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The Corporate Performance Measurement and Its Importance for the Pricing in a Transport Enterprise

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Abstract: Due to the specificity of transport services that are being performed with an unambiguous impact on the environment and society, all activities of transport enterprises oriented towards the achievement of the sustainability goals are more visible than in the case of other enterprises. Consequently, the growing need for sustainability increases not only the costs of individual transport services but also the total costs of a transport enterprise. Indisputably, the costs affect the pricing, which leads to the final market prices. On the one hand, they can increase the prices, but on the other hand, they decrease the enterprise's competitiveness and its success in the market at the same time. Even though the cost-based pricing is essential, it is not sufficient under these circumstances. Based on the objectives stated above, the primary aim of this paper is to emphasize that the creation of prices in a transport enterprise must consider the global aspects of the enterprise's performance as a prerequisite for its competitiveness. The results include proposing several variants of corporate performance measurement that are relevant and supported by a literature review of the current knowledge on the topic, an analysis of internal documents from a particular freight-transport enterprise, and structured interviews with the managers. Subsequently, the model proposed can be used by managers of transport enterprises in their decision-making process.

Keywords: corporate performance; sustainability; pricing; measurement

1. Introduction

A sustainable transport system with good economic performance is the lifeblood of the whole economic system. Therefore, there is a crucial need from the perspective of sustainability to find transport prices that balance social, environmental and economic efficiency, and the equity and transaction costs. The starting point of this paper is to emphasize that pricing in a transport enterprise should be perceived in a multilateral context. The transport price is primarily determined by the costs of transport performance, but at the same time, it has to meet the criteria of the competitive market environment. In addition, the managers of transport enterprises have to consider the aspect of sustainability on both sides that are represented by the transport inputs and the transport outputs. The solution can be found in the efficient management of a transport enterprise´s performance measurement, as it has a mutual context with the competitiveness of the enterprise as well as with the pricing affected by the costs considering sustainable transport activities. Why? Because the methods of financial performance measurement affect the pricing and the perceived costs in a broader context. As the corporate performance measurement in the selected enterprise is a demanding process,

it requires specific rules and expressions, using a set of indicators. To find relevant relationships between the costs and the pricing leading to competitiveness and sustainability of the transport enterprise, the following key performance indicators were applied: the Economic Value Added (EVA), Cash Flow Return on Investment (CFROI), Cash Return on Gross Assets (CROGA), and the Return on Net Assets (RONA). These were chosen for their follow-up usage and for a better understanding of the above-mentioned relationships. The enterprises act in conditions where they have to fulfill the unlimited needs of human society using limited resources, therefore, the orientation towards sustainable development is an important goal and their driving force within the field of transportation. It allows them to achieve the desired effects of transport services, which are important for all enterprise´s stakeholders, such as the owners of the capital, managers, business partners, employees, customers, neighborhoods, communities, the government, non-governmental entities, etc. However, the market that promotes efficiency also encourages competition, which creates pressure to increase the performance of the enterprises' activities. Stakeholders need to understand not only what specific activities and innovations should be implemented to increase sustainability [1–3], but also how to tailor sustainability and performance measurement to the enterprise´s needs [4,5]. In this article, the focus is being put on different types of corporate performance measurement in a particular transport enterprise, as these measurements are essential in the competitive market as well as in the process of price creation, tendering, and negotiation.

2. Literature Review

According to Chen, the competitiveness and sustainability of an enterprise are closely related, and they receive ever-growing attention in the era of globalization [6]. Since competitiveness is linked to the competitive market prices, and prices are based on costs, this relationship needs to be considered first. The price is the value expressed in monetary units. Price as a key indicator affects profit creation, which is the goal of every enterprise. A transport enterprise must be successful in delivering its performance to such an extent that the price for its services sold in the market is higher than the costs incurred. The transport price has to cover and reflect all the costs of the transport enterprise and, of course, it has to generate profit for the enterprise. Pricing is one of the ways of resource allocation. It is influenced by the market and the competitors as the level of the market transport price is the result of a specific, autonomous market mechanism. Transport pricing is also influenced by the government's interventions such as regulation, taxation, subsidies, or the infrastructure. A single unit price for all transports carried out by the carrier is always economically incorrect [7], and the government´s interventions usually enable the generation of price levels that reflect all the costs associated with different forms of transport. According to the changes in the supply and demand that create fluctuating prices, the total costs of the transport enterprise change as well. The cost describes the tradeoffs that society and individuals must do to use limited resources. The basic transport costs come as fixed (inevitable costs that are the same regardless of the output) and variable costs (based on the amount of the output). Fixed transport costs are incurred before any transport is performed at all, and they include the costs of vehicles, infrastructure, terminal facilities, and the wage of their basic managerial, administrative, and maintenance staff. They do not vary according to the type of transport services (freight, public, road, railway, air, sea), and they include the costs related to vehicles, roads, bus depots, railway lines and stations, ports, airports, insurance, etc. Variable transport costs include the costs of fuel, labor costs (e.g., the wages of the crews), costs of vehicles' maintenance, landing fees, etc. An estimation of these costs is often difficult because of their changing nature in the short, medium or long term [8,9]. Due to this fact, the monitoring and estimation of average costs and marginal costs are required. Average transport costs are calculated by dividing the total transport costs of the related output by its amount (passenger/km, transport unit/km, tonne/km, etc.) The greater output enables a wider spread of fixed costs and better pricing for different segments of costumers. Marginal transport costs represent the additional costs incurred in order to offer one more unit of the output. Some marginal costs, which are not related to the technical development or are not affected by the regulation,

can be internalized via taxes or charges [10]. The transport costs can be divided into the perceived and the actual costs, market and non-market costs, or direct and indirect costs. New methods implemented for the optimization of transportation processes (road scheduling, crew scheduling, etc.) [11], or the application of information-communication technologies and solutions to increase the fluency, comfort, and safety of traffic [12] affect the fixed as well as the variable costs' reduction, which also affects the pricing.

