



A Comparative Analysis of Modern Performance Methods in Economic Practice

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ABSTRACT

The main objective of this paper was to analyse the performance and efficiency development of the Slovakia's spa sector over the years 2013 – 2017 by applying the selected modern methods of business performance evaluation – the Economic Value Added, the Return On Net Assets, the Creditworthy Model, the Simplex Linear Programming Method and examine whether the application of these modern models provides an identical view of the financial performance of the sector surveyed. The intention of the paper was also to reveal statistically significant interconnections between the key EVA indicator and other modern methods. In the case of confirmation of a strong correlation we focused on evaluation the degree of identity with the results of above-mentioned applied methods. Despite the fact that these models evaluate performance on the basis of different input data and indicators, year 2015 was identically identified as the best-performing one, vice-versa, the worst financial performance of enterprises was recorded in 2016 within the application of all methods. At the significance level of $p < 0.05$, a statistically significant correlation between all pairs of the analysed methods was revealed. However, the strongest positive correlation with the Economic Value Added was confirmed in the case of Simplex Method of Linear Programming ($r = 0.536842$). This result was also confirmed by the identical assessment of the performance and efficiency development in individual years. Results of the study pointed to close interconnection between the dimension of performance (the EVA indicator) and efficiency (the Simplex Method of Linear Programming), which will be integrated into a new designed Enterprise Performance Model (EPM).

INTRODUCTION

As a result of growing globalization and the internationalization of the business environment, the issue of business performance management is becoming more and more important, as constantly monitoring, analysing and increasing performance is a key tool in the current competitive struggle. As reported by Y. Bilan et al. (2017), new requirements for operation of enterprises in the globalized economic system characterized by processes of competition rise and development of information technology need to find new forms of cooperation with partners in the context of improving their enterprise performance. In this context, it is necessary to address issues of the enterprise performance analysis and management due to constantly changing global business environment bringing new, modern approaches to solve the issue in question.

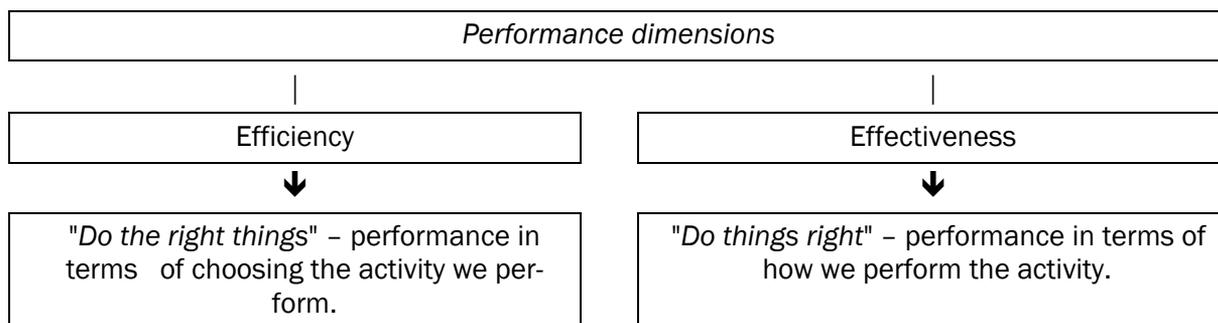
Comprehensive monitoring, quality management and continuous performance improvement is an important element in detecting and optimizing possible future business risks that can contribute to achieving the strategic goals set in all areas of business. Neither the Slovak spa enterprises are no exception, as thanks to them Slovakia belongs to one of the major spa countries in Europe with a rich history and representation of all types of healing mineral and thermal waters. Currently, the spa resorts and enterprises are integrated into health and medical system, but they do not represent a separate economic sector as it interferes with all spheres of economic and social life. In addition, spa tourism is one of the economy sectors with high growth potential and the main product line of tourism in Slovakia. Due to hectic way of life, unhealthy food, stress and many other factors that negatively affect our health, we can assume that its importance will increase even more. For this reason, we focused on the evaluation of the health spa sector in Slovakia by applying the selected modern financial methods over the last 5 years (2013 – 2017).

