



Asociación
Cuadernos
de economía

Cuadernos de economía

www.cude.es



ARTÍCULO

Financial Performance as an Intervening Variable in the Relationship between Intellectual Capital and Firm Value

Claudia Rere Margareta^a and Khusnul Prasetyo^b

^{a,b}Department of Accountancy, Faculty of Economics and Business, Universitas Airlangga, Indonesia

Jel Codes:

G32

Keywords:

Intellectual Capital,
Financial Performance,
Firm Value Banks

Abstract: This study investigated the relationship between intellectual capital (IC) of bank and firm value listed on Bursa Efek Indonesia (BEI) with financial performance as the intervening variable. Data gathered from the financial statements published by 42 banks listed in BEI from 2012 to 2016. The quantitative approach was adopted, and the formulated hypotheses tested using linear regression analysis. The Sobel test performed to examine the mediational effect of bank financial performance. The study findings revealed that the IC had a significant effect on the financial performance of the bank. Nonetheless, the effect of IC on firm value was not statistically significant. The results revealed that financial performance mediated the relationship between IC and firm value. Hence, companies need to concentrate on the IC of their management to gain profitability and firm value. The right policies may facilitate firm growth and exert a positive value for the firm: the study limitations and future research avenue documented at the end.

1. Introduction

The 21st-century knowledge economy has driven firms on the basis of their intellectual capital (IC). The development of service sectors largely rests on the IC of firms. Banking companies, being a large service sector, require IC in providing financial services and in enhancing service development (Chen & Li, 2005). The IC of a firm based on the human resources, whereby IC reflected in patent, rights, licenses, as well as rules and procedures outlined by a firm.

Human resources are integral for adding value and attaining competitive advantage in modern companies (Chen & Li, 2005). Knowledge-based management system, conventional capital (e.g., natural and financial resources), and physical assets are less critical than capital based on knowledge and technology (Riahi-Belkaoui, 2003; Rozakis & Borek, 2018; Loyrinic, 2018; De Jesus Gutierrez & Castro, 2019; Kartal, 2019; Bichi et al., 2019). Sadalia, Daulay, Marlina, and Muda (2019) claimed that for companies to survive, they must change their strategies from labour-based business to knowledge-based business so that the firm embraces the knowledge-based concept.

The emergence of IC has been witnessed in Indonesia, especially after the emergence of its financial accounting standards PSAK No.19 on intangible assets, despite not explicitly stated as IC (Ulum, Ghazali & Purwanto, 2014; Marvelous et al., 2019; Kilic et al., 2019; Iwegbunam & Robinson, 2019; Mohasoa & Mokoena, 2019; Galatti et al., 2019; Kavtaevich et al., 2019). In PSAK, intangible assets are composed of two categories; intangible assets whose existence is limited by specific provisions (e.g., patents, copyrights, lease rights, limited franchises), and those with uncertain expiration date (e.g., trademarks, confidential formulas and processes, perpetual franchise, and goodwill) (Sadalia et al., 2019). Firer and Williams (2003) asserted that IC is vital in strengthening a firm's competitive position and achieving its goals. Potentially, this hidden value refers to IC, which is recognised and valued by the market. Investors believe that appreciation towards firm shares stems from IC owned by the firm. Thus, the role of IC is vital to drive the market value of a firm (Chen, Cheng, & Yuhchang, 2005; Marvelous et al., 2019; Kilic et al., 2019; Iwegbunam & Robinson, 2019;).

Along with the increasing need to disclose IC as a driver of corporate value, measuring IC directly is still a challenging feat. Firm resources, one of the main components of Value Added Intellectual Coefficient (VAIC[™]), comprise of physical capital (VACA - Value Added Capital Employed), human capital (VAHU - Value Added Human Capital), and structural capital (STVA - Structural Capital Value Added). Solikhah (2010) asserted that VAIC[™] fulfils the basic needs of the contemporary economy of a "measurement system" that displays the actual value and firm performance, mainly because the primary goal in a knowledge-based economy is to create value-added. Creating added value demands an accurate measure of physical capital (financial funds) and intellectual potential (represented by employees with potential and abilities attached to them).

Studies on IC have been carried out both at home and abroad with mixed results (Firer & William, 2003; Sadalia et al., 2019). Banking is one of the most IC intensive sectors. From the intellectual stance, employees in the banking sector are more homogeneous than other economic sectors. From the lens of its constituent components, the employee (human) component in a bank is the most significant one because all activities at the bank use employees completely, which differs from manufacturing companies that have machinery and tools (fixed assets) for producing goods, apart from the employee component (Tan, Plowman & Hancock, 2007; Mohasoa & Mokoena, 2019; Balbag & Kaya, 2019; Galatti et al., 2019).