2.1. Externalities and Transport Costs

The economic theory defines externalities as an impact of the economic entity´s decisions on a third, non-interested entities, which transfers the costs/benefits of production or consumption to others. It is one sign of market imperfection. Externalities associated with the transport are important for the efficient resource allocation. Transport pricing is highly influenced by externalities such as air pollution, climate change, noise, accidents, infrastructure, and congestions because these negative effects of transport are not fully borne by transport users. These environmental and social costs of providing transport services are a part of the transport price, as they clearly increase it [13,14], and they should be required to be included within a combination of different design parameters to fulfill internalization. Therefore, a number of transport researchers and experts deal with the internationalization of external costs worldwide, for a better calculation and creation of a general and transparent model for the assessment of these costs. The European Commission´s IMPACT study describes the methods of calculation of the congestion and scarcity costs, accident costs, air pollution costs, noise pollution costs, or climate change costs [15]. On the other hand, transportation improves mobility and increases social opportunities, so the positive externalities of activities and inventions of the transport enterprises are social inclusion, welfare maximization, and the sustaining of a stable level of economic growth and employment. [16–18]. The Mohring effect [19], as a potential benefit of the public transport, was highlighted in the creation of pricing policy by Jansson et al. [20], where the authors find a way to maximize the social surplus from the service provision along with internalizing possible external costs. Transport prices, besides the economic conditions, depend on the conditions related to geography infrastructure, administrative barriers, government regulations, and innovations, and they are clearly influenced by the effectiveness of investments in human capital within the sustainable context. This fact is more thoroughly analyzed and described, also within the conditions of transport enterprises, by several researchers [21–25]. Besides the relationship with the costs, transport prices need to be competitive in the market and acceptable for the customers. Therefore, in the constantly changing market environment, the understanding of the competitors' strategies and consumers' needs is crucial for a transport enterprise to be efficient and successful [26,27].

2.2. Corporate Performance Measurement in a Transport Enterprise

The costs affect the economic added value of a transport enterprise, which is reflected in its performance. Different types of costs should be used in relation to the different types of method of performance calculation. Wagner [28] introduced performance as a feature that describes the way in which the investigated entity carries out a particular activity, on the basis of its similarity to the reference method of carrying out that activity. The performance measurement, in relation to the idea that "what gets measured, gets done", is a powerful tool for the managers to be able to establish goals, report achievement and results, measure progress, increase productivity, and move the enterprise in the right direction in the future. The unsatisfying performance of renewable resources in terms of costs opens the space for the creation of alternative designs via start-ups and their performance measurement [29]. The Economic Value Added (EVA) is a measurement of an enterprise´s performance based on the Net Operating Profit after Taxes (NOPAT). This means that the calculations deduct the costs of capital from its operating profit, and this is adapted for taxes on a cash basis. According to Shad et al., the achievement of high levels of the EVA can be done via the improvement of the price to earnings ratios and the reduction of the costs of capital by reducing information asymmetry

among the stakeholders of the enterprise. [30] The Cash Flow Return on Investment (CFROI) helps to evaluate the effectiveness of the attracted capital, where the return is compared to the costs of the capital or to the discount rate. The Return on Net Assets (RONA) fundamentally affects the NOPAT because it is the substance of its design. Subsequently, the NOPAT affects the determination of the Cash Return on Gross Assets (CROGA) but with greater importance of remaining depreciation and working capital. The EVA, CFROI, CROGA and RONA can be seen as the methods and as the indicators because there is a close relationship among all of them. A method is a set of rules that have to be followed during the measurement of performance, while the indicator quantifies its level [31]. Different dimensions of transport enterprise´s activities towards the sustainability come from its specific industry. The OECD document prepared by McKinnon [32], within all levels of freight policy creation, defines six performance criteria that are interrelated: Transport intensity, Modal split, Market diversity, Operational efficiency, Service quality, and the Environmental impact. Each category of this measurement is subjected to a different interpretation by particular stakeholders, and it may significantly affect the enterprises´ overall performance and its measurement. Therefore, to make decisions to achieve higher performance regarding sustainable development goals, the managers can also use different models [33,34]. In general, in relation to sustainability, many researchers detected a positive connection between different pillars of the Triple Bottom Line (TBL), consisting of the environmental, social and economic aspect, and the enterprise's performance. [35,36] However, some of them warn that different measurement or multidimensional construction of the TBL can lead to incompatible results [37–40]. The study performed by Valente and Atkinson investigated the effects of sustainable practice on better financial performance for multinational enterprises and presented supportive recommendations for managers that can help them approach sustainable development [41]. Davidsson et al. provide a thorough discussion about how opportunities and challenges of digitalization within the field of transportation enforce sustainable development [42]. Traditional, accounting-based performance indicators based on parametric approaches are the profitability, return on assets (ROA), and the return on equity (ROE). According to Lazar and Istrate (2018) there is an impact of overall enterprise tax-mix on enterprise performance, e.g., "the firm-specific overall effective tax rate has a negative effect on firm performance measurement by ROA" [43]. The basic methodologies for the performance measurement described in scientific studies dealing with the transport topic include the Stochastic Frontier Analysis (SFC) [44,45] and the Data Envelopment Analysis (DEA) [46–49].

The process of performance measurement is essential and it needs to be tailored based on sustainable parameters. The problem of many scientific overviews of the impact of sustainability practices on the performance measurement is that even though they declare a holistic approach, they tend to overlook the economic sustainability. Figure 1 shows the phases of the general performance measurement process, where the data collection is extended with sustainable aspects and moderating variables as the differences in various industries, market size, sustainability practices, and products or services are taken into account. The diagram is based on Wagner´s suggestions (more general), however, it is more extensive, and it was prepared following the context of sustainability requirements. The phases of reassessment and standardization were added, which are absent in Wagner´s one.

