

The impact of intellectual capital on ROA as a significant indicator of financial performance

Uticaj intelektualnog kapitala na ROA kao značajnog pokazatelja finansijskog učinka

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Abstract

In the modern business, organizations that recognize the value of intellectual resources and incorporate them into their business strategy have a greater chance of long-term success. Through continuous learning, employee development and establishing strong relationships, organizations can improve their competitive position in the market. In this regard, the aim of the paper is to examine the impact of intellectual capital, i.e., its components of human, structural and relational capital, on ROA as a significant indicator of financial performance. For the preparation of the paper, secondary data were used, which were processed with the help of the VAIC method, and then the obtained results were further analyzed using the IBM SPSS program. HCE was found to affect ROA, while SCE and CEE did not. The results of this research contribute to companies to adequately create a business strategy that contains an incorporated ratio of intellectual capital components, with an emphasis on human capital, which is the basis for the success and progress of organizations in the knowledge economy.

Keywords: intellectual capital, HCE, SCE, CEE, VAIC method, organizational efficiency

Sažetak

U savremenom poslovanju veće šanse za dugoročni uspeh imaju organizacije koje prepoznaju vrednost intelektualnih resursa i ugrađuju ih u svoju poslovnu strategiju. Kroz kontinuirano učenje, razvoj zaposlenih i uspostavljanje čvrstih odnosa, organizacije mogu poboljšati svoju konkurentsku poziciju na tržištu. S tim u vezi, cilj rada je da se ispita uticaj intelektualnog kapitala, odnosno njegovih komponenti ljudskog, strukturnog i relacionog kapitala, na ROA kao značajnog indikatora finansijskog učinka. Za izradu rada korišćeni su sekundarni podaci koji su obrađeni uz pomoć VAIC metode, a zatim su dobijeni rezultati dalje analizirani korišćenjem IBM SPSS programa. Utvrđeno je da HCE utiče na ROA, dok SCE i CEE ne. Rezultati ovog istraživanja doprinose kompanijama da na adekvatan način kreiraju poslovnu strategiju koja sadrži inkorporiran odnos komponenata intelektualnog kapitala, sa akcentom na ljudski kapital, koji je osnova za uspeh i napredak organizacija u ekonomiji znanja.

Ključne reči: Intelektualni kapital, HCE, SCE, CEE, VAIC metoda, organizaciona efikasnost


1. Introduction

The importance of intellectual capital is increasingly emphasized, while physical and financial resources are no longer of decisive importance for generating business success. Namely, there has been a change in the modern way of doing business, i.e., the transition to the "knowledge economy". Organizations are now increasingly investing in intangible assets, i.e., so-called intellectual capital, primarily due to the fact that these are

resources that are not easily available and competitors cannot easily identify them. Intellectual capital represents strategic capital, which can be a source of competitive advantage (Khalique et al., 2018). There are different approaches in identifying the components of intellectual capital, whereby intellectual capital is most often viewed through three components, namely human, structural (organizational) and relational capital (Crupi et al., 2020). Incorporating components of intellectual capital creates a synergistic effect that contributes to increasing profits,

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market value and competitiveness (Krstić and Bonić, 2016). Intellectual capital is often the subject of analysis in the domain of competitive advantage, but also of its impact on achieved performance, because intellectual capital is often linked to the success of organizations (Abdullah & Sofian, 2012). There is no single and universal approach to measuring intellectual capital. The modern approach to performance measurement includes the use of financial and non-financial performance measures, whereby this approach enables the successful implementation of strategic decisions (Franco - Santos et al., 2012). One of the models used to measure intellectual capital is the VAIC method, which was applied in the paper.

