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# Proceedings of the International Conference on Economics, Business, Social, and Humanities (ICEBSH 2021)

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Application of Conscientization Learning Models with Dolanan Songs in Javanese's Proverbs  
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Jelambar Third-Place as a Culinary Place with Green Contemporary Design Concept Approach

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The Effect of Advertising on Customer Engagement (Study of Ad Oronamin C in Generation Z)

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Lighting Analysis in Traditional & Raden Saleh Painting Room of Fine Arts & Ceramics  
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**Dermawan, Elizabeth Sugiarto**  
The Relation of Capitalized or Expensed of Intangible Expenditures to Firm Value

**Dewanto, Gerald William**  
Attitude Towards Video Game Genre and Five-Trait Personality

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Codependency Among Family Members as Predicted by Family Functioning and Personality  
Type

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Socio-Demographic Factors and Quality of Life: A Cross-Sectional Study Among Indonesian  
Adolescence

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The Influence of Narcissism on Intensity of Instagram Use in Generation Z

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The Correlation Between the Big-Five Personality and Internet Addiction Among Early-Adult  
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## The Relation of Capitalized or Expensed of Intangible Expenditures to Firm Value

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Firm value, intangible assets, research & development expenses, training expenses, advertising expenses

### Abstract

Some expenditures that have an impact on the expectation of future benefits are often treated differently because the point of view is the possibility of uncertain future benefits. If it is uncertain will be expensed, while what is likely to come from the acquisition of external parties is capitalized as an asset. This difference treatment inspired the research to see its impact on corporate value in investor point of view.

Testing this research with SPSS version 20 is based on timeseries data on LQ45 companies listed on the IDX in 2013-2017. Referring to signaling theory, the result of this study find there is a relation of negative and non-significant intangible assets to firm value, there is a relation of positive and significant research and development expenses on firm value, there is a relation of negative and insignificant employee training expenses to firm value, and there is a relation of positive and not significant advertising expenses to firm value.

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# The Relation of Capitalized or Expensed of Intangible Expenditures to Firm Value

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## ABSTRACT

Some expenditures that have an impact on the expectation of future benefits are often treated differently because the point of view is the possibility of uncertain future benefits. If it is uncertain will be expensed, while what is likely to come from the acquisition of external parties is capitalized as an asset. This difference treatment inspired the research to see its impact on corporate value in investor point of view. Testing this research with SPSS version 20 is based on timeseries data on LQ45 companies listed on the IDX in 2013-2017. Referring to signaling theory, the results of this study find there is a relation of negative and non-significant intangible assets to firm value, there is a relation of positive and significant research and development expenses on firm value, there is a relation of negative and insignificant employee training expenses to firm value, and there is a relation of positive and not significant advertising expenses to firm value.

**Keywords:** Firm value, intangible assets, research & development expenses, training expenses, advertising expenses

## 1. INTRODUCTION

Investment decisions often refer to accounting numbers that are read as future prospects by rational investors. Unfortunately, Puspitaningtyas [18] argues that investors still consider accounting information in investment decision making but are more dominated by factors that reflect investor psychology as a personal signal that causes stock prices do not reflect their fair value and are in an inefficient stock market condition.

Skroupa [21] describes the opinion of David Post, chairman of the Sustainable Accounting Standards Board (SASB), who argues that the value of intangible assets is very important because it increases the market value of companies, although the value of tangible assets greatly affects the value of the company because the value of intangible assets is very small but not Thus with the current conditions where the value of intangible assets has grown from 20% to 80% in the Balance Sheet which contains intellectual capital and research and development. Conventional accounting methods have not evolved to measure the value of intangible assets because of the characteristics of future benefits that are still considered uncertain. The long-term value of the company's total assets (including intangible assets) is driven by a series of short-term corporate actions and the company's long-term decisions.

Generational Equity [9] states that

*The important thing that business owners need to know about intangible assets is this: they can play a significant factor in a buyer*

*paying a premium for a company, but do not appear on a balance sheet. This means that two companies can have drastically different values to potential buyers even if every tangible aspect of their business is identical.....*

Mindermann and Brosel [15] argue that the reason why internal development of intangible assets is not capitalized is because (1) problems arise in identifying future economic benefits, (2) more difficult to measure because they are not available the market price of intangible assets produced internally. Therefore, the International Accounting Standard Board (IASB) distinguishes expenses for research and expenditure for development. IAS 38 recognizes the cost of research (research) as an expense because the possibility of future benefits is uncertain, while in the development stage it is an advanced stage of the research stage so that the possibility of future benefits needs to be evaluated if success will be capitalized if failure will be expensed.

The results of previous research are still not consistent and pay little attention to expenditures imposed on the value of the company. This study descriptively tried to investigate the perceptions of investors with the formulation of the problem as follows: (1) how do investors perceive non-judged assets presented in the Company's Financial Position Report, (2) how investors perceive the research and development expense presented in the Profit / Loss Report, (3) how are investors' perceptions of employee training expenses presented in the Profit / Loss Report, and (4) how inves-

tors' perceptions of advertising expenses are presented in the Profit / Loss Report.

## 1.1. Theoretical Bases

### 1.1.1. Signaling theory

The signaling theory in this study focuses on the role of financial statements published on investment decisions that affect the value of the company. If financial statements are seen as information, the numbers in the financial statements can provide a signal so that it will be followed up by investors.

Published information will give a signal to investors in making investment decisions, and the information can be perceived as good news or bad news that will affect the company's stock price which ultimately affects the value of the company. Unfortunately, signaling theory is often related to asymmetry information because management as the information giver has a specific goal that directs investment decisions of investors as users of financial statements. Lev (2001) in Anagnosto-poulou [1] suggests that: "In-tangible information problems between insiders and outside financial statements users regarding their quality." Joseph Stiglitz (2002) in Connelly et.al [6] also suggested that signaling theory provides a unique, practical, and perspective that can be empirically tested in conditions of imperfect information.

