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THE INFLUENCE OF THE HUMAN FACTOR ON COMPETITIVENESS OF ENTERPRISES IN THE METAL PROCESSING INDUSTRY IN CROATIA

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Original scientific paper
The human factor is one of the fundamental and most important elements in the process of achieving competitive position of enterprise. For this reason, it is necessary to develop a strategy that will contribute to the prosperity and constant development of human resources in the company. One of the most significant and geographically most widespread industries in the Republic of Croatia is the metal processing industry. This industry does not currently have successful financial indicators and is heavily indebted. The aim of this paper is to show the impact of employees on the success of the enterprise. Therefore, the influence of the human factor on the competitiveness of enterprises in this industry is shown in the paper.

***Keywords**: competitiveness; metal processing; net profit; strategy*

Utjecaj ljudskog faktora na konkurentnost poduzeća u metaloprerađivačkoj industriji u RH

Izvorni znanstveni članak
Ljudski faktor je jedan od temeljnih i najvažnijih elemenata u procesu postizanja konkurentske pozicije poduzeća. Upravo stoga, potrebno je razvijati strategiju koja će pridonijeti prosperitetu i stalnom razvoju ljudskog kadra u poduzeću. Jedna od najznačajnijih i geografski najrasprostranjenijih industrijskih grana na području Republike Hrvatske je metaloprerađivačka industrija. Ova industrija trenutno nema uspješne financijske pokazatelje i prezadužena je. Upravo se ovim radom želi prikazati utjecaj zaposlenika na uspješnost poduzeća. Odnosno, prikazuje se utjecaj ljudskog faktora na konkurentnost poduzeća u ovoj industriji.

***Ključne riječi:** konkurentnost; metaloprerađivačka industrija; neto dobit; strategija*

1 Introduction

Metal processing industry exerts one of the strongest influences on the manufacturing industry, but also on the economy in the Republic of Croatia. In a global post-industrial economy the role of company strategy is becoming increasingly important. This is particularly significant for a small transition country such as Croatia. Strategy is used for improving performance and management, and as a tool for achieving competitive advantage. The aim of this paper is to present the current state of the metal processing industry in the Republic of Croatia - based on research. The research is conducted on enterprises in the metal processing industry and presents the connection of revenue per employee and the financial indicators of the company. It shows the impact of human activity, respectively how the revenue per employee has an impact on earnings per employee.

"Power of the national economy is reflected in the strength of its industry. Countries with strong, developed and industrial production have good macroeconomic indicators and high standard of living." [1]

"Competitiveness is the foundation that determines the success or failure of the company. It determines the suitability of the company's activities that contribute to its performance, such as innovation, cohesive organizational culture or good implementation. Competitive strategy is the search for a favorable competitive position within the industry, the basic environment in which competition occurs. Competitive strategy is focused on establishing a profitable and sustainable position despite the forces that determine industry competition." [2]

The interest of every country is to compete and that the industry is export-oriented. The state should strengthen and develop the economic part of its diplomatic missions, at least in the country's largest trading partners. To be competitive in the demanding EU and other markets is the task, for companies, as well as for all state institutions.

2 Analysis of the metal processing industry in Croatia

"The metal-processing industry is one of the most important industries in the Republic of Croatia, which holds a key position in the structure of the economy, while at the same time it represents one of the leading export activities. Businesses are focused on: exports, introduction of new technologies, training skilled personnel, certification of the system of quality, environmentally friendly production, and connection with domestic and foreign manufacturers. The production program of the metal processing industry in Croatia is very diverse and could meet all the needs of potential customers and partners. Entrepreneurs in the sector continue to strengthen, and this is reflected in an increase of their production capacity, new products and higher exports. "[3]

The analysis of the metal processing industry is based on three sectors - according to NKD 2007 (NKD-National Classification of Activities), these sectors are: C24, C25 and C28:

- C24 - Manufacture of basic metals
- C25 - Manufacture of fabricated metal products, except machinery and equipment
- C28 - Manufacture of machinery and equipment

"Activity C24 includes melting and / or refining ferrous and unwanted metals from ore or scrap, using electrometallurgical or other metallurgical techniques. Activity C25 includes the manufacture of "pure" metal products (such as parts, containers and structures). Activity C28 includes the manufacture of machinery and

equipment that act independently on materials either mechanically or thermally, or perform operations on materials, including their mechanical components, that produce and apply force, and any specially manufactured primary parts. "[4] Table 1 shows the basic indicators of the metal processing industry in Croatia.