This present study explored the effect of IC on financial performance and firm values, as well as the effect of

profitability and firm size on firm value. Additionally, it looked into the direct and indirect effects of IC on firm value. This study is important because the results of past studies are inconsistent, which may be caused by other variables that mediate the relationship between IC and firm value, such as financial performance (Solikhah et al., 2010, Ulum et al., 2014).

2. Literature Review

Intellectual capital (IC) is a complex phenomenon and has multiple definitions. Generally, IC refers to an intangible asset owned by a business firm. Intellectual resources possessed by a firm can greatly influence the firm performance, besides empowering the firm to gain a competitive advantage in the present knowledge economy (Firer & Williams, 2003). The business landscape has changed with the emergence of high-tech and services-based industries (Putri & Maksum, 2020). The efficient use of physical assets can significantly affect firm performance, which, in turn, leads to superior firm value for the sake of stakeholders (Chen & Li, 2005; Lovrinic, 2018; De Jesus & Castro, 2019; Kartal, 2019; Bichi et al., 2019;).

2.1. Intellectual Capital and Financial Performance

The financial performance of a firm denotes the complete view or condition of the finances of a firm during a certain period of time (Elfiwandi, Pratiwi & Melmusi, 2019). Financial performance describes the financial condition of a firm. Chen et al. (2005) reported that IC had a positive effect on the financial performance of firms. Companies that effectively manage their knowledge and intellectual resources can create added value and generate competitive advantage by yielding innovation, research, and development (Duho & Onumah, 2019). The financial performance of a firm may enhance by IC (Firer & Williams, 2003). The resource-based theory (RBT) states that a firm will excel in business competition and display exceptional financial performance by owning, controlling, and utilising strategic tangible and intangible assets (Nohong, Sobarsyah, Sanusi, Handayani, Otoluwa & Bon, 2019).

From the lens of RBT, a firm likened to its tangible and intangible assets, as well as capabilities (Firer & Williams, 2003). Similarly, the stakeholder theory upholds that value-added is a more accurate measurement instrument to assess a firm's performance, in comparison to accounting profit that only measures return for shareholders (Duho & Onumah, 2019). By using the VAIC[™] formulated by Pulic (2000) to measure the intellectual ability of a firm, and based on the description above, the following hypothesis proposed:

Hypothesis (H1): Intellectual Capital has a positive effect on banking financial performance in Indonesia.

2.2. Intellectual Capital (IC) and Firm Value

Referring to the stakeholder theory, all business activities lead to value creation for a firm (Riahi-Belkaoui, 2003). In light of IC, value creation denotes maximum use of IC at the firms' disposal, namely human capital, physical capital, and structural capital. Chen et al. (2005) depicted that IC had a positive effect on firm performance and market value. Increment in IC (with proper management) enhances market perceptions and firm value (Tan et al., 2007). On the contrary, several empirical studies reported that IC did not affect firm market value (Ulum et al., 2014). Stakeholders value companies with superior IC more than other companies, mainly because the superior IC fulfils all stakeholders' interests (Solikhah et al., 2010). As a firm stakeholder, investors in the capital market display their appreciation towards IC that a firm has by investing in the firm (Siahaan et al., 2017). Such additional investment increases firm value.

In addition, literature discussion is also provided for the direct relationship between the intellectual capital and firm value.

For example, Li and Zhao (2018) explores the title of intellectual capital as measured through human and organizational capital to determine the trends in firm value among the Chinese companies. Through GMM approach, however, they did not find any association between the firm value and intellectual capital in terms of human capital for the Chinese companies. However, their study has confirmed a significant and positive impact of organizational capital on the firm value for the selected companies. Ozturk and Demirgunes (2007) also analyse the link between intellectual capital and firm value. For measuring IC, they have utilized value added intellectual capital or VAIC coefficient through multiple regression model. Overall data for 30 listed firms was collected during 2000 to 2002. Through multiple regression technique, the relationship between intellectual capital and firm value is observed. Clarke, Seng, and Whiting (2011) explores the effect of IC on the firm value as measured through performance factor for the Australian companies. Different components of IC like VAIC, human capital employed, structural capital employed, capital employed efficiency were under observation. The study findings confirm that there is a positive association between the IC and firm value as measured through performance dynamic.

