CHAPTER II

LITERATURE REVIEW

2.1 Agency Theory

According to Jensen & Meckling (1976), agency theory describes the contractual relationship between a manager (agent) and stockholders (principal). This agency relationship is a contract in which one or more persons (principal) hire another person (agent) to perform a service on their behalf and trust the agent to make the best decisions for the principal. It is assumed that if both parties have the same goal of maximizing firm value, the agent will operate in the principal's best interests. The principal provides facilities such as funds to run the company, while the agent has the obligation to manage what the stockholders assign to them. For this purpose, the principal will receive the result in the form of profit-sharing, while the agent will receive a salary, bonus, and various other compensation.

Managers and investors can have disagreements because of the agency relationship. Conflicts arise because humans are economic beings with a self-interested nature, therefore stockholders and management desire to achieve their objectives. Stockholders desire a higher and faster return on their investment, while managers want their needs met by receiving the highest possible compensation or incentives for their efforts. According to Godfrey (2010), agency problems can cause the main objective of the company to maximize its value through increasing the prosperity of the principal to be hampered. In order for management acts in line with the interest of the company and the principal, there will be various efforts to be made where the principal can guarantee the management will make optimal decisions by giving sufficient incentives. In addition, to ensure the management would act accordingly to the stockholders' wants, monitoring can be carried out by periodically auditing financial reports or preparing the appointment of an independent commissioner.

2.2 Information Asymmetry Theory

Information asymmetry is when one party has more information than the other party. Dirkens (1991) argues that information asymmetry is a condition where there is an imbalance in the receipt of information submitted by management to investors. According to Hanafi (2005), the existence of information asymmetry in which management has more complete information about the condition of the company compared to outsiders causes the investors to protect themselves by giving low prices for the company, so that the company could increase the value of the company by reducing information asymmetry.

Managers who know more about the company's internal information and prospects in the future than the stockholders should be required to notify the owner about the company's current condition. The disclosure of accounting information such as the company's financial reports could be used to send the signal. In this matter, the disclosure of company's earnings, book value and expenditures is part of the financial statements that will allow investors to assess the company's financial condition and reduce asymmetric information.

2.3 Signalling Theory

According to Ross (1997), executives that have more information about the company will be encouraged to share the information with potential investors, resulting in an increase to the stock price. Signal theory explains why businesses take the initiative and desire to share information with stakeholders. This information is crucial since it essentially gives facts, notes, or descriptions for past, current, and future conditions that affect a company's survival and the stock market. To study the market, investors want relevant, accurate, and timely information, which is then used to make investment decisions. (Rozycki, Volk and Dodd, 2017)

Management releases announcement about accounting information through the publication of annual financial reports which will be sent as a signal to the capital market (Jogiyanto, 2013). Investors will receive the signal and use the information to make decisions for investment. The signal will be categorized into positive and bad news by the investors. Certainly, investors will only react to good news announce by the company. The positive reaction will cause the volume of stock price to shift, this is due to investors' main reason for investing is to make a profit and avoid companies that have low value.

2.4 Market Efficiency Theory

Market efficient theory is a theory regarding the price or value of a security that fully reflects all the information available in the market. The whole information has to be available to the investor in order for them to know the company and its stock as a whole. According to Fama (1997), market efficiency is a relation between the stock price and the information, and the efficiency itself could be identified through its information availability or sophistication of investors in making decisions based on the analysis of available information.

The efficiency of information is derived from the market value of a company. The market value of a company can usually be seen from the stock price that occurs on the stock exchange and is determined by investors at a certain time or the realized return is calculated based on historical data. The stock price always changes every day, even every second the stock price can change.

The Efficient Market Hypothesis has three assumptions, namely (Shleifer, 2000):

1. Investors are assumed to act rationally hence they will value stocks rationally.
2. Some investors will act irrationally but their behavior in conducting trade transactions is random so that the effect will eliminate each other and does not affect the price.

3. Arbitrator investors who act rationally will reduce the influence of irrational investor behavior on prices in the capital market.

