

**THE EFFECT OF INTELLECTUAL CAPITAL ON COMPANY'S
FINANCIAL PERFORMACE AND STOCKS RETURNS**
**(Empirical Studies on LQ 45 Companies Listed in Indonesian Stocks Exchange
for Year 2015 -2017)**

UNDERGRADUATE THESIS

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**ECONOMIC AND BUSINESS FACULTY
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2021**

ABSTRACT**THE EFFECT OF INTELLECTUAL CAPITAL ON COMPANY'S
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(Empirical Studies on LQ 45 Companies Listed in Indonesia Stocks
Exchange For Year 2015-2017)****By:****SURYA AJI UTOMO**

The aim of this research is to determine the effect of intellectual capital towards firms financial performance and stocks return. The measurement of intellectual capital use Value Added Intellectual Coefficient (VAIC) models developed by Pulic while the firm financial performance proxied by ROA. The population of this study are LQ 45 companies listed in IDX for year 2015-2017. The sample selected by using purposive sampling method. Based on the existing criteria, there are 32 companies that became sample in this study. The data analysis in this study use multiple linear regression method with Eviews 9 statistical program. The result shows that there are positive effect of intellectual capital toward financial performance and stock return. This result indicates that LQ 45 companies capable to manage and maximize their intellectual capital to create value added. Thus, it will lead into the increasing of the financial performance that will be followed by the increasing of stock return.

Keywords : Intellectual Capital, Value Added Intellectual Capital (VAIC), Return on Asset (ROA), Stock Return.

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UNDERGRADUATE THESIS

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**As a Requirement to Achieve
A BACHELOR DEGREE OF MANAGEMENT**

of

**Management Major
Economic and Business Faculty University of Lampung**



**ECONOMIC AND BUSINESS FACULTY
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2021**

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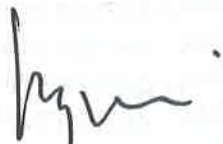
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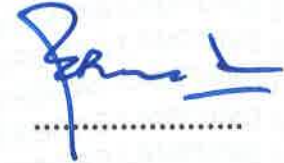
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I hereby declare that the thesis entitled "**THE EFFECT OF INTELLECTUAL CAPITAL ON COMPANY'S FINANCIAL PERFORMANCE AND STOCKS RETURNS (Empirical Studies on LQ 45 Companies Listed in Indonesian Stocks Exchange for Year 2015 -2017)**" this and all its content is truly the work of my own and I did not plagiatism or quotation in ways that are inconsistent with the prevailing ethic in the scientific community. On this statement, I am ready to bear the risk/ or any sanctions imposed to me in accordance with applicable regulations, if in the found a breach of scientific ethics, or you have a claim against the authenticity of my work

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Biography

The Researcher was born in Yogyakarta on Januari 7th 1996, as the second child of Joko Utomo and Jong Lien Joen. The Researcher has an elder sister named nathalia Kalis Utomo and a younger brother named Anggita Utomo. The researcher start a formal education at TK Kanisius Kotabaru Yogyakarta which was completed on 2002, and the continued to SD Kanisius Kotabaru Yogyakarta (2002-2003) , junior high school at SMP Kanisius Gayam Yogyakarta (2008-2011), and senior highschool at SMA Negeri 10 Yogyakarta 2011-2014.

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MOTTO

So do not fear, for I am with you; do not be dismayed, for I am Your God. I will strengthen you and help you; I will uphold you with my righteous right hand

(Isaiah 41:10)

For all those who exalt themselves will be humbled, and those who humble themselves will be exalted

(Luke 14:11)

A cheerful heart is good medicine, but crushed spirit dries up the bones

(Proverbs 17:22)

The pessimist sees the rose and not its thorns; the pessimist stares at the thorns, oblivious to the rose

(Khalil Gibran)

DEDICATION

I express my gratitude to my Lord and Savior Jesus Christ for his blessing; thus I could complete this undergraduate thesis properly. I present this undergraduate thesis to

MY FAMILY

My Parents, Joko Utomo and Jong Lien Joen, who have brought me into this beautiful world and raised me for decades. I sincerely would express my gratitude to my older sister Nathalia kalis Utomo and my brother Anggita Utomo. This undergraduate thesis would not be done with any of their supports, thus I hope this undergraduate thesis could be accepted well by them and it could make them feel proud of mee

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Praise and gratitude to My Lord and Savior Jesus Christ for his blessing, thus the researcher can complete the undergraduate thesis entitled “**The effect of Intellectual Capital on company’s financial performance (Empirical studies on LQ 45 stocks listed in Indonesian Stock Exchange for period 2015-2017)**”. This Undergraduate thesis is one of the requirements to achieve a bachelor degree at the economics and Business faculty, University of Lampung.

In Writing this undergraduate thesis, the researcher noticed that this achievement was not done alone and supported by many different people who were willing to offer the researcher with some guidances, help, and motivation. Thus, the researcher would like to express her gratitude for:

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Finally, the researcher realizes that this thesis is far from being perfect, but the researcher sincerely hopes that this undergraduate thesis will be useful for the readers.

Bandarlampung , Dec 06th

2021

Surya Aji Utomo

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I. INTRODUCTION

A. Background

The development of information and science has great impact on the business circumstances nowadays. This condition forces every business stakeholders to follow the condition to maintain the sustainability of their business. The business that can't follow the development of will be difficult to survive.

Since the ASEAN Economic Community enacted, the demand and supply of labor; goods; and services have rapidly flowed. Companies will compete to gain their competitive advantage through innovation. Thus, companies are forced to increase their performance by maximize the usage of their resources to be more effective and efficient until they can create value added that can lead them into fair competition in the market. This is consistent with resource based test developed by Barney and Clark (2007) that postulated if valuable, rare, inimitable, and non-substitutable resources are type of asset that has contribution for gaining the competitive advantage

Firms own resources that are necessary for the conduct operations, and resources that are vital for competitive advantages and strong financial performance (Riahibelkaoui, 2003). According to Barney (1991) in Riahibelkaoui (2003), there are two types of assets, the first types of assets is generally tangible such as property, plant and equipment, and physical technologies are common place in the market, easily imitable, and substitutable, and can be easily purchased and sold on the open market. The second types of assets are generally intangible, valuable, rare, mostly inimitable and non-substitutable, are strategic assets capable of generating sustainable competitive advantage and superior financial performance. The fundamental characteristics of intangible assets as strategic assets are their rarity, inimitability, and non-substitutability.