1. LITERATURE REVIEW

The concept of enterprise performance takes an important place within the defining the company's activity essence in the business environment including its success and predictions of the future financial situation (Fibrova and Soljakova, 2005). The definition and evaluation of enterprise performance is addressed by many Slovak and foreign authors. According to the authors O. Faltejskova, L. Dvorakova and B. Hotovcova (2016), the enterprise performance can be most precisely defined as a success on the market, the ability to succeed in competition and to find the possibility of further growth in a constantly changing instable business environment. As reported by V. Soltés and B. Gavurova (2015), enterprises in today's highly competitive market must struggle to respond flexibly to changing conditions and regularly monitor and evaluate the level of their enterprise performance. However, managers solve problems how to measure the performance to prevent the improvement of one part of the business at the expense of another as increasing the implementation of performance measurement systems in companies is linked to many problems in need of answering (Striteska, Zapletal and Jelinkova, 2016).

For qualified and correct answer how to achieve the higher efficiency and performance of business, it is firstly necessary to determine what the current and real business performance is and which appropriate and objective indicators use to measure this performance. The information obtained and values of the indicators are important factors for decision-making about future investment in companies. As reported by D. Miron and A. Petrache (2012), managers are still confronted with the decision, how to allocate limited company resources in a challenging and highly competitive environment. The enterprise performance according to Z. Niznikova et al. (2015) represents one of the crucial factors for responsible enterprise governance, especially from the perspective of valuation in the current competitive environment. For this reason, all enterprises have to dispose of a set of financial and non-financial indicators that can characterize its performance as accurately as possible. J. Wagner (2009) states that efficiency can be perceived as one of the enterprise performance dimensions (see Figure 1).

Figure 1. Basic dimensions of performance



Source: own processing according to Wagner, 2009

Nowadays, the scientific literature provides number of research studies devoted to measuring the business performance and each author has different point of view for measuring business performance. Aktan et al. (2018) explored the relationship between performance of the firms and corporate governance. The results suggested that board size, ownership concentration and auditor's reputation have a positive and significant impact on firm's Return on Assets, whereas the percentage of independent directors and the annual number of board meetings have negative and significant impact on firms' Return on Equity. Similar research was realized also by I. Todorovic (2013). Author's research problem was based on determining the impact of corporate governance implementation level on the enterprise performance. Results indicated that companies with higher level of implementation of corporate governance principles and better practice of corporate governance are more profitable and achieve higher performance. The impact of the financial structure on the enterprise efficiency was examined by T. Stevanovic et al. (2017). The paper findings confirmed that the growth of long-term debt and related financial expenses caused the reduction of efficiency of entrepreneurs.

The influence of selected systematic and unsystematic risks to performance of the enterprises was analysed by D. Kiselakova et al. (2015). Based on the authors' results, the most significant impact on the enterprise performance has just financial risks. It was also observed that the unsystematic risks have a higher impact on performance of the enterprise as systematic risks. Z. Virglerova et al. (2016) studied the influence of selected factors of financial risk management on the enterprise performance. The performed research confirmed that there is an intensive financial risk in the business environment (e.g. poor access to external financial resources, poor payment discipline), which can consequently result in very serious financial difficulties and decrease in business performance. R. Rajnoha, P. Novak and M. Merkova (2016) analysed using of investment effectiveness methods within the business performance evaluation.

The aim of research was to find out if using of certain investment valuation methods or some valuation approaches have the positive impact on business performance. Authors came to conclusion that the use of investment valuation methods is limited by foreign ownership of company and the use of investment controlling cause higher business performance. The analysis of transaction costs within the measurement of economic situation of institutions was emphasised by V. Draskovic et al. (2017). The analysis of types of transaction costs in the organisation allows the formulation of an algorithm of allocation of transaction costs as follows: determine key activities in the organisation; determine which types of resources are converted into which products within the core business; determine the type of process to which costs are allocated; determine whether the costs are costs of transactional areas and make the final decision about the type of transactional costs.