Table 1 Analysis of the metal processing industry in the Republic of Croatia [4]

	Number of enterprises	Number of employees	Net salary (HRK)	Total revenue (HRK)	The difference profit or loss after tax (HRK)	Gross value added (HRK)	ROA (%)	ROE (%)	Current ratio	The gearing ratio	The ratio of exports and imports
C24	122	4787	55 596	4 701 749 768	363 905 209	1 193 334 794	8,31	69,52	0,527	0,829	1,322
C25	1861	26 950	56 026	11 896 808 737	593 764 836	4 110 882 605	4,46	13,83	1,169	0,644	2,237
C28	589	10 699	60 909	5 761 966 575	167 058 729	1 743 157 518	2,76	11,73	1,083	0,715	2,641

Table 1 shows that the largest number of registered enterprises and the largest number of employees is in sector C25. The largest deviation is at the ROE - 69, 52 % (return of equity) for sector C24, while a healthy enterprise should have about 15 %. Also the gearing ratio of all sectors is too high and should amount to 0,5 % and less. This industry has a high level of imports and exports. The reason for the high rate of imports is that the domestic market almost does not have manufacturers of raw materials for the metal processing industry. The reason is that the larger enterprises in the transition process are mostly destroyed. Therefore, enterprises are forced to import components.

3 Structure of human resources in the metal processing industry

The metal processing industry is of great importance to the processing industry in the Republic of Croatia. Metal industry makes more than 1/5 of all registered enterprises in the industrial production, as can be seen in table 2 below.

Table 2 The number of companies in the metal processing industry and the entire manufacturing industry of the Republic of Croatia in the period from 2008÷2012 (made by author according to data taken from the Croatian Chamber of Economy- County Chamber Slavonski Brod [5])

	2012	2011	2010	2009	2008
C	10 621	10 771	10 640	9851	9736
C24	105	109	106	105	107
C25	1726	1752	1746	1612	1540
C28	558	562	579	538	570
Σ (C24,C25,C28)	2389	2423	2431	2255	2217
% Σ u C	22,49 %	22,49 %	22,84 %	22,89 %	22,77 %

Tab. 2 shows that in the given time period (2008.-2012.), the total number of enterprises in the metal processing industry Σ (C24, C25, C28) has increased, but the share of the metal processing industry in total manufacturing (% sums in C) has remained the same. As the sector of the metal processing industry is growing, proportionally the total manufacturing industry is growing. It can be concluded that the number of enterprises in the metal processing industry has a significant impact on the manufacturing industry, because the share of enterprises in the metal processing industry within the manufacturing industry is over 22 %. So, the metal industry makes one fifth of the enterprises in the manufacturing industry, which is a very significant share. The number of enterprises in the metal processing industry has a significant impact on the processing industry in the Republic of Croatia. According to a large number of registered enterprises, this industry has a significant share of net salaries, as is shown below in Tab. 3.

Table 3 Wages and salaries in the metal processing industry and the overall manufacturing industry of the Republic of Croatia in the period from 2008÷2012 (made by author according to data from Croatian Chamber of Economy [5])

	2012	2011	2010	2009	2008
C	12 284 875 500	12 405 403 437	12 453 570 065	12 636 027 764	13 165 461 946
C24	258 796 458	280 565 993	295 053 753	302 570 024	345 379 281
C25	1 440 428 849	1 315 210 472	1 258 761 454	1 218 444 436	1 158 556 841
C28	637 527 893	608 203 058	582 850 256	593 036 780	639 923 897
Σ(C24, C25, C28)	2 336 753 200	2 203 979 523	2 136 665 463	2 114 051 240	2 143 860 019
% Σ u C	19,02 %	17,76 %	17,15 %	16,73 %	16,28 %

Tab. 3 shows that in the given time period, the amount of net salaries in the manufacturing industry has reduced in comparison with the year 2008. In the metal industry the trend is reversed, and the amount of net salaries slowly grows towards 2012. That is, the percentage share of salaries and wages in the metal processing industry is constantly increasing each year in the total processing industry, with an average of 0.5% annually. From this it can be concluded that the net salaries from the metal processing industry have a significant impact on the processing industry of Croatia.

