from 2014 to 2020, which means that a sufficiently large amount has not been allocated for the financing or investment costs.

Using the financial data presented in the table 3, we determine the economic value added to the commercial company that studies the case obstruction for a period of 7 years:

Table 3. Determining the economic value added to CONF Ltd.

-lei-

Indicator symbol	Year						
	2014	2015	2016	2017	2018	2019	2020
CA	41,605,777	35,868,808	37,862,316	27,400,123	32,209,106	32,670,478	35,968,623
ROIC	0.50	0.25	0.27	0.12	0.10	0.89	0.21
RAO	5,254,717	2,680,349	3,115,884	100,289	1,655,583	1,630,003	635,118
CCI	-364,568,332,976	-88,543,786,086	-163,988,363,532	-26,274,048,655	-194,609,602,400	-369,635,548,887	-118,123,624,226
EVA	364,573,587,693	88,546,466,435	163,991,479,416	26,274,148,944	194,611,257,983	369,637,178,890	118,124,259,344

Source: Own processing based on Table 2

where: *CA* - Net turnover

We can see that the economic value added has values over 0 in all the 7 years analyzed, therefore we can say that the situation registered by CONF Ltd. is a favorable one. The net turnover of the trading company registered the highest value at the beginning of the analysis period, after which its fluctuations are observed as a result of the revenues from the sale of goods that were lower. However, stakeholders can be completely satisfied because the financial results of the company are positive and therefore the results of the economic value added can help them in analyzing and making investment decisions.

Comparing the economic value added with the operating profit registered by CONF Ltd. we observe a big difference equal to 118,123,624,226 lei in 2020, thus we can say that the analysis of the economic value added expresses the real situation from the perspective of the financial return to the company that is the object of the case study. The cost of the invested capital presents negative values from 2014 to 2020 which means that CONF Ltd. it does not involve the cost of not investing capital in other investments, but hopes to obtain higher incomes in the future. We believe that from the financial perspective the analyzed company is profitable, although the result from the operational activity decreased from the reference period compared with the basic one by 4,619,599 lei. The rate of return on invested capital decreased from 2014 to 2018, followed by an increase in 2019, which demonstrates a better return on invested capital. Therefore, we believe that for CONF Ltd., economic value added helps to sensitize those responsible with the operative activities regarding the global cost to the resources of financial nature made available.

As a result of determining the economic value added, we consider it appropriate to present the deviations of the specific factors of the economic value added in the table 4 in order to provide an overview of the factors of the presented model:

Table 4. The deviation of the specific factors of economic value added (\pm)

-lei-

Factor symbol	Year					
	2015/2014	2016/2015	2017/2016	2018/2017	2019/2018	2020/2019
RAO	-2,574,368	435,35	-3,015,595	1,555,294	-25,580	-994,885
CCI	276,024,546,890	-75,444,577,446	137,714,314,877	-168,335,553,745	-175,025,946,487	251,511,924,662
EVA	-276,027,121,258	75,445,012,981	-137,717,330,472	168,337,109,039	175,025,920,907	-251,512,919,547

Source: Own processing based on Table 3

At first view, a fluctuating evolution of the specific factors of the economic value added can be observed. The result from the operational activity determined according to those presented in the previous section presents positive values in 3 of the analyzed periods and negative in the rest of the periods. So we can say that, CONF Ltd. in the period where the obtained values are positive they present a profit as a result of the clothing production activities. We consider it appropriate to analyze in detail the periods in which there is a loss from the operational activity, in order to identify precisely the causes that led to the existence of the operational expenses, over the size of the operating income. Regarding the cost of the invested capital, the recorded situation is approximately identical to that of the result from the operational activity, in the sense that some periods have positive values and the other negative values. We tend to believe that the analyzed trading company aims to restrict investments on assets that produce a higher return than the cost of invested capital. On the other hand, regarding the analysis of the deviation of the economic value added during the years 2014-2020, it notes that CONF Ltd. it presents negative values in three periods, which means that it records performance below the expected level, so that it fails to create value for the stakeholders.