Based on the analysis of numerous researches, a gap was observed in terms of a greater concentration of literature that observes the impact of intellectual capital in the financial sector, and much less in the processing sector, trade, as well as in the service sector. In this regard, the research contributes to eliminating the gap by observing the impact of intellectual capital on organizational performance through a heterogeneous sample structure that includes organizations in the mentioned sectors. When researching employment in the national economy of the Republic of Serbia, it was noticed that within the processing industry, the largest percentage of employment goes to the food industry, i.e. the food and beverage industry, where the share of employment is significant at the national level, but it was noted that the food industry also employs the largest number of people in the European Union (Božić & Nikolić, 2023), which is why it is important to pay more attention and shift the focus to processing industries. The importance of research is also reflected in the fact that investing in intellectual capital, especially the introduction of human resource management practices, is no longer a matter of choice, but a necessity for the survival, growth and development of organizations in a very dynamic and turbulent environment, where investing in human resources represents a sure path to success.

The aim of the paper is to examine the impact of intellectual capital, i.e., its components: human, structural and relational capital, on ROA as a significant indicator of financial performance. This impact is measured using the VAIC method, which aims to examine the impact of intellectual capital components on financial performance through ROA. For the preparation of the paper, secondary data were used, which were processed with the help of the VAIC method, and then the obtained results were further analyzed using the IBM SPSS program, where the following analyzes were applied: descriptive statistical analysis, correlation analysis and multiple regression analysis.

2. Literature review

2.1. Conceptual foundations of intellectual capital

Competitive advantage in modern business conditions, can only be achieved with rarely available resources that are difficult to replace, that is, for which it is difficult to

find a substitute (Chigara, 2021). Of course, it is clear that today it cannot be physical, that is, material and financial resources, since they can be obtained relatively easily. In the knowledge-based era, the key success factor is precisely knowledge, as a result of which human capital is often identified as the most important component of intellectual capital (Crupi et al., 2020). In the global economy, organizations can achieve economic prosperity only through knowledge-based competitiveness (Krstić and Bonić, 2016). The initial approaches to the identification and calculation of intellectual capital were based on the identification of the absolute positive difference that exists between the book value and the market value of the company, whereby mentioned positive difference is often identified as the added value that the company generates, after covering all the investments made, and this value is often much higher than book value, which is the result of intangible assets that customers and stakeholders recognize as relevant, and which are difficult to describe (Xu & Li, 2020). Intellectual capital is not a one-dimensional concept, since it develops at the individual, organizational and inter-organizational level, and precisely because of this, different approaches can be identified in the identification of the components of intellectual capital, namely human, structural and relational capital (Crupi et al., 2020). Human capital includes the knowledge, skills, abilities and experiences of employees (Preković et al., 2020), but also other organizational phenomena, such as employee motivation, creativity, willingness to work in a team, continuously learn and share knowledge (Bontis, 2001). Human capital represents the most important intangible asset and includes the knowledge, abilities and skills of employees, as well as activities that lead to the accumulation of the above, which further leads to the improvement of the organization's performance (Kalkan, et al., 2014). Globalization and the shift towards a knowledge economy has made organizational success dependent on attracting, retaining and investing in human capital, which increases the need for talent (Glaister et al., 2017). Structural capital includes infrastructure within an organization that affects its efficiency, effectiveness, including strategies, databases, organizational charts, operational procedures, outcomes, etc (Darius, 2022). Unlike human capital (which is related to individuals) and relational capital (which is related to external relationships), structural capital is embedded in the organization itself (Quintero-Quintero et al., 2021). Relational capital refers to the connection between a company and its stakeholders, where the ability to create and nurture lasting relationships leads to relational capital (Darius, 2022). By encouraging open communication, cooperation and mutual understanding, an organization can create a support system that benefits all parties involved, creating numerous benefits. Strong relational capital provides access to resources, knowledge, and capabilities that may not be readily available within the organization's boundaries, and suppliers and business partners are more likely to offer favorable terms and preferential treatment to organizations they trust and have strong relationships with (Bontis, 1998). Through an adequately created business network of relations with consumers and other external stakeholders, a number of

benefits can be realized, such as gaining new customers and developing relationships, then gaining information and acquiring new knowledge, as well as mutual exchange of knowledge and information that enables them to be innovative and more (Halim, 2010).