### 1.1.2. The value of the company

The value of the company as a result of investor investment decisions can be indicated by the company's stock price. Gamayuni [8] suggests that the measurement of company value can be determined through: (1) Tobin'Q which according to James Tobin (1967) in Gamayuni [8] is measured by the market value of equities divided by book value of equities, (2) Price to Book Value (PBV) is a value given by developing financial market and corporate management, which generally shows a value above one for a healthy company that can make investors believe in the company's prospects and can be measured easily and can show signals of expensive or cheap stock prices a company, (3) Enterprise Value calculated from market value plus debt minus cash, (4) Present Value of Cash Flow, and (5) Free Cash Flow as measured by after-tax operating profit minus re-invested needs.

### 1.1.2.1. Intangible assets

Intangible assets are non-monetary assets that can be identified and do not have physical form, according to IAI [12] the definition requires identification if: (a) can be separated, i.e. can be separated or distinguished from the entity and sold, transferred, licensed, leased or exchanged, either individually or together with related contracts, identified assets, or identified liabilities, regardless of whether the entity has the intention to do so, or (b) arises from contractual rights or other legal rights, regardless of whether these rights can

be transferred or separated from the entity or from other rights and obligations.

Recognition of intangible assets according to IAI [12] is stated as follows:

Intangible assets are recognized if and only if:

(a) it is likely that the entity will obtain economic benefits the future of the asset, and (b) the acquisition cost of the asset can be measured reliably.

Related to recognition rules, this is an obstacle in the recognition of intangible assets produced internally, including constraints in recognizing research costs as intangible assets, so that these expenses are charged. Sveiby (1998) in Gamayuni [8] states that: "Invisible intangible part of the balance sheet can be classified as a family of three, individual competence, internal structural, and external structure." Gamayuni [8] also concluded that intellectual capital became the main factors that can increase market value and subsequently the value of the company, so that measurement of intellectual capital is very important because if not measured it will provide different information between the company and investors. Pandya & Jain [17] argues that the company's intangible assets include the ownership of knowledge, applied experience, company technology, customer relations and professional expertise that provide competitiveness in the market, and at the beginning of the 21st century the role of intangible assets as creators of value is accepted by economists, investors, and management.

### 1.1.2.2. Research and development expenses

IAI [12] in PSAK 19 states that in determining an intangible asset produced internally it meets the requirements to be classified into two stages, namely the research stage and the development stage. In the research phase, all expenditures are recognized as an expense when incurred, while in the development phase it is recognized as an intangible asset if it fulfills all of the following:

(a) the technical feasibility of completing such intangible assets so that the assets can be used or sold.

(b) intention to eliminate these intangible assets and use them or sell them.

(c) the ability to use or sell these intangible assets.

(d) how intangible assets will produce the most likely future economic benefits. Among other things, the entity can indicate the existence of a market for the output of intangible assets or the market for intangible assets themselves, or, if the intangible assets will be used internally, the entity can show the usefulness of the intangible assets.

(e) the availability of sufficient technical, financial and other resources to complete the development of intangible assets and to use or sell these assets.

(f) the ability to measure reliably the expenses that can be distributed against intangible assets during its development.

Johnson and Pazderka [13] suggest that the market value of a company's stock should respond to the expected impact of changes in research and development activities on net cash flows. Salinger (1984) in Johnson and Pazderka [13] suggested that innovative activities can be risky, but their success gives the monopolist power to the inventor. Both of

these aspects are captured in the market value of the company reflected in the present value of all future profits, including the component of monopoly power and adjusting the risk.

### 1.1.2.3. Employee training expenses

Bobinski [4] suggests that training can increase productivity, customer satisfaction, and sales, but it is very complicated to calculate the rate of return on investment in training. Bobinski [4] also revealed Philip's opinion that there are 5 levels of ROI calculation, namely:

Level 1: Reaction / Satisfaction: What are the participants' reactions to learning and what do they plan to do with the material?

Level 2: Learning: What knowledge, skills, attitudes have changed and by how much?

Level 3: Job Application: Are there any change behaviors and jobs that they learned in the training?

Level 4: Business Impact: Did the on-the-job application produce measureable results?

Level 5: ROI: Did the monetary value exceed the cost of the program?

### 1.1.2.4. Advertising expenses

Godfrey et al [10] suggested that spending on advertising was immediately recognized as an expense because the impact of advertisement spending was long and difficult to determine. Suppose that a customer can buy a product because of the ad that was seen two years ago, and because the benefits cannot be determined reliably then the expenditure of advertising is recognized immediately as an expense. Pauwels, Silva-Risso, Srinivasan, and Hanssens (2004) in Conchar et al [5] suggest that promotion spending is specifically designed for short-term impact, while advertising expenditure is intended both for short-term sales increases and long-term benefits in the context of awareness brand, loyalty, cost savings, and competition barriers. Vitorino [23] argues that advertising expenditure is an investment to create brand capital as an intangible asset that summarizes brand awareness of goods and services produced by the company. This brand capital will increase sales, through increasing customer loyalty, and understanding quality, thus becoming an important component of the company's market value.

## **2. BACKGROUND**

Swanson [22] argues that lately corporate intangible assets have become an important trigger for increasing the economic value of the company, which is actually difficult to measure, and its study found that the measurement of intangible assets that are developed internally affects the value company. Shih [20] states that intangible assets are positively related to the book value of operational assets and company cash dividends. Behname et.al. [2] argued that in recent high competitive economies, intangible assets create productive value of companies, but the challenge for

accounting standards compiler bodies related to the measurement and reporting of intangible assets, also stated that the results of the testing found that intangible assets had a positive and significant impact on the market value of metal industry companies in Bursa Efek of Tehran. Miyagawa et al. [16] showed that the results of his research based on Bond and Cummins (2000) show that the greater intangible assets increase the value of the company, especially in the Information and Communications Technology (ICT) industries. Gamayuni [8] 2007-2009 revealed the results of his studies of going public public in Indonesia that the empirical evidence of intangible assets, financial policies, financial performance, together had a significant influence on the value of the company.