In order to observe the mode of action of the factors that influenced the change of the economic value added to CONF Ltd., we present in detail the analysis in table 5:

Table 5. The influence of the specific factors of economic value added to CONF Ltd.
-lei-

Influences symbol	Year					
	2015/2014	2016/2015	2017/2016	2018/2017	2019/2018	2020/2019
Δ EVA(IC)	15,903,187,146	6,105,382,208	-42,941,326,893	2,172,464,652	31,466,625,029	-63,556,216,113
Δ EVA(\hat{I} ROIC)	291,931,858,107.75	69,339,890,376.32	94,776,478,948.60	166,162,983,966.72	143,573,621,593.80	187,968,501,472.90
Δ EVA(CMPC)	-291,927,357,834	69,339,505,531	-94,774,348,390	166,163,230,016	143,559,580,052	-187,958,442,230
Δ EVA(ROIC)	-4,500,274	384,845	-2,130,559	-246,049	14,041,542	-10,059,243

Source: Own processing based on Table 3 and 4

From the analysis of the influence of the specific factors of the economic value added, the positive influence of all the factors is observed, only in the period 2016/2015 and 2019/2018. The influence of the cost of capital during the analysis periods illustrates increases and decreases in significant values, which are both positive and negative. We consider that this fact arises as a result of the debts that the analyzed company has during the analyzed period because it made some investments in order to modernize the work equipment. Regarding the influence of the degree of indebtedness on the return of the invested capital, it can be observed that in its turn it was affected in some periods by the average cost of the invested capital and the return on the invested capital. Therefore, we believe that the performance analysis by determining the indicator - economic value added, manages to meet the practical needs of the CONF Ltd., with the help of which new arguments can be established in order to establish the methods of increasing the financial performance.

5. Conclusions

Therefore, we have concluded that adding value within a company is the main objective of its operation, which tries to help satisfy the interests of the stakeholders. Following the reality research we have come to say that in order to achieve economic value added or created, it is necessary to properly manage the available resources so as to create a return on the invested capital, which is higher than the cost of the invested capital.

We consider the approach and debate of the financial performance analysis model based on the economic value created, as it represents a novelty in the economic perspective of the Romanian clothing industry.

The results of the empirical analysis are beneficial in presenting the image of the financial performance of the company, which according to the data presented by determining the economic value added is positive. From the analysis of the 7 years, we find that the year 2019 is the most beneficial after determining the economic value added because the lowest level of the cost of the invested capital is observed. The situation would have been even more beneficial if there had been a profit from the larger operational activity. However, there were in some period of the analysis presented some factors of influence of the economic value added that registered negative values, so the most suitable for CONF Ltd. it would be to try to reduce the cost of own capital as much as possible and to increase the size of the return on invested capital. In this way, the described trading company would be able to optimize its financial situation by maximizing the profit, which would allow to increase the company's performance.

We appreciate that all companies in the Romanian clothing industry should succeed in identifying methods that help maximize the economic value added by reorienting them to profitable activities. This mode would represent a rational investment strategy for

shareholders, who will always choose investment projects that contribute significantly to increasing the economic value added. However, regarding the limitation of the model, we believe that the economic value added is an abstract indicator expressed in absolute figures, which allows it to be difficult to compare between multiple companies.

Finally, we believe that the indicator - economic value added plays an important role in companies because it helps to streamline the production process, make managerial decisions, as well as increase financial performance.

