THE ROLE OF VISIBLE INTANGIBLE ASSETS IN IMPROVING BUSINESS PERFORMANCE OF HOTEL COMPANIES

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Abstract

The dominance of the knowledge-based economy has led to the intangible assets being seen as a key factor in the development of hotel companies whose efficient use results in competitive advantage and superior performance. The paper considers visible intangible assets which are one part of intangible assets shown in the hotel's balance sheet. The aim of the paper is to examine the impact of visible intangible assets on the business performance of hotel companies in the Republic of Serbia. This paper analyzes ROA, ROE and RevPAR business performance indicators. The research hypotheses are tested using regression analysis and non-parametric test-to-test differences between groups. Research results do not support the impact of visible intangible assets of hotel companies on business performance indicators observed. Furthermore, the results point to a difference in the value of visible intangible assets between 3-, 4- and 5-star hotels.

Key Words: *intangible assets, business performance, profitability, Serbia, hotel companies*
JEL classification: *L25,O34*

Introduction

The service sector is becoming dominant in contemporary economies, which raises the question of whether service companies use the "force" of intangible assets in order to create a better competitive position and high performance (Ognjanović, 2016). A part of the service sector is the hotel industry, which must develop certain resources to survive in a competitive environment. Intangible assets have all the necessary characteristics necessary to gain the company a competitive advantage, as defined by

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Barney (1991). Namely, they are valuable, rare, unsuitable for imitation and non-substitutable. The role and importance of intangible assets of hotel companies in a competitive environment can best be assessed by analyzing their impact on the hotel's business performance.

The aim of the paper is to examine the impact of visible intangible assets on the business performance of hotel companies in the Republic of Serbia. The value of visible intangible assets is taken from the financial statements of the hotel companies operating in the Republic of Serbia in 2018. Business performance is monitored through the rate of return on assets, rate of return on equity and revenue per available room. Besides the introduction and conclusion, the paper includes three more parts. The first part of the paper provides an overview of previous studies on intangible assets and business performance, with particular reference to the role of intangible assets in hotel companies. The second part of the paper describes the observed variables and defines the research hypotheses and the statistical methods used. The third part of the paper provides the presentation and discussion of the obtained research results.

Literature review: Intangible assets

The rise of the knowledge economy or post-capitalist society in the last decade of the twentieth century has placed focus on knowledge and intangible assets as key factors responsible for the economic and financial prosperity of companies (Castro et al., 2019) driving a sustainable competitive advantage and the value-creation process (Bollen et al., 2005; Sriram, 2008). Among companies that base their activities on the use of knowledge, the difference in the value of intangible assets becomes the main factor that determines the process efficiency and the ability of organizational units to create value (Frutos-Belizón et al., 2019).

Intangible assets are defined as a set of non-financial assets, with no physical presence, used for the production and/or supply of goods or services or for rental to others (Chareonsuk & Chansa-ngavej, 2010) which, at the same time, have the capacity to produce future economic benefits and reduce company costs (Lev, 2001; Green, 2007). For some authors, intangible assets and intellectual capital are synonymous, while for others, intellectual capital forms a part of intangible assets. Lev (2001) and Bhatia & Aggarwal (2018) refer to intangible assets as intellectual capital and knowledge assets. Boekestein (2009) also considers that intangible assets (including goodwill) overlap substantially with intellectual capital. Bollen

et al. (2005) point out that intellectual capital plays a significant role within intangible assets. Bontis et al. (1999) summarize the definitions of intellectual capital and conclude that most authors view intellectual capital as a set of intangible resources and their flows that contribute to the value creation process of a company and are controlled by companies (Bollen et al., 2005). Intangible assets and intellectual capital are regarded as synonymous in this paper, as intellectual capital is used to describe the entire intangible assets of companies, including processes, innovation capacity, patents, employee knowledge and their capabilities, talents, skills, and social recognition (Frutos-Belizón et al., 2019).