Although the share of enterprises, net salary and the number of employees in the metal processing industry is very important in relation to the entire industry, the industry does not achieve a proportionately high level of profit. The reason for this to happen is inefficiency because of low technological equipment and unfavorable educational structure (very small number of highly

educated who have skills, competence and ability for creating new values, which is based on the knowledge and application of new technologies). The profit of the metal processing industry is shown in Tab. 4.

Table 4 Profit for the period in the engineering industry and the entire manufacturing industry of the Republic of Croatia in the period from 2008÷2012 (made by author according to data taken from the Croatian Chamber of Economy [5])

	2012	2011	2010	2009	2008
C	14 545 470 150	12 739 659 068	7 554 203 853	5 924 398 179	6 761 361 822
C24	622 894 257	37 684 638	20 723 828	15 944 205	29 892 550
C25	1 014 663 746	706 264 174	566 168 600	580 712 862	625 999 076
C28	351 116 915	361 118 254	228 869 307	218 517 756	271 925 496
Σ(C24, C25, C28)	1 988 674 918	1 105 067 066	815 761 735	815 174 823	927 817 122
% Σ u C	13,67 %	8,67 %	10,79 %	13,75 %	13,72 %

Tab. 4 shows that in the observed period, the earnings of the manufacturing industry have grown in comparison with the earnings in the year 2008, and at the growing rate of 17 % in the time period between 2010÷2011. The metal processing industry also recorded an upward trend towards 2012 but at a much lower rate than the industry average. The profit of the metal processing industry in the total manufacturing industry year in year out does not record growth. From the year 2008 to 2009 there was stagnation, from 2009 there was a steady decline in the share, but in 2012 the share is growing. Therefore, it can be concluded that the profits of the metal processing industry do not have a significant impact on the manufacturing industry of the Republic of Croatia in the same proportion as the number of firms and net wages and salaries. Due to this situation, enterprises in the metal processing industry should take strategic actions to maximize their profits, and thus get a larger share of the profit in the total manufacturing industry.

4 Research-analysis sample

The study was conducted on 508 enterprises in the metal processing industry, of which 502 (98,8 %) are private, and 6 (1,2 %) are state-owned. Indicators and data about the enterprises are downloaded from the portal Business Croatia [6]. Central year of establishing of the enterprises is 1997 (interquartile range from 1992 to 2007, which means that 50% of surveyed enterprises were established in this interval), the oldest company was founded in 1921 and the youngest in 2014. The number of board members ranges from 1 to 6 members, the mean 1 (interquartile range 1÷2), while the average number of employees is 7 (interquartile range 1÷33), including enterprises that do not have employees, to companies with 1698 employees. Average net wage is 3780 HRK (interquartile range 2070 to 5065 HRK). Most of them - 492 (96,9 %) is privately owned. Mostly private property has got 7 (1,4 %) enterprises (more than 50 % of private capital). Two companies (0,4 %) are in state ownership which has not started conversion (0,4 %), and two in the state ownership are in the process of conversion. The cooperative ownership has only 2 (0,4 %) companies.

By activity, 35 (6,9 %) enterprises are in the production of metals business, 370 (72,8 %) in the production of fabricated metal products (except machinery and equipment) business, and 100 (19,7 %) are in the manufacturing of machinery and equipment business. Three companies are in the activity of sale and repair of motor vehicles and motorcycles, as well as activities in the field of trade.

According to company size there are: 400 small (78,3 %), 93 medium (18,3 %), and 15 large (3 %) companies. The source of capital in 447 (88 %) of the companies is 100 % domestic, only one company has 100 % private capital, 100 % foreign capital is in 47 (9,3 %) companies, while other companies have a certain percentage of foreign capital. For three (0,6 %) companies there is no information for the source of capital.

5 The impact of revenue per employee on the net profit per employee in the metal industry

There is a hypothesis for this research: Companies with higher revenue per employee in the metal industry have a larger net profit per employee. Spearman's correlation coefficient, which represents a non-parametric equivalent to Pearson's correlation coefficient (the product of rank correlation), will be used for the evaluation of integration, in order to measure the association between variables (total revenue and revenue per employee with the observed parameters: company size, year of establishment, number of members in the management board, total revenues and expenses, EBITDA, EBIT, EBT, income taxes, net income, added value, productivity, money, exports and imports, assets / liabilities, fixed and current assets and equity, current ratio, Altman Z score, turnover days and obligations in the days, operating margin, cash cycle days, ROE, ROA, revenue per employee and net profit per employee).