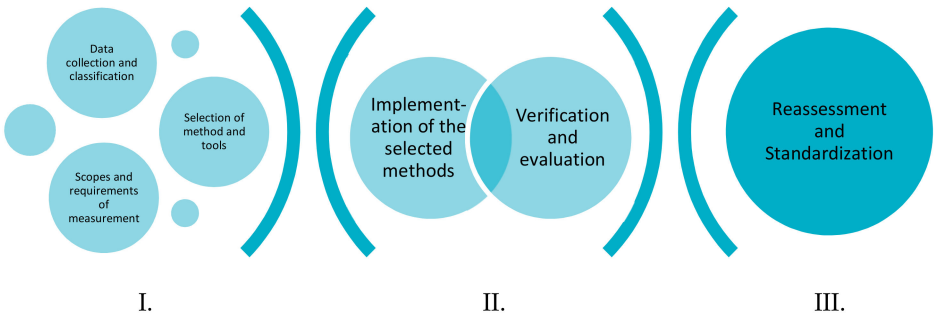

Figure 1. General performance measurement process and its phases (own elaboration based on Wagner [28]).

This general performance measurement process is described in the following steps:

1. Data collection and classification in terms of suitability of corporate performance evaluation and transport sustainability. Analysis of the variables' determination, process mapping and identification of limitations.
2. A search for convenient performance evaluation methods for a transport enterprise, according to sustainable requirements, business size, time, and capacity options, legal form, quality of human capital [50], etc.
3. Identification of the measurement's scope, evaluation time intervals, and the transport´s indicators affecting the costs of the transport enterprise and following its performance. Determination and application of appropriate ICT performance assessment tools.
4. Implementation of selected performance measurement methods within specific conditions and their graphical interpretation.
5. Verification and evaluation of the obtained results, analysis of the causes of deviations and provision of information to the management.
6. Reassessment of the results by the management, correction in the extensions or the rejection of application of the performance methods in relation to specific requirements.
7. Subsequent performance measurement plan´s setting and standardization of the performance measurement process.

3. Materials and Methods

The article was elaborated based on a literature research of domestic and foreign scientific literature sources (Sections 1 and 2), which was followed by the generation of new ideas about the current state of the studied topics of pricing, costs, and corporate performance measurement in the field of transport. The practical application of the methods was performed within specific conditions of the road freight-transport enterprise in Section 3. Internal documents of the enterprise were analyzed; structured interviews were conducted with managers and dispatchers of the enterprise to ensure proper application of the methods and correctness of the conclusions. The structured interviews were conducted in the self-governing Zilinsky samospravny kraj (ZSK) region of Zilina via personal interviewing techniques to obtain reliable data related to more complex issues/questions. The reason for choosing the ZSK was to avoid mistakes and ensure all the organizational aspects of the meetings (e.g., time management of respondents and interviewers, level of respondent´s knowledge and experience in the targeted area, respondent´s job classification, etc.). This was done as the beginning of a larger research project, which is intended to be extended internationally, including selected EU countries via the cooperation with project partners. The primary business data entries were processed by the following methods: the EVA, CFROI, CROGA, and the RONA. Subsequently, general conclusions were drawn from the specific results, which can lead to the development in the theoretical and practical areas, based on the interconnection of costs, pricing and corporate performance. The results also include the limits and future direction of the research.

4. Results

The specific practical application of the performance measurement option for a freight-transport enterprise consists of the Economic Value Added, Cash Flow Return on Investment, Return on Net Assets, and the Cash Return on Gross Assets.

4.1. Economic Value Added (EVA)

Sustainable investors are looking for market opportunities in the market to make the best use of the invested capital. The performance indicator for a transportation enterprise that credibly captures the economic (not accounting) profit of an enterprise is the EVA. The application of the economic value added should be able to contribute to changes in the opinions of the owners and managers

of enterprises [51]. Based on the quantification of the sub-components (the average cost of capital, total long-term capital invested and the net operating profit), it is possible to determine the values of economic value added. Within the specific business conditions, the economic added value is positive in all periods, which means that the enterprise creates value for its shareholders. Values in the years 2015–2018 are calculated by deducing from Net Operating Profit after Taxes of the total long-term capital invested and Weight Average Costs of Capital. The EVA values in each period (Table 1) indicate that the share capital invested is effectively utilized in the particular enterprise.

Table 1. Economic Value Added of the transport enterprise in the period between 2015 and 2018.

Item	U of M	2015	2016	2017	2018
NOPAT	€	1,679,749	2,221,510	3,073,260	2,341,340
WACC	coef.	0.0775	0.0237	0.0179	0.0721
C	€	13,933,653	17,602,729	20,158,427	18,846,348
EVA	€	599,890.89	1,804,325.32	2,712,424.16	982,518.31

NOPAT—Net Operating Profit after Taxes; WACC—Weighted Average Capital Costs; C—Capital invested in Long-term; EVA, Economic Value Added.

The EVA values in Table 1 are positive, but they show significant fluctuations between the years. A major negative difference was reported between 2017 and 2018, when there was a decrease from € 2,712,424.16 in 2017 to € 982,518.31 in 2018. This was due to an increase in Weight Average Costs of Capital due to an increase in the company's own funding. The cost of equity is higher than the cost of extraneous capital because investors bear a higher degree of risk than creditors. When increasing equity by management activities we need to increase Net Operating Profit after Taxes. Where the Market Value Added measures the effects of managerial actions since the inception of an enterprise, the Economic Value Added focuses on managerial effectiveness in a particular year [52].