Competitive advantages in recent years has been the focus of competitive strategies and many hot debates have been conducted on this issue to improve performance and face the competitors, firms should have competitive advantage to gain higher performance in order to maintain their position in the market. Lately, not only competition's sensitivity but also its nature has changed. Since, the focus of companies for gaining higher performance and competitive advantage has shifted from investments on tangibles to intangibles. Intellectual capital is one of intangibles assets that become the main drive behind the company performances (Gogajeh., 2015).

The economic development affected by the information and knowledge that caused the increasing of the concerns about the intellectual capital. Companies realize that the business competition is not only about the ownership of the tangible asset, but more about innovation, information system, and the management of organization and human resource (Tan *et al.*,2007). Innovation developed by company could gain companies' value added that attract the investor to invest. Thus, the business organization put more concerns about the importance of knowledge assets as one form of intangible assets (Agnes., 2008)

The transformation about intellectual capital has strong relationship with the resource-based theory that commonly applied by many companies in the current time become one of many factor that should be considered to be analyzed because of the implications itself will affect the financial reporting (Wiradinata & Siregar, 2011). Financial reporting that usually been focused on business performance, began to considered inadequate for financial reporting. There is several information that need to be reported to the stakeholder about the value of the companies itself. Those value can be innovation, knowledge, the employee development, the relationship with the consumer and distributor.

The information about intellectual capital is one valuable information that need to be known by the investor because intellectual capital has important role in order to gain the value of the firm (Bontis, 2001). Investors need to know about the value of the intellectual capital itself as additional information that can be considered before they make investment decision. Therefore, a method is needed to identify

the intellectual capital, thus the investor can predict about the return they will generate in the investment.

According to Edvinsson and Malone (1997), one of the advantages of intellectual capital is to measure the value of the firm. Intellectual capital has important role in the increasing of the value of the firm and the firm performance. Gain the financial performance is one strategy to increase the value of the firm. The increasing of financial performance will be followed by the increasing of the stock prices. If the financial performance show good prospect, then the stock will attracted the investors and it will followed by the increasing of its' price. Commonly, the investors make an assessment using profitability ratios.

Commonly, the theory of intellectual capital has been developed by several researchers such as Roos *et al* (2005) in Peng *et al* (2007) defined intellectual capital as al non-monetary and non-physical resources that are fully or partly controlled by the organization by the organization and that contribute to the organization's value creation. While Bontis *et all* (2000) in Siregar and Wiradinata (2011) stated that intellectual capital are intellectual tools consist of knowledge, information, intellectual property, and experience that can be used to gain company's welfare.

Intellectual capital been classified into three broad areas of intangible whereas human capital, structural capital, and customer capital. According to Bontis *et all* (2000), human capital represents the individual knowledge stock of an organization as represented by its employee. Structural capital include all of the non-human storehouse of knowledge in the organization which include the database, organizational charts, process manual, strategies, routines and anything whose value to the company s higher than its material value. Customer capital represents the potential an organization has due to ex-firm intangible the main theme of customer capital is the knowledge embedded in the marketing channels and customer relationships that an organization develops through the course of conducting business

Business entity developed the right measurement about the intellectual capital. One of the model can be used to measure the intellectual capital is VAICTM method. VAICTM developed by Pulic (2001) enables the firm to measure its value creation efficiency. This model focused on the capability of the firm to create the value added (VA) that can be calculated as the difference between output and input

Value creation is considered key to every business activity. However, in recent times the efficiency of value creation is more important for success than the absolute value addition. Intellectual capital is an important resource in this value creation process. Thus, measuring it enables the firm to increase its market performance (Kamath., 2007).

Several previous studies of intellectual capital proxied by VAICTM show different result. Research from firer and William (2003), Chen *et al* (2005), Tan *et al* (2007) finds that there are positive correlation between intellectual capital toward financial performance and market value. These studies indicate that well managed intellectual capital will boost both the company's financial performance and market value. Salehi *et al* (201), Alipour and Muhammad (2015), and Scarfato *et al* (2016) finds that intellectual capital has positive correlation toward company's financial performance, while Appuhami (2007) finds that intellectual capital has positive correlation toward stock return. whereas, Kuryanto and Syarifuddin (2008), didn't find any significant effect between intellectual capital toward company's financial performance and its' stock return. While the research Tanideh (2003) finds that intellectual capital has positive correlation toward financial performance, but it didn't find significant effect between intellectual capital toward market value. It indicates that intellectual capital only affect the financial performance but not the market performance.

Wiradinata and Siregar (2012) finds that the correlation between intellectual capital and firms' financial performance and capital gain is different depends on the company sector. From the banking sector, it indicates that intellectual capital doesn't affect the financial performance and capital gain, while from insurance sector intellectual capital has significant influences toward financial performance

and stock return. From all of those studies, it can be seen that there are several different result about the effect of intellectual capital itself.

This study is replication of Firer and William (2003), Chen *et al* (2005), Tan *et al* (2007), Basuki and Sianipar (2012) research which analyze the relation between intellectual capital toward firm financial performance and market value but using different proxy of variables and different periods of research. According to Chen *et al* (2003) the increasing of the financial performance will lead to the increasing of the price of the market value that can be indicates from the increasing of the stock price. Based on those, this study examine whether intellectual capital affect both of financial performance and stock return. This study also use control variable to avoid fake relationship between independent variable and dependent variable (Wiradinata and Siregar, 2011). Thus, the control variable used in this study is firm size. Based on the background above, the author is interest to do a research entitled **“THE EFECT OF INTELECTUAL CAPITAL ON COMPANY’S FINANCIAL PERFORMANCE AND STOCKS RETURNS (Empirical Studies on LQ 45 Stocks listed in Indonesian Stocks Exchanges for period of 2015 –2017).**

B. Problem formulation

Based on the background that has been explained, the author formulate the problem as follow:

1. Does intellectual capital has positive effect on Company’s financial performance ?
2. Does intellectual capital has positive effect on stock return ?