When measuring human capital, different approaches have been developed. In addition to the survey approach, which includes findings for measuring the components of intellectual capital through the expression of attitudes by employees, an approach based on the use of data from financial reports is also often used. This is the so-called VAIC method, defined by the Croatian professor Ante Pulić (Pulić, 2000).

2.2. The concept of organizational performance

The application of certain methods, techniques and instruments is a performance measurement system, which as such fulfills several important functions in the organization, such as looking at the relationship between previously achieved results and the effectiveness of previously adopted business strategies, evaluating the relationship between invested inputs and obtained results, creating a basis for adopting future business strategies decision and implementation of corrective measures in order to improve business results (Yildiz & Karakas, 2012; Kojić, 2010, p. 98). By systematically collecting and analyzing relevant data, a performance measurement system offers a comprehensive view of an organization's strengths and areas for improvement. This enables decision-making based on knowledge and information. In fact, the performance measurement system helps human resource managers when making important decisions about education, rewarding and career development of employees. Organizational performance shows how well the organization achieves its goals (Obeidat et al., 2017). Measuring business performance represents the process of quantifying it and connects it with discipline, control and responsibility (Krstić, 2022).

Despite certain shortcomings, financial performance has a greater application in business operations. It is a business result expressed in financial terms, which can include cash inflows and outflows, income and expenses, different categories of expenses, financial ratio and other financial indicators, i.e., it is a traditional (accounting) performance measurement system (Kojić, 2010). Financial performance provides information about the success of the business on the basis of historical performance or on the basis of projected performance, whereby a certain group of financial benchmarks gives insight into the generated net cash flows, i.e., cash flow performance (Krstić, 2022, 80). Traditional accounting standards are financially based, internally focused and historical in nature, and are often used in the business and financial analysis of companies and are very important for making strategic decisions (Domanović, 2019). Profitability measures (net profit rate, business profit rate, ROI, ROA, ROE, EBITA, EBITDA, etc.), liquidity measures (general, cash and reduced liquidity ratios), financial leverage measures (debt-equity ratio, debt ratio, equity coverage ratio by capital) and market measures (Earnings per share, MVA,

EVA, P/E ratio) are only some of the most commonly used traditional performance measures (Mahesh & Prasad, 2012, 363). When measuring performance, the financial aspect is the most important, with ROA (return on assets) and ROE (return on equity) standing out as the most commonly used indicators (Obeidat et al., 2017, Ivanović et al., 2022, Radivojević et al., 2022a, 2022b, 2022c). Similarly, when measuring performance from a financial aspect, accounting data can be observed that provide information on productivity, economy, profitability (indicators such as ROI - return on investment, ROE - return on capital, ROS - return on sales, etc.), but also, can observe additional market data, where indicators such as net profit per share, ratio of market price per share and net profit per share, dividend payout ratio and dividend rate appear (Domanović, 2010, 55-64).

The use of a traditional performance measurement system is no longer sufficient, as it does not provide all the necessary information that is necessary for the success of organizations. This has led to a focus on modern performance measurement methods that can strengthen competitive advantage by providing both quantitative and qualitative information (Ahmad & Zabri, 2016). In addition to financial, intangible aspects of business are often of crucial importance for achieving business success and competitive advantage. These measures can also be quantified, but they are not primarily contained in the financial result. Organizations have seen the importance and need to simultaneously measure non-financial performance in addition to financial performance. This led to the development of modern performance measures, which combine both groups of measures, i.e., financial and non-financial measures. Changes in the value creation process have led to changes in the way performance is evaluated, with the Balanced Scorecard (BSC) model standing out as the most prominent innovation, which indicates that investment capital is not a decisive factor for success, and that in addition to it, other intangible values must be taken into account, such as organizational knowledge, relations with customers, etc. (Domanović, 2019).