Although intangible assets contribute to an efficient value-creation process and have a positive impact on the company's market value and financial performance, the value of the intangible assets is not fully reflected in the corporate balance sheet (Boekestein, 2009). One part of intangible assets, the so-called invisible intangible assets, is not disclosed in financial statements. For these reasons, the way accountants treat intangible assets is a frequently contested and unresolved issue (Haji & Ghazali, 2018) which contradicts the knowledge economy idea that knowledge, i.e. intangible assets, is most relevant to the activities of knowledge-based companies (Boekestein, 2009). Unclear accounting treatment and inability to value intangible assets results in a distortion of profitability indicators (ROA; ROE) and market indicators (MB, P/E) in relation to actual values (Ferdaous & Rahman, 2019). Furthermore, inaccurate accounting treatment of intangible assets causes their being recognized in the balance sheet when the company is purchased on the market (as the difference between the market and the book value of the company) but not after its internal development (Schiemann et al., 2015). Inappropriate accounting treatment of intangible assets is a consequence of differences in accounting rules and policies applied in different parts of the world (Boekestein, 2009) as well as unclear property rights to control intangible assets (Schiemann et al., 2015). This situation causes future earnings from intangible assets to become uncertain while the valuation of intangible assets often relies on unknown environmental factors (Schiemann et al., 2015). Moreover, the problem of valuing these assets becomes more pronounced when merging two or more companies (Boekestein, 2009).

Intangible assets and business performance

Proponents of resource-based theory suggest that company's business performance results from the effective and efficient use of its tangible and

intangible assets (Firer & Stainbank, 2003). Some authors (Han & Li, 2015) interpret intangible assets as contributing to the acquisition of superior business performance. According to KBV (knowledge-based view), heterogeneous employee knowledge and capabilities, i.e. components of intangible assets, become the main determinants of differences in the value of business performance between companies (Ferdaous & Rahman, 2019).

All services and activities, which play a key role in the hotel business, should be analyzed and their performance measured. For measuring the performance of hotel companies, traditional measures such as financial statements have been recognized as an important control tool (Zigan & Zeglat, 2010). To analyze the impact of intangible assets on the business performance, the so-far conducted studies have used the following types of performance indicators: assets turnover, ROA and ROE, and M/B ratio (Market to book ratio) (Chowdhury et al., 2019); profitability, productivity and market valuations (Firer & Stainbank, 2003); accounting-based performance (ROA) and market-based performance (Tobin's Q) (Hamdan, 2018); portfolio at risk ratio (PAR), net profit ratio, loan loss recovery ratio, repayment rate, portfolio yield, and return on assets (ROA) (Kamukama et al., 2010).

Ferdaous & Rahman (2019) cite differences (gaps) in understanding the relationship between intangible assets and business performance. First of all, problems arise because there is no specific model for measuring intangible assets. Besides, a large number of methodologies have been connected utilizing data samples in a variety of international settings including the USA, Canada, the UK, Australia, Germany, and Turkey to raise the issue of generalization on empirical results. The same authors state the problem that the direct link between intangible assets and business performance is not fully understood, which is why the issue of identification, classification, and the measurement of intangible assets becomes a priority but still unresolved in the area of finance, economics and management.

Studies that have analyzed the relationship between intangible assets and business performance come to the following results. Han & Li (2015) conclude that intellectual capital has a positive impact on innovation performance. Ferdaous & Rahman (2019) state that the results reveal mixed behavioral effects of intangible assets on firm performance. The results of the panel regression analysis, conducted by Bhatia & Aggarwal (2018), show that intangible assets have a positive impact on the business

performance of the company. Chareonsuk & Chansa-ngavej (2010) conclude that the elements of learning and growth have an impact on internal business processes, the internal process element has an impact on external structure, while the external structure element affects business performance. Haji & Ghazali (2018) conclude that intangible liabilities have a significant negative impact on company operations, while intangible assets have a constant impact on business performance. Alipour (2012) proves that value added intellectual coefficient (VAIC) and its components have a significant positive relationship with the profitability of the observed companies. Chowdhury et al. (2019) conclude that VAIC components significantly explain ROA and that ROA is mostly influenced by variations in human capital. Cohen & Kaimenakis (2007) conclude that there is a positive impact of individual components of intellectual capital on the performance of SMEs. The findings of Firer & Stainbank (2003) suggest that the company's intellectual capital performance may explain profitability, and productivity, but not market valuation. Hamdan (2018) conducts a study that proves the link between intellectual capital and accounting performance but negates any relationship between intellectual capital and market performance. Ahmed et al. (2019) conclude that realized absorptive capacity plays a positive mediating role in the relationship between intellectual capital dimensions and those of business performance. Peng et al. (2007) reveal the relative importance and ranking of human, organizational and relational capital (components of intellectual capital) and performance indicators. Wang & Chang (2005) demonstrate that intellectual capital components, other than human capital, affect the business performance of observed IT firms in Taiwan.