C. Research Objectives

1. To find empirical evidence about the effect of intellectual capital toward financial performance.

2. To find empirical evidence about the effect of intellectual capital toward stock return.

D. Research benefit

1. For academician, the result of this research will add to the literature in finance and give additional evidence about the effect of intellectual capital toward financial performance and stock return.
2. For investor, the result could be valid information to be considered before making an investment in stock market
3. This research could be used as reference for the next researcher to develop the new variables that need to be tested.

II. LITERATURE REVIEW, FRAMEWORK, AND HYPOTHESIS DEVELOPMENT

A. Literature Review

1. Resource Based Theory

Basic theory that underlie this research is resource based theory (Riahi-Belkaoui, 2003). This theory postulate that company resources are heterogeneous, productivity comes from companies' that provide unique characteristic for each company. This theory assumes that company is a set of tangible and intangible assets; companies' capabilities to obtain, organize, and maintain resources. Resource based theory emphasized that companies' performance is one outcome from the effective and efficient usage of companies' intangible and tangible assets (Siregar and Wiradinata, 2011)

According to Barney (1991) in order to give competitive advantage among other competitor, company's resource should have VRIN criteria. Thus, the VRIN Criteria as follows:

- a. Valuable (V): resources are valuable if it can give strategic value to the company.
- b. Rare (R): resources that can't be find by the competitor could become company's potential resources.
- c. Imperfect imitability: resources could become the source of competitive advantage only if that resources can't be imitated by the competitor
- d. Non-Substitution (N): Non-Substitution means that the resources can't be substitute by the other alternative resources

The resource-based view of the firm views firms resources as the main drive behind the competitiveness and firm performance. These resources include both tangible physical assets as well as the intangible assets that have been internalized by the firm and used effectively and efficiently to implement specific competitive

and profitable strategies. While the role of physical assets is well established in the literature and in practice, it is the role of intangible assets as strategic resources that needs and deserves investigation (Riahibelkaoui, 2003).

Resource-based theory stated that firm competitive advantage earned from the capability of the company to combine and utilize their resource (Chen *et al*, 2005). The resources itself are both of tangible and intangible, and it represent the input in the production process. Along with the increasing of effectivity and the capability of the firm, the resources needed are increasing too. Chen *et al* (2005) stated that to gaining the competitive advantage, company should unique resources and capability to manage it more than the competitor does. Resource-based theory focused on the resources and its development on the organization, that will lead into value creation.

Moreover, Susanto (2007) stated that there are two main factors should be needed by the company. First, the company has competitive advantages in term of the resources itself. The second is the company has the ability to manage their resources effectively. The combination between resources and the company's ability will create unique competitive advantages that can's be imitate be the competitors. The example of the input from the combination consist of fixed assets, employee's skills, good management system, patent, and good experienced manager.

To explain the effect of intellectual capital towards the financial performance and stock return, companies gain their competitive advantages by own, controlled, and manage their strategic assets including their tangible or intangible assets. Bontis (2000) stated that intellectual is intangible assets that can be the key of value creation of the company. Intellectual capital itself consist of three main component, human capital, structural capital, and relational capital. All of those components has VRIN criteria, which is mean that intellectual capital is strategic assets that can gain competitive advantages (Kamath, 2007). According to resource based theory, if companies able to manage their resource effectively, then they can gain their competitive advantages among their competitor. Thus, it will reflect in their financial performance and stock return.

2. Stakeholders Theory

The development of the business circumstances in the modern era forces the company to not only think about their interest, but also consider about the interest of their stakeholders. Knowing every stakeholder that involve in the company's business activity become important thing that must be considered. This is very important for the company to know how exactly they will serve or full filled the interest of every stakeholder (Rivai., 2010).

The definition of stakeholders itself firstly introduced by Standford Research Institute (RSI) in 1963 (Freeman, 1984). Thus, freeman developed the theory about stakeholder in 1984 through his book entitled “ A Stakeholder Approach”. Freeman (1984) define stakeholder as an group or individual who can affect or be affected by the achievement of an organization's objective. It's mean that the existence of the stakeholder will also affect the way or how the company will reach its' objectives. According to this theory, every people and group that involve whether directly or indirectly in the business environment are the company's stakeholders that should be considered by the company. Therefore, the example of stakeholder that directly involved is shareholders, managers, employee, etc (Apriliani, 2011).

According to Siregar and Wiradinata (2011), stakeholder theory considers the position of the stakeholder that is considered to have power in the company. The stakeholders become the main consideration for the company whether the information in the financial statement will be revealed or not. In the stakeholder theory point of view, the company put concern on stakeholder also, not only shareholders. The stakeholders itself consist of shareholders, employee, customers, distributor, creditor, government, and society (Riahi-Belkaoui, 2003).

According to Kasali (2005) as cited in Lindawati and Puspita (2015), stakeholders itself can be classified into two categories:

1. Internal Stakeholders: group of stakeholders that belongs in the inside of the organization environment such as employee, manager, and shareholders.
2. External stakeholders: group of the parties outside the organization environment, but their existence affect the decision making of the organization. Parties that include in this type of stakeholders are distributor, consument, society, and government.

According to Ulum et all (2008), all kind of strategic information should be delivered to the stakeholders in order to fulfilled the interest of the stakeholders, this information include the information about the intellectual capital. Information about value added is important because it's reflects the result of how company manage their intellectual capital. The consensus appeared from the context of the stakeholder theory, accounting income commonly known as a measurement of return for the shareholders, while value added is proper measurement created by the stakeholders distributed to the same stakeholders. Thus, value added is the increasing of the companies' wealth as the result of the usage of companies' resources. The companies' value added could be connected with the return of investment that considered as a measurement for the shareholders. Therefore, whether value added or return of investment could explain the connection between stakeholders theory toward the companies' performance (Siregar & Wiradinata, 2011).