It is based on how to measure the consistency of the association between variables lined up, and the form of connection (e.g. a linear shape which is a prerequisite for using Pearson coefficient) is not important.

A case in which Spearman coefficient is used is for example, when there is a linear relationship between the variables, but it is not possible to apply the appropriate transformation that would translate into a linear connection. Spearman's correlation coefficient as a result gives the approximate value of the correlation coefficient, which is treated as its good enough approximation.

Calculation of the coefficient is made in a way to use the value assigned to ranges. Spearman coefficient indicated by the Rho (ρ). The basis of Spearman rank correlation coefficient couples modalities ranking variables or numerical variables transformed into ranking variables. Modalities of each rank-variable are from the set of the first n natural numbers. If in each pair ranks are equal, their differences are equal to zero, and the coefficient takes the value 1, in this case it is the case of completely positive correlation rank. When the order of the modalities of one rank-variable is reversed, the order

of the other variables in pairs, the coefficient will take the value of −1, and the score integration complete and negative direction. If the significance level is 0,05, the decision is made by comparing the test size (rank correlation coefficient of the sample) which has critical value sampling-distribution of rank correlation coefficient for the probability or significance level and sample size. An alternative hypothesis contains the opposite assertion that there are tendencies that have great value of one variable paired with high values of other variables (positive correlation) or that large values of one variable associated with small values of other variables (negative correlation). For the value of the correlation, if the coefficient is greater than 0,5 and less than 0,5 it is said to be good, or if the value is closer to 1 or −1 connection is excellent.

For the purposes of the test two assumptions will be set:

H1.1: There is no correlation between total revenue and revenue per employee and observed parameters,

H1.2: there is a correlation between the total revenue, or revenue per employee and the observed parameters.

In this test the level of significance is set at $\alpha = 0{,}05$. So, if the level of significance of the test is less than 5 % (significance level of 5 % is equal to 95 %) assumption H1.1 will be rejected and the alternative hypothesis H1.2 will be accepted. There will be a significant relationship of total expenditure or the average net salary and the observed parameters. If significance is greater than 5 %, H1.2 will be rejected and H1.1 will be accepted. Otherwise, statistically significant correlation between the total expenditure and the average net salary and the observed parameters will not be proven.

After the correlation analysis, univariate and multivariate regression analyses are carried out with which it is able to see how many of the predictors have impact on total revenue, or revenue per employee, and the impact model (all significant predictors of univariate analysis) on total revenue and revenue per employee (the dependent variable).

Correlation adjacency matrix of total revenues with the observed parameters shows that all parameters are statistically significantly correlated with the observed parameters. The highest level of correlation shows the next predictors: total expenditures (ρ = 0,990), added value (ρ = 0,958), current assets (ρ = 0,899), total assets / liabilities (ρ = 0,877) and accounts receivable (ρ = 0,858). The weakest positive correlation is with the rate of return on equity (ROE) (ρ = 0,162). A negative correlation and the total income are inversely proportional to company size, year of establishment, days binding assets and liabilities.

Table 5 Spearman's correlation coefficient of total revenue and revenue per employee and observed parameters (made by author)

	Spearman correlation coefficient (Rho) (ρ)			
	Total revenue		Revenue per employee	
	Rho (ρ)	p	Rho (ρ)	p
Credit rating	−0,464	<0,001	−0,374	<0,001
Established	−0,290	<0,001	−0,225	<0,001
The number of members of the Management Board	0,311	<0,001	0,183	<0,001
Total expenditures	0,990	<0,001	0,647	<0,001
The average net salary	0,721	<0,001	0,527	<0,001
EBITDA	0,737	<0,001	0,576	<0,001
EBIT	0,641	<0,001	0,514	<0,001
EBT	0,644	<0,001	0,510	<0,001
Profit tax	0,510	<0,001	0,372	<0,001
Net profit	0,636	<0,001	0,502	<0,001
added value	0,958	<0,001	0,514	<0,001
Productivity	0,628	<0,001	0,672	<0,001
Net working capital	0,487	<0,001	0,375	<0,001
Money	0,713	<0,001	0,471	<0,001
Trade receivables	0,858	<0,001	0,559	<0,001
Commitments towards suppliers	0,820	<0,001	0,568	<0,001
Export	0,775	<0,001	0,464	<0,001
Import	0,678	<0,001	0,488	<0,001
Total assets / liabilities	0,877	<0,001	0,592	<0,001
Fixed assets	0,789	<0,001	0,528	<0,001
Current assets	0,899	<0,001	0,608	<0,001
Capital and reserves	0,797	<0,001	0,535	<0,001
Current ratio	0,244	<0,001	0,185	<0,001
Altman Z score	0,257	<0,001	0,124	0,011
Turnover days (days)	−0,210	<0,001	−0,133	<0,001
Days binding commitments (days)	−0,112	0,014	−0,113	0,022
Operating margin	0,237	<0,001	0,288	<0,001
ROE	0,162	0,001	0,046	0,345
ROA	0,339	<0,001	0,274	<0,001
Revenue per employee (HRK)	0,662	<0,001	1	<0,001
Net profit per employee (HRK)	0,353	<0,001	0,503	<0,001

