

CHAPTER II

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Theories and Studies Related to Firm Value

There are some basic theories related to the intangible asset and firm value are:

2.1.1 The Pecking-order Theory

Myers and Majluf (1984) explain that the pecking order theory is a sequence of funding in corporate financial decision. One of the pecking-order theory suggestion is by issuing the new share on the market may incurring an expensive cost by the asymmetry information. This asymmetrical in information happened, if the firm want to expand their financial support in the market. (Myers & Majluf, 1984; Azmat, 2014) As the intangible asset increases, the constant of the company share price may increase accordingly. For example, the technology based multinational company Tesla required an astronomical amount of research and development investment.

According to empirical studies done by previous research using different proxies, firm value is reflected in this theory. Salamudin et al. (2010) indicate that there is an increasing trend in intangible assets development in Malaysia, consistent with those of

advanced markets like the US, Europe and Australia. Maditinos Dimitros (2011) the fact that IC is increasingly recognized as a valuable strategic asset for sustainable corporate competitive advantage. Russell Mark (2016) also explains better market value using IC.

2.1.2 Trade-off Theory

Inside the Trade-off theory states, there is a balance between cost and benefit in any corporate decision-making (Myers and Majluf, 1984). The trade-off theory's main idea is when a firm chooses how much debt finance and how much equity finance to use to balancing the cost and benefit. A vital purpose of the theory explained the fact of a corporation are financed partly with debt and partly with equity (Kurniawan Johan, 2018).

Research and development (R&D) reflected in potential manufacturing cost reduction and product innovation, thereby consequently gaining high importance to firms in terms of technological changes (Love & Roper, 1999). Li and Wang (2014) examined the influence of intangible assets (R&D expenditure) on the financial performance of listed information technology companies in Hong Kong by using ROA as a financial measure of the firms. Widianoro (2012) examined the relationship between market value, dividend policy, solvency ratio, intangible value and company performance in Indonesia during the financial crisis of

from 2006 to 2011. The results show a significant relationship between the number of intangible assets and the market value of a company.

As for technology, media and pharmaceutical company, most of their resource are allocated in an intangible and future benefit asset like research and development. Empirical study with various proxies for determining firm value are also being used in previous research.

2.1.3 Resource-based theory

Resource-based Theory is the advancement from Ricardo's Economic Rent theory and structure performance-conduct by Porter Barney and Clark, (2007). This theory formed a strategical questioning of why one company able surpasses their competitor and own better superior sustainable performance? A company that could develop and managing their own wealth and resources, used to be more competitive and sustainable compared to companies who collecting the resources from third parties. As result, the set of unique resources can flint a better and sustainable performance to the company.

Originating from the strategic management literature, this perspective builds upon and extends the resource-based view of the firm (RBV) initially promoted by Penrose (1959) and later expanded by others (Wernerfelt 1984, Barney 1991, Conner 1991).

Information technologies can play an important role in the knowledge-based view of the firm inside information systems could utilized the synthesise, enhance, and expedite large-scale intra- and inter-firm knowledge management (Alavi and Leidner 2001). On the other hand, company who own more intangible assets tend to be more advanced in research and development sector. Therefore, this situation demands the manager financing to those sectors in supplementary manners.

2.2. Market Value

Market value known as the highest price a willing buyer would pay and a willing seller would accept. Both being fully informed, and the property being exposed for sale for a reasonable period. The market value may be different from the price a property can essentially be sold for at a given time (market price); (Gale, 2008).

Market value also recognized as a piece of property represent the expected price, secured and offered for sale in a fair market. It is not the price that might be obtained on a sale at public auction, or a sale forced by the necessities of the owner. Such price would be fixed by negotiation and mutual agreement. During the ample time during purchase period, as the willing vendors bid time, purchaser will be taking the article or piece of property.

Market value for a firm may diverge significantly from the book value or shareholders' equity. We can calculate the market value of the business to see how much the stake in the company is worth on the public markets. To calculate the Market Value, we need to know the market price of an individual share and the number of stocks outstanding. After that we can conclude that corporation market value and can be formulation as earning per share equal to share price divided by outstanding share or:

$$\textit{Earning per Share} = \frac{\textit{Share price}}{\textit{Outstanding Share}}$$

This formula is indicating how much the buyer willing to pay per value of current earning. Furthermore, this formulation also be used to identify the corporate asset potential in the market.

2.3. Intangible Asset

In accounting, (IFRS 9) any asset that cannot be seen or touched are intangible assets. Intangible assets include things like patents and brand recognition, which also add a value to company. Intangible assets explicitly do not include as actual things, such as widgets, a widget factory, or the land upon which the widget factory is built. Since its difficult to price, sometimes it was not included in a company's valuation.

Campbell R. Harvey (2012) explain a goodwill, intellectual property, patents, copyrights, and trademarks are examples of intangible assets. (Hall, 1992) Intangible assets represent a generator advantage and transforms the productive resources into property with added value. (Smith, 1994) defined intangible assets as all relevant components of business entity with current and non-current assets. Their existence depends on the presence or expectations of projected incomes. (Gu and Lev, 2001) Intangibility can be defined as a generator of value (research and development, promotions, information technology and capital expenditures and practice in human resources). (Lev, 2001) Intangible assets is the rights of future benefits that does not possess physical or financial substance.

