Research Article

The Influence of Intellectual Capital on Profitability (Survey on the Banking Sector on the IDX)

Nuryaman[1]
[1]Widyatama University
[1]nuryaman@widyatama.ac.id

Article History: Received: 10 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 20 April 2021

Abstract: The purpose of this study was to determine how the effect of intellectual capital on the profitability of banks listed on the Indonesia Stock Exchange (IDX). In this study, profitability is measured by return on assets and operating profit margin. The research sample used the financial statements of banking companies from 27 banks, for the 2017 and 2018 observation years. The company's financial reports were obtained from the web. IDX. This study found that intellectual capital has a positive effect on company profitability, both in the form of return on assets and operating profit margin.

Keywords: intellectual capital, retunt on assets, operating profit margin.

1. Introduction

The banking industry is one of the sectors that plays an important role in supporting the national economy. This sector acts as an intermediary between fund owners and parties who need funds to run businesses or other economic activities. There are 96 banks in Indonesia up to 2020 (Infobank.new.com,2021)., of which 27 banks have become public companies listed on the Indonesia Stock Exchange (Pusatis.com,2021). The banking sector on the IDX is one of the important sectors, many banks have large capitalization. In Indonesia, the banking sector has the largest market capitalization compared to other sectors, there are 6 banks in the LQ 45 issuers group.

One of the expectations of stock investors on the IDX is that the profitability of issuers shows an increasing trend, because an increasing profitability trend means that the company is performing well, which will provide added value to stock investors. Based on data in financial reports for 3 (three) years, 2017-2019, the average profitability of the banking sector shows a downward trend. Table 1 shows the average ROA in percent over three years:

Table 1.Return on Investment

Table 1. Return on Invesment

Tahun	2017	2018	2019
Return on Invesment (%)	1, 399 %	1,332 %	1,177 %

Source: Data processed financial statements (IDX).

Many factors can affect a company's profitability, including intellectual capital (IC). IC is an intangible asset of the company in the form of company knowledge and capabilities. The IC includes: human resource capabilities (human capital), knowledge and capabilities of the organization (structural capital). IC plays an important role in creating a firm's competitive advantage. Several previous studies have shown the importance of IC to improve company performance.

Previous research has shown that intellectual capital has an effect on company profitability (Bontis, 2000; Banimahd et.all, 2012; Wijayanti, 2017). There has not been much research on the role of intellectual capital in the banking sector. IC research in the banking sector is important considering this sector is a regulated industry sector, so that the role of IC is needed to maintain services to customers and other stakeholders. The purpose of this study was to determine the effect of intellectual capital on profitability in the banking sector listed on the IDX.

2. Theoretical Framework

2.1. Intellectual Capital

Intellectual capital (IC) is all knowledge / information, abilities, experiences of employees and company organizations that mobilize company performance and create value for the company (Stewart in Ulum, 2009; Kartal, 2019). IC is an intangible asset of the company, one of the company's resources. All companies in the industrial sector can have tangible assets in the form of land, machinery buildings etc., but not all companies can have intangible assets in the form of intellectual capital, because IC is obtained from the learning process,

experience, thought processes and efforts of all employees and company organizations. carried out continuously since the company operates. IC can provide added value, a company's competitive advantage compared to its competitors.

Pulic (2000) has developed a method of measuring variable intellectual capital, namely the value added intellectual coefficient (VAIC) model. The VAIC model is designed to measure the value creation efficiency of tangible assets and the value creation of the company's intangible assets. Furthermore, this model measures the value creation of a three-dimensional relationship. The measurement results of these three dimensions illustrate the ability of each dimension to create value for the company.

Ante (2008) found a method of measuring intellectual capital that is constructed using financial statement da

ta. The procedure starts with measuring the added value produced by the company. Value added is the difference in output (revenue) with the input value of all expenses excluding personnel costs. Personnel costs are excluded from the input calculation because employees play an important role in value creation. The Pulic model consists of three measurement dimensions: Value added human capital, structural capital, and capital employed. The sum of these three dimensions is a measure of the company's intellectual known as Value added intellectual capital (VAIC).