4.2. Cash Flow Return on Investment (CFROI)

The CFROI is demanding in terms of its quantification, but it has good verbal ability. It is based on the principle of internal yield, and its great advantage is that it also takes into account the invested assets whose value is not distorted by accounting depreciation and inflation. In order to quantify the operational return on investments, it is necessary to carry out several calculations to correct the accounting data and, at the same time, to obtain the individual indicators that will serve for the final quantification of the CFROI. Calculation of CFROI is based on conversion of data from company records, namely: Depreciated assets gross (Table 2); Lifespan period of assets (Table 4); Depreciated assets at current prices (Table 4); Not depreciated assets at current prices (Table 5); The value of the investment (Table 6); Brutto Cash Flow (Table 7). The first item that needs to be quantified is related to the depreciated gross assets. They represent the sum of the tangible and intangible fixed assets from which the value of the land and the value of the incomplete tangible and intangible fixed assets are deducted (Table 2).

Table 2. Gross depreciated assets in the period between 2015 and 2018.

Item	Uof M	2015	2016	2017	2018
Gross intangible assets	€	1,005,632	19,018	15,069	17,394
Gross tangible assets	€	31,763,372	32,033,771	32,098,272	30,412,891
Lands	€	1,942,589	1,944,161	1,944,161	1,944,161
Gross depreciated assets	€	32,769,004	32,052,789	32,113,341	30,430,285

The value of the depreciated assets has only slight fluctuations within the specific business conditions due to the decrease in the volume of intangible fixed assets. They have a high level which is

an indicator of the fact that an enterprise belongs to manufacturing companies. Depreciated assets are a prerequisite for the implementation of the transformation process.

The second item that directly affects the operational return on investment (CFROI) is the lifespan of the assets, i.e., the average period over which the enterprise has the asset at its disposal (Table 3).

Table 3. Lifespan period of assets between 2015 and 2018.

Item	UofM	2015	2016	2017	2018
Gross depreciated assets	€	32,769,004	32,052,789	32,113,341	30,430,285
Annual depreciations	€	887,703	915,683	934,856	963,590
Asset life span	year	37	35	34	32

The third item needed for the calculation of the CFROI is the determination of the value of depreciable and depreciated assets at current prices. To determine the current cost of depreciable assets, it is necessary to know the years of acquisition of individual assets. The conversion factor can be determined by the enterprise's management according to previous developments, or the GDP deflator can be used. The result in the particular case is shown in Table 4.

Table 4. Coefficient for calculating the current price of depreciable assets at current price between 2015 and 2018.

Item	UofM	2015	2016	2017	2018
GDP Deflator	index	-	109.983	110.102	111.482
	coef.	-	1.100	1.101	1.115
Coefficient for conversion	coef.	1.13	1.24	1.37	1.58
Adjusted depreciated assets	€	32,769,004	32,052,789	32,113,341	30,430,285
Depreciated assets at current prices	€	37,028,974	39,745,458	43,995,277	48,079,850

The CFROI includes the value of non-depreciable assets that are directly related to the core business. Non-deprecated assets need to be determined based on a number of steps. The first is the quantification of the value of monetary assets. Monetary assets represent the sum of long-term financial assets, short-term financial assets, receivables, and accruals. In addition to monetary assets, it is necessary to quantify the non-interest-bearing liabilities, which are the sum of reserves, long-term and short-term non-interest-bearing liabilities, as well as of the accruals.

An item that affects the value of the non-depreciable assets in current prices (Table 5) is represented by the net monetary assets that arise from the difference between the monetary assets and the non-interest-bearing liabilities, inventories at current prices, and land value.

Table 5. Not depreciated assets at current prices in the period between 2015 and 2018.

Item	UofM	2015	2016	2017	2018
LTFA	€	3070	3070	3070	18
Short-term FA	€	206,116	596,538	528,623	580,410
Receivables	€	9,044,516	8,760,732	8,295,091	7,978,387
Time separation of assets	€	28,062	15,112	10,839	10,314
Monetary assets	€	9,281,764	9,375,452	8,837,623	8,569,129
Reserves	€	401,666	337,927	463,725	219,227
Long-term non-interest-bearing liabilities	€	14,423	11,575	95,355	85,283
Short-term non-interest-bearing liabilities	€	11,102,195	5,548,755	2,626,208	2,161,656
Time separation of liabilities	€	0	0	0	0
Non-interest-bearing liabilities	€	11,518,284	5,560,330	3,185,288	2,466,166
Net monetary assets	€	−2,236,520	3,815,122	5,652,335	6,102,963
Inventories at current prices	€	6,057,464	4,534,692	4,827,473	4,405,075
Lands	€	1,942,589	1,944,161	1,944,161	1,944,161
Not depreciated assets at current prices	€	5,763,533	10,293,975	12,423,969	12,452,199

The fourth item of the CFROI quantification process is the determination of the value of the investment as shown in Table 6.

Table 6. The value of the investment between 2015 and 2018.

Item	UofM	2015	2016	2017	2018
Depreciated assets at current prices	€	37,028,974	39,745,458	43,995,277	48,079,850
Not-depreciated assets at current prices	€	5,763,533	10,293,975	12,423,969	12,452,199
Value of investment	€	42,792,507	50,039,433	56,379,246	60,532,049

The value of the investment represents the sum of the depreciated and not-depreciated assets at current prices.

The fifth item needed to calculate CFROI is the gross cash flow (Table 7).

Table 7. Brutto cash flow over the period between 2015 and 2018.

Item	UofM	2015	2016	2017	2018
Final sum from ordinary activity after tax	€	1,919,553	2,605,555	2,996,559	2,233,364
Profit from sales of LTA and material * (1-t)	€	16,370	9,491	26,837	31,967
Interest expense	€	27,779	43,264	59,128	58,164
Depreciations	€	887,703	915,683	934,856	963,590
Gross cash flow	€	2,851,405	3,573,993	4,017,380	3,287,085

Based on all previous operations and the quantification of individual items, it is possible to determine the values by reference to the CFROI calculation. It can be expressed as a coefficient or as a percentage expression, but both methods have the same verbal value. The CFROI points to the enterprise's ability to evaluate the funds deposited. Based on the use of the method within the specific business conditions, it can be concluded that an enterprise is unable to efficiently capitalize on the funds deposited. This may be related to the subject of the activity, the nature of the production, or the orientation on the fulfilment of predefined plans that cannot always be achieved. It is necessary to gradually increase the indicator to create more value for the shareholders who expect a return for putting their free funds into the enterprise. The CFROI values in each period are shown in Table 8.