2.3. The impact of intellectual capital on ROA as a significant indicator of financial performance

When examining the factors affecting organizational performance, one of the frequently examined variables refers to intellectual capital, as well as its constituent components. Numerous studies within domestic and foreign academic institutions identify a statistically significant and positive impact of intellectual capital on financial performance, which is often identified as an indicator of overall organizational performance.

Soeawarno & Tjahjadi (2020) conducted a study in Indonesia, on a sample of 235 banks, where intellectual capital represented an independent variable, measured through the VAIC method. The results of the aforementioned study showed that there is a statistically significant and positive impact of structural capital on ROA, ROE, as well as the same impact of human capital

on ROE, while on the other hand, the impact of relational capital on ROA and ROE was not confirmed.

In a study conducted by Githaig (2022) which covered the banking sector, i.e., 53 banks of the East African continent, the results obtained showed a significant impact of HCE, SCE and invested capital on ROA, with SCE having the strongest impact on ROA. The results of a study conducted by Demartini & Beretta (2019) found that intellectual capital is a critical resource for small and medium-sized enterprises, as it has a statistically significant and positive impact on sales revenue, ROI and net profit rate.

Mondal & Ghosh (2012) in a study conducted in India on the banking sector (65 banks), proved the link between intellectual capital and the increase in profitability and productivity of banks, emphasizing that HCE has the greatest impact on the said increase. The same findings were reached by Xu & Liu (2020) in a study conducted in South Korea on a sample of 415 manufacturing companies, where the profitability of the company was observed through ROA and ROE, while on the other hand SCE has no influence on the mentioned profitability.

A study conducted by Pirogova et al. (2020) examined the influence of the components of intellectual capital through the VAIC methodology on the formation of financial results in the trade industry, where the results obtained did not confirm the mentioned influence, pointing out that awareness is not sufficiently developed and that not enough is invested in intellectual capital. Rehman et al. (2016) found that the level of intellectual capital reporting in selected sectors (automotive, textile and banking sectors) of Pakistan and India is very low, with traditional accounting practices that mainly focus on measuring tangible assets and reporting them as a key factor. The lack of well-established mechanisms for reporting on the international community could be another major cause of low reporting.

Mukaro et al. (2023) in a study conducted in Turkey indicate that the negative effect of intellectual capital on ROA, emphasizing that the balance between the employment of skilled and unskilled personnel among business sectors in Turkey is important. The so-called "blue collar jobs", which include, for example, farmers, mechanics, power plant operators, electricians, drivers and the like should be left to less qualified workers, while the opposite is true for jobs that require high competence. In a study conducted by Skhvediani et al. (2023) confirmed a positive relationship between HCE and SCE and the performance of manufacturing companies. The same findings were reached by Xu & Li (2022) during research in China, observing manufacturing companies. In addition to the mentioned connection, the results also proved the influence of relational capital on the company's performance, specifically on profitability and productivity.

Xu & Wang (2018) investigated Korean manufacturing companies and found a positive influence of intellectual capital (HCE and CEE) on ROA and ROE, indicating the

dominant influence of relational capital in the aforementioned relationship. Janošević et al. (2013) examined the impact of intellectual capital components on ROE, ROA, operating income and net profit rate. The strongest degree of correlation was found between invested capital (capital employed) and ROA, and then structural capital and ROE. In addition, the research results showed that there is a significant and positive influence of invested capital (capital employed) on business income; of all components of the intellectual capital on operative profit; components of intellectual capital on ROE and on ROA. Peković et al. (2020) in the conducted study proved the influence of human and structural capital on ROA and ROE, while in the case of invested capital (capital employed) no statistically significant influence was identified. Another study conducted in the Republic of Serbia by Pavlović (2023) in the banking sector, confirmed that due to the reduction of human capital there is a long-term deterioration of performance, which indicates the need to invest in human capital.