Intangible assets in hotels

The success of hotel companies is less and less dependent on investment in fixed assets, since the business model today is particularly reliant on other business factors such as the management of intangible assets and the components that make it (brand, employee knowledge, company's ability to innovate) (Krambia-Kapardis & Thomas, 2006). In order to respond to the dynamic and competitive environment in which they operate, hotel companies are becoming dependent on employee knowledge and information (Allameh, 2018) or intangible assets. Such changes are accompanied by a shift to a knowledge economy based on investment in human resources, information technology, research and development and advertising (Laing et al., 2010). The current situation in the hospitality industry is characterized by increased competition, which requires

operational decision-making processes based on knowledge and information about achieved business performance (Zigan & Zeglat, 2010).

Even though hotels are not primarily considered knowledge-intensive, they are engaged in service delivery (Engstrom et al., 2003). The strategy of hotel companies is based on the idea that the value components of the hotel's offer should reflect the high level of quality services provided (Vujić et al., 2019). Among other things, the quality of the hotel service depends on the knowledge of its employees. The individual knowledge of the employees and the organizational knowledge of the hotel, expressed in routines, systems, customer databases, or elements of intangible assets, are considered to be important factors for the efficient hotel management in a competitive environment (Engstrom et al., 2003) and the creation of quality services. Based on the aforementioned, it can be concluded that in the field of tourism and hospitality, researchers recognize intangible assets as a key resource for value creation (Krambia-Kapardis & Thomas, 2006; Davey et al., 2017). For Roubi (2004), intangible assets of a hotel imply location design, business start-up costs, management contracts, skills, and a brand.

The accounting treatment of intangible assets also tackles hotel companies (Laing et al., 2010). Engstrom et al. (2003) conclude that it is important to determine the total value of intangible assets in hotels because of its potential relationship with business performance. The same authors state that the valuation of intangible assets provides useful information on key business areas, resource allocation, business strengths and weaknesses, benchmarking, and future management. Davey et al. (2017) emphasize that, despite the importance of intangible assets that create value in hotel businesses, non-objective reporting of intangible assets still impedes the ability (skills) of stakeholders to assess an organization's distinctive capabilities and competitive advantage. Roubi (2004) refers to hedonic pricing models as a robust and objective tool for measuring hotel intangibles and decomposing the value of total assets. The results confirm the effectiveness of this model.

Previously conducted research on intangible assets in hotel companies yields the following results. Kengatharan (2019) demonstrates the strong correlation between intellectual capital and employee productivity in the observed hotels. A mediated relationship between individual facets of intellectual capital and firms' performance through productivity is also affirmed. Sardo et al. (2018) conclude that there is an impact of intellectual capital (human, structural and relational capital) components on the

financial performance of small and medium-sized hotels in Portugal. The components of intellectual capital, human and relational capital are becoming key elements of hotel success and the basis of creating high-quality hotel services. Ognjanović (2017) looks at intellectual capital through human, structural and relational capital and proves the presence of a positive and statistically significant relationship between relational and structural capital in hotel companies in Serbia. Zeglat & Zigan (2013) demonstrate a positive and statistically significant influence of all intellectual capital dimensions on the business performance of the observed hotels. The results of Bontis et al. (2015) study show that the financial performance of Serbian hotels is still influenced by tangible assets and that the productivity of employees and partly profitability are influenced by the components of intellectual capital, human and structural capital.