Each model for measuring performance and prediction is different and uses various financial or economic indicators. However, these models also have some common features. Most authors are focused on enhancing the predictive ability of original models by responding appropriately to the existing changed economic environment (Hyranek et al., 2018). In this regard, the above-mentioned authors classify these methods and approaches of analysing the financial performance into two large groups, namely:

- *The approaches that prefer to maximize the profits of an enterprise* such as Return on Assets, Return on Equity, Return on Total Capital, etc. The Return on Equity, as one of the most important indicator for enterprise performance evaluation, was analysed by S. Jencova et al. (2018). Authors provided the practical application of the dynamic decomposition of Return on Equity through the Du Pont Pyramidal Model on the basis of the financial ratio indicators such as Return on Sales, Total Assets Turnover Ratio, Financial Leverage and Interest and Tax Profit Reduction.
- *The approaches that prefer the growth of the market value of an enterprise for its owners* such as Return on Net Assets, Cash Return on Gross Assets, Economic Value Added and its modifications, Cash Flow Return on Investment, etc. These performance assessment criteria measure the success of a business activity by its economic gain. Most of them have dynamic nature and also take into account the average cost of acquiring and binding the business' own external capital and interest-bearing debt capital.

The measurement and performance evaluation of an enterprise is nowadays a very topical issue, but also extensive and complex process. However, financial metrics systems help financial managers to generate the concept of development, to choose the right strategy as well as to plan all financial aspects in the short or long term. Therefore, the company's management should emphasize an increasingly implement financial models in its financial and economic analyses (Jencova et al., 2018). The increasing globalization and internationalization affects all countries, including Slovakia. For Slovakia, the transition to a new environment is much more challenging and influenced by various factors. In this context, it is necessary to focus on indicators not only financial but also non-financial.

M. Draskovic et al. (2017) state that according to many non-economic indicators (political stability, democratization, liberalization and institutionalization of society, law, infrastructure development, safety, security, investment, compliance with environmental and social standards, efficiency of the legal system, human rights respect, etc.), as well as economic indicators (purchasing power, rate of economic growth, foreign trade balance, current account deficit, public debt, inflation rate, unemployment rate, public expenditure, investments, etc.), they are characterized by a long-term transitional crisis of structural type.

Financial analysis involves comparing the firm's performance within the other firms in the same industry field and evaluating trends in the firm's financial position over the time (Vitkova and Semenova, 2015). In this regard, the classic approach to assessing the enterprise performance by indicators such as revenue, profit or market share is no longer sufficient in today's business environment. The traditional indicators, as stated by L. Svobodova (2015), indicate the level of the company's management, but only from a managerial point of view, which takes into account the return on capital or the rate of asset utilization, but not the risks accrued to owners by investing their available funds. Therefore, new financial management concepts are based on the shareholder value management, which is constructed on the modified financial indicators that enable better identification of the processes and activities increasing a long-term value for the shareholder as well as the overall value of the company.

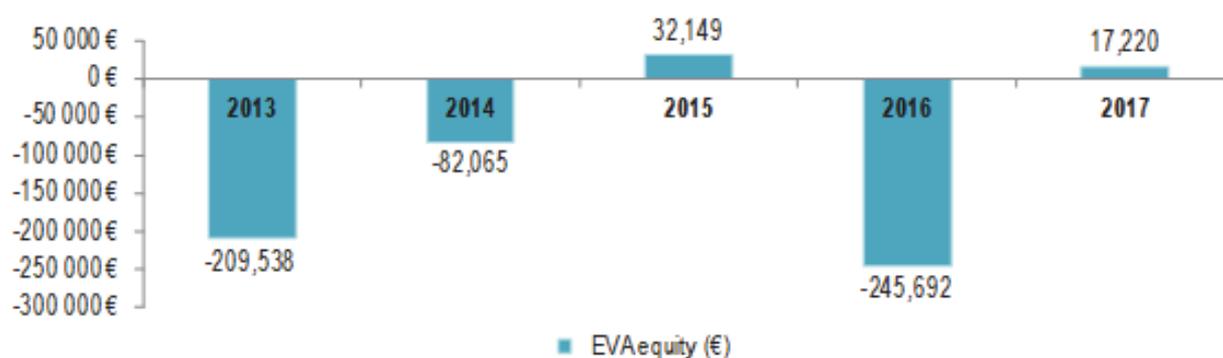
To conclude, E. Hyranek et al. (2014) emphasized that the latest approaches to enterprise performance are aimed at evaluating the level of production system functioning, where it is necessary to measure the effectiveness of the transformation process and to implement not only financial indicators but also the indicators of effectiveness and severity. Based on these empirical studies,