Stocks will be valued by rational investors based on their fundamental value, which is the present value of future cash flows after discounting the stock's risk level. Investors will swiftly react to the new information that will alter the fundamental value of a stock by bidding at a high price when the information is positive (good news) and bidding at a low price when the information is negative (bad news) (bad news). The implication is that stock prices will always reflect all available information fast, and stock prices will shift to new price levels based on new fundamental values, hence stock prices will change randomly and cannot be forecasted.

The Efficient Market Hypothesis has three different type of form such as:

1. Weak Form Efficient Market

   The market is said to be efficient in its weak form if the prices of shares or securities fully reflect past information. Information is said to be “past” if the information has already happened. This weak form of market efficiency is closely related to the random walk theory which states that past data cannot be related to current values. In this way, past values cannot be used to predict current prices.

2. Semi-strong Form Efficient Market

   The market can be said to be semi-strong efficient if the prices of stock securities fully reflect all published information, including information contained in financial reports.

3. Strong Form Efficient Market

The market can be said to be strong efficient if the stock prices have reflected all of the company's key information, including historical data, public information, and private information. In this form, investors are unlikely to get abnormal returns even while doing technical and fundamental analyses to predict or use information from insiders. A strong form of efficient market prevents the insiders to take advantage of the information they have because, in the end, all relevant and complete information about the company will be released in the capital market.

2.5 Financial Statements

According to PSAK Number 1 in 2015, Financial Statements are described as an organized statement of an entity's financial situation and financial performance. A financial statement that consists of a Balance Sheet, Income Statement, Statement of Changes in Financial Position, notes, and other reports containing explanatory materials are considered to be full and complete. The primary objective of financial statement preparation is to offer information about the financial position, performance, and changes in the financial status that may be used to make economic decisions. The management accountability in their ways to use resources entrusted to them must be explained in the reports as well. In conclusion, outside parties such as investors, creditors, and other users must be able to make reasonable judgments based on the information presented in the financial statements, particularly in terms of investing and lending.

There are characteristics of financial statements according to the Financial Accounting Standards proposed by the Indonesian Accounting Association (IAI). This characteristic will be useful for various stakeholders in using the accounting information available in the financial statements

1. Relevant, information is relevant to the needs of users in decision making.
2. Understandably, the quality of important information contained in financial statements is easy to be immediately understood by the user.

3. Reliability, in order to be useful information. The presented accounting information must have the quality of reliability and is free from errors which can be relied upon by the user as an honest representation of what it should represent.
4. Comparability, the presented accounting information is more useful if it can be compared with the financial statements of the previous period with the financial statements of other companies in the same period.

2.6 Earnings per Share

In accounting, earnings are the difference between the selling price and the cost of production. Generally, the earnings generated by a company is used to evaluate the success or failure of the company's management. According to Chasanah and Kiswara (2017), earnings is believed to be an indicator to predict future profitability and future economic events. Earnings are measured by the earnings per share (EPS) as a proxy and contain important information that is important for capital markets.

The net income rate for each share achieved by the company during its operations is referred to as EPS. Investors can use EPS to see how far a company's ability to create profits for each outstanding share in the market. The earnings per share (EPS) is calculated by dividing the company's net income by the average number of ordinary shares outstanding. An increase in EPS indicates that the company is growing, or that its financial condition is improving as sales and profits rise. Furthermore, EPS is a piece of information that can draw investors' attention to invest in the company's share price. The higher the EPS, the more income the company may pay to its shareholders.

2.7 Book Value per Share

According to Tryfino (2009) the book value of shares represents the total assets or equity owned by the company. It describes information about the value of the company's resources in monetary units (Fadliyah, 2017). In general, the Book Value of a company will continue to rise along with the increase in company performance and vice versa, so book value is important to determine the capacity of the price per share and in determining whether the stock price is fair or not in the market. BVPS is calculated by total equity minus the preferred stock divided by the number of outstanding shares.

2.8 Research and Development

In the Organization for Economic Cooperation and Development (OECD), research and development are systematic use of creative efforts and knowledge based on new applications to increase scientific and technical knowledge. Hall (1993) stated R&D as an activity that has commercial interests in relation to scientific research and application development in the field of technology and has an important role as an indicator of the progress of a company.