Research instrument and methods
Sample description

The sample consists of 88 hotel companies operating in the Republic of Serbia in 2018 under activity code 5510 – Hotels and similar accommodation.

Table 1: *Description of the sample in terms of category, legal form, size and number of employees given in percentages*

Category	**Share in a sample**	**Legal form**	**Share in a sample**
***	41%	Limited liability company	82%
****	52%	Stock company	16%
*****	7%	Entrepreneur	2%
Company size	**Share in a sample**	**Number of employees**	**Share in a sample**
Micro	26%	to 9	14%
Small	49%	from 10 to 49	45%
Medium	25%	50 and over	41%

Source: *Author*

The list of such hotels is taken from the website of the Ministry of Trade, Tourism and Telecommunications of the Republic of Serbia. The necessary data for conducting research on the value of visible intangible assets and business performance is taken from the website of the Business Registers

Agency of the Republic of Serbia, specifically from the financial statements of hotel companies.

Being viewed in terms of category, legal form, size and the number of employees, the sample is dominated by four-star hotels (52%), limited liability companies (82%), small companies (49%), and those with the employee number ranging between 10 and 49 (45%), respectively (Table 1).

Variables in the research model

The realization of the set research objective involves defining the variables used in the research model. The paper analyzes *visible intangible assets* as an independent variable. The value of visible intangible assets for conducting the research is taken from the financial statements of the observed hotel companies. The balance sheet item "Intangible assets" includes the sum of investment in development, concessions, patents, licenses, trademarks and service marks, software and other rights, goodwill, other intangible assets, preparing intangible assets, and prepaid expences for intangible assets.

The dependent business variables are the following business performance indicators:

Return on Assets (ROA) - calculated as a net profit to total assets ratio (Bontis et al., 2015). The company's performance is evaluated using this ratio which reflects the degree of efficiency in employing assets to obtain profit (Alipour, 2012).

Return on Equity (ROE) - the most significant performance indicator in financial analysis for both current and potential shareholders, as it demonstrates the extent to which shareholder wealth maximization has been achieved (Bhatia & Aggarwal, 2018). ROE is calculated as a ratio of net profit to book value of equity (Bontis et al., 2015).

Revenue per available room (RevPAR) – It combines prices and productivity as a ratio of total business revenue and the number of rooms available. It measures the earning power of a hotel when renting rooms (Beech & Chadwick, 2006).

Research hypotheses

H_1: There is a statistically significant impact of visible intangible assets on the business performance of hotel companies.

- **H_{1a}:** There is a statistically significant effect of visible intangible assets on the rate of return on assets (ROA) of hotel companies.
- **H_{1b}:** There is a statistically significant effect of visible intangible assets on the return on equity (ROE) of hotel companies.
- **H_{1c}:** There is a statistically significant effect of visible intangible assets on the revenue per available room (RevPAR) of hotel companies.

H_2: There is a statistically significant difference in the value of visible intangible assets owned between hotels of different categories.

Statistical tools used

The collected data are processed with the support of the Statistical Package for Social Sciences IBM SPSS Statistics, Version 23. A confidence interval of $\acute{\alpha} = 0.05$ is used to determine stratistical significance. The set research hypotheses are tested by applying simple regression analysis and non-parametric tests to test differences between groups.

Results and discussion

Descriptive statistics describes the sample based on the values of arithmetic mean, standard deviation, and skewness and kurtosis of the sample. The mean for the observed visible intangible assets in the observed sample is RSD 1,299,727. The maximum value of visible intangible assets, presented in the financial statements for the observed sample, is RSD 18,060,000. Looking at the business performance indicator values in the sample, the ROA mean is -72.5; ROE mean is 45567.3 while RevPAR mean is 3520635. The highest standard deviation is observed with RevPAR (Std. Dev. = 5,204,679.8). Given that most of the skewness results obtained are positive, except for ROA, it can be concluded that most of the obtained results are to the left of the arithmetic mean, i.e. closer to the lower values. All kurtosis values are positive, which means that distribution has a pointy peak.