we focused on applying the selected advanced methods of enterprise performance evaluation and investigated mutual interconnections between them to reveal the identity of the results achieved. In their appropriate combination, we see the potential of creating a new model linking the dimension of enterprise performance and efficiency.

2. RESULTS AND DISCUSSION

At first, the performance of the Slovak health spa enterprises during the years 2013 – 2017 was evaluated by applying the EVA indicator. The brief description of the input data entering the EVA calculation in individual years was described in the previous chapter. The average financial performance development of the Slovak spa enterprises quantified on the basis of the EVA indicator is shown in the following Figure 2.

Figure 2. The performance development of the health spa enterprises based on the EVA model application (in €)



Source: own processing based on the financial statements of analysed enterprises

As the EVA indicator level recorded the most significant negative decrease of € 277,841 in 2016 compared to previous period, this year can be considered as the worst-performing one throughout the monitored period. A more pronounced average increase in total costs (by 12.98 %) than total revenues (by 7.03 %) occurred despite of the repetitive decreasing in r_e indicator and is considered the main reason for the reduction of net profit in 2016, which subsequently influenced the creation of negative ROE as well as the high negative values of the EVA indicator.

This fact together with the high value of the cost of equity (especially the Risk Free Rate of Return at the level of 3.19%) was the main reason of reaching the negative EVA indicator also in year 2013 and the height of the cost of equity (r_e) recorded its highest level at all (4.74 %). Despite the significant net profit growth by 11.11 % on average in the following year 2014, analysed spa enterprises were not able to generate added value for shareholders.

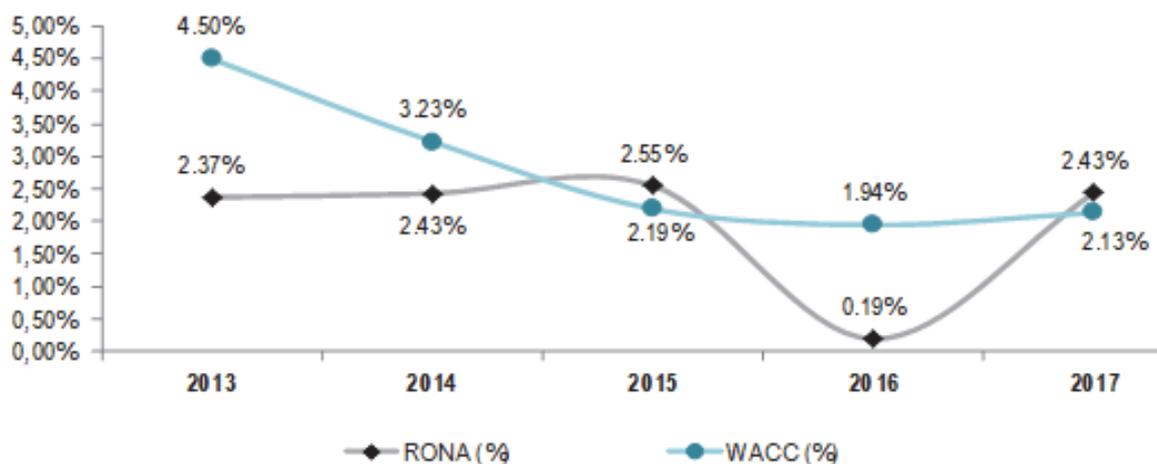
However, a positive change occurred in the following years and financial performance of enterprises started to show an appropriate development trend. Re-decreasing of the r_e indicator to the value of 2.23 % and increasing the ROE by 0.24 % on average in 2014 caused the improvement in the financial performance development of the Slovak health spa sector in the following year 2015 which was considered as the best-performing year throughout the analysed period.