Based on the description above, the proposed research hypothesis given as follows:

Hypothesis (H2): *Intellectual Capital has a positive effect on firm value.*

2.3. Financial Performance and Firm Value

The association between financial performance and firm value is widely observed in the literature, however, the trends for their relationship is mix in nature. Improving financial performance is a must for companies so that their shares would remain attractive to investors. A ratio that measures the level of firm profitability is Return on Asset (ROA). The ROA has been widely used to measure the amount of net profit gained from a firm's operations using all assets. Low ROA dictated by firm asset management. Rosita et al. (2020) reported that ROA had a significantly positive effect on firm value. They added the financial performance of a firm displayed a positive effect on firm value. Evidently, ROA is a factor that influences firm value. Deswanto and Siregar (2018) aim to explore the linkage between the financial performance and firm value with the presence of environmental performance and disclosure dynamics. Sample was collected from the agriculture sector of Indonesia and from ministry of environmental performance during the study period; 2012-2014. However, the study findings conclude that financial performance does not impact on the environmental disclosure, however, the relationship between performance and firm value is yet to explore. During the first half of last decade, Gamayuni (2015) has empirically tested the association between the financial performance and firm value along with other explanatory variables for the public firms as working in the region of Indonesia during 2007 to 2009. The findings of the study confirm that there is a significant and positive impact of financial performance on the firm value. Ratri and Dewi (2017) considers the sample of sixty companies as working in the region of Indonesia during the time of 2012-2014 to determine the impact of financial performance on the firm size. The study findings confirm that there is a positive and significant impact of financial performance on the firm size during the study period. Brooks and Oikonomou (2018) provides a meaningful theoretical discussion over the relationship between financial performance and firm value. Author claims that it has highlighted some of the crucial points and knowledge dynamics for the linkage between the financial performance and firm size.

Based on the above arguments, following hypothesised:

Hypothesis (H3): *Financial performance has a positive effect on firm value.*

2.4. Mediating effect of Financial Performance

Upon effective and efficient management, resources can increase firm performance, which garners a positive response from stakeholders, such as investors (Putri & Maksum, 2020). Firm value reflected in the firm stock price (Sadalina et al., 2019). The better the stakeholders' response; the better is the firm value. One essential asset in a firm that supports firm activities, besides enhancing firm performance and value, refers to IC (Solikhah et al., 2010). Duho and Onumah (2019) asserted that investment in IC presented in the financial statements resulted in increased variance between market and book values. If the IC is a scalable resource that increases competitive advantage, it will contribute to financial performance and increase firm value (Chen & Li, 2005). Chen et al., (2005) and Tan et al. (2007) reported the positive effect of IC on financial performance and firm value. Hence, the following hypothesis proposed:

Hypothesis (H4): *Financial performance mediates the relationship between intellectual capital and firm value.*

3. Research Design

3.1. Research Sample and Data Source

This study had assessed a sample of banking companies listed on the Indonesia Stock Exchange (IDX) between 2012 and 2016. In this study, data collection was carried out by collecting secondary data, namely, the financial statements of banking companies listed on the IDX from 2012 to 2016 from its website, www.idx.co.id. Purposive sampling was applied in this study.

3.2. Data Definition and Variable Measurement

The dependent variable in this study is firm value, which was measured using Tobin's Q value (Putri & Maksum, 2020). The independent variables in the study are IC, ROA, and firm size. Measurement of the IC variable in this study adhered to Pulic's (2000) VAICTM. The stages of calculating VAICTM are similar to those prescribed by Chen et al., (2005) and Firer and Williams (2003). The intervening variable in this study is financial performance, which was proxied by ROA. The ROA was calculated by comparing net income to total assets in the firm (Nasih, Fadhilah, & Harymawan, 2020; Siahaan, Maksum, Bukit, & Lutfi, 2017). Firm size functioned as a control variable. Firm size was proxied by total assets and was measured using the natural logarithm of total assets (Lie, Ikhsan, Jubi, Harmain, & Nasution, 2020; Arifuddin et al., 2017).