To explain the relation between intellectual capital toward financial performance and market value, the stakeholder theory can be analyzed into two points of view. First, the ethical point view emphasized that all stakeholder has right to be threat fairly by the company. The managers should manage the company not only for the sake of the company itself, but also for the stakeholder. The managerial point of view emphasized the ability of company to create value by managing the company's resources. The value creation is by manage all of the potency owned by the company such as employee (Human Capital), Physical Capital, and structural capital. The good management of those assets will create value added

for the company. Thus, it will increase the financial and market performance for the sake of the stakeholder. (Deegan., 2004).

When the manager able to manage the organization to the maximum in value creation for the company. Value creation itself is take full advantage of all of the strategic assets such as employee (human capital), physical capital, and structural capital. A good management of those assets will create value added for the company. Thus, it will boost the financial performance for the sake of the stakeholders.

3. Previous Research

Here is the table about the of the previous research about intellectual capital

TABLE 2.1. SUMMARY OF THE PREVIOUS STUDY

No	Title	Research Variable	Research Methods	Result
1.	Firer & William (2003)	Dependent :Financial Performance (ROA, ATO, MB). Independent: Intellectual Capital (VAIC™)	Linear multiple regression	The correlation between each element of intellectual capital toward financial performance shows various result depend on the companies sector. While structural capital (SC) has the most significant correlation compared with HC and CE.
2.	Chen <i>et al</i> (2005)	Dependent: Market-to-Book Value (M/B), ROE, ROA, Growth Revenue (GR), Employee Productivity (EP)	Partial Least Square	Firm's intellectual capital has positive impact on market value and financial performance

CONTINUE TABLE 2.1. SUMMARY OF THE PREVIOUS STUDY

		Independent: Intellectual Capital (IC), R&D expenditure (RD), Advertising expenditure (AD).		
3.	Tan <i>et al</i> (2007)	Dependent: Company's performance (ROE, EPS, ASR) Independent: Intellectual Capital (VAIC TM) & RGOIC	Partial Least Square	Intellectual capital has positive correlation toward company's performance. IC and RGOIC has positive correlation toward company's performance in the future.
4.	Appuhami (2007)	Dependent: Stock Return Independent: Intellectual Capital (VAIC TM)	Linear multiple regression	Intellectual Capital has positive significant towards stock return.
5.	Kuryanto & Sarifudin (2008)	Dependent: Company's Performance (ROA, EPS, ASR) Independent: Intellectual capital (VAIC TM)	Partial Least Square	IC and company performance are not positively correlated, IC is not correlated to future company performance. RGOC is not positively correlated to the company's performance
6.	Basuki & Sianipar (2012)	Dependent: Financial Profitabilty (ROA & ROE) & Capital Gain Independent: Intellectual Capital	Multiple linear regression	For banking sector, intellectual capital does not have significance influence toward ROA, ROE, capital gain. While in insurance sector,

CONTINUE TABLE 2.1. SUMMARY OF THE PREVIOUS STUDY

				intellectual capital has significant influence toward ROE, ROA, & capital gain
7.	Tanideh (2013)	Dependent: ROA & Value of corporation Independent Innovation Capital & Intellectual Capital	Multiple linear regression	There are no significant correlation between IC toward value of corporation, but there are significant correlation between intellectual capital and firm financial performance
8.	Salehi <i>et al</i> (2014)	Dependent: ROA Independent: Intellectual Capital (VAIC™)	Multiple linear regression	This research shows that there is significant relationships between the financial performance of the firms and all the proxy of independent variables except structural capital efficiency.
9.	Alipour & Muhammad (2015)	Dependent: ROA Independent: VAHU, VACA, STVA	Partial Least Square	Each of Intellectual Capital's component has positive impact toward Firm Financial Performance (ROA)
10.	Scarfato <i>et al</i> (2016)	Dependent: ROA Independent: Intellectual Capital	Multiple Linear Regression	Each component of IC has positive impact toward firm financial performance (ROA)

B. Hypothesis Development

1. The effect of intellectual Capital toward Return On Asset (ROA)

Several researcher on the field postulated that intellectual capital consist of three element that is human capital, structural capital, and relational capital. All of those elements utilized together by the company to create value added and competitive advantage. This statement supported by Resource Based Theory that postulated if the company able to manage their resource well, the company will gaining their competitive advantages (value added) that will affect the company's performance.

The increasing of value added will lead into better firm's performance. The companies that put their concern toward value added will take it more seriously to manage their intellectual capital, thus it will lead to the increasing of their intellectual capital's quality. Intellectual capital as an intangible asset has a role as potential asset and if the companies can manage it effectively and efficiently, off course it will gain company's competitive advantages toward their competitors.

According to knowledge based theory, knowledge has important role in the organization or company. This theory emphasized that human resources has strong relationship with organizational knowledge in where they works. Thus, if the human resource really understand about the important factor that can affect the company's performance such as the development of the employee; distribution channel; customers; and all others factors, they will give their best performance to the company. As commonly known, that knowledge is one component of intellectual capital that has strong correlation with another component. Companies have responsibility to manage the knowledge and in order to maintain their performance.

Companies' performance is one outcome from the effective and efficient usage of companies' intangible and tangible assets (Wiradinata & Siregar.,2011). The more effective and efficient the utilization of the resources, the more profit will generate

by companies. The companies' performance could be measure through its' financial performance.