R&D is frequently associated with innovation, which is one of the characteristics of entrepreneurship to enhance profitability. In other words, businesses invest in innovation in the hopes of gaining a competitive advantage to achieve large income from new goods and processes. Barney (1991) indicates that a company that has a competitive advantage is when the company implements a different strategy from current or potential competitors and when other companies cannot duplicate the benefits of that strategy. To gain a competitive advantage from the resources owned by the company, the company needs to carry out research and development (R&D) which will lead to continuous innovation and make the company better than its competitors

According to PSAK Number 19 concerning Intangible Assets, research is original and planned research carried out with the hope of obtaining new technical or scientific knowledge and understanding while development is the process of applying research findings or other information to a manufacturing plant for raw materials, tools, products, processes, and systems for services that are either new or have undergone significant changes prior to commercial production or usage. The Indonesian Accounting Standard (PSAK) No.19: Intangible Asset governs the regulation of R&D accounting in Indonesia. In paragraphs 90-91, it is stated that R&D expenditures must be recorded as an expense in the period in which they are incurred. However, for the development cost, recognition as an asset can be done only if it meets the following criteria:

1. the product or process is clearly defined and the expenses associated with it can be identified and measured reliably,
2. the product's or process's technical feasibility can be clarified
3. the product or process will be manufactured and sold by the company
4. the product or process will likely generate future economic benefits
5. adequate technical, financial, and other resources are available to complete the product or process

Many businesses invest heavily in research and development to develop new goods or processes, improve existing ones, and gain new information that will be beneficial in the future. Only a few organizations report because of challenges in recording and accounting for R&D expenditures, particularly in identifying costs connected with specific activities, projects, or achievements, and establishing the number of future benefits and the time it will take to realize these advantages. Because of the latter uncertainty, accounting practice has been eased in this area by requiring that all research and development costs be expensed as incurred.

2.9 The Value Relevance of Accounting Information

The relationship between accounting data and stock market value is referred to as "value relevance” (Francis and Shipper, 1999; Barth, Beaver, and Landsman, 2001). Value relevance demonstrates the ability of information disclosed by financial statements to capture and summarize the firm value. While relevance itself is an information capacity that influences the decisions of information users to predict past, present, and future events or confirm and correct previous expectations. A financial statement can be said to be relevant if the accounting information presented in the reports is useful, investors will adjust their behavior and the market will respond quickly to changes in stock prices (Alfraih, 2017). The information presented in financial statements must be relevant to the decision-making because if they are irrelevant, the information will not be of benefit to the users in evaluating certain business finances and make it hard for them to make decision making for investing.

Accounting information is estimated to have value relevance because it is statistically related to the market value of shares (Beaver, 1989). According to Lako (2008), the coefficient of determination value (Adjusted R^2) and the significant result of the accounting figures to the stock price, are used to quantify the influence and value relevance of financial statement for the stock market. The measurement of adjusted R^2 value will identify whether there is an increase in value relevance of financial statements. The percentage value relevance of accounting information will be explained through the result of the adjusted R^2, a value greater than 0 means that it has value relevance. In addition, if the value of adjusted R^2 increases continuously then it is considered that the value relevance of the accounting information also rises.

2.10 Share Price

Shares are a type of security sold in the capital market (Sunariyah, 2004). Shares are securities that serve as proof of the issuing company's ownership. They can also refer to a person's or entity's involvement or ownership in a public firm. Shares are attractive to investors for many reasons. By buying shares investors can get relatively quick capital gains or receiving income in the form of cash dividends. The types of shares include ordinary shares, preferred shares, and cumulative preference shares (Riyanto, 2005). Technical and fundamental analysis can be used to determine the price of a stock. Technical analysis determines stock prices based on historical stock price records, whereas fundamental analysis determines stock prices based on fundamental factors that influence them, such as profits and dividends.