Correlation adjacency matrix revenue per employee with the observed parameters shows that all parameters are statistically significantly correlated with the observed parameters, except the rate of return on equity (ROE) (ρ = 0,046, p = 0,345). The highest level of correlation shows variables: total expenditure (ρ = 0,647), productivity (ρ = 0, 0672), and the value of current assets (ρ = 0,608). The lowest positive correlation has connections with the Altman Z Score (ρ = 0,124). Negative correlation of revenues per employee is with the company size, year of establishment, days binding claims and binding obligations (Tab. 5).

Spearman's correlation coefficient (Tab. 5) gives the rating association of total revenue, or revenue per employee with the observed parameters. It exhibits good correlation (greater than 0,500), the average net salary or total expenditures with most parameters. As the correlation coefficient (Rho) $\rho > 0,5$ and the significance of less than 0,05, assumption H1.2 is accepted - by increase of total revenue and net income increases too (ρ = 0,644, $p < 0,001$).

From the above it is clear that the hypothesis is confirmed.

To avoid erroneous signs of regression coefficients, the statistical insignificance of some independent variables that are actually significant in relation to the dependent variable (total revenues and revenues per employee), and vice versa, the independent variables strongly correlated with each other are excluded from further analysis.

In the univariate analysis variables such as the following remain: company size, number of members of the administration, tax, productivity, money, trade, import, current ratio, Altman Z Score, revenue per employee and net profit per employee. On the total income an individual significant impact has: credit rating, the number of board members, tax, productivity, money, trade, and import and revenue per employee. The following parameters affect the revenue per employee: productivity, money, trade, import and net profit per employee (Tab. 6 and Tab. 7).

Table 6 The individual effect parameters to change the total revenue - univariate regression analysis (made by author)

Parameter	Standardized coefficient β	t	p
Credit rating	−0,164	−3,555	<0,001
The number of members of the Management Board	0,329	7,412	<0,001
Profit tax	0,264	6,156	<0,001
Productivity	0,146	3,044	<0,002
Money	0,594	16,605	<0,001
Trade receivables	0,746	25,184	<0,001
Import	0,799	29,94	<0,001
Current ratio	−0,032	−0,713	0,476
Altman Z score	0,016	0,348	0,728
Revenue per employee (HRK)	0,208	4,334	<0,001
Net profit per employee (HRK)	0,024	0,488	0,626

As a model that has the greatest effect on total expenditures predictors that are significant are observed (company size, number of board members, tax, productivity, money, trade, and import and revenues per employee).

Table 7 Individual parameters' impact on the change in revenue per employee - univariate regression analysis (made by author)

Parameter	Standardized coefficient β	t	p
Credit rating	−0,085	−1,699	0,090
The number of members of the Management Board	0,079	1,527	0,128
Profit tax	0,062	1,273	0,204
Productivity	0,655	17,564	<0,001
Money	0,117	2,387	0,017
Trade receivables	0,204	4,249	<0,001
Import	0,194	4,021	<0,001
Current ratio	−0,018	−0,368	0,713
Altman Z score	0,032	0,653	0,514
Net profit per employee (HRK)	−0,446	−10,14	<0,001

Finally, a model with four independent predictors is obtained, which is completely statistically significant, $p <$ 0,001 and completely explains 79,1 % of the variance in revenue and 78,8 % with correction. Five independent predictors give the unique statistically significant contribution model (number of members of the administration, tax, money, trade and imports). The strongest predictor of imports (β = 0,473) (Tab. 8).