3.3. Research Method

The path analysis method was adopted in this study using SPSS-22 software. Path analysis refers to the extension of multiple linear regression analysis or the use of regression analysis to estimate causal relationship between variables as predetermined based on theory. Prior to path analysis, descriptive statistical test and classical assumption test were carried out first. The classical assumption test comprised of normality, multicollinearity, autocorrelation, and heteroscedasticity tests.

$$\text{Model 1: } ROA = \alpha + B1 (\text{VAIC}) + \varepsilon \quad (\text{Eq. 1})$$

$$\text{Model 2: } \text{TOBINQ} = \alpha + B1 (\text{VAIC}) + B2 (\text{ROA}) + B3 (\text{SIZE}) + \varepsilon \quad (\text{Eq. 2})$$

Where,

ROA = Return on Asset

VAIC = Value Added Intellectual Capital

TOBINQ = Ratio between physical asset market value and its replacement value

SIZE = Firm Size

3.4. Data Analysis Methods

Present literature has provided some meaningful discussion about the data analysis and related methods. However, the implication of data analysis methods through an appropriate way is very important. The first approach for the data analysis is known as descriptive technique which helps to describe or summarize the given data set. However, it is believed that descriptive statistic does not help to make any type of conclusion beyond the given data specifically for the hypotheses testing and final inference. However, descriptive scores help to summarize the data in a meaningful way. There are two further types of descriptive analysis which are entitled as central tendency and measure of dispersion. Through central tendency the mid/average point of the data set is observed. It means that through measure of central tendency, the average trends in the data can easily be identified and explained. On the other side, measure of dispersion helps to explore the deviation from the mean/average point of the data. This study has applied both measures of central tendency and measures of dispersion to analyse the data trends (i.e. see section 4.1).

After applying the descriptive methods for the data analysis, next step is to apply the inferential statistics which helps to examine the change in the dependent variable as explained by all the independent variables of the study. Furthermore, regression analysis helps to provide a good evidence for the individual effect of every single explanatory variable in the main outcome variable of the study. Besides, regression analysis also helps to determine whether the null hypotheses being rejected or not. Details for the regression analysis under present study are provided under section 4.2. All the study findings are generated through SPSS-22 version.

4. Results

4.1. Descriptive Statistics

Table 1 tabulates the descriptive statistical results retrieved from this study. The average VAIC was 2.83 (Std. Deviation = 1.40) for the selected banking companies. The ROA scored an average value of 1.27 (Std. Deviation = 0.82). The statistics revealed reasonable profit earned by the banking companies in Indonesia. Next, the average values of TOBINQ and firm size were 1.05 (Std. Deviation = 0.11) and 31.09 (Std. Deviation = 1.73), respectively.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAIC	161	1.0360	8.6804	2.830569	1.4091612
ROA	161	0.0139	3.5862	1.270615	0.8203427
TOBINQ	161	0.8748	1.4375	1.051529	0.1143186
SIZE	161	27.8819	34.5768	31.098224	1.7324700

Note: ROA = Return on Asset, VAIC = Value Added Intellectual Capital, TOBINQ = Ratio between physical asset market value and its replacement value, SIZE = Firm Size

4.2. Results of Multiple Linear Regression Analysis

4.2.1. Coefficient of Determinant

Table 2 lists the results of the coefficient of determination test for the regression model employed in this study. The R^2 value was 0.110 or 11%, which signified that the regression model could explain only 11% of the relationship between VAIC and ROA.

Table 2. Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients B	Standardized Coefficients Beta	t-value	Sig.
1 (Constant)	0.724	0.138	5.260	0.000

Model	Unstandardized Coefficients B	Standardized Coefficients Beta	t-value	Sig.	
VAIC	0.193	0.044	0.332	4.435	0.000

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.332	0.110	0.104	0.7763099

Note: ROA = Return on Asset, VAIC = Value Added Intellectual Capital, TOBINQ = Ratio between physical asset market value and its replacement value, SIZE = Firm Size

Table 3 presents the results of multiple linear regression analysis and coefficient of determination for the regression model employed in this study. The R^2 value was 0.215 or 21.5%, which indicated that the regression model could explain 21.5% of the relationship among VAIC, ROA, and firm size.