2.11 Previous Study

No.	Researcher	Title	Findings
1	- Bismark Badu - Kingsley Opoku Appiah	Value relevance of accounting information: an emerging country perspective	EPS and BVPS shows a positive and significant relationship on stock price. Earnings has higher value relevance compared to the book value of equity in the case of firms listed in Ghana Stock Exchange. In addition, although IFRS has been introduced to the country, value relevance of accounting information has declined significantly over 10 years from 2005-2014
2	- Randy Kuswanto - Prima Aprilyani Rambe	Relevansi Nilai Informasi Akuntansi	The results show that BVPS and EPS partially and simultaneously affected firm

No.	Researcher	Title	Findings
	- Sri Ruwanto	dengan Model Valuasi Ohlson	value. In a positive profit/loss condition, the relevance of the book value per share will be lower. Meanwhile, in positive profit/loss conditions, the relevance of the value of earnings per share becomes higher. This study uses the variables of business group affiliation, share ownership structure and firm size as control variables.
3	- Aboubakar Mirza - Mazrah Malek - Mohammad Ali Abdul-Hamid	Value Relevance of Earnings and Book Value of Equity: Evidence from Malaysia	BVPS is value relevant in decision-making while earnings have no effect on company's share price. Investors rely on BVPS while less considering on EPS due to the possibility of earnings management.
4	- Thomas Jeanjean - Anne Cazavan Jeny	Value Relevance of R&D Reporting: A signaling interpretation	This study examines the value relevance of capitalized R&D and expense R&D of French firms in 1998-2000. Capitalized R&D has a positive relationship while

No.	Researcher	Title	Findings
			expense R&D has a negative relationship towards stock prices and stock return. R&D helps to reduce information asymmetry in the form of signal to investors.
5	- Petros Kalantonis - Sotiria Schoina - Spyros Missiakoulis - Constantin Zopounidis	The Impact of the Disclosed R & D Expenditure on the Value Relevance of the Accounting Information: Evidence from Greek Listed Firms	R&D expenditures has no significant impact on stock price and investor in decision-making.
6	- Krisna Adi Pangestu	Analisis Relevansi Nilai Laba, Nilai Buku Ekuitas Dan Dividen Terhadap Harga Saham Pada Periode Sekitar Krisis Keuangan Global	EPS, BVPS, and dividend has a significant impact on the company's stock price during the global financial crisis. The period before and after has higher value relevance while during crisis the value relevance declines.
7	Iqra Shabaz	The Impact of Global Financial Crisis on	book value is value relevant and increase after the crisis which emphasizes as a proxy

No.	Researcher	Title	Findings
		the Value Relevance of Accounting Information	for abandonment option during bad times. While earnings have lost their relevance after the global crisis. This is due to businesses having negative and extraordinary items during difficult times.

2.12 Hypothesis Development

2.12.1 The Value Relevance of Earnings per Share

Earnings can be said to have value relevance if at the time the company issues earnings announcements it can influence investors' reactions in the capital market. From the announcement, the market already has information on how much profit the company gets in that period. Therefore, earnings are a tool for management to send signals to the capital market. Information related to earnings for investors is very important, seen from the value of EPS, they can determine the company's ability to pay dividends to shareholders from the profit earned by the company. An increase in earnings will affect the increase in stock prices which will then determine the increase in returns for investors.

Several studies have found that EPS has a positive and significant effect on stock prices (Oktaviana, 2013; Azhimi and Subekti, 2014). However, although earnings can significantly affect stock prices, the results are not the same for companies that perform earnings management. The consequences of this earnings management behavior result in financial statements no longer reflecting actual conditions so that investors do not rely entirely on the information to measure company performance (Marquardt and Wiedman, 2004). In addition, the condition of companies experiencing losses or financial crises will also affect investor decisions, which can be reflected in the decline in stock prices. This is due to a decrease in earnings which is a form of bad news for investors. Belesis (2016) examined the impact of 2008 global financial crisis in the US market to the value relevance of accounting information, the findings show that earnings still had an impact on the company's stock price hence gain value relevance instead of the company's book value. Although the explanatory power of earnings on stock market value declines during the crisis period, the investors still consider the information concerning the company's earnings to be useful because it demonstrates the ability of the company to produce wealth for them.