Several studies have examines the relationship between intellectual capital and financial performance. Research from Firer & William (2003), Chen *et al* (2005), Basuki & Sianipar (2012), Alipour (2012), Salehi *et al* (2014), Scarfato *et al* (2016) find that there is positive correlation between intellectual capital and company's financial performance. Thus, the research hypothesis can be developed as follows:

H1 : Intellectual Capital has positive effect toward Return On Asset (ROA)

2. The effect of intellectual capital toward stock return

Resource based theory postulated that the optimization of company's assets will gain it's competitive advantages toward the competitors. The good asset management will automatically increase the value of the firm that will be followed by increasing of company's profit and it will give more advantages to the stakeholder (Ulum, 2008). According to stakeholder theory, the company doesn't engage to fulfilled its interest, but also have responsibility to give and advantages to their stakeholders. If the company able to create value by maximizing each component of intellectual capital, it's mean that the interest of the stakeholder is fulfilled and it will affect the investment volume in the company that will lead into the increasing of the company's value.

Nowadays, investors take a critical look at not only the financial parameters, but also the non-financial parameters that determine the long-term success of a company. These new non-financial parameters challenge the usefulness of evaluating companies solely on traditional measures as they appear in the financial report of a company. Thus, the intangible assets of the company have been receiving considerable attention from all corners of the industry. Besides simply reporting the intellectual capital investment made by the

firm with its performance in the long run (Kamath, 2007). Thus, the investor begin to put their concern into company's intellectual capital as one consideration before they make investment activity.

Edvindson and Malone (1997), stated that one of the advantages of intellectual capital is to measure the value of the firm. Intellectual capital has important role in the increasing of the value of the firm and the firm performance. Company that able to manage their intellectual capital efficiently, will increase its' market value (Sunarsih & Mahendra, 2012). The more efficient the company managing their assets, the profitability will increase, with the result that the firm financial performance will also increase. The increasing of the firm financial performance will be responded positively in the market, thus the market value will be increase. The increasing of firms' market value will be indicated by the increasing of stock prices. Thus, the potential investors are interest to invest as they hope to earn capital gain.

Capital gain earned by investors significantly depends on firm performance. Investors in the market place tend to demand shares of firms that have higher performance than those with average performance in the market (Appuhami, 2007). In addition to dividends, capital gain is one of objectives of investors. Capital gain refers to the profit earned by investor by selling shares in the secondary market. Investors sell shares when the market price is higher than the purchase price in order to earn capital gain. Thus, investors are motivated to buy shares of firm which have increasing market price. Likewise, firm with higher intellectual capital will increase its' performance that will be followed by the increasing of market price (Appuhami, 2007). In the other word, the price of the stock reflects the value of the company. The higher the price, the higher the value of the companies. Thus, the following hypothesis postulated

H2 : Intellectual capital has positive effect toward stock return

C. Theoretical Frameworks

The independent variable of this study is intellectual capital proxied by VAICTM (Value Added Intellectual Capital) consist of VACA, VAHU, and STVA. The dependent variable of this study is financial performance proxied by ROA, and stock return. Thus, this study attempt to examine the relationship between intellectual capital with the firm's performance.

1. The effect of intellectual capital toward firms' financial performance and Stocks return

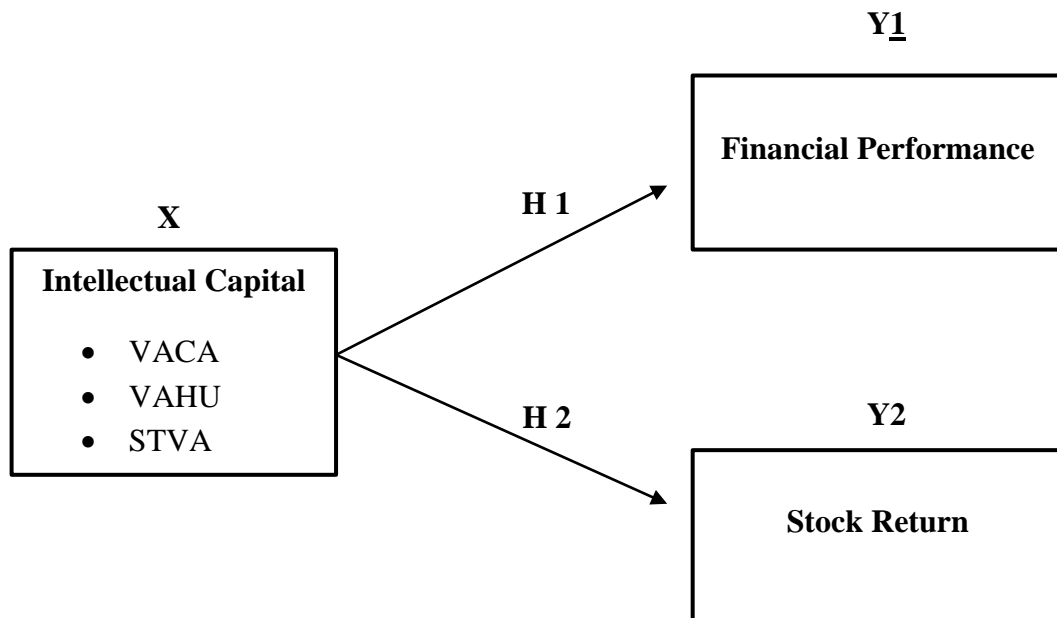


FIGURE 2.1 THEORETICAL FRAMEWORK

III. RESEARCH METHOD

A. Type and Source of Data

This research is quantitative research to test the effect of growth intellectual capital toward company's financial performance and stock return of companies listed in LQ 45 index in 2015-2017. The data used in this study is secondary data. Secondary data in this study is the annual financial report from companies listed in LQ 4 index in 2015-2017 that obtained from Indonesian Stock Exchange (IDX) website

B. Definition Operational Variable

1. Independent Variable

a) Intellectual Capital

Commonly, intellectual capital (IC) is defined as any creation of the human intellect or mind. However, several researchers across globe have defined and delineated specific concepts of intellectual capital in their own way (Roos *et al.*, 1997) in (Kamath., 2007). Bontis *et al* (2000) in Siregar and Wiradinata (2011) stated that intellectual capital are intellectual tools consist of knowledge, information, intellectual property, and experience that can be used to gain company's welfare.