2.2. Company Profitability

One of the company's performance that concerns investors is profitability. Profitability is the company's ability to generate company profits. Company profits are used by the company for the development and growth of the company. The company's profit will also be distributed to shareholders in the form of dividends, so the achievement of profitability will determine the sustainability of the company.

There are many profitability ratios that can be used to measure profitability, including the important ratios, namely: Return on assets (ROA) and Operating profit margin (OPM). The return on asset ratio can be used to measure the effectiveness of the company in managing the company's assets as a whole (Gitman.2000). ROA measures how productive assets a company has in generating company profits. Misplacement of assets will cause many unproductive assets.

Operating profit margin (OPM) is a ratio that can show a company's ability to make a profit from every sale of goods or services (Gitman,2000). A high OPM will be generated if the company is able to carry out operational activities efficiently, the more efficient the operational costs will be the higher the company's OPM. The management's ability in managing activities and reducing efficiency will create a high level of profitability (OPM).

2.3. The relationship of intellectual capital with company profitability

The higher the intellectual capital (IC) of a company, this means the higher the company's capabilities: human resource capabilities, organizational capabilities and tangible assets / capital capabilities in creating value for the company. High capability in each dimension will boost the company's productivity in creating value for the company, which then this intellectual capital will increase the company's ability to generate profit (profitability).

Some experts explain that IC is an important factor as a variable competitive advantage in the era of global competition. Intellectual capital can increase the productivity of the company's assets. In addition, IC can also increase the company's operational efficiency. With sufficient capabilities the company can work efficiently.

Chen et.all (2005) conducted a study to examine the relationship between intellectual capital and market value and company financial performance. Researchers use market to book value to measure market value, return on investment (ROA) and return on equity (ROE) to measure the company's financial performance. All dimensions of intellectual capital are analyzed in relation to the dependent variable. The population and samples used are all companies listed on the Taiwan Capital Market. The results of his research indicate that intellectual ca

pital has a positive effect on financial performance (ROA & ROE) and on firm value.

Firmansyah and Iswajuni (2014) conducted research on the IDX, involving 493 publicly companies listed on the IDX. This research is to examine the effect of intellectual capital (IC) on company profitability, company value, growth and actual return. Firmansyah's research findings indicate that simultaneously all IC variable dimensions have an effect on company profitability. Partially the variable value added capital and structural capital has an effect on profitability, but human capital has no effect on profitability.

Banimahd et.all (2012) examines the relationship between the intellectual capital and company profitability,productivity and value of firms. Samples used by 69 issuers from various sectors listed on the Tehran Stock Exchane, from 2001 to 2008. The purpose of this study was to test the effect of IC on profitability, productivity, markrt valuation. After testing, the results show that IC has a positive effect on company profitability, productivity, but not to market valuation.

Ha1: Intellectual capital has a positive effect on profitability (Return on assets).
Ha 2: Inteceltual capital has a positive effect on profitability (operating profit margin)

3. Research Methods

3.1. Sample

The population and sample of this study are the banking sub-sector companies listed on IDX, which have published complete financial reports. The data available and can be used in this study are the financial reporting periods of 2017 and 2018 from 27 companies listed on the IDX, so this research data consists of 54 company financial reports.

3.2. Operationalization of research variables

3.2.1. Company profitability

The company's profitability is measured using two company performance indicators, namely: Return on investment (ROA) and Operating profit margin (OPM):

ROA = (EAT) / (Total Assets) x 100%, where EAT = earnings after tax

OPM = (Operating profit: Total revenue) x 100%

3.2.2. Intellectual capital

Measurement of the intellectual capital (IC) of the Pulic (2008) model, namely the value added intellectual capital coefficient of the VAIC with the following calculation sequence:

a. Calculating the value added (AV) of the company

AV = OP - IP

Information:
AV: Value Added
OP: Total income
IP: Expenses other than employee expenses

In addition, the VA value can also be calculated through the sum of the following accounts:

AV = OF + CE + DP + AM

Information:
OF: Profit of operation
EC: Labor cost
DP: Depreciation
AM: Amortization

b. Calculating the Value Added Capital Employed (CAVA)

CAVA shows the contribution value generated from each capital used:

CAVA = AV / EC

Information:
CAVA: Added value of Capital used
AV: Value Added
EC: Used of Capital

c. Calculating the Value Added Human Capital (HUVA)

HUVA shows that VA is generated from each expenditure of funds for labor.