Through the analysis of numerous literatures, it has been observed that ROA and ROE are considered the most popular means of measuring the financial performance of organizations and are viewed as the best performance measures, where ROA is a key indicator of the organization's efficiency in allocating assets (Sohel Rana & Hossain, 2023). The initial idea was to include ROE in the research. However, this indicator requires the identification of share capital in the balance sheet, whereby the selected companies in a large number of cases were not joint stock companies, which makes it impossible to apply ROE as a dependent variable. Also, the dependent variable was selected as a result of data availability.

According to the subject and goal, the following research hypotheses were defined:

H1: There is a statistically significant effect of HCE on ROA

H2: There is a statistically significant effect of SCE on ROA

H3: There is a statistically significant effect of CEE on ROA.

3. Research methodology

Intellectual capital, as an independent variable in the model, was calculated based on the previously mentioned VAIC method (Pulić, 2000). In the first step, value added was determined, as the difference between income and realized expenses (OUT - IN), whereby salary costs (HC) were subtracted from expenses. By relating the added value to the wage costs (HC), the human capital coefficient (HCE) is obtained. By subtracting human capital from added value, structural capital (SC) is obtained. The structural capital value coefficient (SCE) is obtained by putting the added value in relation to the structural capital. In the next step, the added value of the efficiency of invested capital (Capital employed efficiency) is determined, which is obtained as the ratio of added value and invested capital (Capital employed -

CE), whereby the invested capital in this case corresponds to the total assets of the organization in the balance sheet. The above can be presented as (Soewarno & Tjahjadi, 2020; Xu & Zhang, 2021; Mohammad, Bujang, & Naharu, 2018): $HCE = VA/HC$; $SCE = SC/VA$; $CEE = VA/CE$, where CE is the book value of total assets; $ICE = HCE + SCE + CEE$.

When it comes to the dependent variable, the calculation was carried out as follows (Arifa & Ahmar, 2016; Hidayat et al., 2016): $ROA = \text{Net profit (profit after tax)}/\text{Total assets} \times 100$

The sample was formed from a total of 13 companies, whose performance was observed over a three-year period. The sample consists of the following companies: Agrovršac AD, Alba partners, Albus, Apatinska pivara, GK Neimar, Arriva Požarevac, Atlantic trade, Kavim jedinstvo, Banat seme, Nelt, AD Matijević, BB Minaqua, Beogradska pekarska industrija. As can be seen, most of the companies belong to the processing sector, but there are also companies in the field of trade and services (mainly transport). The financial reports were partly taken from the website of the Agency for Economic Registers, and partly from the websites of individual companies, in the section of financial reports. As previously stated, based on the analysis of numerous researches, a gap was observed in terms of a greater concentration of literature that observes the impact of intellectual capital in the financial sector, and much less in the processing sector, trade, as well as in the service sector, which is the key motive for using a heterogeneous structure. sample.

Data were processed in statistical software SPSS V23. From statistical analyses, descriptive statistics (arithmetic mean and standard deviation), correlation analysis and multiple regression analysis were applied.

4. Research results

At the beginning of the analysis, a descriptive statistical analysis was conducted, the results of which are shown in Table 1.

Table 1. Results of descriptive statistical analysis

Indicator	Arithmetic mean	Standard deviation
HCE	1.96	1.40
SCE	0.10	0.36
CEE	0.51	1.33
ICE	2.57	2.17
ROA	1.72	10.57

Source: Author's calculation

The average value of the human capital coefficient (HCE) is 1.96 with an average deviation of 1.40. The arithmetic mean of structural capital (SCE) is 0.10, with an average deviation of 0.36, while the average value of invested capital (CEE) is 0.51, with an average deviation of 1.33. On average, the intellectual capital of the companies in the sample is 2.57, with a deviation of 2.17. When it comes to ROA, for every 100 dinars invested in property, 1.72 dinars of profit is realized on average, while the average deviation is 10.57.