Table 3. Results of Multiple Linear Regression Analysis

Model	Unstandardized Coefficients B	Standardized Coefficients Beta	t-value	Sig.	
(Constant)	1.404	0.165	8.525	0.000	
2 VAIC	0.007	0.006	0.086	1.157	0.249
ROA	0.074	0.012	0.530	6.105	0.000
SIZE	-0.015	0.006	-0.227	-2.706	0.008

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	0.479	0.230	0.215	0.1012870

Note: ROA = Return on Asset, VAIC = Value Added Intellectual Capital, TOBINQ = Ratio between physical asset market value and its replacement value, SIZE = Firm Size

4.3. Discussion

4.3.1. The Relationship between VAIC and ROA

The study outcomes indicated that IC was indeed related to the financial performance of the banking companies working in Indonesia. Apparently, VAIC ($\beta = 0.193$, $p = 0.000$) was significantly related to the banking financial performance. Firer and William (2003) explained that physical capital is an indicator of value-added generated by efficiently managed capital in a firm. The VAIC represents how a firm manages physical and financial capital. This study found that the firms had succeeded in maximising VACA in managing IC. The higher the physical capital values of a firm, the more efficient the management of IC in the form of buildings, land, equipment, and technology (Putri & Maksum, 2020). The better the management of physical capital in building relationships with external parties, the higher the tendency for the firm's financial performance to enhance, especially in increasing firm profitability (Rosita et al., 2020). The study outcomes are in line with RBT, which upholds firm resources consist of physical, human, and organisational resources that provide added value in gaining profitability (Sadalia et al., 2019). The study results are in agreement with Firer and William (2003), who stated that only VACA emerged as the most significant factor to affect financial performance in South Africa.

4.3.2. The Relationship between VAIC and TOBINQ

As a result of testing the second hypothesis, IC displayed no significant relationship with firm value. The regression coefficient value of ($\beta = 0.007$, $p = 0.249$) reflected that every increase in IC caused no significant change in firm value. This means; the market does not provide a higher value to companies with high IC. The reason for this finding is reinforced by Ulum et al. (2014), which suggested that the banking industry in Indonesia had neither maximally managed nor

developed their intellectual wealth to win the competition. Hence, IC was not an attractive theme for the banking sector to develop in order to create value. The companies were more inclined to focus on short-term interests, namely increasing financial returns. Similarly, Duho and Onmuah (2019) claimed that IC did not affect firm value.

4.3.3. The Relationship between ROA and TOBINQ

In light of the third hypothesis, a positive link noted between financial performance and firm value ($\beta = 0.074$, $p = 0.000$). In a similar vein, Rosita et al. (2020) reported that financial performance had a significantly positive effect on firm value. Firm profitability is a positive signal for investors (Ulum et al., 2014), which interpreted as a good prospect for the firm in the future. As investors flock to buy the firm shares, increase in share price increases firm value.

As stipulated in hypothesis four, financial performance mediated the relationship between IC and firm value. It showed that good IC governance leads to competitive advantage and improves firm performance. The contribution of IC to financial performance has a vital role in banking development. The higher the firm performance, the higher is the ability of the firm to generate net income from year to year, thus resulting in prosperous business growth. Firm development may attract more investors to invest in the firm, which, in turn, increases the firm value.

4.3.4. The Relationship between Size and TOBINQ

In this study, firm size and firm value displayed a significantly negative relationship ($\beta = -0.015$, $p = 0.008$). This outcome signified that a larger firm size led to lower firm value, primarily because a small firm can better manage its intellectual assets than large firms. Meanwhile, larger firms are less inclined to manage human and IC, as they focus more on their physical assets.

5. Conclusion

The management of firm-level intellectual assets garners more interest from scholars and firm managers. Careful planning and management of firm intellectual assets can bring in more value for the firms than physical assets do. Nevertheless, many companies across developing countries dismiss the importance of IC in adding more value to their firms. As such, this study had assessed the effect of IC on firm value mediated by financial performance. Based on the analysis, IC exhibited a significantly positive relationship with financial performance, whereas firm profitability and firm size were significantly related to firm value, as perceived by the investors. Nevertheless, IC was not significantly related to firm value.

While the banking sector classifies as a service sector, it requires the employees to apply the benefits of IC to enhance the business profitability and firm value. Essentially, although IC not significantly related to firm value in Indonesia, IC led to positive profitability (Ulum et al., 2014). Therefore, the banking companies need to put in more effort to disseminate positive messages that they uphold to encourage IC. Furthermore, large banking companies need to devise the right policies in promoting IC, which in turn, leads to better firm value in the long term. Clearly, firm profitability enhances the effect of IC on firm value (Chen & Li, 2005).

Several limitations were noted in this study, as follows. The study data had been based on the financial and annual reports published by the banking companies listed on the IDX from 2012 to 2016. The small sample was unable to justify the generalisation attempted in this study. Therefore, future study may use a larger sample from different sectors to justify the generalisation of the study results. This study had looked into IC by adopting the VAIC™ method. Future studies may measure IC using other methods to enable a comparative study. Proxy of

other indicators may be included as well to assess firm value, such as Tobin's and market to book values, which could deepen understanding about the topic at hand. The sample could also analysed over a period of five to ten years for estimating the effects of IC policies on company profitability and firm value.