The next step is to test the normality of the distribution. The sample consists of 88 hotel companies and is larger than 50 units, which means that Kolmogorov-Smirnov test is used to test the normality of distribution. Looking at the obtained values of the specified test, it can be concluded that the normality of the sample distribution is not proven since the value of statistical significance for all observed variables is p = 0.000.

The strength and direction of the relationship between the observed variables are analysed by applying correlation analysis. In this case, since the normality of the distribution has not been proven, Spearman's rho coefficient is applied. Looking at the results of the correlation analysis (Table 2), it can be concluded that visible intangible assets have the strongest and statistically significant relationship with the variable revenue per available room ($\rho = 0.353$; $p = 0.001$), while the relationship with the remaining two variables ROA and ROE is not proven. By observing the relationship between business performance indicators, the strongest relation is present between ROE and ROA ($\rho = 0.718$; $p = 0.000$), while the low-strength, but statistically significant relationship was observed between ROA and RevPAR ($\rho = 0.222$; $p = 0.038$).

Table 2: *Correlation matrix*

Variables	Visible intangible assets	ROA	ROE	RevPAR
Visible intangible assets	1	0.133	0.041	0.353**
ROA	0.133	1	0.718**	0.222*
ROE	0.041	0.718**	1	0.171
RevPAR	0.353**	0.222*	0.171	1
** Correlation is statistically significant at the level of 0.050.* *** Correlation is statistically significant at the level of 0.000*				

Source: *Author calculation*

The impact of visible intangible assets on the business performance of the observed hotel companies is tested by simple regression analysis. Conducting this analysis involves the pre-testing of fulfillment of necessary conditions relating to multicollinearity and autocorrelation. Multicollinearity, i.e. a high degree of correlation between variables, is measured on the basis of the VIF coefficient, which should not exceed 5. Autocorrelation is measured on the basis of Durbin-Watson statistics, which should not exceed 4. For all three observed models the assumptions to conduct regression analysis are fulfilled.

Table 3: *Model 1 – Visible intangible assets and ROA*

Variables		Standard multiple regression		
Dependent	**Independent**	**Beta**	**t value**	**Sig.**
ROA	Visible intangible assets	0.066	0.610	0.544

Dependent variable: ROA
*Significance: ** $p \leq 0.01$; * $p \leq 0.05$*
$R^2 = 0.004$
$F = 0.372$
$p = 0.544$
Source: *Author*

Based on the results of the regression analysis for Model 1 (impact of intangible assets on ROA), hypothesis **H_{1a} is not accepted** ($p = 0.544$), i.e. there is no statistically significant effect of visible intangible assets on ROA. The coefficient of determination R^2 is 0.004, which means that 0.4% of the variability of ROA is explained by the regression model while the rest is influenced by other factors. The values of β, t, and Sig. are given in Table 3.

Table 4: *Model 2 – Visible intangible assets and ROE*

Variables		Standard multiple regression		
Dependent	**Independent**	**Beta**	**t value**	**Sig.**
ROE	Visible intangible assets	-0.049	-0.456	0.649

Dependent variable: ROE
*Significance: ** $p \leq 0.01$; * $p \leq 0.05$*
$R^2 = 0.002$
$F = 0.208$
$p = 0.649$
Source: *Author*

Model 2 analyzes the impact of visible intangible assets on ROE. Regression analysis does not confirm the impact of visible intangible assets on ROE of the observed hotel companies, i.e. the hypothesis **H_{1b} is not accepted** ($p = 0.649$). The coefficient of determination is $R^2 = 0.002$, which means that the regression model explains 0.2% of the variability of ROE while the rest is influenced by other factors. The results of the regression analysis for Model 2 are shown in Table 4.

In Model 3, the relationship between visible intangible assets and the RevPAR of the observed hotel companies is analyzed. Considering the results of the regression analysis given in Table 5, it can be concluded that

the hypothesis **H_{1c} is not accepted**, i.e. there is no statistically significant effect of visible intangible assets on RevPAR. The coefficient of determination of R^2 is 0.004, which means that 0.4% of the variability of RevPAR is explained by the regression model while the rest is influenced by other factors.