The second best-performing year was 2017, when the average value of the EVA indicator ranged around € 17,220 €. Despite the increase in cost of equity by 0.25%, this positive development was a result of a significant decrease of net profit within the health spa sector as a whole,

which was caused by progressively increasing total revenues (by 4.29%) and decreasing total costs (by 0.57%) compared to the previous year.

The second modern indicator applied to evaluate the performance of enterprises within the Slovak medical spa sector over the years 2013 to 2017 was the RONA indicator. Its essence is the same as the EVA indicator with the difference that RONA is a relative ratio indicator that measures enterprise performance not in €, but in %. However, it is important not only to determine the level of RONA indicator, but to compare the difference between profitability quantified on the basis of RONA and WACC. The average performance development of enterprises assessed by above mentioned indicators illustrates the following figure.

Figure 3. The performance development of the health spa enterprises based on the RONA model application (in %)



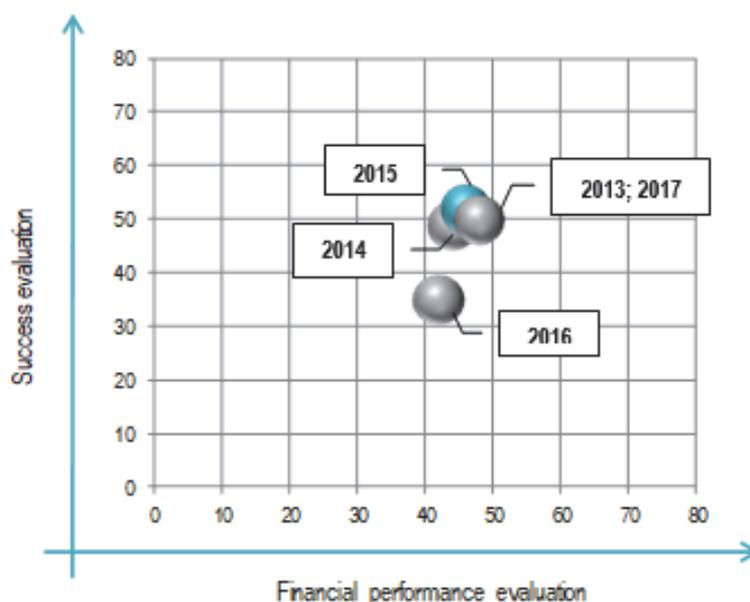
Source: own processing based on the financial statements of analysed enterprises

In the first analysed year 2013, the RONA of enterprises operating in the Slovak health spa sector reached the average level of 2.37%. Compared to the WACC, the most noticeable and undesirable difference between these indicators was recorded, amounting to 2.13%. The rise in operating profit after taxes by 4.67% as well as an increase in the net asset value of € 221,525 in the following year 2014 caused the growth of RONA indicator level by an index of 1.0238. On the contrary, the WACC indicator dropped by 1.27% mainly due to declining the alternative cost of equity. This change caused a desired reduction in the difference between the RONA and WACC indicator values, even more than twice compared to the previous year. The positive development trend continued in 2015 as well, when the average net operating profit reached the value of € 264,542 and the net assets ranged around € 10,384,177.