References

- Arifuddin, Hanafi, K., Usman, A. (2017). Firm size, profitability, and auditor opinion influence to audit report lag on registered manufacturing firm in Indonesia stock exchange. *International Journal of Applied Business and Economic Research*. 15(19): 353-367.
- BALBAČ, N. L., & Kaya, M. F. (2019). Fourth Grade Students' Cognitive Structures Regarding "Values": Application of the Word Association Test. *Review of International Geographical Education Online*, 9(1), 193-208.
- Brooks, C., & Oikonomou, I. (2018). The effects of environmental, social and governance disclosures and performance on firm value: A review of the literature in accounting and finance. *The British Accounting Review*, 50(1), 1-15. <https://doi.org/10.1016/j.bar.2017.11.005>
- Bichi, A. A., Talib, R., Embong, R., Mohamed, H. B., Ismail, M. S., & Ibrahim, A. (2019). Rasch-Based Objective Standard Setting for University Placement Test. *Eurasian Journal of Educational Research*, 84, 57-70. <https://doi.org/10.14689/ejer.2019.84.3>
- Chen, H., M., & Li, K., J. (2005). The Role of Human Capital Cost in Accounting. *Journal of Intellectual Capital*. 5(1): 116-130. <https://doi.org/10.1108/14691930410512950>
- Chen, M-C., Cheng, S-J & Yuhchang, H. (2005). An empirical investigation of the relationship between intellectual capital and firm's market value and financial performance. *Journal of Intellectual Capital*. 6(2): 159-176. <https://doi.org/10.1108/14691930510592771>
- Clarke, M., Seng, D., & Whiting, R. (2011). Intellectual capital and firm performance in Australia. *Journal of Intellectual Capital*. 12(4), 505-530. <https://doi.org/10.1108/14691931111181706>
- Deswanto, R. B., & Siregar, S. V. (2018). The associations between environmental disclosures with financial performance, environmental performance, and firm value. *Social Responsibility Journal*. <https://doi.org/10.1108/SRJ-01-2017-0005>
- Duho, K.C.T. & Onumah, J.M. (2019). Bank diversification strategy and intellectual capital in Ghana: an empirical analysis. *Asian Journal of Accounting Research*. 4(2): 246-259. <https://doi.org/10.1108/AJAR-04-2019-0026>
- de Jesús Gutiérrez, R., & Castro, M. S. (2019). Predicción de la volatilidad en los mercados del petróleo mexicano a través de modelos CgarCH asimétricos bajo dos supuestos distribucionales. *Cuadernos de economía: Spanish Journal of Economics and Finance*, 42(120), 253-267. <https://doi.org/10.32826/cude.v42i120.88>
- Elfiswandi, Pratiwi, H., & Melmusi, Z. (2019). The influence of intellectual capital on financial performance: A study on banking companies listed in Indonesia stock exchange. *Review of Integrative Business and Economics Research*. 8(2):300-311.
- Firer, S., & Williams, M., S. (2003). Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital*. 4(3): 348-360. <https://doi.org/10.1108/14691930310487806>
- Gamayuni, R. R. (2015). The effect of intangible asset, financial performance and financial policies on the firm value. *International Journal of scientific technology research*, 4(1), 202-212.
- Hair, J. (2003). *Essentials of business research methods*. Hoboken, N.J.; Great Britain. Wiley.
- Harymawan, I., Nasih, M., Salsabilla, A., and Putra, F. K. (2020). External assurance on sustainability report disclosure and firm value: evidence from Indonesia and