Table 5: *Model 3 – Visible intangible assets and RevPAR*

Variables		**Standardn multiple regression**		
Dependent	**Independent**	**Beta**	**t value**	**Sig.**
RevPAR	Visible intangible assets	0.062	0.574	0.567

Dependent variable: RevPAR
*Significance: ** $p \leq 0.01$; * $p \leq 0.05$*
$R^2 = 0.004$
$F = 0.329$
$p = 0.567$
Source: *Author*

Table 6: *Results of Kruskal-Wallis H test*

	Visible intangible assets
Chi-Square	11.391
df	2
Sig.	0.003

Grouping Variable: Hotel categorization
Source: *Author*

In order to test the H_2 hypothesis, the Kruskal-Wallis H test is used, which is a non-parametric technique for comparing the results of a continuous variable for three or more groups (Pallant, 2009). The results of the above given test are shown in Table 6.

Considering the results presented in Table 6, hypothesis **H_2 is accepted**, i.e. there is a statistically significant difference in the level of visible intangible assets held by 3-, 4- and 5-star hotels. Based on additional testing of the differences between the two groups of hotels (3 and 4 stars, 3 and 5 stars, 4 and 5 stars), with the help of Mann-Whitney U tests, one can conclude that there is no difference between visible intangible assets owned by hotel companies. The 3- and 5-star hotels differ in the level of visible intangible assets value ($p = 0.000$) and this difference is also observed between the 4- and 5-star hotels ($p = 0.020$).

Conclusion

Visible intangible assets include the sum of investment in development, concessions, patents, licenses, trademarks and service marks, software and other rights, goodwill, other intangible assets, preparation of intangible assets, and prepaid expenditure for intangible assets. The results of the correlation analysis indicate that visible intangible assets have the strongest and statistically significant relationship with RevPAR ($\rho = 0.353$; $p = 0.001$), while the relationship of visible intangible assets and the remaining two business performance indicators (ROA and ROE) has not been demonstrated. Using the Kruskal-Wallis H test, the presence of a difference in the level of visible intangible assets held by the 3-, 4- and 5-star hotels is proven, thus proving the H_2 hypothesis. Regression analysis does not prove statistically significant influence of visible intangible assets on observed business performance indicators, ROA, ROE and RevPAR, i.e. hypotheses H_{1a}, H_{1b}, H_{1c} are not proven. In interpreting the results obtained in this way, one should rely on the fact that the financial statements of the hotel companies do not show the total value of intangible assets, but only one, visible part of it. Expressing the total value of the intangible assets of hotel companies would affect different research results, since Ferdaous & Rahman (2019) also state that due to unclear accounting treatment and the inability to evaluate the total intangible assets, there is a deviation of the values of business indicators from the real ones.

The research conducted has several *limitations*. The first limitation concerns the number of hotels included in the sample. According to the list of hotels on the website of the Ministry of Trade, Tourism and Telecommunications, a certain number of hotels are not registered under activity code 5510 – Hotels and similar accommodation. Thus, the sample does not include such hotels. The second limitation goes beyond the first one and relates to the fact that consolidated balance sheets have been provided for domestic hotel chains, which has called into question the precise calculation of the number of rooms available and, thus, the calculation of RevPAR values. The third limitation relates to the accounting treatment of intangible assets in the sense that the total value of intangible assets is not shown in the balance sheet but only one, visible part of it. In most hotels, the largest share in the value of intangible assets is taken by concessions, patents, licenses, trademarks and service marks, software and other rights, while other components (investment in development, other intangible assets, etc.) are not reported.

Practical implications. Considering that the relation between visible intangible assets and the observed business performance indicators has not been proven, hotel managers are advised to reconsider the way they measure and present intangible assets in their financial statements. Bearing in mind the requirements of the knowledge economy, the future of the hotel industry in Serbia will also depend on the efficient use of intangible assets, so hotel managers are advised to invest and develop intangible assets, in case they have not already done so. Future research may be based on applying different methods to calculate the value of intangible assets and to analyze the impact of these assets on a greater number of business performance indicators. Moreover, future research could address a comparative analysis of the impact of tangible and intangible assets on the business performance of hotel companies.

