

Green Accounting And Intellectual Capital Effect On Firm Value Moderated By Business Strategy

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Abstract: This study aims to compare the influence of Green Accounting and Intellectual Capital on the Firm Value model with Business Strategy as a Moderating Variable, using 2016 to 2021 data from IDX in the Automotive and Components and Consumer Goods sector. This study used purposive sampling and hypothesis testing using multiple regression. Green Accounting is measured by obtaining an ISO 1400, Intellectual Capital by VAICTM and Business Strategy by PPC. The results show green accounting has a negative effect on firm value in the Consumer Goods sector before and after being moderated and a significant positive effect on the other sector. Intellectual Capital has a significant effect on both sectors before and after moderation. Business strategy has a significant relationship with firm value in the Consumer Goods sector but has a negative relationship in other sectors. Business Strategy moderates the influence of Green accounting and Intellectual Capital on firm value.

Keywords: Green Accounting; Intellectual Capital; Business Strategy; Firm Value.

Abstraks: Penelitian ini bertujuan untuk membandingkan pengaruh Green Accounting dan Intellectual Capital terhadap model Nilai Perusahaan dengan Strategi Bisnis sebagai Variabel Moderating, menggunakan data tahun 2016 sd 2021 dari BEI dan website perusahaan di sektor Otomotif dan Komponen dan Barang Konsumsi. Penelitian ini menggunakan purposive sampling, pengujian hipotesis menggunakan regresi berganda. Green Accounting diukur dengan memperoleh sertifikat ISO 14001, Intellectual Capital diukur dengan VAICTM dan Business Strategy diukur dengan PPC. Hasil penelitian menunjukkan bahwa green accounting berpengaruh negatif terhadap nilai perusahaan pada sektor Consumer Goods sebelum dan sesudah dimoderasi dan berpengaruh signifikan positif pada sektor lainnya. Intellectual Capital berpengaruh signifikan pada kedua sektor, sebelum dan sesudah dimoderasi. Strategi bisnis memiliki hubungan yang signifikan terhadap nilai perusahaan di sektor barang konsumsi, tetapi memiliki hubungan negatif di sektor lainnya. Strategi Bisnis memoderasi pengaruh Green accounting dan Intellectual Capital terhadap nilai perusahaan di kedua sektor.

Kata Kunci: Green Accounting; Intellectual Capital; Stretegi Bisnis; Nilai Perusahaan.

INTRODUCTION

Company value is the value given by investors to companies that have succeeded in improving their performance and is associated with stock prices. The high value of the company shows the company's success in prospering the principal or maximizing shareholder wealth or shareholder welfare (Brigham and Ehrhardt, 2016). This causes the company's stock price to increase.



Efforts to increase the value of the company through improving the company's financial performance should be followed by better environmental management, but in fact, this is not the case. The rise of cases of environmental pollution in the form of soil and water pollution due to hazardous production waste is evidence that the environment is not managed properly (Mardiana and Wuryani, 2019). Several cases of environmental pollution carried out by PT How Are You Indonesia, PT Industri Tekstil Kamarga Kurnia, PT Kawi Mekar and PT United Color Indonesia polluting the environment around the factory are some evidence of cases that occurred in Indonesia (Head of Relations Bureau et al., 2020). For this reason, companies are encouraged to fulfil their social responsibilities, including to the environment.

Corporate responsibility towards the environment is the focus of the company's attention because nowadays, more and more consumers are paying attention to products that are environmentally friendly. This is evidenced by the increasing number of consumers who care about environmentally friendly products by 112 per cent from 2019 to 2020 (Indah Handayani, 2021). In addition to the issue of environmental damage and the increasing number of consumers who care about environmentally friendly products, this is one of the drivers for companies to innovate in production.

Environmentally friendly innovation activities or green innovation should be the company's choice to improve the company's relationship with the community and stakeholders and to obtain a good corporate image. Therefore, companies should optimize the role of Green Accounting or environmental management accounting. The results of the study prove that the application of environmental management accounting can increase company profits and, at the same time, increase company value (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Danang and Kunto, 2020). However, the results of Afazis and Handayani's research (Afazis and Handayani, 2020) state that environmental management accounting has no effect on firm value.

As described in the previous paragraph that companies need to innovate. To innovate requires the application of knowledge and technology (Law of the Republic of Indonesia Number 18 of 2002, 2002); therefore, companies need to improve the strategy of doing business which originally implemented labour-based business to become a knowledge-based business (Abdul-Jawad, 2017). The creation of transformation and capitalization of knowledge into assets for the company is called an intangible asset (Albertini and Berger-Remy, 2019).

Intangible assets include information and knowledge that must be managed properly to create a competitive advantage. Knowledge-based companies have employees who have high skills, expertise and innovation power. This knowledge and technology-based capital are known as Intellectual Capital (IC) (Ulum and Jati, 2016).

Intellectual Capital is knowledge, information and intellectual property that is able to find opportunities and manage threats to the company so that it has resilience and creates a competitive advantage (Eliana and Afni, 2017). Without Intellectual Capital, the company will not be able to run its business even with abundant wealth because it is human capital that utilizes all company assets to achieve company goals (Ulum, 2016).