According to Das and Teng (2000), Gibbert (2006), and Michalisin *et al* (2004), as cited in Kehelwalatenna (2016), resources which are imperfectly mobile, simultaneously valuable, rare, costly to imitate and non-substitutable are considered strategic assets. In relation to this, intellectual capital can also be categorized as a strategic asset because it is recognized as firm-specific knowledge-related asset (Stewart, 1997) in Kehelwalatenna (2016) that bears the

characteristic of rarity, inimitability, non-substitutability and non-observable nature (Riahi-Belkaoui, 2003).

According to Marr (2004) in Salehi *et al* (2014) intellectual capital is a group of knowledge assets that are attributed to an organization and most significantly contribute to an improved competitive position of the organization by adding value to the defined key stakeholders.

b) The Component of Intellectual Capital

According to Bontis *et al* (2000), researchers in the field have identified three main construct of intellectual capital that includes: human capital, structural capital, and customer capital

1) Human Capital

Human capital represents the individual knowledge stock of an organization as represented by its employee. Employees generate intellectual capital through their competence, their attitude, and their intellectual agility. Competence includes skills and education, while attitude covers the behavioral components of the employees' work. Intellectual enables one to change practices and to think of innovative solutions to problems. Even though employees are considered the most important corporate asset in a learning organization, they are not owned by organization. Slavery is over after all, but there is still tremendous argument as to whether new knowledge generated by employees belongs to the company or not (i.e. a software programmer developed code while at home on the weekend yet the company still lays claim to the codified knowledge).

Human Capital can also be described as the firm's collective capability to extract the best solutions from the knowledge of its individual. Unfortunately, people's departure can result in the loss of corporate memory and hence become a threat to the organization.

Human capital is important because it is source of innovation and strategic renewal, whether it is from brainstorming in a research lab, daydreaming at the office, throwing out old files, re-engineering new processes, improving personal

skill personal skills or developing new lead in a sales rep's little black book. The essence of human capital is the sheer intelligence of the organizational members

2) Structural Capital

Structural capital include the non-human storehouse of knowledge in organizations which include the database, organizational charts process manuals, strategies, routines, and anything whose values to the company is higher than its material values. Roos et al (1997) in as cited Bontis et al (2000) describes structural capital "what remains in the company when employees go home for the night". Structural capital arises from processes and organizational value, reflecting the external and internal focuses on the company, plus renewal and development value for the future. According to Bontis et al (2000), if an organization has poor system of procedures by which to track its actions, the overall intellectual capital will not reach its fullest potential. Organization with strong structural capital will have a supportive culture that allows individual to try new things, to learn, and to fail structural capital is the critical link that allows intellectual capital to be measured at the organizational level of analysis.

3) Relational Capital

According to Ahangar (2011) as cited in Kehelwalatenna (2016), relational capital is the relationship with customers, and network with suppliers, strategic partners, and shareholders. Relational capital comprises knowledge about market channels, customer and supplier relationships, and government industry networks Ghosh and Wu (2007). While Bontis *et al* (2000) explain the elements of relational capital are customers, competitors, suppliers, trade association, and government bodies with which organizations develop relationships.

c) Intellectual Capital Measurement

Pulic (2000) as cited in tan *et al* (2007) developed the "Value Added Intellectual Coefficient" (VAICTM) to measure the intellectual capital of the companies. There's two important aspect of value creation in the development of Pulic model:

- a. Market-based intellectual capital cannot be calculated for companies that are not listed on the stock market.
- b. There is no adequate system of monitoring the efficiency of current business activities performed by employees, or whether their potential is directed towards value creation or value destruction.

The VAICTM method designed to provide information about the value creation efficiency of tangible and intangible assets within a company. The model started by seeking for the companies' ability to create value added (VA). Value Added (VA) is the difference between output and input. Output represents the revenue and comprise all the products and services sold on the market. Input represents all the expenses incurred in the earning the revenue except manpower. In this model, labor expenses are not included in input.

$$\text{Value Added (VA)} = \text{Output} - \text{Input}$$

Explanation

Output = Total sales and other expenditures

Input = All the expenses (except manpower cost)

The second relation is VA with physical capital (CA), called "Value Added Capital Coefficient" (VACA). This is an indicator for the VA created by one unit of physical capital. Pulic assumes that if a unit of CA generates greater returns in one company than another, then the first company is better at utilization of its CA.

The formula used :

$$\text{VACA} = \text{VA/CA}$$

Explanation

VA = Value Added

CA = Net Asset Value

The next relation is VA and Human Capital (HC), is called by “Value Added Human Capital” (VAHU). VAHU shows how much VA is created by a Rupiah spent of the employees. The relation between VA and HC indicates the ability of HC to create a value in the company. Total salary and wage cost are and indicator of a firm HC.

The formula used :

$$VAHU = VA/HC$$

Explanation

VA = Value Added

HC = Total salary and wage cost

The fourth relation is “structural capital coefficient” (STVA), which shows the contribution of structural capital (SC) in the values creation. In Pulic’s model, SC is VA minus HC. The lesser the contribution of HC in value creation the greater the contribution of SC. STVA measures the amount of SC needed to generate a rupiah of VA and its indication of how successful SC is in value creation

The formula used :

$$STVA = SC/VA$$

Explanation

STVA (Struktural Capital) = VA – HC

The last ratio is the calculation of the intellectual capital itself. It’s the sum of Value Added Capital Efficiency (VACA), Value Added Human Capital (VAHU), and structural capital coefficient (STVA).

$$VAIC^{TM} = VACA + VAHU + STVA$$

2. Dependent variable

a) Firms' Financial Performance

According to Ross *et al* (2015), financial performance is reflection of the success of the company for the business activity that has been done. One method can be used to measure the financial performance of the firm is by using the financial ratios analysis. the output generated from the calculation of the financial ratio most used to evaluate whether the firm have reach its' target or not. Thus, it also can be used to measure the capability of the management to manage their resources (Kasmir, 2008)

Since the aim of the company is to maximize the wealth of the shareholders, the way the company generate profit become one of the crucial things that always become the concerns of the company. The better the profit can generate by the company, the bigger the chance for the potential investor to invest in the company. According to Kasmir (2008), the information that mostly to be check before the potential investors decide to invest is profitability ratio. Profitability ratio is a ratio that measure the capability of the company to generate profit. Profitability ratio used in this research is ROA