Before applying correlation analysis, it is necessary to examine the shape of the distribution of the data, since a normal distribution implies a Pearson correlation coefficient, while in the absence of a normal distribution it is necessary to apply a Spearman correlation coefficient. For these purposes, the Kolmogorov Smirnov and Shappiro Wilk tests were applied, the results of which are shown in Table 2.

Table 2. Normality tests

Indicator	Kolmogorov Smirnov			Shappiro Wilk		
	Stat.	Df	Sig.	Stat.	Df	Sig.
HCE	0.151	37	0.033	0.916	37	0.009
SCE	0.220	37	0.000	0.753	37	0.000
CEE	0.177	37	0.005	0.845	37	0.000
ICE	0.140	37	0.063	0.956	37	0.152
ROA	0.304	37	0.000	0.736	37	0.000
HCE	0.151	37	0.033	0.916	37	0.009

Source: Author's calculation

Since in most cases the value of the test (sig) is less than 0.05, it can be concluded that the data do not follow a normal distribution, as a result of which the Spriman correlation coefficient should be implemented in the next step (Table 3).

Table 3. Results of correlation analysis

	ROA	HCE	CEE	SCE	ICE
ROA	1.000	0.559**	0.059	0.232	0.334*
HCE	0.559**	1.000	-0.017	0.505**	0.804**
CEE	0.059	-0.017	1.000	0.552**	0.263
SCE	0.232	0.505**	0.552**	1.000	0.842**
ICE	0.334*	0.804**	0.263	0.842**	1.000

** The correlation is significant at the 0.01 level

* The correlation is significant at the 0.05 level

Source: Author's calculation

Before interpreting the results of the correlation analysis in Table 3, it is necessary to bear in mind that the correlation in the interval from +/-0.1 to +/-0.39 is considered low; from +/-0.4 to +/-0.59 moderate and +/-0.6 to +/-1 high (Cohen, 1988). If we look exclusively at the relationship between the components of intellectual capital and the dependent variable, the highest degree of correlation was achieved between ROA and HCE (0.559). It is a moderate direct correlation, due to which it can be assumed that investing in employees actually represents investing in the most important asset of the company that generates value. A high linear correlation is present between intellectual capital and human capital (0.804), as well as structural capital (0.842).

Table 4. Multiple regression results: dependent variable ROA

Variable	β	t	Sig.	VIF
HCE	0.535	3.457	0.002***	1.105
SCE	0.067	0.435	0.666	1.096
CEE	-0.147	-0.930	0.359	1.159

*** The value is significant at the $r < 0.01$ level

$R^2 = 0.285$; $F = 4.375$ ($p < 0.01$)

Source: Author's calculation

The coefficient of determination in the model (R^2) is 0.285, which practically means that 28.5% of the

variability of the dependent variable (ROA) is explained by this regression model. The VIF indicates that there is no problem multicollinearity. Based on the results obtained in the previous table, there is a statistically significant impact of HCE on ROA ($r < 0.01$; $\beta=0.535$). Accordingly, hypothesis H1 is accepted. The obtained results also showed that SCE and CEE do not have a statistically significant impact on ROA, and in this regard, hypotheses H2 and H3 must be rejected.