Table 8. Cash flow return on investment (CFROI) over the period between 2015 and 2018.

Item	U of M	2015	2016	2017	2018
Value of investment	€	42,792,507	50,039,433	56,379,246	60,532,049
Gross cash flow	€	2,851,405	3,573,993	4,017,380	3,287,085
Not-depreciated assets	€	5,763,533	10,293,975	12,423,969	12,452,199
Life span of assets	year	37	35	34	32
CFROI	coef.	0.0587	0.0592	0.0584	0.0450
CFROI in %	%	5.87	5.92	5.84	4.50

Using operating return on investments within the specific business conditions is demanding because of the adjustments. The accuracy of the calculation depends on the availability of the data points, which are the input values when calculating the individual sub-values. Due to this background, this performance evaluation method should be taken as indicative, because if it were accurately determined, it would require a great deal of information and a great deal of attention from stakeholders to avoid potential mistakes. Therefore, it is appropriate to include a CFROI spread in the CFROI calculation, which has a higher reporting value. The CFROI spread represents the difference between CFROI and WACC, i.e., the average cost of capital. In order for the performance to be good, it is necessary to apply the CFROI spread >0.

4.3. Rentability on Net Assets (RONA)

The net assets are involved in the generation of value in the enterprise, and as a result, shareholders acquire some of their invested funds. Thanks to the RONA method, inter-enterprise comparisons can be made since this indicator is not dependent on the structure of financial resources in each division.

The Rentability on Net Assets in Table 11 represents the proportion of the net operating profit and net assets that the enterprise has in its bookkeeping. The net assets for the determination of the indicator are represented by the sum of the non-current assets and the net working capital. Net values are used because they are directly involved in the net asset creation. The net working capital consists of own resources, long-term foreign capital and fixed assets in the form of long-term assets, with the sum of own funds and long-term foreign capital being deducted from the value of fixed assets. The second item that enters the RONA calculation is the NOPAT, which represents the net operating profit. Based on the share of net operating profit and net assets, it is possible to determine the return on net assets, i.e., the return on assets of the enterprise in each period. The RONA values for each period can be seen in Table 9.

Table 9. Net assets (NA) over the period between 2015 and 2018. RONA, return on net assets.

Item	UofM	2015	2016	2017	2018
Tangible assets	€	9,354,816	8,770,659	8,270,532	7,791,875
Intangible assets	€	5042	3 810	2578	3898
Long-term fin. assets	€	3070	3070	3070	18
Long-term asset	€	9,362,928	8,777,539	8,276,180	7,795,791
Own resources	€	13,180,802	15,786,356	16,752,918	16,303,811
Long-term foreign capital	€	14,423	1,011,575	2,095,355	2,085,283
Constant assets	€	9,362,928	8,777,539	8,276,180	7,795,791
Net working capital	€	3,832,297	8,002,392	10,572,093	10,593,303
NA	€	13,195,225	16,779,931	18,848,273	18,389,094
NOPAT	€	1,679,749	2,221,510	3,073,260	2,341,340
NA	€	13,195,225	16,779,931	18,848,273	18,389,094
RONA	coef.	0.1273	0.1324	0.1631	0.1273
RONA	%	12.73	13.24	16.31	12.73

RONA shows a positive development from 2015 to 2018, from 12.73% to 16.31%. In 2018 there was a fall to the level of 2015 at 12.73%. Nevertheless, the results in a particular a freight transport enterprise are correct and therefore show positive values. Net Assets produce profit value. Mostly in 2017, when € 1 of net assets produced € 0.1273 profit. Net Assets grew in the period under review, with a negligible decrease in 2018. In that year, however, Net Operating Profit after Taxes recorded a significant slump. In general, it can be argued that positive, increasing values of the indicator are positive for the enterprise. However, their amount depends on the difficulty of equipping businesses with fixed assets in the sector. The values for the road freight transport undertaking are correct. For a more accurate use of the RONA, it can be compared with the weighted average capital costs (WACC). In order for an enterprise to be worthy for shareholders and effective at the same time, the difference between the RONA and the WACC should be positive. Based on this difference, a RONA spread will be generated.

Since the RONA spread and the EVA are highly related to each other and they have a similar information value, the significant difference is only in the definition of the unit of measure, with the EVA pointing to the RON and the RON performance in %.

The development of the RONA and the RONA spreads, with their mutual comparison, can be seen in Figure 2.

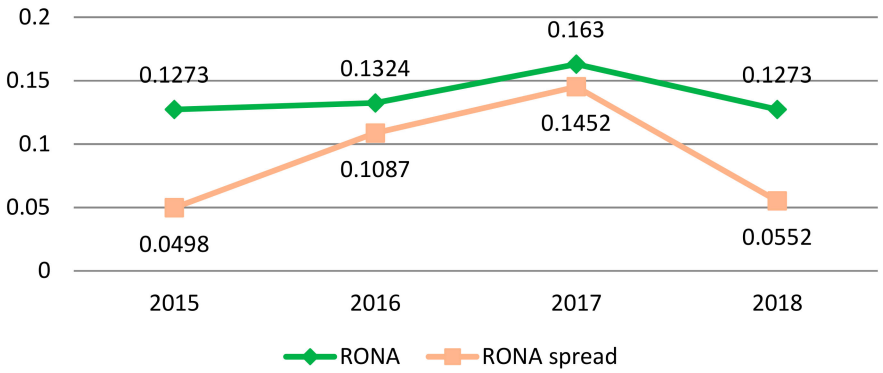

Figure 2. The development of the RONA and the RONA spreads between 2015 and 2018.