- Malaysia, *Entrepreneurship and Sustainability*. 7(3): 1500-1512. [https://doi.org/10.9770/jesi.2020.7.3\(5\)](https://doi.org/10.9770/jesi.2020.7.3(5))
- Harymawan, I., Rizki, A., Nasih, M., and Dewi, A., K. (2020). Family Firms, Political Connections, and Managerial Short-Termism. *Journal of Security and Sustainability Issues*. 9:4-14. [https://doi.org/10.9770/jssi.2020.9.J\(14\)](https://doi.org/10.9770/jssi.2020.9.J(14))
- Iwegbunam, I. A., & Robinson, Z. (2019). Economic Growth Models And Government Expenditure In South Africa: A Disaggregated Impact Analysis. *International Journal of Economics and Finance Studies*, 11(1), 33-48. <https://doi.org/10.34109/ijefs.201911103>
- Kartal, E. (2019). The Artificial Neural Network Modeling of Language Learning Challenges of French-Speaking Students Learning Turkish as a Foreign Language: The Case of France. *Educational Sciences: Theory and Practice*, 19(1), 55-77.
- Kiliç, Z., Vildan, A. T. E. Ş., Erceg, A., & Jablonski, S. A (2019). Comparative Analysis Of E-Government Services Of Croatia, Poland And Turkey. *International Journal Of Ebusiness And Egovernment Studies*, 11(2), 150-165.
- Lovrinčić, B. (2018). Cultural Diplomacy: Arts, Festivals and Geopolitics; Milena Dragičević Šešić, with Ljiljana Rogač Mijatović and Nina Mihaljinac (Ed.). *Croatian International Relations Review*, 24(82), 138-141.
- Li, Y., & Zhao, Z. (2018). The dynamic impact of intellectual capital on firm value: evidence from China. *Applied Economics Letters*, 25(1), 19-23.
- Lie, D., Ikhsan, A., Jubi, Harmain, H., Nasution, M.D. (2020). The effect environmental performance, environmental disclosure, firm size, and return on equity on economic performance. *Quality - Access to Success*. 21(174): 118-120.
- Marvelous, M., Asphat, M., & Malon, S. R. (2019). The Influence of Customer-Based Brand Equity on Customer Satisfaction and Brand Loyalty: Evidence from South African Mobile Telecommunications Industry. *International Journal of Business and Management Studies*, 11(2), 32-47.
- Mohasoa, I., & Mokoena, S. (2019). Challenges facing rural communities in accessing substance abuse treatment. *The International Journal of Social Sciences and Humanity Studies*, 11(1), 35-50.
- Naimah, Z. and Mukti, N.A. (2019). The influence of the audit committee's and firm's characteristic on intellectual capital disclosure. *Asian Journal of Accounting Research*. 4(2): 170-180. <https://doi.org/10.1108/AJAR-05-2019-0036>
- Nasih, M., Fadhilah, L., and Harymawan, I. (2020). The Effects of Pension Plans on Audit Pricing: Evidence from Indonesia. *International Journal of Innovation, Creativity and Change*, 10(12): 311-328.
- Nohong, M., Sobarsyah, M., Sanusi, A., Handayani, S. K, H., Otoluwa, N.I., & Bon, A.T. (2019). Islamic social reporting disclosure and firm value: Empirical study of firms listed in Jakarta Islamic Index. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, (July): 2458-2494
- Ozturk, M. B., & Demirgunes, K. (2007). Determination of effect of intellectual capital on firm value via value added intellectual coefficient methodology: an empirical study on ISE-listed manufacturing firms. *Istanbul Stock Exchange Review*, 10(37), 59-78.
- Pulic, A. (2000). VAIC™-an accounting tool for IC management. *International Journal of Technology Management*. 20(5-8): 702-714. <https://doi.org/10.1504/IJTM.2000.002891>
- Ratri, R. F., & Dewi, M. (2017). The effect of financial performance and environmental performance on firm value with Islamic social reporting (ISR) disclosure as intervening variable in companies listed at Jakarta Islamic Index (JII). Paper presented at the SHS Web of Conferences.
- Rosita., Ghozali, I., Puji Harto, P., Susanto, H. & Zainuddin, F. (2020). Intellectual capital and financial performance of state-owned banking: evidence from Indonesia. *International Journal of Learning and Intellectual Capital*. 17(1): 47-60.
- Putri, S.K., & Maksum, A. (2020). Determinants of firm value and earnings management in Indonesian sharia stock companies. *International Journal of Innovation, Creativity and Change*. 13(6): 305-324. <https://doi.org/10.21632/irjbs.11.2.113-127>