As a result, the level of RONA indicator re-increased and reached its maximum value of 2.55%. However, this positive development trend of all indicators was disrupted in 2016. The decline in net profit of the enterprises by € 244,171 compared to previous year 2015 caused the decline in RONA indicator by 2.35 % down to the level of 0.19 %. This sharp drop in operating profit, despite the re-reduction of the cost of equity by an index of 0.8634, did not ensure maintaining the desired relation $RONA > WACC$ recorded in the previous year. Based on these results, we cannot identify these health spa enterprises as well-performing. The increase in total average revenues and decrease in total costs during the following year 2017 contributed to an increase in operating profit of € 240,740. As a result, the performance of spa enterprises came closer to the situation in 2015, but with less significant differences between the RONA and WACC (0.30%).

The following partial analysis was focused on the performance evaluation of selected spa enterprises by means of the CWM compiled on the basis of the evaluation scoring table. The graphical performance development of these enterprises over the years 2013 – 2017 is presented in the next Figure 4.

Figure 4. The performance development of the health spa enterprises based on the CWM application (points)



Source: own processing based on the financial statements of analysed enterprises

Over the analysed period, the Slovak spa sector was located in the performance field of "Sub-standard" and "Watch". In this regard, the best-performing year was 2015, as the dimension of financial performance reached 46 points on average and the success rate reached even a bit higher score (50 points). This positive development was caused by an increase in net profit by 11.67%, which led to achieving more acceptable values of ratio indicators entering the first dimension of the model. In the following year 2016, a significant negative decrease of both dimensions was recorded. Due to insufficient values of profitability and activity ratio indicators, the financial performance evaluation got worsened by 4 points and success evaluation ranged around only 35 points.

The dimension of success evaluation was negatively affected by the results of all predictive models based on which the average values of Slovak spa enterprises belonged to (except for a few exceptions) to the "grey zone of indefinite results" in all individual years. It is worthy to note that despite the fluctuating development of both dimensions of CWM, the success and financial performance evaluation of enterprises reached in the last analysed year the identical point rating as in the initial year 2013. According to the results of the CWM we can consider the overall financial performance of Slovak health spa enterprises as relatively standard during the analysed period. Furthermore, this sector continues to keep its performance level on the market stable and strives for its continuous growth.

To conclude, we evaluated the effectiveness of Slovak spa enterprises by means of SLPM which focuses on solution of input-output transformations with the application of modified system of indicators. In the following Table 1 are stated initial values of the selected inputs and outputs

that represent the main basis for the efficiency quantification of the Slovak health spa enterprises. Individual values (in €) represent the average values throughout the health spa sector and indexes are quantified to overall revenues.

Table 1. Input data needed for application of SLPM

Year	Total costs (n_1)	Personnel costs (n_2)	Material costs (n_3)	Total revenues (v_1)	Net profit (v_2)	Added value (v_3)
	<i>Cost of returns</i>	<i>Wage efficiency</i>	<i>Material efficiency</i>	<i>In relation to total revenues</i>	<i>In relation to total revenues</i>	<i>In relation to total revenues</i>
2013	€ 5,272,344	€ 1,793,050	€ 1,191,684	€ 5,446,131	€ 173,787	€ 3,050,390
	0.9681	0.3292	0.2188	1.0000	0.0319	0.5601
2014	€ 5,342,795	€ 1,861,158	€ 1,187,809	€ 5,535,894	€ 193,099	€ 3,249,967
	0.9651	0.3362	0.2146	1.0000	0.0349	0.5871
2015	€ 5,322,864	€ 1,899,399	€ 1,176,291	€ 5,538,486	€ 215,622	€ 3,224,747
	0.9611	0.3429	0.2124	1.0000	0.0389	0.5822
2016	€ 6,013,584	€ 2,060,184	€ 1,211,600	€ 5,927,758	€ -85,825	€ 3,408,810
	1.0145	0.3475	0.2044	1.0000	-0.0145	0.5751
2017	€ 5,979,006	€ 2,235,240	€ 1,217,483	€ 6,182,136	€ 203,130	€ 3,195,759
	0.9671	0.3616	0.1969	1.0000	0.0329	0.5169

Source: own processing based on the financial statements of analysed enterprises

The SLPM analysis of efficiency consisted of weights (u_i , t_r) of selected indicators and deviations (w_j), the sum of which had to be minimized. Based on the results processed in MS Excel, we can state that the highest weight of the selected inputs was proved in the case of material efficiency indicator ($u_3 = 2.03604$) and wage efficiency indicator ($u_2 = 1.35644$). No significant weight was identified for the other selected input and output items. In this regard, we can consider these two indicators as the most important determinants of efficiency, as well as the performance of the Slovak spa companies.