References

1. Ahmed, S. S., Guozhu, J., Mubarik, S., Khan, M., Khan, E. (2019). Intellectual capital and business performance: The role of dimensions of absorptive capacity. *Journal of Intellectual Capital*, Vol. 21, No. 1, 23-39.

2. Alipour, M. (2012). The effect of intellectual capital on firm performance: an investigation of Iran insurance companies. *Measuring Business Excellence*, Vol. 16, No. 1, 53-66.

3. Allameh, S. M. (2018). Antecedents and consequences of intellectual capital: The role of social capital, knowledge sharing and innovation. *Journal of Intellectual Capital*, Vol. 19, No. 5, 858-874.

4. Barney, J. (1991). Firm resources and sustained competitive advantages. *Journal of Management*, Vol. 17, No. 1, 99-120.

5. Beech, J., Chadwick, S. (2006). *The Business of Tourism Management*, Prentice Hall, UK.

6. Bhatia, A., Aggarwal, K. (2018). Impact of investment in intangible assets on corporate performance in India. *International Journal of Law and Management*, Vol. 60, No. 5, 1058-1073.

7. Boekestein, B. (2009). Acquisitions reveal the hidden intellectual capital of pharmaceutical companies. *Journal of Intellectual Capital*, Vol. 10, No. 3, 389-400.

8. Bollen, L., Vergauwen, P., Schnieders, S. (2005). Linking intellectual capital and intellectual property to company performance. *Management Decision,* Vol. 43, No. 9, 1161-1185.

9. Bontis, N., Dragonetti, N. C., Jacobsen, K., Roos, G. (1999). The knowledge toolbox: A review of the tools available to measure and manage intangible resources. *European Management Journal,* Vol. 17, No. 4, 391-402.

10. Bontis, N., Janošević, S., Dženopoljac, V. (2015). Intellectual capital in Serbia's hotel industry. *International Journal of Contemporary Hospitality Management,* Vol. 27, No. 6, 1365-1384.

11. Castro, G. M., Díez-Vial, I., Delgado-Verde, M. (2019). Intellectual capital and the firm: evolution and research trends. *Journal of Intellectual Capital,* Vol. 20, No. 4, 555-580.

12. Chareonsuk, C., Chansa-ngavej, C. (2010). Intangible asset management framework: an empirical evidence. *Industrial Management & Data Systems,* Vol. 110, No. 7, 1094-1112.

13. Chowdhury, L. A. M., Rana, T., Azim, M. I. (2019). Intellectual capital efficiency and organisational performance: In the context of the pharmaceutical industry in Bangladesh. *Journal of Intellectual Capital,* Vol. 20, No. 6, 784-806.

14. Cohen, S., Kaimenakis, N. (2007). Intellectual capital and corporate performance in knowledge-intensive SMEs. *The Learning Organization,* Vol. 14, No. 3, 241-262.

15. Davey, J., Alsemgeest, R., O'Reilly-Schwass, S., Davey, H., FitzPatrick, M. (2017). Visualizing intellectual capital using service-dominant logic: What are hotel companies reporting?. *International Journal of Contemporary Hospitality Management,* Vol. 29, No. 6, 1745-1768.

16. Engstrom, T., Westnes, P., Westnes, S. F. (2003). Evaluating intellectual capital in the hotel industry. *Journal of Intellectual Capital,* Vol. 4, No. 3, 287-303.

17. Ferdaous, J., Rahman, M. M. (2019). The effects of intangible assets on firm performance: An empirical investigation on selective listed manufacturing firms in DSE, Bangladesh. *American Journal of Business*, Vol. 34, No. 3/4, 148-168.

18. Firer, S., Stainbank, L. (2003). Testing the relationship between intellectual capital and a company's performance: Evidence from South Africa. *Meditari Accountancy Research,* Vol. 11, No. 1, 25-44.

19. Frutos-Belizón, J., Martín-Alcázar, F., Sánchez-Gardey, G. (2019). Conceptualizing academic intellectual capital: definition and proposal of a measurement scale. *Journal of Intellectual Capital,* Vol. 20, No. 3, 306-334.