Barth and Kasznik (1999) in Anagnostopoulou [1] suggest that the higher the book-to-market ratio indicates the low intangible assets because many intangible expenditures are not recognized as assets in the balance sheet but are reflected in the market value of equity. Basgoze and Sayin [3] suggested that investment in research and development creates corporate value related to the company's competitive advantage which is a differentiating strategy that creates new products from processes that are difficult to emulate by competitors and that create brand equity. Basgoze and Sayin [3] observation results revealed that there is a positive and strong correlation between the intensity of investment in research and development expenses and the rate of return on investment. Previous research, Johnson and Pazderka [13] also revealed the results of empirical research which also showed a positive and statistically significant relationship between research and development expense expenditure and stock market value. Ho et al [11] revealed that intensive investment in research and development contributed positively to the market performance of manufacturing companies for one year, but not for non-manufacturing companies. In line with that, Duqi and Torluccio [7] also put forward the results of their research which illustrate the certainty of the positive and significant influence of research and development expenditures on the market value of the company. Becker (1964) in Riley et al [19] revealed that investment in employee training and education often provides positive economic value because it benefits the knowledge and skills of employees who can increase productivity, even though the investment is not expected to improve the company's financial performance. The rate of return from training can only be seen if the product increase is higher than the increase in wages.

Kwon [14] presents the results of empirical research that book value of equity, expense education and training, and welfare costs have a positive relationship with enterprise value, while accounting earnings have a significant negative impact on enterprise value. Ho et al. [11] suggested that intensive investment in advertising contributed positively to the performance of one year with shares of non-invoicing companies. Hanssens (2004) in Conchar [5] suggests that marketing decision makers are increasingly raising

awareness of the importance of shareholder value maximization, which is referred to as evaluating the long-term impact of their actions on market-product returns in accordance with the investor response, and research results empirically states that there are two industries that support that advertising spending has a long-term positive impact on the corporate market capitalization and can be negatively impacted on the competitor's measure of comparative size. Vitorino [23] argues that advertising expenditure as an investment in brand capital and the results of his research states that this brand capital can estimate the company value of 23% and vary between industries. Conchar, Crask, and Zinkhan [5] suggest the results of a meta-analysis that there is a positive relationship between advertising and promotional expenditure with the company's market value, because marketing expenditures are generally expected to provide future cash flows that increase prosperity shareholders.

### 2.1. Framework for Thinking and Development of Hypotheses

Intangible assets are recognized as assets (capitalized) because the expectation of future benefits is certain and can be measured in real terms, thus it is expected to increase the value of the company. Given the company's value is the value that investors perceive for the company's future prospects, and the recognition of accounting in capitalizing intangible assets is expected to give a good signal to investors to buy shares. Therefore the first allegations of this study are:

H1: Intangible assets have a significant and positive impact on Firm Value.

Expenditures for research and development are recognized as expenses, even though there are hopes of future benefits from successful research and development to produce innovative products that follow the tastes of customers, thereby increasing the sustainability of the company and expected to have an impact on the value of the company. Therefore the conjecture while the two studies are:

H2: The research and development expense has a significant and positive effect on Firm Values.

Expenditures for employee training are recognized as an expense, even though there are hopes of future benefits from the employee's training activities such as increased knowledge and skills to increase company productivity which is ultimately expected to have an impact on company value. Therefore the allegations of all three of these studies are:

H3: Employee training expenses have a significant and positive effect on Firm Value.

Expenditures for advertising are recognized as an expense, even though there is hope to increase future sales even though there is an uncertain customer response time lag and measurement of the results of increased sales is difficult to measure reliably, but advertising expenditure should still be held accountable provide future benefits so as to increase the value of the company. Therefore allegations while the four researches are:

H4: The advertising expenses has a significant and positive effect on Firm Value.

## 3. RESEARCH METHODS

The hypothesis testing technique in this study is simple regression analysis with the following equation:

$$\begin{aligned} PBVIA &= \alpha + \beta_1 IA + \varepsilon \\ PBVRD &= \alpha + \beta_1 RDEXP + \varepsilon \\ PBVTR &= \alpha + \beta_1 TREXP + \varepsilon \\ PBVADV &= \alpha + \beta_1 ADVEXP + \varepsilon \end{aligned}$$

Information :

*PBVIA* = Price to Book Value – Intangible Asset

*PBVRD* = Price to Book Value – Riset & Development

*PBVTR* = Price to Book Value – Training

*PBVADV* = Price to Book Value - Advertising

$\alpha$  = Constanta

$\beta_1$  = Coeficient

IA = Intangible Asset

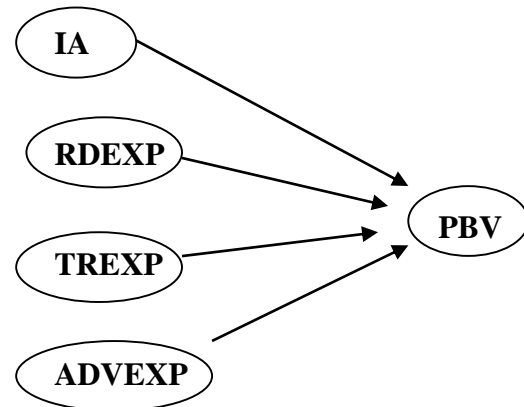
RDEXP = Riset & Development Expense

TREXP = Training Expense

ADVEXP = Advertising Expense

$\varepsilon$  = error

This research is carried out by using secondary data to capture intangible expenditures that influence company value. This research model can be described as follows:



## 4. FINDINGS AND DISCUSSION

Based on the results of the physical requirements test, this study was tested parametrically for H1 and H2, whereas for H3 and H4 because of heteroscedasticity problems it was tested non-parametrically with Spearman Rho correlation. The parametric test results for H1 and H2 are illustrated in Table 1 below.