4.4. Cash Return On Gross Assets (CROGA)

The gross profitability is expressed via the share of the operating cash flow after tax and the gross assets. Prior to quantification of the CROGA value in individual periods, it is necessary to perform partial operations, specifically, to determine the value of the OATCF (Operating after Tax Cash Flow) and the GA (Gross Assets). Table 10 documents positive OATCF values with an increasing trend until 2017 when it reached the highest value of the net operating cash flow after tax. Between 2017 and 2018 there was a decrease in net operating cash flow after tax, which is not a good result for the enterprise. It should be monitored whether this is a one-off year-on-year decline or a trend over several years. Despite the decline in net operating cash flow after tax in 2018 has a positive value, which is correct. The negative value could cause problems in the enterprise and a drain on the resources created in the past. The second component of the CROGA indicator represents the gross assets. The Gross Assets (GA) are the sum of the fixed assets at current acquisition prices and the working capital.

Table 10. Cash Return on Gross Assets (CROGA) over the period between 2015 and 2018. OATCF—Operating after Tax Cash Flow; GA - (Gross Assets).

Item	UofM	2015	2016	2017	2018
NOPAT	€	1,679,749	2,221,510	3,073,260	2,341,340
Depreciations	€	887,703	915,683	934,856	963,590
OATCF	€	2,567,452	3,137,193	4,008,116	3,304,930
Long-term assets at current acquisition prices	€	34,740,663	34,000,020	34,060,572	32,374,446
Short-term, receivables	€	8,658,516	8,610,732	8,295,091	7,978,387
Stock	€	6,057,464	4,534,692	4,827,473	4,405,075
Short-term financial assets	€	206,116	596,538	528,623	580,410
Short-term liabilities	€	11,102,195	5,548,755	2,626,208	2,161,656
Common bank loans	€	0	0	0	0
Working capital	€	3,819,901	8,193,207	11,024,979	10,802,216
GA	€	38,560,564	43,193,227	45,085,551	43,176,662
CROGA	coef.	0.0666	0.0726	0.0889	0.0765
CROGA	%	6.66	7.26	8.89	7.65

In order to determine the CROGA value more precisely, it is necessary to compare the resulting value of the indicator with the required return on capital, expressed via the weighted average capital cost (WACC). The CROGA and the WACC values for each period are shown in Table 11.

Table 11. CROGA spread over the period between 2015 and 2018.

Item	UofM	2015	2016	2017	2018
CROGA	coef.	0.0666	0.0726	0.0889	0.0765
WACC	coef.	0.0775	0.0237	0.0179	0.0721
CROGA spread	coef.	−0.0109	0.0489	0.0710	0.0044
CROGA spread	%	−1.09	4.89	7.10	0.44

The CROGA spread has acquired different values in different periods. This indicator is more critical and points to more accurate performance and operating returns for the gross assets. In order for the performance to be greater than the owners' expectations, it is necessary to apply the relationship when CROGA > WACC.

4.5. Conclusions Based on the Application of the Methods

The performance measurement consists of a set of steps that follow and enable the manager to quantify the corporate performance. Their values changed over the individual periods, with which the changes in the performance were directly connected. However, for a better comparison, it is necessary to determine the year-to-year index of the changes of individual indicators, as well as the year-to-year difference. Both these differences point to the fact that the values of the individual indicators have changed throughout the years. Based to the year-to-year comparison, it is possible to predict the future development of the values of the indicator, to determine the values of the methods in the future, so the planned values can be compared with those actually achieved. Due to this, the planned values will be more realistic. The index of change evaluates the rate at which the value of the respective method has increased or decreased in each period. The summary of these results is shown in Table 12.

Table 12. Analysis of the results of the EVA, CFROI, RONA, and the CROGA.

Item		2015	2016	2017	2018
EVA	€	599,890.89	1,804,325.32	2,712,424.16	982,518.31
Index of change	coef.	-	3.0078	1.5032	0.3622
Percentage of change	%	-	+200.78	+50.32	−60.78
Difference	€	-	+1,204,43.43	+908,098.84	−1,729,905.85
CFROI	coef.	0.0587	0.0592	0.0584	0.0450
Index of change	coef.	-	1.0085	0.9865	0.6505
Percentage of change	%	-	0.85	−1.35	−22.95
Difference	coef.	-	+0.005	−0.0008	−0.0134
RONA	coef.	0.1273	0.1324	0.1631	0.1273
Index of change	coef.	-	1.0401	1.2319	0.7810
Percentage of change	%	-	+4.01	+23.19	−21.90
Difference	coef.	-	+0.0051	+0.0307	−0.0357
CROGA	coef.	0.0666	0.0726	0.0889	0.0765
Index of change	coef.	-	1.0901	1.2245	0.8605
Percentage of change	%	-	+9.01	+22.45	−13.95
Difference	coef.	-	+0.0060	+0.0163	−0.0124

The economic added value recorded the highest year-to-year gap in 2016 when more than 200% of the indicator's growth occurred. During this period, the highest added value for shareholders was created. The year 2018 meant a significant reduction in the value, mainly caused by a decline in the result of the enterprise and by the fact that the costs of the goods were higher than the revenue generated by them. There was more than 60% decline in the economic added value. The values did not get to negative numbers, so it can be stated that the performance is still good, albeit it is declining. Based on the resulting EVA values, the enterprise can be considered to be efficient and financially stable.

The Cash Flow Return on Investment compared to the EVA is slightly different, and it is expressed in terms of a coefficient rather than a monetary unit. The CFROI values show a decreasing trend,

which is not positive for the business performance because the decline in the CFROI values means a decline in the overall corporate performance and a gradual reduction in the value for shareholders. However, this indicator is very strict, and it is necessary to use various adjustments in its quantification, which can be distorted if they are not correctly executed. The operating return on investment points to the fact that the operating performance is decreasing. The index of the change in the indicator has declining values with no significant decline between 2016 and 2017, but it is a sensitive fluctuation, and this cannot be said about 2018 when it dropped significantly. The trend of the CFROI can be expressed via a percentage change, which more closely indicates to what extent and within which values the indicator's values, and thus the impact on the overall corporate performance, decreased. The decline occurred in 2017, but it did not change until 2018 when the return on investment fell by almost 35%. The result value is quite critical.