- Sadalia, I., Daulay, I.E., Marlina, L., Muda, I. (2019). The influence of intellectual capital towards financial performance with brand value as an intervening variable. *Quality - Access to Success*. 20(168): 79-85
- Siahaan, Y., Maksum, A., Bukit, R., Lutfi, M. (2017). The effect of triple bottom line reporting determinants on firm value: Empirical study from manufacturing companies listed on Indonesian stock exchange. *International Journal of Economic Research*. 14(17): 437-455.
- Solikhah, Badingatus, Abdul Rohman, dan Wahyu Meiranto. (2010). Intellectual Capital Implications on Financial Performance, Growth and Market Value; Empirical Study with Simplistic Approach. *Simposium Nasional Akuntansi 13 (SNA 13)*. Universitas Jendral Soedirman Purwokerto. (in Bahasa)
- Riahi-Belkaoui, A. (2003) Intellectual Capital and Firm Performance of US Multinational Firms: A Study of the Resourced-Based and Stakeholder Views. *Journal of Intellectual Capital*. 4: 215-226. <https://doi.org/10.1108/14691930310472839>
- Tan, H., P., Plowman, D., Hancock, P. (2007). Intellectual Capital and Financials Returns of Companies. *Journal of Intellectual Capital*. 8(1): 76-95. <https://doi.org/10.1108/14691930710715079>
- Ulum, I., Ghozali, I., Purwanto, A. (2014). Intellectual capital performance of Indonesian banking sector: A modified VAIC (M-VAIC) perspective. *Asian Journal of Finance & Accounting*. 6(2): 103-115.
- Kavtaevich, D. Y., Kassimbekovna, D. A., & Bazarbekovna, B. R. (2019). JSC Kazakh Medical University of Continuous Education Dyussebekov Yermek Kavtaevich et al : Quality of Life of Patients Treated for Hormonally Active Pituitary Adenoma. 104-108. <https://doi.org/10.5530/srp.2019.2.17>
- Galatti, L. R., Milistetd, M., Quinaud, R., Mazzei, L. C., Montero Seoane, A., & Rodrigues Paes, R. (2019). Scaffolding a Club Philosophy Among Coaches: Perspectives from a Spanish Club. *Revista de psicología del deporte*, 28(3), 0024-29.
- Galatti, L. R., Milistetd, M., Quinaud, R., Mazzei, L. C., Montero Seoane, A., & Rodrigues Paes, R. (2019). Scaffolding a Club Philosophy Among Coaches: Perspectives from a Spanish Club. *Revista de psicología del deporte*, 28(3), 0024-29.
- Mohasoa, I., & Mokoena, S. (2019). Challenges facing rural communities in accessing substance abuse treatment. *The International Journal of Social Sciences and Humanity Studies*, 11(1), 35-50.
- Iwegbunam, I. A., & Robinson, Z. (2019). Economic Growth Models And Government Expenditure In South Africa: A Disaggregated Impact Analysis. *International Journal Of Economics And Finance Studies*, 11(1), 33-48. <https://doi.org/10.34109/ijefs.201911103>
- Kiliç, Z., Vildan, A. T. E. Ş., Erceg, A., & Jablonski, S. A (2019). Comparative Analysis Of E-Government Services Of Croatia, Poland And Turkey. *International Journal Of Ebusiness And Egovernment Studies*, 11(2), 150-165. <https://doi.org/10.34111/ijebeg.20191125>
- Marvelous, M., Asphat, M., & Malon, S. R. (2019). The Influence of Customer-Based Brand Equity on Customer Satisfaction and Brand Loyalty: Evidence from South African Mobile Telecommunications Industry. *International Journal of Business and Management Studies*, 11(2), 32-47.
- Bichi, A. A., Talib, R., Embong, R., Mohamed, H. B., Ismail, M. S., & Ibrahim, A. (2019). Rasch-Based Objective Standard Setting for University Placement Test. *Eurasian Journal of Educational Research*, 84, 57-70. <https://doi.org/10.14689/ejer.2019.84.3>
- Kartal, E. (2019). The Artificial Neural Network Modeling of Language Learning Challenges of French-Speaking Students

- Learning Turkish as a Foreign Language: The Case of France. *Educational Sciences: Theory and Practice*, 19(1), 55-77.
- de Jesús Gutiérrez, R., & Castro, M. S. (2019). Predicción de la volatilidad en los mercados del petróleo mexicano a través de modelos GARCH asimétricos bajo dos supuestos distribucionales. *Cuadernos de economía: Spanish Journal of Economics and Finance*, 42(120), 253-267. <https://doi.org/10.32826/cude.v42i120.88>
- Lovrinić, B. (2018). Cultural Diplomacy: Arts, Festivals and Geopolitics; Milena Dragičević Šešić, with Ljiljana Rogač Mijatović and Nina Mihaljinac (Ed.). *Croatian International Relations Review*, 24(82), 138-141.
- Rozakis, S., & Borek, R. (2018). Evaluation of Agricultural Reactivation on Abandoned Lands in Poland. *AgBioForum*, 21(2), 135-152.