Based on the previous studies and arguments above, the researcher develops the following hypotheses:

H1a: Earnings per share has an impact on stock price before the Covid-19 pandemic

H1b: Earnings per share has an impact on stock price during the Covid-19 pandemic

2.12.2 The Value Relevance of Book Value per Share

Book value of equity is an information that has an important role in analyzing the financial statements. The book value of equity presented in the statement of financial position provides information about the value of the company's resources. Investors prefer a high book value of equity because it indicates that the company has good resources and has high investor wealth for each share. Book value can be used to assess a company by looking at the value of the resources it has and how much guarantee the company provides to investors. This makes investors interested in buying shares so that it will affect the increase in stock prices. In addition, book value measured in the PBV ratio can be used to identify which stocks are priced fairly, too low (undervalued) and too high (overvalued) which can be used as a basis for developing investment strategies.

Many researchers support the existence of value relevance to the book value of equity. Among them there is a positive and significant influence on stock prices (Valencia, 2012; Oktaviana, 2013; Adhani, 2014). For companies experiencing financial crisis, investors suspect that book value remains relevant to stock prices because book value is a proxy for normal expected future earnings (Collins, 1999). The company will be able to survive and generate the expected positive profits from its normal operating results in the future and a proxy for liquidating its assets if shareholders suspect that the losses suffered by the company will continue in the long term. This concludes the role of book value cannot be ignored because the book value of equity is a relevant factor in explaining the value of equity.

Based on the previous studies and arguments above, the researcher develops the following hypotheses:

H2a: The book value per share has an impact on stock price before the Covid-19 pandemic

H2b: The book value per share has an impact on stock price during the Covid-19 pandemic

2.12.3 The Value Relevance of Research & Development

R&D has a role in increasing the value relevance of financial statements as its expenditure allocation is usually managed for the benefit of the company's growth. The activity of doing R&D could bring changes to business by finding new products, improving production, and bringing more innovation. This benefit of R&D is a competitive advantage for companies in influencing the decisions of investors so they will be interested to invest the fund in the company. It has been expected that a company that continuously grows and develops will continue to survive and sustain itself during fierce business competition hence this company will be the target of investors to invest as the company has a good performance. This situation of favor will then influence the rise of the company's stock price. As what has been said by Rankin (2012), the information available to investors can reflect stock prices in the market efficiency theory.

There have been some research initiatives regarding the relationship between R&D expenditures and stock price, the value relevance itself is in question as there is a variety of mixed evidence from all previous studies. A study on the relationship between R&D on firm value conducted by Gleason and Klock (2006) suggests that the importance of corporate intangible assets statistically increases because R&D is essential for a firm's competitive advantage and profitability (Wang, 2013). Yuliana (2013) observed the effect of R&D on firm value in manufacturing companies in 2008-2011 and found a significant and positive relationship. Marchareta (2020) also found an increase in the value relevance of R&D to the financial statement for Indonesian companies in the banking industries. Wang (2019) observe the public firms listed in China and found an increase in value relevance with the influence of R&D expenditures.

Another piece of evidence found by Hungarato and Lopes (2008) is companies that record R&D as expenses cannot explain the stock price of observed samples. While there shows a significant relationship between capitalized R&D values and share prices in the US market (Lev and Sougiannis, 2008). According to Dukes (1974), expert investors can make an adjustment to the capitalization R&D to estimate the company's potential earnings and future return from securities. However non experts cannot make such measurements so the recognition of R&D as an expense may distort decision making and lead to earnings measurement errors. In addition, Listyorini (2003) states that expense R&D that ignores the future benefit in R&D will cause problems in matching between revenue and expenses that make the income statement distorted or not reflect the actual performance of the company.

The length of observation to examine whether R&D has value relevance is important as well. Findings by Quieroz (2010) found no relationship between R&D expenses and company earnings in the short-term period. This could conclude that R&D is a type of activity that improves company wealth in the long term as it takes time for the company to research, develop, and release new products. Azevedo and Gutierrez (2009) indicate that there is an increase in a company's long-term growth due to R&D spending. Lev (1999) also verifies that there is a positive long-run effect and a negative short-run effect of R&D on the US market.

Based on the previous studies and arguments above, the researcher develops the following hypotheses:

H3a: R&D has an impact on stock price before the Covid-19 pandemic

H3b: R&D has an impact on stock price during the Covid-19 pandemic

2.13 Conceptual Framework

According to Hartono (2017), a research model is a plan from a research structure that directs the research process and results to the extent possible to be valid, objective, efficient, and effective. This research model is described as follows:

Figure 2.1 Research Framework