**Table 1** Test result of H1 and H2

Alternative Hypothesis	Standardized Coefficients	Sig. t	Result
H1	-0,087	0,446	Not Accepted
H2	0,713	0,000	Accepted

Based on Table 1 above, H1 shows a negative correlation coefficient (-0.087) and a significance value  $t$  above 0.05 (ie 0.446), so it is not accepted. The negative correlation coefficient means the greater the intangible assets - the smaller the firm value, and vice versa, the smaller the intangible assets - the greater the firm value. This direction of correlation is contrary to H1's direction. The signal given from intangible assets is negatively related to the value of the company.

The H2 test results show a positive correlation coefficient (0.713) and a significance value of  $t$  below 0.05 (ie 0.000), so that it is received. Positive correlation coefficient means the greater the research and development expense - the greater the firm value, and vice versa, the smaller the research and development expense - the smaller the firm value. The direction of this correlation is in the direction of H2. Signals given from the research and development expense are positively related to the value of the company.

The results of Spearman Rho's non-parametric test for H3 and H4 are illustrated in Table 2 below.

**Table 2** Test Result of Ha3 dan Ha4

Alternative Hypothesis	Correlation Coefficient	Sig. (1-tailed)	Result
H3	-0,062	0,314	Not Accepted
H4	0,090	0,212	Not Accepted

Based on Table 2 above, H3 shows a negative correlation coefficient (-0.062) and a significance value above 0.05 (ie 0.314), so it is not accepted. The negative correlation coefficient means that the larger of training expense - the smaller the firm value, and vice versa, the smaller the training expense - the greater the firm value. The direction of this correlation is in the direction of H3. The signal given from the training expense is negatively related to the value of the company.

H4 test results show a positive correlation coefficient (0.090) and a significance value above 0.05 (ie 0.212), so that it cannot be accepted. The positive correlation coefficient means the greater the advertising expense - the greater the firm value, and vice versa, the smaller the advertising expense - the smaller the firm value. The direction of this correlation is in the direction of H4. The signal given from

the advertising expense is positively related to the firm value, but is not significant so it is not accepted

#### 4.1. The Relation of Intangible Assets to Firm Values

Based on H1 test results that cannot accepted because of the negative direction and the significance value of the  $t$  test that is not significant, it can be described that intangible assets, which are capitalized by intangible expenditures, are not considered to increase the value of the company by investors. This is not in line with the results of Swanson [22], Shih [20], Behname et.al. [2], Miyagawa et al [16] and Gamayuni [8]. The results of this study are in accordance with that stated by Barth and Kasznik (1999) in Anagnostopoulou [1] which suggests that the higher the book-to-market ratio indicates the low intangible assets, this is due to the many intangible expenditures that are not recognized as assets in balance sheet but reflected in the market value of equity.

This can be due to the fact that most intangible expenditures are not capitalized, because the Financial Accounting Standards (SAK) regulate internal development, whose future benefits are uncertain immediately charged. This is the implementation of conservatism which chooses to increase the expense if there is uncertainty about the future.

#### 4.2. The Relation of Research and Development Expenses to Firm Values

Based on the H2 test results that can be accepted because of the positive direction and significant significance value of the  $t$  test, it can be described that the research and development expense which is the intangible expense that is charged is seen to increase the value of the company by investors. This is consistent with the results of a study by Basgoze and Sayin [3], Johnson and Pazderka [13], Ho et al [11], and Duqi and Torluccio [7]. Even though SAK regulates all expenses for research, it is charged positively by investors so that it increases the value of the company. Thus investors appreciate the business done by the company through research.

Accounting treatment regulated by Indonesian GAAP for research and development expenses when compared with oil and gas accounting (although the PSAK has already been revoked) knows two methods, namely successful method that adheres to the definition of elements of Expenses and Assets, and a full cost method that adheres to the price concept acquisition, then SAK seems to support Successful Effort Method which focuses more on the definition of elements of financial statements than the concept of cost. Fortunately, financial report users as decision makers understand this so that even if recognized as an expense, it can increase the value of the company.

### 4.3. The Relation of Training Expense to Firm Value

Based on the H3 test results that are not accepted because of the negative direction and significance value of the Rho Spearman correlation which is not significant. Therefore, it can be illustrated that the training expense which is a negligible intangible expenditure is seen as reducing the value of the company by investors. This is not in accordance with the results of Becker (1964) in Riley et al [19], and Kwon [14]. The training expense is seen by investors as irrelevant for making investment decisions, so that the increase in training expenses reduces the value of the company and is not significant.

In the era of very rapid technological development and the era of emergence of ovation in all fields, what is needed is learning personnel who never stop until the end of their lives. The rapid changes in technology and innovation make the company must issue a continuous training expense that is quickly passed.

### 4.4. The Relation of Advertising Expenses to Firm Value

Based on H4 test results that are unaccepted because even though the directions are positive, the significance value of Spearman Rho correlation is not significant. Therefore, it can be illustrated that the advertising expense which is an intangible expense that is charged is considered to increase the value of the company by investors but is not significant. This is not in accordance with the results of research by Ho et al [11], Vitorino [23], Conchar, Crask, and Zinkhan [5]. The positive direction shows that users of financial statements expect intangible spending for advertising can increase the value of the company, but this is still not significant.

Expanding advertising is expected to increase future sales, but there is still uncertainty because consumer tastes change rapidly. In the era of consumers becoming kings, companies must try to position their products in the minds of consumers by always paying attention to the existence of new substitution products and complementary products that can win the competition. The persistence in the era of intense competition makes investors perceive intangible spending for advertisements that are positively related to the value of the company but not yet significant.

## 5. CONCLUSIONS AND SUGGESTIONS

Based on the results of the classical test, H1 and H2 are tested parametric while H3 and H4 are tested non-parametric because there is a problem of heteroscedasticity. The first alternative hypothesis is not accepted, because the results of the testing of this study show the relation of intangible assets that are negative and not significant to the value of the company.

The second alternative hypothesis is accepted because the results of this research test show the relation between re-

search and development expense that is positive and significant to the value of the company. Fortunately, financial report users as decision makers understand this so that even if recognized as an expense can increase the firm value.