2.4 Measurement of Intangible Asset

Intangible Asset Ratio Valuation

One of the methods to allocate a specified value to intangible assets is by subtracting a firm's book value from its market value or:

$$FIA = \frac{BVA - MVA}{BVA}$$

Where:

FIA = Fixed Intangible Asset

BVA = Book Value of Asset

MVA = Market value of Asset

Due to constant changes in the market value, the previous method was improved by Tseng, C. Y., James Goo, Y. J. (2005) and improved again by Sharna, N. (2012) and Boncella (2014) with more comprehensive valuation by calculating the firm's assets, multiply the Return on Assets (ROA) subtract the value of the pretax earnings of the firm. This result will give a premium that can be attributed to intangible assets, dividing the premium by cost of capital to realize the NPV or:

$$CIA = \frac{(BVOA \times ROA) - EBT}{NPV}$$

Where:

CIA = Calculated Intangible Asset

BVOA = Book Value of Asset

ROA = Return on Asset

EBT = Earning Before Tax

NPV = Net Present Value

The advantages of using Variable Intangible Asset Valuation:

1. Explaining more phenomenon and provide extended range of information of the firm wise for instance the uncertainty of the Intangible Asset (Kujansivu, P & Lnnqvist, A. 2007).
2. Boncela (2014) method focus on investor perspective firm valuation which very useful.
3. Considering the growth of Intangible Asset, the potential and future investment growth (Sudiyanto dan Puspitasari, 2010).
4. Beside from the fundamental aspect, it is valuing the firm like firm assets, corporate prospect, and valuation.

Focused by the investors and financial analyst, this method needs substantial amount of data, time consuming and much more effort to conduct.

2.5. Firm Value

Many people incorrectly assume a stock with a low price is low, while another one with a heftier price is superior. In fact, a stock's price says barely about that share value (Guay Wayne, 2002). It is reasonably common to see the stock's price differ over the firm Value. The difference

happened due to several factors, including the company's operational model in each market sectors and the company's specific attributes (John J. Ballow, 2004). Nature of company's assets and liabilities also factor included in valuations. (Dow and Gorton, 1997; Subrahmanyam and Titman, 1999) Managers can improve their investment decisions by observing the share price movements. Stock's prices contain an information aggregated with investors way. It is also indirect way of communication with a firm. Managers could give a feedback related the market company's stock if investment decisions are made. These ideas are interconnected on providing information to reduce the misfortune risk.

2.6. Measurement of Firm Value

1. Using Tobin's Q Ratio

Tobin's Q ratio is the ratio introduced by James Tobun from Yale University. As the Nobel nominated in economic nature, he hypothesized that by combining the market value of all companies in stock market can be used as replacement cost as equal. Another research conducted by Puspitasari and Sudiyanto (2010) stated that Tobin's Q represent a ratio of market value measured by calculating combining shares outstanding of one company and liability then dividing with the total assets. The Tobin's Q ratio tend to correspondence with company's size, which caused the more intangible assets be possessed (Brealey and Mayers, 2007).

Otherwise, the less the ratio of Tobin's Q come less company market competitiveness. Chung and Pruitt (2004) suggest the more comprehensive aspect of Tobin's Q formula as follow:

$$\text{Tobin's Q} = \frac{\text{MVCS} + \text{PS} + \text{BVD}}{\text{Total Assets}}$$

Where:

MVCS = Market Value of Common Stock (Share price of firms at the publication date times with number of common stock shares outstanding)

PS = Preferred Stock

BVD = Book Value of Debt

There are several advantages of using Tobin's Q ratio:

1. Tobin's Q provide comprehensive range of information and explain more phenomenon in the firm such as the different cross-sectional in investment decision (Classens and Fan, 2003 and Sukamulja, 2004).
2. Tobin's Q considering the growth of share price, management potential and investment growth (Sudiyanto dan Puspitasari, 2010).

3. Tobin's Q focus on firm valuation which very useful in investor perspective.
4. Not only focus on fundamental aspect, but also going wider in valuing the firm like firm assets, corporate prospect and intangible assets.

2.7. Factor Affecting Firm Value

2.7.1. Size

There are reasons why the firm size should be included as the control variable. The first reason because intangible asset could determine utilizing the firm's size. The bigger the firm the more intangible asset they tend to have. On the other hand, smaller size firm usually has a less amount of intangible asset.

Those two statements represent a direct correlation between company and the intangible asset. This measure additionally includes the operation cost needed between both company's size.

2.7.2. Return on Asset (ROA)

Return on Asset also known as the profitability measurement to define firm effectiveness on optimizing their asset (James M. Reeve, 2010). It measures the financial performance invested inside overall own asset to generate a profit (Tandelilin Eduardus, 2010).

Inside this research, the intangible asset is highlighted to define its actual benefit in firm value. Although, future research and

development could not be precisely predicted whether how much and how far its advancement. This thread of development reluctance may stunt the firm value. The specific return on the asset (ROA) essential factors considered income after taxes divided by total assets.