On the basis of calculated weights, we subsequently quantified the efficiency of the selected sample of enterprises. Maximum efficiency (1.000) was reached in 2015, vice-versa, the lowest in 2016 (0.7889). In the other years of the analysed period, the efficiency ranged from 0.8514 (2013) to 0.9912 (2017). The overall average efficiency of the Slovak health spa sector reached the level of 0.9254.

Despite this deviation from the required maximum efficiency at the level of 1.0000, the transformation efficiency of inputs to outputs within the analysed sector can be considered to be relatively high.

The following table provides the final average ranking of the order of the spa businesses performance obtained based on the application of the selected modern methods used in evaluating the enterprises' performance during the examined years 2013 – 2017.

Table 2. The final order of the businesses' performance by the application of the methods selected

Spa enterprise (SE)	Rank				Spa enterprise (SE)	Rank			
	EVA	RONA	CWM	SMLP		EVA	RONA	CWM	SMLP
SE01	3	5	9	8	SE15	23	26	26	24
SE02	26	23	15	25	SE16	16	11	13	23
SE03	1	3	1	2	SE17	7	9	8	17
SE04	28	28	28	28	SE18	12	13	17	15
SE05	2	8	12	3	SE19	11	10	3	16
SE06	5	7	19	10	SE20	17	2	23	1
SE07	4	4	10	19	SE21	18	1	27	26
SE08	9	12	5	5	SE22	22	19	4	18
SE09	13	16	14	4	SE23	6	6	2	22
SE10	27	27	22	20	SE24	8	15	7	9
SE11	14	14	16	13	SE25	15	25	20	14
SE12	25	17	18	27	SE26	10	18	11	12
SE13	24	20	24	11	SE27	19	21	6	21
SE14	20	22	25	7	SE28	21	24	21	6

Source: own processing based on the financial statements of analysed enterprises

Based on the results above, it is obvious that most of the analysed spa enterprises did not reached the same position by application of all above mentioned modern performance evaluation methods. However, the most significant identical position was identified in the case of SE03 (Spa Bojnice) and SE04 (Spa Brusno) which were considered to be the best and the worst-performing ones within the entire Slovak health spa sector. As we have already mentioned, the calculation of these methods is based on different input data and indicators reflecting subsequently the different business performance assessment. Despite the fact that most enterprises did not reach identical performance position measured by the selected modern models, we have to emphasize the identification of the best and the worst-performing spa enterprise evaluated on the basis of all these models.

To conclude, we focused on revealing the mutual interconnection between the currently most used modern EVA indicator and the CWM, RONA and SMLP within the sector surveyed. The results of correlation analysis by means of Kendall Tau test are presented in the following Table 3.

Table 3. The results of correlation analysis between the EVA indicator and the other ones

Pair of variables	Kendall Tau correlations (SE 1-28 v PS1)			
	Count	Kendall Tau	Z	P-value
EVA & CWM	28	0.357895	2.206211	0.027369**
EVA & RONA	28	0.431579	2.660431	0.007804**
EVA & SMLP	28	0.536842	3.309317	0.000935**

Source: own processing in Statistica

From all the pairs of variables representing the modern methods of enterprise performance evaluation, a statistically significant correlation (medium and strong) with the EVA indicator was confirmed in the case of CWM, RONA indicator as well as SLPM. It can be concluded that at the significance level $p < 0.05$, a statistically significant correlation was confirmed for all pairs of analysed methods. However, at the significance level $p < 0.01$, a statistically significant link was revealed between the EVA indicator in relation to RONA indicator and SLPM. In this regard, the highest positive dependency was identified in the case of SLPM ($\tau = 0.536842$).