The third alternative hypothesis is not accepted because the results of this research test show that the training expense is negative and not significant in relation to firm value. This can be caused by investors seeing the success of spending on training is difficult to measure even often leading to resistance given that technological changes and rapid innovation make employees must be lifelong learners.

The fourth alternative hypothesis cannot accepted because the results of the testing of this study indicate that the advertising expense is positive but not significant to the value of the company.

The limitations of this study are only observing the reaction of investors from companies whose liquid shares are traded on the IDX (LQ45) from 2013 to 2017. The reaction of investors that reflects the value of the company is reflected in the value of PBV. This study does not use intervals between independent variables that influence the dependent variable, because it assumes that investors always monitor interim financial reports so that when the annualized free variable value is expected to affect the value of the company at the end of the period.

Future research is expected to expand the sample and the year of the study. In addition, a proxy for company value can be changed with a measure that is considered more representative of investor reaction. Further research is also expected to use interim financial report data for free variables.

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# The Relation of Capitalized or Expensed of Intangible Expenditures to Firm Value

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## ABSTRACT

Some expenditures that have an impact on the expectation of future benefits are often treated differently because the point of view is the possibility of uncertain future benefits. If it is uncertain will be expensed, while what is likely to come from the acquisition of external parties is capitalized as an asset. This difference treatment inspired the research to see its impact on corporate value in investor point of view. Testing this research with SPSS version 20 is based on timeseries data on LQ45 companies listed on the IDX in 2013-2017. Referring to signaling theory, the results of this study find there is a relation of negative and non-significant intangible assets to firm value, there is a relation of positive and significant research and development expenses on firm value, there is a relation of negative and insignificant employee training expenses to firm value, and there is a relation of positive and not significant advertising expenses to firm value.

**Keywords:** Firm value, intangible assets, research & development expenses, training expenses, advertising expenses

## 1. INTRODUCTION

Investment decisions often refer to accounting numbers that are read as future prospects by rational investors. Unfortunately, Puspitaningtyas [18] argues that investors still consider accounting information in investment decision making but are more dominated by factors that reflect investor psychology as a personal signal that causes stock prices do not reflect their fair value and are in an inefficient stock market condition.

Skroupa [21] describes the opinion of David Post, chairman of the Sustainable Accounting Standards Board (SASB), who argues that the value of intangible assets is very important because it increases the market value of companies, although the value of tangible assets greatly affects the value of the company because the value of intangible assets is very small but not. Thus with the current conditions where the value of intangible assets has grown from 20% to 80% in the Balance Sheet which contains intellectual capital and research and development. Conventional accounting methods have not evolved to measure the value of intangible assets because of the characteristics of future benefits that are still considered uncertain. The long-term value of the company's total assets (including intangible assets) is driven by a series of short-term corporate actions and the company's long-term decisions.

Generational Equity [9] states that

*The important thing that business owners need to know about intangible assets is this: they can play a significant factor in a buyer*

*paying a premium for a company, but do not appear on a balance sheet. This means that two companies can have drastically different values to potential buyers even if every tangible aspect of their business is identical.....*

Mindermann and Broesel [15] argue that the reason why internal development of intangible assets is not capitalized is because (1) problems arise in identifying future economic benefits, (2) more difficult to measure because they are not available the market price of intangible assets produced internally. Therefore, the International Accounting Standard Board (IASB) distinguishes expenses for research and expenditure for development. IAS 38 recognizes the cost of research (research) as an expense because the possibility of future benefits is uncertain, while in the development stage it is an advanced stage of the research stage so that the possibility of future benefits needs to be evaluated if success will be capitalized if failure will be expensed.

The results of previous research are still not consistent and pay little attention to expenditures imposed on the value of the company. This study descriptively tried to investigate the perceptions of investors with the formulation of the problem as follows: (1) how do investors perceive non-judged assets presented in the Company's Financial Position Report, (2) how investors perceive the research and development expense presented in the Profit / Loss Report, (3) how are investors' perceptions of employee training expenses presented in the Profit / Loss Report, and (4) how inves-

tors' perceptions of advertising expenses are presented in the Profit / Loss Report.

## 1.1. Theoretical Bases

### 1.1.1. Signaling theory

The signaling theory in this study focuses on the role of financial statements published on investment decisions that affect the value of the company. If financial statements are seen as information, the numbers in the financial statements can provide a signal so that it will be followed up by investors.

Published information will give a signal to investors in making investment decisions, and the information can be perceived as good news or bad news that will affect the company's stock price which ultimately affects the value of the company. Unfortunately, signaling theory is often related to asymmetry information because management as the information giver has a specific goal that directs investment decisions of investors as users of financial statements. Lev (2001) in Anagnostopoulou [1] suggests that: "In-tangible information problems between insiders and outside financial statements users regarding their quality." Joseph Stiglitz (2002) in Connelly et.al [6] also suggested that signaling theory provides a unique, practical, and perspective that can be empirically tested in conditions of imperfect information.

### 1.1.2. The value of the company

The value of the company as a result of investor investment decisions can be indicated by the company's stock price. Gamayuni [8] suggests that the measurement of company value can be determined through: (1) Tobin's Q which according to James Tobin (1967) in Gamayuni [8] is measured by the market value of equities divided by book value of equities, (2) Price to Book Value (PBV) is a value given by developing financial market and corporate management, which generally shows a value above one for a healthy company that can make investors believe in the company's prospects and can be measured easily and can show signals of expensive or cheap stock prices a company, (3) Enterprise Value calculated from market value plus debt minus cash, (4) Present Value of Cash Flow, and (5) Free Cash Flow as measured by after-tax operating profit minus re-invested needs.