HUVA = AV / CH

Information:
HUVA: Added value of Human Capital
AV: Value Added
CH: Human Capital

d. Calculating Structural Capital Value Added (VAST)

This ratio measures the amount of Structural Capital (SC) needed to generate 1 unit moneter (dolar or rupiah) from VA and is an indication of how successful Structural Capital (SC) is in value creation.

VAST = SC / VA

Information:
VAST: Added value of Structural Capital

SC: Structural Capital = VA minus CH (VA - CH)
AV: Value Added

e. Calculating the Value Added intellectual Coefficient (VAIC™)
VAIC™ identifies an organization's intellectual abilities that can be an important factor in achieving a company's success. VAIC™ is the summation of the previous 3 components, namely: CAVA, HUVA, VAST
VAIC™ = CAVA + HUVA + VAST

3.3. Data analysis method
The statistical model used in this study is the regression analysis model. Regression is used to examine the effect of intectual capital on firm profitability. Profitability as the dependent variable will use ROA and OPM.

4. Research Results and Discussion

The following is a descriptive statistics table

Table 2. Descriptive. IC.ROA and OPM

	N	Min	Max	Mean	Std. Dev
IC	54	1.42	5.04	3.0201	.78859
ROA	54	.13	3.13	1.3657	.75623
OPM	54	1.26	54.23	22.1459	11.12700

Information :
IC = Intellectual capital
ROA = Return on assets
OPM = operating profit margin
Table 2 shows the highest intellectual value at a score of 5.04 and the lowest at 1.42 with an average of 3.02 (table 2). This indicates that the external value of capital between banks varies widely with a high range of differences. The same is true for ROA and OPM. The highest ROA was 3.13% and the lowest was 0.13%. The highest OPM was 54% and the lowest was 1.26%. The difference in profitability performance between banks is quite high.

Table 3. F. IC and ROA and OPM tests

	R2	F	Sig
Model 1. IC dan ROA	0,538	60,450	.000
Model 2. IC dan OPM	0,616	83.458	.000

Predictor: IC = intellectual capital
Dependend variable: ROA and OPM
Table 3 shows that the results of the model test. Model 1, the F statistical of 60.45 with a significance level of below 1%, this means that this model is fit to be used as a prediction model for the relationship of IC with return on investment. In Model 2, the value of F statistic = 83.458 with a significant level of 1%, so model 2 is classified as fit. Thus further analysis can be carried out.

Table 4. IC and RO

Model		Unstd. Coeff B	Unstd. Coeff Std. Error	Stand. Coeff. Beta	t	Sig.
1	Constant	-.758	.282		-2.686	.010
	IC	.703	.090	.733	7.775	.000

a. Dependent Variable: ROA
Table 4 show that the IC regression coefficient has a significant relationship, with a significance level of below 1%. This means that the variable IC has a significant relationship with profitability as measured by ROA, so that the first research hypothesis is accepted. This means that companies that have high IC will make the company more productive in creating value for the company, as indicated by the high ROA.

Table 5. IC and OPM regression

Model		Unstd. Coeff. B	Unstd. Coeff. Std. Error	Stand Coeff. Beta	t	Sig.
1	Constant	-11.303	3.782		-2.989	.004
	IC	11.075	1.212	.785	9.135	.000

a. Dependent Variable: OPM

Table 5 presents that the intellectual regression coefficient is significant, at the level of significance below 1%. Thus, the research hypothesis which states that intellectual capital has a positive effect on OPM is acceptable, at a significance level of 1%. This means that Firms that have high IC will encourage companies to work more efficiently, and have an impact on increasing the company's OPM. Skilled personnel, organizational systems that have good capabilities will create a more efficient operational process.