The Return on Net Assets reached the highest performance rate in 2017, followed by a major downfall in the next year. This is mainly due to the net operating profit. The CROGA points to the enterprise's ability to achieve the return on the gross assets. The values indicate the same trend as it was recorded for the EVA and the RONA. The highest performance was achieved in 2017. A significant decrease was recorded in 2018. The values of the fixed assets and the working capital that affect the level have decreased. The course of individual indicators is shown in Figure 3.

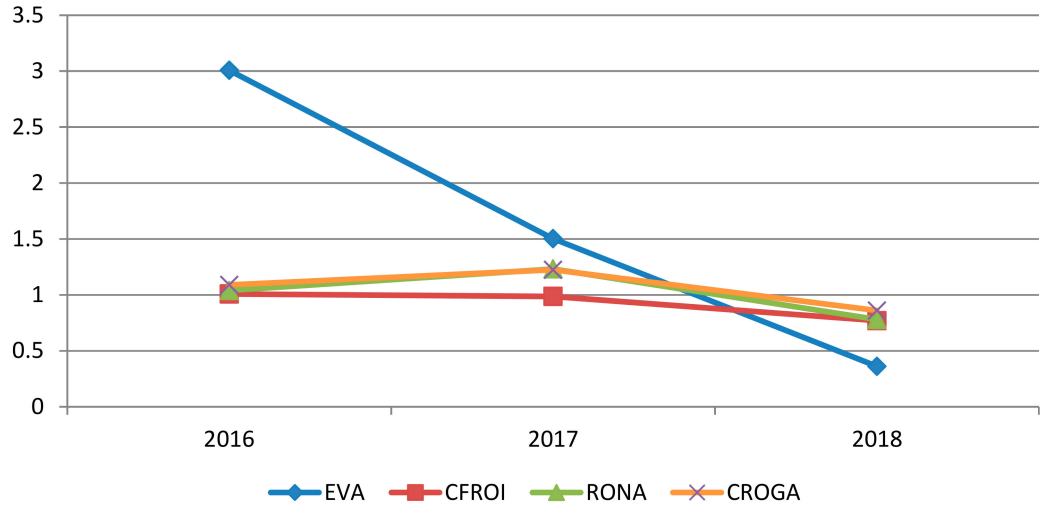

Figure 3. Comparison of the EVA, RONA, CFROGA, and the CFROI.

Assessing the complex performance based on these four indicators points to the fact that the performance is good, and the enterprise is capable of creating value. Measures should be taken to ensure that the performance of the enterprise is stabilized and does not fluctuate. Consequently, it is possible to develop activities that will help increase its value gradually.

5. Discussion

The basis of an effective approach to the management of the enterprise is to strike a balance between the management´s interests and the interests of the enterprises´ stakeholders in accordance with sustainable development. Based on the results and findings, the following section discusses the necessity of managing, evaluating and setting the right way of the corporate performance measurement. As the performance measurement is a difficult process, it requires several activities to be done at each level of management. The proposed process model shown in Figure 4 identifies the general managerial activities and the topics/activities to be performed periodically, not only in transport enterprises but generally in every enterprise striving to improve the corporate performance. All activities need to be carefully planned and adapted according to the specific conditions inside the enterprise as well as outside of it (market conditions, stakeholder approaches, etc.) [53–55]. Every manager involved in the

process of the performance measurement should be familiar with the process activities to ensure the easiest, simplest and least costly way of implementation.