Table 8 Final model of the impact of the change in total revenue - multivariate regression analysis (made by author)

Parameter	Standardized coefficientβ	t	p
The number of members of the Management Board	0,096	3,707	<0,001
Profit tax	0,073	2,820	0,005
Money	0,174	5,883	<0,001
Trade receivables	0,353	11,395	<0,001
Import	0,473	14,751	<0,001
Constant		−1,793	0,074

R = 0,889; R^2 = 0,791; Corrected R^2 = 0,788; $p < 0,001$

Table 9 Final model of the impact on revenue per employee - multivariate regression analysis (made by author)

Parameter	Standardized coefficient β	t	p
Productivity	0,600	13,85	<0,001
Money	−0,125	−2,95	0,003
Import	0,217	5,36	<0,001
Net profit per employee (HRK)	−0,141	−3,36	0,001
Constant		0,347	0,518

R = 0,695; R^2 = 0,484; Corrected R^2 = 0,478; $p < 0,001$

In the model that has the greatest effect on the revenue per employee, predictors that are significant were observed (productivity, money, trade, import and net profit per employee). Ultimately, a model has been created with five independent predictors which are completely statistically significant, $p < 0,001$ and explain 48,4 % of the variance of revenue per employee, and with correction – 47,8 %. Four independent predictors give a single statistically significant contribution model (productivity, money, import and net profit per employee). The strongest predictor affecting predictor for

the revenue per employee is productivity (β = 0,600) (Tab. 9).

Univariate analysis tested the effect of some independent predictors that would affect the change of total income and the income per employee: company size, number of board members, tax, productivity, money, trade, import, current ratio, Altman *Z* Score, revenue per employee and net profit per employee.

Credit rating, the number of board members, tax, productivity, money, trade, and import and revenue per employee are all factors which have an individual significant impact on the total income. From predictor variables that independently significantly affect the dependent variable – change of the total revenue - a model has been created in which only the predictor variables current ratio, Altman *Z* Score and net profit per employee (HRK) have no significant impact. The strongest predictor that affects the change in total revenue is import (β = 0,473). Standardized coefficient β shows the number of standard deviations (deviation) with which the values of the dependent variable (change in total revenues) would be changed if the predictor (import) changed by one unit of standard deviation.

Parameters which affect the revenue per employee are: productivity, money, trade, import and net profit per employee. Significant predictor variables that independently significantly affect the dependent variable revenue per employee have established a model, in which the predictor variables: company size, number of board members, income taxes, current ratio and the Altman Z score have no significant impact. Productivity, money, trade, import and net profit per employee affect the revenue per employee. The strongest predictor affecting the revenue per employee is productivity (β = 0,600). The standardized coefficient β shows the number of standard deviations (deviation) for which the values of the dependent variable (revenue per employee) would change if the predictor (productivity) was changed by one unit of standard deviation.

According to the results of research and hypothesis research, it can be concluded that for most companies competitive advantage is unique and changes over a long period. Successful companies are constantly looking for new competitive advantages and spend a lot of time doing market research. Such companies monitor their competitors' activities. Successful businesses are built on solid foundations which consist of quality, professional people, good service, tradition and authenticity.

It is necessary to create a working culture that will constantly maintain a competitive advantage, and constantly monitor the competition. Good companies are aware of the competition, and it is a good way of reaching competitive advantage.

6 Conclusion

"In addition to the human frame it is necessary to implement new and specialized technologies, as a water jet, CNC machine, and robotics, and so on." [7] The human factor together with new technologies can produce competitive advantage for enterprises in the metal processing industry.

The research has been carried out on a sample of 508 companies, so the hypothesis: companies with higher revenues per employee in the metal processing industry have a greater net profit per employee- is accepted. All set parameters (on selected sample) show a statistically significant association with total revenues of the company and the net profit per employee, except the indicator ROE. The predictor with the strongest impact (on the selected sample) on the change of the total revenue is import, and productivity has the greatest impact on the revenue per employee. As a final consideration of the study and according to the analysis of the proposed hypotheses, it can be concluded that the metal processing industry has a very great importance, not only for the domestic industry, but for the economy in general. However, this industry does not achieve good results and it is necessary to apply strategic models and methods to achieve the competitive position of regional leadership based on successful human factor.

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