References:

1. Bărbulescu, C. and Băgu, C., 2002, *Managementul producției*. Vol. I-II. București: Tribuna Economică Publishing.
2. Berber, N., Pascula, M. and Radosevic, M., 2012. Economic Value Added in Function of Determining Incentive Compensation Systems. *Journal of Engineering Management and Competitiveness*, 2(2), pp. 81-86.
3. Burja, C., 2009, *Analiză economico-financiară. Aspecte metodologice și aplicații practice*. Cluj-Napoca: Casa Cărților de Știință Publishing.
4. Burja, V., 2013. Economic Value Added and Stakeholders' Interests. *Annals of Faculty of Economics, University of Oradea, Faculty of Economics*, 1(2), pp. 512-522.
5. Classification of Activities in the National Economy, Code CAEN, Item 1413 - *Fabricarea altor articole de îmbrăcăminte (exclusiv lenjeria de corp)*, 2020, Rev. 2.
6. Daraban, M.C., 2017. Economic Value Added – A General Review of the Concept. "Ovidius" *University Annals, Economic Sciences Series*, Vol. XVII, No. 1, pp. 168-173.
7. Fonseca, R., 2017. *Capital Asset Pricing Model—A Structured Robust Approach*. In: Sforza, A., Sterle, C. (eds) *Optimization and Decision Science: Methodologies and Applications*. ODS, Springer Proceedings in Mathematics & Statistics, Vol 217, Springer, Cham.
8. Grant, J., 2003, *Foundations of Economic Value Added*. 2nd Edition. New Jersey: John Wiley & Sons Inc. Publishing.
9. Henryani, F.F. and Kusumastuti, R., 2013. Analysis of Owership Structure Effect on Economic Value Added. *International Journal of Administrative Science & Organization*, 20(3).
10. Kramer, J.K. and Peters, J.R., 2001. An Interindustry Analysis of Economic Value Added as a Proxy for Market Value Added. *Journal of Applied Finance*, 11(2).
11. Lin, C. and Zhilin, Q., 2008. What influence the company's Economic Value Added? *Management Science and Engineering Journal*, 2(1).
12. Liu, Z.J., 2018. Earings Management and Economic Value Added in China, African and Latinamerican Markes: A Study of Logistics Model, Support Vector Machines and Rough Set Theory. *Journal of Economics, Finance and Accounting*, 5(3).
13. Modigliani, F. and Miller, M., 1961. Dividend Policy, Growth and the Valuation of Shares. *The Journal of Business*, 34(4).
14. Morard, B. and Balu, F.O., 2009. Developing a Practical Model for Calculating the Economic Value Added. *Journal of Economic Computation and Economic Cybernetics Studies and Research*, 3(3).
15. Petrescu, S. and Apostol, C., 2009. Value Creation Analysis. Economic Value Added. *Theoretical and Applied Economics*, 5(5), pp. 118-123.
16. Puiu, A., 2003. *Management internațional*. Pitești : Ed. Independența Economică.

17. Roztocki, N. and LaScola, K., 1999. EVA for Small Manufacturing Companies, Society for Advancement of Management (SAM). *International Management Conference*, Las Vegas.
18. Sabol, A. and Sverer, F., 2017. A Review of the Economic Value added Literature and Application. *UTMS Journal of Economics*, Special Issue, 8(1).
19. Sharma, A. and Kumar, S., 2010. Economic Value Added (EVA) - Literature Review and Relevant Issues. *International Journal of Economics and Finance*, 2(2).
20. Soft Consulting WinMENTOR, 2022. *Producție în serie*. [online] Available at: <www.service-winmentor.ro> [Accessed 18 January 2022].
21. Stern, J., Shiely, J. and Ross, I., 2001. *The EVA Challenge: Implementing Value Added Change in an Organization*. John Wiley & Sons.
22. Tabără, N. and Dicu, R.M., 2018. *Indicatori de performanță în contextul reglementărilor contabile internaționale*. *EIRP Proceedings, Danubius University, Constanța*, No. 2.
23. Trandafir, R.A., 2015. The Economic Value Added (EVA) - A Measurement indicator of the Value Creation within a company from the Romanian Seaside Hotel Industry. *Annals of the "Constantin Brâncuși" University of Târgu Jiu, Economy Series*, 1(1).
24. Van der Poll, H., Booyse, N., Pienaar, A.J., Büchner, S. and Foot, J., 2011. An overview of the implementation of Economic Value Added (EVA™) performance measures in South Africa. *Southern African Business Review*, 15(3).