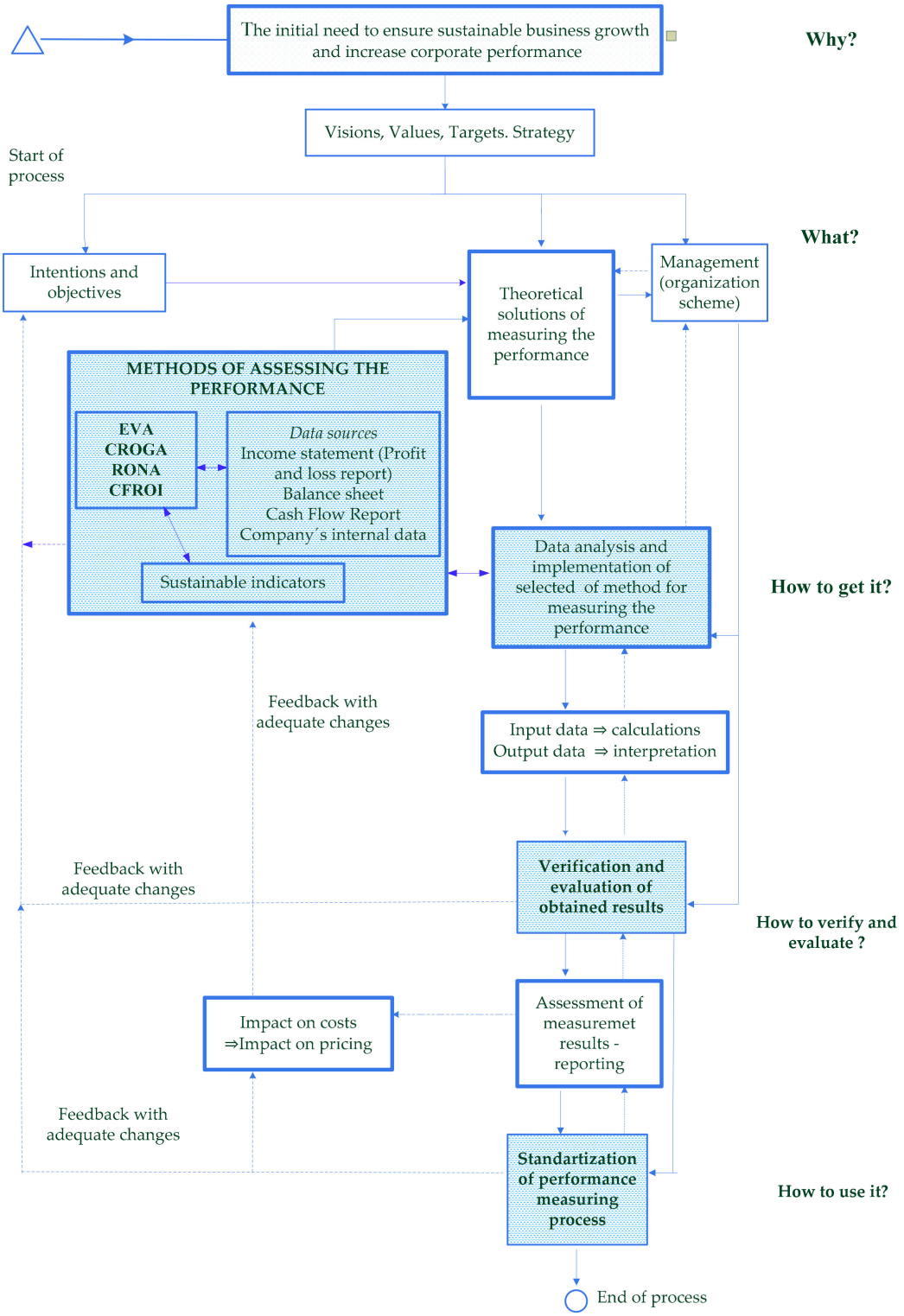

Figure 4. Proposed process model of the performance measurement for the managers.

The suitability of a specific process is a matter of a longer period of time and it should be applied over several successive periods. After the evaluation and reassessment, the process can be revised and some adjustments can be made as some activities may lose their significance, other will need to be

revised or expanded, and some will be adjusted according to the current business and market situation. The main goal of all process activities is to provide increased performance in the enterprise, but while respecting the compliance with the sustainable development and the stakeholders' interests.

Since the key aspects of the transport enterprise include the competitiveness and satisfaction of all stakeholders' needs, the suggestion for the managers includes the application of this systematic approach in terms of the process management. Another recommendation is to adopt an integrated approach with the Deming Cycle—PDCA (P = Plan, D = Do, C = Check, A= Act). The PDCA model is a continuous, step-by-step process that enables an enterprise to not only implement and manage but also develop the performance measurement. Within the still increasing market competition and the necessity to act in a sustainable way, the scientific literature sources do not sufficiently describe the relationships between the sustainable indicators, the methods of measuring performance, their impact on costs and pricing in the enterprise, and their impact on the enterprise's competitiveness. As the managerial decision-making in transport enterprises is significantly influenced by the sustainability criteria (economic efficiency, environmental, and social impacts), and, when focusing on the road freight transportation, the internal and external costs and their link to the pricing could be identified more easily. Therefore, the goal for future scientific research is to analyze them in a more detailed way and confirm/reject the links between the aforementioned indicators and the impacts affecting the business processes of the enterprise.

6. Conclusions

The performance measurement in a transport enterprise in terms of competitiveness of the enterprise should be a starting point for the price determination. It is a complicated process, which is caused by the uniqueness of transport performance. Targeted performance measurement can help reduce this complexity via the use of different variants of the EVA, CFROI, CROGA, and the RONA. Therefore, their practical application, shown on an example of a road freight-transport enterprise, is useful.

The EVA takes into account the cost of equity of own capital as opposed to the profit. However, it is significantly affected by the Net Operating Profit after Taxes. The NOPAT is the result of a comparison of revenues and costs of operating activities. Revenues are influenced by the price of the transport performance, which is influenced by the costs of transport performance. The CFROI reflects the operating performance that an enterprise would achieve if it were able to generate an operating cash flow of the same amount for the lifespan of its operating assets without any additional investment. The price of the transport performance will be influenced by the value of the investment and the cash flow from the operating assets.

The CROGA expresses the proportion of the operating cash flow after taxes and the gross assets. The application is not based on the accounting profit, but it works with the operating cash flow. For the pricing of the transport performance, it is important that the use of the gross assets eliminates the inaccuracy in the use of the carrying amount.

In contrast with the CROGA, the variant RONA uses the operating income after taxes and the net assets. Its significance is based on a proportional analysis of financial output and resources spent on this output. For the reason of competitiveness, the price of transport performance should reflect its value compared to the transport performance of other carriers. The fundamentals of its quantification are the same as for the EVA. The difference is in the expression of the relative ratio, which measures the success of the enterprise in percentage.

It is also important for a transport enterprise to carry out a range of follow-up activities ranging from the selection, application and verification to standardization within the business conditions. The whole process must be in line with the business strategy and sustainable development. The utilization of ICT is worth mentioning as well. However, according to experience, performance measurement software products are not available in the field of road freight transport in relation to the pricing. Properly

tailored software solutions can help the managers with the practical application of the EVA, CFROI, CROGA, and the RONA.

The theoretical contribution of this paper is in drawing general conclusions within the area of factors affecting the pricing in transport enterprises. These result from the application of the EVA, CFROI, CROGA, and the RONA within specific business conditions (road freight-transport enterprise) in terms of competitiveness. This has also been linked to sustainability. After modification, the conclusions can be used in other enterprises, which represents the practical benefits. Another practical benefit is the creation of the proposed process model of the performance measurement for the managers. Measuring the performance of a road freight-transport in connection with the pricing of transport performance, competitiveness, and sustainability interconnected all these areas. To include all the areas in a single methodology is a complex task, requiring further surveys and scientific research.

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