5. Discussion of the results obtained

Analyzing the results, it was determined that HCE has a statistically significant positive impact on ROA, which is in line with the results of the mentioned earlier research by Githaig, 2022; Mondal & Ghosh, 2012. The aforementioned research was conducted on a smaller sample, which indicates compatibility in terms of sample size, when comparing the obtained results with the aforementioned research. The same result was reached by Xu & Liu, 2020; Xu & Li, 2022; Skhvediani et al. 2023; Janošević, Dženopoljac & Bontis, 2013; Peković, Pavlović and Zdravković, 2020; Pavlović, 2023, whereby the mentioned research included a larger sample compared to the sample of the conducted research. The opposite result was reached by Mukaro et al. (2023), Pirogova et al. (2020), as well as Soeawarno & Tjahjadi (2020), who confirmed a statistically significant and positive impact of human capital on ROE, but not on ROA, whereby the difference in sample size must be taken into account. All the mentioned research justifies the fact that human capital represents the most important component of intellectual capital, which has an unequivocal impact on organizational performance and on which the future of organizations depends to the greatest extent. Regression analysis showed that SCE has no statistically significant influence on ROA. The same results were reached by Xu & Liu (2020); Mukaro et al. (2023); Pirogova et al. (2020) including a larger sample. Githaiga, 2022; Mondal & Ghosh, 2012; Xu & Li, 2022; Skhvediani et al., 2023; Janošević, Dženopoljac & Bontis, 2013; Peković, Pavlović and Zdravković, 2020, whereby the mentioned research included a larger sample compared to the sample of the conducted research. Depending on how the organization manages its resources, how it uses them and how it adapts to changes, the impact of structural capital on organizational performance will also depend. The research showed that CEE does not have a statistically significant impact on ROA, which is in line with research that proved the same impact Soeawarno & Tjahjadi, 2020; Mukaro et al., 2023; Pirogova et al. (2020); Peković, Pavlović and Zdravković, 2020. On the other hand, opposite results were reached by Githaiga, 2022; Mondal & Ghosh, 2012; Skhvediani et al., 2023, Xu & Li, 2022.

6. Conclusion

Companies with qualified and motivated employees, who have valuable human capital, can develop state-of-the-art products and services that meet customer needs. Structural capital, such as effective processes and knowledge management systems, enables organizations to optimize

their operations, reduce inefficiencies and minimize costs. Effective knowledge sharing and collaboration among employees also lead to better decision-making. Relational capital plays a key role in shaping a company's image. A positive brand image fosters trust and credibility. This, in turn, attracts new customers, strengthens the organization's market position and opens up new business opportunities. Consequently, intellectual capital, i.e., its constituent components, often provide significant and positive impact on the achieved performance.

The theoretical contribution of the work is reflected in the acquisition of new and expansion of existing knowledge in the field of intellectual capital that significantly contributes to a company's ability to generate revenue, manage costs and create long-term value, thus contributing to a better understanding and use of this influence in era of knowledge. In addition, the research provides a framework for understanding the dynamism of the environment and the enormous role of intellectual capital for the survival and development of any organization. This confirms the fact that investing in human capital leads to the improvement of organizational performance. Therefore, this paper will benefit other researchers on the same or similar topic, providing them with adequate guidelines. The paper also provides certain practical implications for companies, allowing them to focus their business strategy in the future more on investing in human capital, which represents the basis for the success, progress and future of organizations in the modern dynamic business environment, increasing the chance of creating a sustainable competitive advantage.

There are also limitations in the paper. Namely, the sample was formed by only 13 companies. Although intellectual capital and organizational performance were calculated on the basis of three-year financial reports, it is still a relatively small sample. In addition, the analysis period is not the same for all companies. As stated earlier, available financial data were used, some of which are relatively new, but there are also older ones. Nevertheless, this limitation must be seen in the context of the institutional character of the Republic of Serbia, where a deficit of this type of information automatically limits the objectivity of scientific results. In view of the above, it is necessary to increase the period of analysis in the following researches. As an additional limitation in the work, there are dependent variables. Since the dependent variable is operationalized only through one indicator (ROA), it is necessary to increase the number of performances within the dependent variable in the following period. However, these variables were chosen also as a result of data availability. The initial idea is to include ROE as part of the research. However, this indicator requires the identification of share capital in the balance sheet, whereby the selected companies in a large number of cases were not joint stock companies. In addition to the above, it is necessary to increase the analysis period, because this would primarily increase the volume of analyzed data, and then ensure the validity of the obtained research results.

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