CONCLUSION

The paper was focused on the financial development analysis of the Slovak spa sector over the period of 2013 – 2017 using the selected modern methods of performance and efficiency evaluation – the Economic Value Added, the Return On Net Assets, the Creditworthy Model, the Simplex Linear Programming Method and to access whether the application of above-mentioned models reflects an identical financial performance of the enterprises analysed. The partial objective of this paper was to reveal statistically significant correlation between the EVA indicator and other selected modern methods and in the case of confirmation of a strong correlation to identify the degree of identity with the results of applied methods.

The positive value of the EVA indicator was achieved only in the two years of the analysed period (2015 and 2017) and the overall average value reached the level of € 97,585. Therefore, spa companies were not able to generate added value for their shareholders, as the relation $ROE > r_e$ was not respected for most of the analysed years. The average level of the RONA indicator was 1.99%, whereas the WACC value ranged around 2.80%. Even in this case, the desired relation $RONA > WACC$ was not respected, which is a sign of non-performing enterprises. The RONA indicator exceeded the Weighted Average Cost of Capital only in 2015 and 2017; thereby the Slovak health spa sector could be identified as well-performing.

The CWM's financial performance dimension reached 46 points on average, the dimension of success evaluation was a bit higher (47 points on average). In most of the analysed years, the Slovak health spa sector was located in the performance field of "Substandard". A point rating of at least one CWM dimension above the required average level (40 points) was recorded in each year of the analysed period, with only exception in 2016 when the success evaluation ranged only around 35 points. The highest weight of the selected inputs forming a precondition of SLPM application was confirmed for the case of material efficiency indicator ($u_3 = 2.03604$) and wage efficiency indicator ($u_2 = 1.35644$).

In this regard, we can consider these two indicators as the most important determinants of efficiency, as well as the performance of the Slovak spa companies. No significant weight was identified for the other selected input and output items. Over the years 2013 – 2017, the overall average efficiency of the Slovak health spa sector reached the level of 0.9254. Despite this deviation from the required maximum efficiency at the level of 1.0000, the transformation efficiency of inputs to outputs within the analysed sector can be considered to be relatively high.

Based on a more detailed analysis of the average financial performance of individual enterprises within the application of all models during the analysed years 2013 to 2017, the best-performing spas were Bojnice, Bardejov, Dudince, Nimnica and the Specialized Medical Institute Marina. On the other side, the worst-performing spas were considered Brusno, Číž, Sliach, Horezza and Trenčianske Teplice.

Despite the fact that other input data and indicators influencing the differences in results are entering into the selected modern methods of business performance evaluation, year 2015 was identically identified as the best-performing one, vice-versa, the worst financial performance of enterprises was recorded in 2016 within the application of all methods. At the significance level of $p < 0.05$, a statistically significant correlation between all pairs of the analysed methods was re-

vealed. However, the strongest positive dependency with the EVA indicator was confirmed in the case of SMLP ($r = 0.536842$). This result was also confirmed by the identical assessment of the performance and efficiency development in individual years of the monitored period.

The idea of comparing enterprise performance and efficiency was also surveyed by J. Horvathova and M. Mokrisova (2017). The authors examined whether the EVA indicator is an adequate alternative of measuring the enterprise performance by a matrix set of indicators in the form of a linear programming model using the Simplex method. The results of their study also revealed the statistically significant relationship between these pairs of methods, which was also confirmed by the results of our analyses.

The findings of this study suggest that Slovak spa enterprises should continually evaluate their performance and efficiency by applying more modern methods, as each of them has its specific, informative value. In our opinion, companies should apply at least one of the above mentioned methods, since they are able to assess their performance and efficiency relatively the same. The application of other modern assessment methods and their appropriate combination in connection to Enterprise Performance Model (EPM) creation will be the subject of our further scientific research studies.

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