#### 1.1.2.1. Intangible assets

Intangible assets are non-monetary assets that can be identified and do not have physical form, according to IAI [12] the definition requires identification if: (a) can be separated, i.e. can be separated or distinguished from the entity and sold, transferred, licensed, leased or exchanged, either individually or together with related contracts, identified assets, or identified liabilities, regardless of whether the entity has the intention to do so, or (b) arises from contractual rights or other legal rights, regardless of whether these rights can

be transferred or separated from the entity or from other rights and obligations.

Recognition of intangible assets according to IAI [12] is stated as follows:

Intangible assets are recognized if and only if:

(a) it is likely that the entity will obtain economic benefits the future of the asset, and (b) the acquisition cost of the asset can be measured reliably.

Related to recognition rules, this is an obstacle in the recognition of intangible assets produced internally, including constraints in recognizing research costs as intangible assets, so that these expenses are charged. Sveiby (1998) in Gamayuni [8] states that: "Invisible intangible part of the balance sheet can be classified as a family of three, individual competence, internal structural, and external structure." Gamayuni [8] also concluded that intellectual capital became the main factors that can increase market value and subsequently the value of the company, so that measurement of intellectual capital is very important because if not measured it will provide different information between the company and investors. Pandya & Jain [17] argues that the company's intangible assets include the ownership of knowledge, applied experience, company technology, customer relations and professional expertise that provide competitiveness in the market, and at the beginning of the 21st century the role of intangible assets as creators of value is accepted by economists, investors, and management.

#### 1.1.2.2. Research and development expenses

IAI [12] in PSAK 19 states that in determining an intangible asset produced internally it meets the requirements to be classified into two stages, namely the research stage and the development stage. In the research phase, all expenditures are recognized as an expense when incurred, while in the development phase it is recognized as an intangible asset if it fulfills all of the following:

- (a) the technical feasibility of completing such intangible assets so that the assets can be used or sold.
  - (b) intention to eliminate these intangible assets and use them or sell them.
  - (c) the ability to use or sell these intangible assets.
  - (d) how intangible assets will produce the most likely future economic benefits. Among other things, the entity can indicate the existence of a market for the output of intangible assets or the market for intangible assets themselves, or, if the intangible assets will be used internally, the entity can show the usefulness of the intangible assets.
  - (e) the availability of sufficient technical, financial and other resources to complete the development of intangible assets and to use or sell these assets.
  - (f) the ability to measure reliably the expenses that can be distributed against intangible assets during its development.
- Johnson and Pazderka [13] suggest that the market value of a company's stock should respond to the expected impact of changes in research and development activities on net cash flows. Salinger (1984) in Johnson and Pazderka [13] suggested that innovative activities can be risky, but their success gives the monopolist power to the inventor. Both of

these aspects are captured in the market value of the company reflected in the present value of all future profits, including the component of monopoly power and adjusting the risk.

### 1.1.2.3. Employee training expenses

Bobinski [4] suggests that training can increase productivity, customer satisfaction, and sales, but it is very complicated to calculate the rate of return on investment in training. Bobinski [4] also revealed Philip's opinion that there are 5 levels of ROI calculation, namely:

Level 1: Reaction / Satisfaction: What are the participants' reactions to learning and what do they plan to do with the material?

Level 2: Learning: What knowledge, skills, attitudes have changed and by how much?

Level 3: Job Application: Are there any change behaviors and jobs that they learned in the training?

Level 4: Business Impact: Did the on-the-job application produce measureable results?

Level 5: ROI: Did the monetary value exceed the cost of the program?

### 1.1.2.4. Advertising expenses

Godfrey et al [10] suggested that spending on advertising was immediately recognized as an expense because the impact of advertisement spending was long and difficult to determine. Suppose that a customer can buy a product because of the ad that was seen two years ago, and because the benefits cannot be determined reliably then the expenditure of advertising is recognized immediately as an expense. Pauwels, Silva-Risso, Srinivasan, and Hanssens (2004) in Conchar et al [5] suggest that promotion spending is specifically designed for short-term impact, while advertising expenditure is intended both for short-term sales increases and long-term benefits in the context of awareness brand, loyalty, cost savings, and competition barriers. Vitorino [23] argues that advertising expenditure is an investment to create brand capital as an intangible asset that summarizes brand awareness of goods and services produced by the company. This brand capital will increase sales, through increasing customer loyalty, and understanding quality, thus becoming an important component of the company's market value.

## **2. BACKGROUND**

Swanson [22] argues that lately corporate intangible assets have become an important trigger for increasing the economic value of the company, which is actually difficult to measure, and its study found that the measurement of intangible assets that are developed internally affects the value company. Shih [20] states that intangible assets are positively related to the book value of operational assets and company cash dividends. Behname et.al. [2] argued that in recent high competitive economies, intangible assets create productive value of companies, but the challenge for

accounting standards compiler bodies related to the measurement and reporting of intangible assets, also stated that the results of the testing found that intangible assets had a positive and significant impact on the market value of metal industry companies in Bursa Efek of Tehran. Miyagawa et al. [16] showed that the results of his research based on Bond and Cummins (2000) show that the greater intangible assets increase the value of the company, especially in the Information and Communications Technology (ICT) industries. Gamayuni [8] 2007-2009 revealed the results of his studies of going public public in Indonesia that the empirical evidence of intangible assets, financial policies, financial performance, together had a significant influence on the value of the company.

Barth and Kasznik (1999) in Anagnostopoulou [1] suggest that the higher the book-to-market ratio indicates the low intangible assets because many intangible expenditures are not recognized as assets in the balance sheet but are reflected in the market value of equity. Basgoze and Sayin [3] suggested that investment in research and development creates corporate value related to the company's competitive advantage which is a differentiating strategy that creates new products from processes that are difficult to emulate by competitors and that create brand equity. Basgoze and Sayin [3] observation results revealed that there is a positive and strong correlation between the intensity of investment in research and development expenses and the rate of return on investment. Previous research, Johnson and Pazderka [13] also revealed the results of empirical research which also showed a positive and statistically significant relationship between research and development expense expenditure and stock market value. Ho et al [11] revealed that intensive investment in research and development contributed positively to the market performance of manufacturing companies for one year, but not for non-manufacturing companies. In line with that, Duqi and Torluccio [7] also put forward the results

of their research which illustrate the certainty of the positive and significant influence of research and development expenditures on the market value of the company. Becker (1964) in Riley et al [19] revealed that investment in employee training and education often provides positive economic value because it benefits the knowledge and skills of employees who can increase productivity, even though the investment is not expected to improve the company's financial performance. The rate of return from training can only be seen if the product increase is higher than the increase in wages.