Return on Assets (ROA) ROA is the ratio that reflects the capability of the firm to generate net income for single unit of asset. This ratio also known as Return on Investment (ROI). Managers often measure the performance of the firm by the ratio of net income to total assets. ROA is the ratio that reflects the capability of the firm to generate net income for single unit of asset. This ratio also known as Return on Investment (Brealey & Meyers, 2003). The higher the ROA means more effective and efficient the company to manage and use their assets. Thus, return on Assets formulated as follows

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

b) Stock Return

According to Jogiyanto (2010), return is the result the shareholders received from their investment activity. There are two types of return, realized return is return

that already received in the current time, realized return can be calculated by using historical data, while expected return is return that will be achieved in the future. In this research, the way to calculate the return itself by seeking for the difference between the current price of the stock and the price of the stock in the previous period, then divided by the current price of the stock . If the current price of stock is higher the previous price, it called by capital gain. In the opposite, if the current price is lower than the previous price, it is called by capital loss. Thus, stock return can be formulated as follows (Jogiyanto, 2010):

$$R_{it} = \frac{P_t - p_{t-1}}{P_{t-1}}$$

Explanation

R_{it} = Stock return of the i company for the period of t

P_t = Market price per share of the i company in the end of t period

P_{t-1} = Market price per share of the I company in the beginning of t period

3. Control Variable

Firm Size

According to Jogiyanto (2013), firm size shows the size of the firm that can be calculate from total assets, sales, and market capitalization. In this study, the firm size calculated by seeking the natural logarithm of total assets in the end of the year. Thus, here are the formula to calculate the firm size

$$\text{Firm size (SIZE)} = \text{Natural logarithm (ln) of total assets}$$

C. Population and Sample

The population in this is companies that listed on the LQ 45 index on Indonesian Stock Exchange (IDX) for a period time from 2015-2017. The sample in this study was selected by using purposive sampling method. Purposive sampling is a

method of sampling based on certain criteria and consideration. Thus, the criteria of sampling in this study considered as follows :

1. Companies that listed in LQ 45 index start for the period of February 2015- August 2017
2. Companies that can maintain their position in LQ 45 index for the period of February 2015- August 2017 in a row
3. Company should have complete historical price of their stock for the period of February 2015- august 2017.

Thus, from the criteria above, here are the sample :

TABLE 3.1 SAMPLE DETERMINATION CRITERIA

No.	Sample Criteria	Total
1	Total number of population for the period 2015-2017	52
2	Companies that can't maintain their position in LQ45 index for the period 2015-2017 in a row	(20)
Total Research Sample		32
Total Observation		96

Source : www.idx.co.id and processed data

Based on these criteria, the companies that listed in LQ45 index on Indonesia Stock Exchange (IDX) for the period of 2015-2017 that fulfill the criteria as sample in this research as follows:

TABLE 3.2 LIST OF 32 LQ 45 COMPANIES WERE MADE FOR SAMPLE OF THE RESEARCH

No.	Code of Companies	Companies Name
1	AALI	Astra Agro Lestari Tbk
2	ADHII	Adhi Karya (persero) Tbk

CONTINUE TABLE 3.2 LIST OF 32 LQ 45 COMPANIES WERE MADE FOR SAMPLE OF THE RESEARCH

3	ADRO	Adaro Energy (persero) Tbk
4	AKRA	AKR Corporindo Tbk
5	ASII	Astra International Tbk
6	BBCA	Bank Central Asia Tbk
7	BBNI	Bank Negara Indonesia (persero) Tbk
8	BBRI	Bank Rakyat Indonesia (persero) Tbk
9	BBTN	Bank Tabungan Negara (persero) Tbk
10	BMRI	Bank Mandiri (persero) Tbk
11	BSDE	Bumi Serpong Damai Tbk
12	GGRM	Gudang Garam Tbk
13	ICBP	Indofood CBP Sukses Makmur Tbk
14	INDF	Indofood Sukses Makmur Tbk
15	INTP	Indocement Tungal Prakasa Tbk
16	JSMR	Jasa Marga (persero) Tbk
17	KLBF	Kalbe Farma Tbk
18	LPKR	Lippo Karawaci Tbk
19	LSIP	PP London Sumatera Tbk
20	LPPF	Matahari Department Store Tbk
21	MNCN	Media Nusantara Citra Tbk
22	PGAS	Perusahaan Gas Negara Tbk
23	PTBA	Tambang Batubara Bukit Asam (persero) Tbk
24	PTPP	PP (Persero) Tbk
25	PWON	Pakuwon Jati Tbk
26	SMGR	Semen Indonesia (persero) Tbk
27	SMRA	Summarecon Agung Tbk
28	SSMS	Sawit Sumbermas Sarana Tbk

CONTINUE TABLE 3.2 LIST OF 32 LQ 45 COMPANIES WERE MADE FOR SAMPLE OF THE RESEARCH

29	TLKM	Telekomunikasi Indonesia Tbk
30	UNTR	United Tractors Tbk
31	UNVR	Unilever Indonesia Tbk
32	WIKA	Wijaya Karya (persero) Tbk

D. Method of Analysis

1. Descriptive Statistic Test

According to Ghozali (2011), descriptive statistic provide a description of data from average value/mean, standard deviation, maximum, and minimum. It aims to provide an overview of the object under study through the sample data to make general conclusions so that the variables used in this study easier to understand

2. Classic Assumption Test

a. Normality Test

Normality test aims to test whether the data of dependent variables, independent variables, or both have a normal distribution test. A good regression model is to have normal data distribution or close to normal, whereas normal distribution can be known by looking at the spread of statistical data on the diagonal axis of the normal distribution graph (Ghozali, 2011). The basis for decision-making whether the data is normally distributed or not is by looking at criteria as follows:

- 1) If the data spreads around the diagonal line and follows the direction of the diagonal line or the histogram graph show the normal distribution pattern, then the regression model meets the assumption of normality.
- 2) If the data spread far from the diagonal line and/ or does not follow the diagonal line or histogram graph does not show the normal distribution pattern, then the regression model does not meet the assumption of normality.

b. Autocorrelation Test

According to Ghozali (2011), the autocorrelation test aims to test whether in a linear regression model there is a correlation between the error in year t period with the error in the period $t-1$. If there is correlation, then there is called an autocorrelation problem. To test whether there is autocorrelation in the regression model, Durbin-Watson (D-W test) can be applied. There is several result of the D-W test that can be considered whether there is autocorrelation or not.