20. Green, A. (2007). Knowledge Valuation: Intangible assets in plain business language. *VINE: The Journal of Information and Knowledge Management Systems*, Vol. 37, No. 3, 238-248.

21. Haji, A. A., Ghazali, N. A. M. (2018). The role of intangible assets and liabilities in firm performance: empirical evidence. *Journal of Applied Accounting Research,* Vol. 19, No. 1, 42-59.

22. Hamdan, A. (2018). Intellectual capital and firm performance: Differentiating between accounting-based and market-based performance. *International Journal of Islamic and Middle Eastern Finance and Management,* Vol. 11, No. 1, 139-151.

23. Han, Y., Li, D. (2015). Effects of intellectual capital on innovative performance: The role of knowledge-based dynamic capability. *Management Decision,* Vol. 53, No. 1, 40-56.

24. Kamukama, N., Ahiauzu, A., Ntayi, J. (2010). Intellectual capital and performance: testing interaction effects. *Journal of Intellectual Capital,* Vol. 11, No. 4, 554-574.

25. Kengatharan, N. (2019). A knowledge-based theory of the firm Nexus of intellectual capital, productivity and firms' performance. *International Journal of Manpower,* Vol. 40, No. 6, 1056-1074.

26. Krambia-Kapardis, M., Thomas, A. (2006). Hospitality industry in Cyprus: the significance of intangibles. *International Journal of Contemporary Hospitality Management*, Vol. 18, No. 1, 6-24.

27. Laing, G., Dunn, J., Hughes-Lucas, S. (2010). Applying the VAIC™ model to Australian hotels. *Journal of Intellectual Capital*, Vol. 11, No. 3, 269-283.

28. Lev, B. (2001). *Intangibles, Management, Measurement and Reporting*, Brookings Institution Press, Washington, DC.

29. Ognjanović, J. (2016). Intellectual capital in hotel companies. *The First International Scientific Conference "Tourism in function of development of the Republic of Serbia – Spa tourism in Serbia and experiences of other countries"*, Vrnjačka Banja, 1(2), 430-447.

30. Ognjanović, J. (2017). Relations of Intellectual Capital Components in Hotel Companies. *Industrija*, Vol. 45, No. 2, 181-196.

31. Pallant, J. (2009). *SPSS: priručnik za preživljavanje*, Mikro knjiga, Beograd.

32. Peng, T. A., Pike, S., Roos, G. (2007). Intellectual capital and performance indicators: Taiwanese healthcare sector. *Journal of Intellectual Capital*, Vol. 8, No. 3, 538-556.

33. Roubi, S. (2004). The valuation of intangibles for hotel investments. *Property Management*, Vol. 22, No. 5, 410-423.

34. Sardo, F., Serrasqueiro, Z., Alves, H. (2018). On the relationship between intellectual capital and financial performance: a panel data analysis on SME hotels. *International Journal of Hospitality Management*, Vol. 75, 67-74.

35. Schiemann, F., Richter, K., Günther, T. (2015). The relationship between recognised intangible assets and voluntary intellectual capital disclosure. *Journal of Applied Accounting Research*, Vol. 16, No. 2, 240-264.

36. Sriram, R. (2008). Relevance of intangible assets to evaluate financial health. *Journal of Intellectual Capital*, Vol. 9, No. 3, 351-366.

37. Vujić, M., Đorđević, S., Lakićević, M. (2019). Service quality and customer satisfaction in the hotel industry in Serbia. *Hotel and Tourism Management*, Vol. 7, No. 1, 61-70.

38. Wang, W., Chang, C. (2005). Intellectual capital and performance in causal models: Evidence from the information technology industry in Taiwan. *Journal of Intellectual Capital*, Vol. 6, No. 2, 222-236.

39. Zeglat, D., Zigan, K. (2013). Intellectual capital and its impact business performances: Evidences from Jordanian hotel industry. *Tourism and Hospitality Research*, Vol. 13, No. 2, 83-100.

40. Zigan, K., Zeglat, D. (2010). Intangible resources in performance measurement systems of the hotel industry. *Facilities*, Vol. 28, No. 13/14, 597-610.