Kwon [14] presents the results of empirical research that book value of equity, expense education and training, and welfare costs have a positive relationship with enterprise value, while accounting earnings have a significant negative impact on enterprise value. Ho et al. [11] suggested that intensive investment in advertising contributed positively to the performance of one year with shares of non-invoicing companies. Hanssens (2004) in Conchar [5] suggests that marketing decision makers are increasingly raising



awareness of the importance of shareholder value maximization, which is referred to as evaluating the long-term impact of their actions on market-product returns in accordance with the investor response, and research results empirically states that there are two industries that support that advertising spending has a long-term positive impact on the corporate market capitalization and can be negatively impacted on the competitor's measure of comparative size. Vitorino [23] argues that advertising expenditure as an investment in brand capital and the results of his research states that this brand capital can estimate the company value of 23% and vary between industries. Conchar, Crask, and Zinkhan [5] suggest the results of a meta-analysis that there is a positive relationship between advertising and promotional expenditure with the company's market value, because marketing expenditures are generally expected to provide future cash flows that increase prosperity shareholders.

### 2.1. Framework for Thinking and Development of Hypotheses

Intangible assets are recognized as assets (capitalized) because the expectation of future benefits is certain and can be measured in real terms, thus it is expected to increase the value of the company. Given the company's value is the value that investors perceive for the company's future prospects, and the recognition of accounting in capitalizing intangible assets is expected to give a good signal to investors to buy shares. Therefore the first allegations of this study are:

H1: Intangible assets have a significant and positive impact on Firm Value.

Expenditures for research and development are recognized as expenses, even though there are hopes of future benefits from successful research and development to produce innovative products that follow the tastes of customers, thereby increasing the sustainability of the company and expected to have an impact on the value of the company. Therefore the conjecture while the two studies are:

H2: The research and development expense has a significant and positive effect on Firm Values.

Expenditures for employee training are recognized as an expense, even though there are hopes of future benefits from the employee's training activities such as increased knowledge and skills to increase company productivity which is ultimately expected to have an impact on company value. Therefore the allegations of all three of these studies are:

H3: Employee training expenses have a significant and positive effect on Firm Value.

Expenditures for advertising are recognized as an expense, even though there is hope to increase future sales even though there is an uncertain customer response time lag and measurement of the results of increased sales is difficult to measure reliably, but advertising expenditure should still be held accountable provide future benefits so as to increase the value of the company. Therefore allegations while the four researches are:

H4: The advertising expenses has a significant and positive effect on Firm Value.

## 3. RESEARCH METHODS

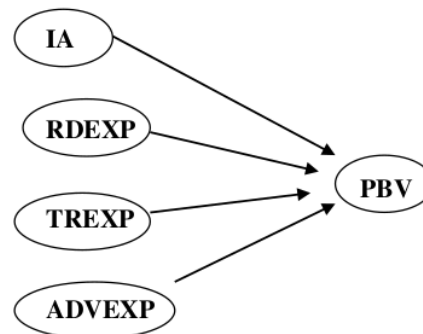
The hypothesis testing technique in this study is simple regression analysis with the following equation:

$$\begin{aligned} PBVIA &= \alpha + \beta_1 IA + \varepsilon \\ PBVRD &= \alpha + \beta_1 RDEXP + \varepsilon \\ PBVTR &= \alpha + \beta_1 TREXP + \varepsilon \\ PBVADV &= \alpha + \beta_1 ADVEXP + \varepsilon \end{aligned}$$

Information :

$PBVIA$  = Price to Book Value – Intangible Asset  
 $PBVRD$  = Price to Book Value – Riset & Development  
 $PBVTR$  = Price to Book Value – Training  
 $PBVADV$  = Price to Book Value - Advertising  
 $\alpha$  = Constanta  
 $\beta_1$  = Coeficient  
 $IA$  = Intangible Asset  
 $RDEXP$  = Riset & Development Expense  
 $TREXP$  = Training Expense  
 $ADVEXP$  = Advertising Expense  
 $\varepsilon$  = error

This research is carried out by using secondary data to capture intangible expenditures that influence company value. This research model can be described as follows:



## 4. FINDINGS AND DISCUSSION

Based on the results of the physical requirements test, this study was tested parametrically for H1 and H2, whereas for H3 and H4 because of heteroscedasticity problems it was tested non-parametrically with Spearman Rho correlation. The parametric test results for H1 and H2 are illustrated in Table 1 below.

**Table 1** Test result of H1 and H2

Alternative Hypothesis	Standardized Coefficients	Sig. t	Result
H1	-0,087	0,446	Not Accepted
H2	0,713	0,000	Accepted

Based on Table 1 above, H1 shows a negative correlation coefficient (-0.087) and a significance value t above 0.05 (ie 0.446), so it is not accepted. The negative correlation coefficient means the greater the intangible assets - the smaller the firm value, and vice versa, the smaller the intangible assets - the greater the firm value. This direction of correlation is contrary to H1's direction. The signal given from intangible assets is negatively related to the value of the company.

The H2 test results show a positive correlation coefficient (0.713) and a significance value of t below 0.05 (ie 0.000), so that it is received. Positive correlation coefficient means the greater the research and development expense - the greater the firm value, and vice versa, the smaller the research and development expense - the smaller the firm value. The direction of this correlation is in the direction of H2. Signals given from the research and development expense are positively related to the value of the company.

The results of Spearman Rho's non-parametric test for H3 and H4 are illustrated in Table 2 below.