1. If the D-W lies value between upper bound (d_u) and $(4-d_u)$, then the autocorrelation coefficient is zero, it's mean that there is no autocorrelation.
2. If the D-W value is lower than the lower bound (d_l), then the autocorrelation coefficient is greater than zero, it's mean there is positive autocorrelation.
3. If the D-W value is greater than $(4-d_l)$ then the autocorrelation coefficient is smaller than zero, meaning there is negative autocorrelation.
4. If the D-W value lies between the upper bound (d_u) and bellow the lower limit (d_l) or D-W is between $(4-d_l)$ then the result can not be inferred.

c. Heterocedasticity Test

Heteroscedasticity test aims to test whether in the regression model there is a variant inequality of the residual one observation to the other observation. If the variant of the residual of one observation to other observation remains, then it's called by homocedasticity and if different is called heterocedasticity. The good regression model is homocedasticity or there is no heterocedasticity. Heteroscedasticity test with spearman's rho correlation is correlate independent variable with unstandardized residual value. The test used a 0.05 significance level with – sided test. if correlation between independent variables with residual

in the significance more than 0.05, it's mean that there is no problem of heteroscedasticity on the model regression (Ghozali,2011).

3. Hypothesis Testing

a. Residual Sognificance Test (F-Test)

Statistical test F is a method to test the effect between dependent variable toward independent variable simultaneously. This test is used to determine the main influence and interaction effect of categorical independent variable to the dependent variable of metric (Ghozali, 2011). Compare the level of significance that arises, with a probability of 1%, 5%, and 10% as the output to decide whether the null hypothesis (H_0) is rejected or accepted. Here are how to perform test is as follows:

- a) If the significance > 0.05 then the H_0 is accepted while the H_a rejected. It's meant that independent variable simultaneously has no significant effect toward dependent variables.
- b) If the significance < 0.05 then the H_0 rejected while H_a accepted. It's mean that independent variable simultaneously has significant effect toward dependent variables.

b. Partial Significance Test (T-Test)

The statistical T test is used to indicate how far the explanatory of independent variables individually explain the variation of the dependent variable (Ghozali,2011). This test is performed to test the partial independent variable with probability level of 5%. The decision whether to accept the hypothesis as follows

- a) If the significance > 0.05 then the H_0 is accepted while the H_a rejected. It's meant that independent variable partially has no significant effect toward dependent variables
- b) If the significance < 0.05 then the H_0 rejected while H_a accepted. It's mean that independent variable partially has significant effect toward dependent variables.

c. Multiple Regression Analysis

According to Ghozali (2011), multiple linear regression is to test whether the influence of two or more independent variables on one dependent variable. It's called multiple because of there are many variables that may affect the dependent variables. Regression analysis aims to determine whether the resulting regression is good for estimating the value of the dependent variable. Then, the analysis method in this study are :

$$\mathbf{ROA} = \alpha + \beta_1 \mathbf{VAIC} + \beta_2 \mathbf{SIZE} + e$$

The regression formula above is to test the H1, whether the intellectual capital has positive impact toward the ROA or not. Thus, to test the H2 that postulated that the intellectual capital has positive impact toward stock return , the author use the model of regression below.

$$\mathbf{Rit} = \alpha + \beta_1 \mathbf{VAIC} + \beta_2 \mathbf{SIZE} + e$$

Explanation

ROA = Return on Asset

Rit = Stock return

SIZE = Firm size

α = Constant

β_1 = Coefficient of regression

VAIC = Value Added Intellectual Coefficientcy

e = error

5. CONCLUSION

A. Conclusion

The aim of this research is to examine the effect of intellectual capital toward company's financial performance and stock return. The sample taken from the company's that listed in LQ 45 index for the period of 2015-2017. The intellectual capital measurement by using Pulic method or commonly known by Value Added Intellectual Capital (VAIC) while the company's financial performance proxied by return on asset (ROA). This research also use company's size as control variable formulated by natural logarithm of company's total asset.

Conclusions of this study can be describe as follows :

1. Intellectual capital has positive effect toward financial performance (ROA) in LQ 45 company for year of 2015-2017. Thus, this result support the first hypothesis that stated that intellectual capital has positive effect toward ROA. The result prove that the better the company utilize the intellectual capital will lead into the increasing of the company's financial performance. Thus, it can be concluded that intellectual capital is one important variable that will determine the value of ROA.
2. The second hypothesis of this study stated that intellectual capital has positive effect toward stock return. In chapter four, the result of the regression test finds that intellectual capital has positive effect toward LQ 45 company stock return for year 2015-2017. Thus, this result support the second hypothesis This is shows that the investor or the potential investor has already appreciate or concern about the importance of intellectual capital as one consideration before they make investment decision, especially for LQ 45 company.

B. Suggestions

Based on the conclusions obtained, the author wants to give some advice for stakeholders as follows:

1. For Practitioner
 - a. For company, this research can be used as a part of to evaluate the performance of their intellectual assets. Thus, the company could make proper decision making about how they will maximize their intellectual capital.
 - b. For investor, this research can be used as source information about the effect of intellectual capital toward stock return. Thus, the investor maybe can put more concern about the intellectual capital and its effect toward company financial performance.
 - c. For Future Researcher, the author suggest to examine partially about the effect of three component of intellectual capital that consist of VACA, VAHU, STVA toward company's financial performance and stock return. Thus, it can find which kind of component of intellectual capital that has significant effect.

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