2.7.3. Leverage

Leverage measurement is to calculate the mix of company's operating expense used as financial instrument to increase the potential of return on investment. Its gives financial measurement an access to overlook how much the capital ability is anticipated during the development period. Depend on the firm and the industry, the mix may differ as well. The intangible asset complies as a critical structure of company's financial statement. It extends could be a method to define the corporate future value.

2.8. Previous Studies

Several of empirical studies by prior research confirmed, there is a positive link between intangible asset and firm value. Some of them explain the intangible asset may causes a certain effect with firm value. Samaludin et al. (2010) found an indication of intangible assets enhancement and development in Malaysian market. That matter consistent with those advanced markets in United States, Europe and Australia. The intangible

assets have been acknowledged to be present and developed in Malaysian capital market and increased tremendously in 5 years from 10 per cent to 43 per cent since the last 2006.

Ferdaous Jannatul and Mohammad Mizanur Rahman (2019) conclude the intangible assets could trigger the significant rise in the firm's value. Allowing some facts as the consideration, the intangible assets also could be extremely risky in nature. Intensity of business competition stimulate the market competition all around the globe. Even though their cash income uncertain, several studies have attempted explaining the relationship between combined elements of IC and firm performance. Findings by Komnenic and Pokrajcic (2012), Amin et al. (2014), Han and Li (2015) suggest positive influence of IC on the firms' financial performance. However, some contradictory findings also come from Megna and Mueller (1991), Ely et al. (2003), Quo et al. (2004) and Das et al. (2009) They discovered no statistical evidence in favor of R&D expenditure as an explanatory variable of the firms' revenue, accounting profitability, and improved market value. They support the contemporary arguments of investment study using the manufacture firms' is rejecting the positive hypothesis with no evidence and negative research result.

2.9. Research Hypothesis

Pecking-order theory explain the sequence of funding in corporate financial decision (Myers and Majluf, 1984). It explains the linear

relationship between firm value and intangible asset. Retained earnings and size of investment is determined using cash balance and resulting that the cash balance represent the outcome from the investment and financing policies. Increases in the constant of intangible asset could increase the firm value and vice versa. This theory pinpoints the investment result and financing policies are solely from the cash balance in financial statement information.

Trade-off theory clarifies the balance between cost and benefit (Myers and Majluf, 1984). Widianoro (2012) examined the relationship between market value, dividend policy, solvency ratio, intangible value and company performance in Indonesia during financial crisis in 2006 to 2011. The results indicated a significant relationship between the number of intangible assets and the market value of a company. The trade-off theory primary purpose the assessment from cost and benefit of company by determine the used of debt and equity finance and the extend of intangible affect in firm value. The number may differ from each industry base on needs of the firm.

Resource-based Theory is the advancement of Ricardo's Economic Rent theory and structure performance-conduct by Porter Barney and Clark. (2007). This theory forms a strategical questioning of why one company able surpasses their competitor and own better superior sustainable performance? Information technologies can carry out a substantial role in the knowledge-based view of the firm in that information systems can be

used to synthesize, enhance, and expedite large-scale intra- and inter-firm knowledge management (Alavi and Leidner 2001). The technology and pharmaceutical based company constantly require most recent update information to support their development. The faster information they can gather the more decision they can made to meet the market expectation, resulting the increase in firm performance.

Research on intangible asset and firm value relationship has been conducted by Samaludin et al. (2010) about intangible asset and firm value Malaysian capital market development using mining company as the sample. Result indicates that Malaysian market started to concern an intangible asset as the market trend. There is no dramatically changed in IC and various business variables may concluded on contradictory results in Greek market (Dimitrios et al. 2011). In Bangladesh, Ferdaous Jannatul and Rahman Mohammad Mizanur (2019) found that the knowledge resources of engineering industry display an obvious linear growth showing the highest coefficient value in 2012. The upward movement of trend analysis displays a strong signal on manufacturing firm's enrichment.

In 2020, intangible assets could be used as one of investor observe indicators. The company with more intangible asset, secured more ability to extend the future development and sustaining operation. The more intangible asset could produce more quality on securing shareholder dividend. Assuming this point to attract more investor, significant relation of intangible asset could be seen through the increase of company's share

price. Investor buying behavior can be observe using the intangible asset as indicator.

Resource-based theory represent a suitable approach for Indonesian technological company. The research conducted by Soraya Letsa and Syafruddin Muchamad (2012) about the relationship between Intangible asset and firm value of manufacturing firm in Indonesia confirmed its applicability. Another Research from Setijawan, I. (2011) Testing that resource-based theory model in mining company in Indonesia is supporting the applicability on mining company in Indonesia. Intangible assets affect the firm value by the increase on the share price. This reaction also pointed as investor's observation. The company who holds more intangible assets expected to have a better quality and performance benchmark. Through the business activity this account will be reflected as an adequately and expected to escalate the company's share price. Based on the framework explain above, hypothesis is constructed:

H: Intangible asset is positively affecting the firm value