**Table 2** Test Result of Ha3 dan Ha4

Alternative Hypothesis	Correlation Coefficient	Sig. (1-tailed)	Result
H3	-0,062	0,314	Not Accepted
H4	0,090	0,212	Not Accepted

Based on Table 2 above, H3 shows a negative correlation coefficient (-0.062) and a significance value above 0.05 (ie 0.314), so it is not accepted. The negative correlation coefficient means that the larger of training expense - the smaller the firm value, and vice versa, the smaller the training expense - the greater the firm value. The direction of this correlation is in the direction of H3. The signal given from the training expense is negatively related to the value of the company.

H4 test results show a positive correlation coefficient (0.090) and a significance value above 0.05 (ie 0.212), so that it cannot be accepted. The positive correlation coefficient means the greater the advertising expense - the greater the firm value, and vice versa, the smaller the advertising expense - the smaller the firm value. The direction of this correlation is in the direction of H4. The signal given from

the advertising expense is positively related to the firm value, but is not significant so it is not accepted

#### 4.1. The Relation of Intangible Assets to Firm Values

Based on H1 test results that cannot accepted because of the negative direction and the significance value of the t test that is not significant, it can be described that intangible assets, which are capitalized by intangible expenditures, are not considered to increase the value of the company by investors. This is not in line with the results of Swanson [22], Shih [20], Behnagie et.al. [2], Miyagawa et al [16] and Gamayuni [8]. The results of this study are in accordance with that stated by Barth and Kasznik (1999) in Anagnostopoulou [1] which suggests that the higher the book-to-market ratio indicates the low intangible assets, this is due to the many intangible expenditures that are not recognized as assets in balance sheet but reflected in the market value of equity.

This can be due to the fact that most intangible expenditures are not capitalized, because the Financial Accounting Standards (SAK) regulate internal development, whose future benefits are uncertain immediately charged. This is the implementation of conservatism which chooses to increase the expense if there is uncertainty about the future.

#### 4.2. The Relation of Research and Development Expenses to Firm Values

Based on the H2 test results that can be accepted because of the positive direction and significant significance value of the t test, it can be described that the research and development expense which is the intangible expense that is charged is seen to increase the value of the company by investors. This is consistent with the results of a study by Basgoze and Sayin [3], Johnson and Pazderka [13], Ho et al [11], and Duqi and Torluccio [7]. Even though SAK regulates all expenses for research, it is charged positively by investors so that it increases the value of the company. Thus investors appreciate the business done by the company through research.

Accounting treatment regulated by Indonesian GAAP for research and development expenses when compared with oil and gas accounting (although the PSAK has already been revoked) knows two methods, namely successful method that adheres to the definition of elements of Expenses and Assets, and a full cost method that adheres to the price concept acquisition, then SAK seems to support Successful Effort Method which focuses more on the definition of elements of financial statements than the concept of cost. Fortunately, financial report users as decision makers understand this so that even if recognized as an expense, it can increase the value of the company.

### 4.3. The Relation of Training Expense to Firm Value

Based on the H3 test results that are not accepted because of the negative direction and significance value of the Rho Spearman correlation which is not significant. Therefore, it can be illustrated that the training expense which is a negligible intangible expenditure is seen as reducing the value of the company by investors. This is not in accordance with the results of Becker (1964) in Riley et al [19], and Kwon [14]. The training expense is seen by investors as irrelevant for making investment decisions, so that the increase in training expenses reduces the value of the company and is not significant.

In the era of very rapid technological development and the era of emergence of ovation in all fields, what is needed is learning personnel who never stop until the end of their lives. The rapid changes in technology and innovation make the company must issue a continuous training expense that is quickly passed.

### 4.4. The Relation of Advertising Expenses to Firm Value

Based on H4 test results that are unaccepted because even though the directions are positive, the significance value of Spearman Rho correlation is not significant. Therefore, it can be illustrated that the advertising expense which is an intangible expense that is charged is considered to increase the value of the company by investors but is not significant. This is not in accordance with the results of research by Ho et al [11], Vitorino [23], Conchar, Crask, and Zinkhan [5]. The positive direction shows that users of financial statements expect intangible spending for advertising can increase the value of the company, but this is still not significant.

Expanding advertising is expected to increase future sales, but there is still uncertainty because consumer tastes change rapidly. In the era of consumers becoming kings, companies must try to position their products in the minds of consumers by always paying attention to the existence of new substitution products and complementary products that can win the competition. The persistence in the era of intense competition makes investors perceive intangible spending for advertisements that are positively related to the value of the company but not yet significant.

## 5. CONCLUSIONS AND SUGGESTIONS

Based on the results of the classical test, H1 and H2 are tested parametric while H3 and H4 are tested non-parametric because there is a problem of heteroscedasticity. The first alternative hypothesis is not accepted, because the results of the testing of this study show the relation of intangible assets that are negative and not significant to the value of the company.

The second alternative hypothesis is accepted because the results of this research test show the relation between re-

search and development expense that is positive and significant to the value of the company. Fortunately, financial report users as decision makers understand this so that even if recognized as an expense can increase the firm value.

The third alternative hypothesis is not accepted because the results of this research test show that the training expense is negative and not significant in relation to firm value. This can be caused by investors seeing the success of spending on training is difficult to measure even often leading to resistance given that technological changes and rapid innovation make employees must be lifelong learners.

The fourth alternative hypothesis cannot accepted because the results of the testing of this study indicate that the advertising expense is positive but not significant to the value of the company.

The limitations of this study are only observing the reaction of investors from companies whose liquid shares are traded on the IDX (LQ45) from 2013 to 2017. The reaction of investors that reflects the value of the company is reflected in the value of PBV. This study does not use intervals between independent variables that influence the dependent variable, because it assumes that investors always monitor interim financial reports so that when the annualized free variable value is expected to affect the value of the company at the end of the period.

Future research is expected to expand the sample and the year of the study. In addition, a proxy for company value can be changed with a measure that is considered more representative of investor reaction. Further research is also expected to use interim financial report data for free variables.

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