Based on the analysis above tables 3 and 4, the results of this study are in line with previous studies (Chen 2005, Banimahd et.al, 2012, and Firmansyah 2014). Their research proves that IC has an effect on profitability (ROA and ROE), their research sample is all listed companies in the capital market. This research is specifically for the banking sector on the IDX. The result of this study are that in the banking sector, the value of IC has led to an increase in the company's ROA and OPM.

5. Conclusions and Recommendations

Intellectual capital (IC) Banks listed on the IDX have various values and significant differences, indicated by different intellectual capital values. IC as a reflection of banking capability can increase the productivity and efficiency of the company's operational activities. This is indicated by the results of research which prove that IC has a positive effect on banking profitability, namely return on investment (ROA) and operating profit margin (OPM).

For investors in the capital market as well as for banking executives, it is important to increase intellectual capital, through increasing the capabilities of human resources and organizational capabilities, in order to improve company performance. Future researchers are advised to conduct further research in the form of the relationship of each IC dimension to the company's financial performance.

Reference

1. Banimahd, Bahman.et.all.20212. The Impact of Intellectual Capital On Profitability, Productivity And Market Valuation: Evidence From Iranian. High Knowledge-Based Industries. J. Basic. Appl. Sci. Res., 2(5)4477-4484, 2012 © 2012, TextRoad Publication. ISSN 2090-4304 Journal of Basic and Applied Scientific Research www.textroad.com
2. https://www.textroad.com/pdf/JBASR/J.%20Basic.%20Appl.%20Sci.%20Res.,%202(5)4477-4484,%202012.pdf
3. Bontis, N.K, 2000; Intelectual Capitan and Business Performance in Malasyan Industries. Journal of Intelectual Capital. 1(1).pp 85-100
4. Chen (2005) : An empirical studi of the relationship between intellectual capital and firm's value and financial performance. Journal of Intelectual Capital, 6(2),159-176.
5. Firmansyah., Yanuar dan Iswajuni. 2014. Jurnal Ekonomi dan Bisnis, Vol XIX, No.1 April 2014. The influence of intellectual capital on the company's profitability, company value, growth and actual returns. Fakultas Ekonomi Universitas Airlangga.
6. Gitman,Lawrance.J. 2000. Principle of Managerial Finance. Ninth Edition. The Addison Wesley Longman Web.Inc. San Diego State University.
7. Hussain, H.I., Abidin, I.S.Z., Ali., A. & Kamarudin, F. (2018) Debt Maturity and Family Related Directors: Evidence from a Developing Market, Polish Journal of Management Studies, 18 (2), 118 – 134.
8. 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.

9. Infobanknew.com edisi 5.11.2020. Indonesia is the country with the largest number of banks *By Rezkiana Nisaputra on* 05/11/2020https://infobanknews.com/analisis/indonesia
10. Pulic,Ante.2000.VAIC™ An Accounting Tool for IC Management. International Journal of Technology Management.20 (5).pp 702-714.
11. Pulic,Ante.2008. The Principle of Intelectual Capital Efficiency. Brief Description. Croatian Intelectual Capital Centre. **https://www.scinapse.io/papers/2371185822**
12. Pusatis.com.ed.Jan.2021. Daftar Saham LQ45 Periode Agustus 2020 – Januari 2021.
13. https://pusatis.com/investasi-saham/indeks-konstituen/lq45/
14. Ulum.I.2009. Intelectual Capital.Konsep dan Kajian Empiris.Edisi 1. Graha Ilmu.Jogjakarta.
15. Wijayani.2017. The effect of intellectual capital on the company's financial performance. Survey of companies listed on the IDX for the period 2012-2014. Jurnal Riset Akuntansi dan Bisnis Airlangga. Vol 2 No.1. pp 97-116. https://sinta.ristekbrin.go.id/journals/detail?id=5028