Several research results have proven that Intellectual Capital has an effect on firm value, including the research of Ahmed and many others (Ahmed et al., 2019; Gantino and Alam, 2021; Mawaheb, 2020; Ni et al., 2020; Rabaya et al., 2020). Other research results state that Intellectual Capital has no effect on firm value (Subaida and Mardiaty, 2018;



Wafiyudin et al., 2020), and Madyan's research results state that Intellectual Capital has a negative effect on firm value (Madyan and Fikir, 2019).

In addition to the use of Intellectual Capital and Green Accounting, the value of the company is also influenced by choice of Business Strategy to face the competition. The company's efforts to formulate a competitive strategy will increase its value of the company (Muchammad, 2018). Nickols (Nickols, 2016) cites Chandler's definition, which states that strategy is the determination of the basic long-term goals and objectives of a company and the adoption of actions and the allocation of resources to carry out these goals.

Furthermore, according to Wheelen et al. (Wheelen et al., 2018), Business Strategy is a strategy for conducting the business competition and cooperating with business partners that emphasize increasing the competitive position for products and services produced by the company in a particular industry or market segment. Many studies have proven that Business Strategy has a positive effect on firm value, including research by Saidi et al. and others (Farida, 2022; Hariyanto, 2019; Saidi et al., 2021). Baihaqi's research results (Muchammad, 2018) show that business strategy has a negative effect on firm value.

Based on the identification of initial data, the application of the concept of Green Accounting, Intellectual Capital and Business Strategy has been carried out by companies listed on the Indonesia Stock Exchange, especially the Automotive and Components sector and the Consumer Goods sector, but the results do not always increase the value of the company. The results of searching data from several companies in both sectors are as follows:

Table 1. Eco-Efficiency, VAICTM and PBV

Consumers Goods Sector					
Emiten	Year	IC (VAIC TM)	GA (ISO14001)	BS (PPC)	FV (PBV)
Akasha Wira International Tbk	2017	7.535	0	0.539	1.269
	2018	7.406	0	0.484	1.334
	2019	8.659	0	0.416	0.821
Ultra Jaya Milk Industry and Trading Company	2017	7.281	1	0.376	1.622
	2018	6.824	1	0.357	2.479
	2019	4.120	1	0.376	3.323
Automotive and Components Sector					
Goodyear Indonesia Tbk	2017	6.952	1	0.094	1.157
	2018	5.895	1	0.088	1.064
	2019	7.140	1	0.123	0.794
Indomobil Sukses Internasional	2017	4.037	0	0.200	0.730
	2018	4.079	0	0.192	0.753
	2019	3.982	0	0.199	0.141

Table 1 shows, conceptually, the application of Intellectual Capital, Green Accounting and Business Strategy has a positive influence on firm value, but in table 1, PT. Akasha Wira International Tbk in 2017 and 2018 did not implement Green Accounting with indicators not obtaining an ISO 14001 certificate, obtaining a company value that increased from 1.269 in 2017 to 1.334 in 2018, although its Intellectual Capital decreased from 7.534 to 7.406 and also experienced a decline in the implementation of its Business Strategy

(PPC). In 2018, the company's Intellectual Capital increased from 7.406 in 2018 to 8.659 in 2019, but the value of the company actually decreased from 1.334 to 0.821. Likewise PT. Goodyear Indonesia Tbk, its Intellectual Capital increased from 5.895 to 7.140 from 2018 to 2019. This company also implemented Green Accounting, which increased its PPC value but obtained a decreased company value from 1.064 to 0.794.

The description above shows the inconsistent results of the implementation of Intellectual Capital, Green Accounting, and PPC on firm value. Similarly, the results of previous studies show inconsistent results, as described in the previous paragraphs. This is what makes researchers interested in conducting research again with a sample of companies in 2 sectors, namely the Automotive and Components sector and the Consumer Goods sector.

This sector was chosen because these two sectors are two sectors that have different business characteristics and different levels of environmental uncertainty. Companies in the Consumer Goods sector that fall into the food and beverage, cosmetics and household sub-sectors, household appliances, pharmaceuticals and cigarettes sub-sectors face higher competition from the automotive and components sector, goods produced and sold in the category Consumer Goods for public needs. Meanwhile, companies in the automotive and component sectors produce and sell goods categorized as tertiary needs, facing different market shares, thus requiring different implementations of Green Accounting and Intellectual Capital to increase company value.

This study uses the Green Accounting variable, which refers to previous research, namely the research of Merrie Anne et al. and Pantamee (Merrie et al., 2022; Pantamee Abdurrahman, 2019), which examines the effect of environmental accounting on firm value. Furthermore, this study uses the Intellectual Capital variable, which refers to the research of Subaida and Mardiaty et al. (Subaida and Mardiaty, 2018). The business strategy variable refers to the research of Ung, Muchammad, and Farida (Farida, 2022; Muchammad, 2018; Ung et al., 2018). However, this research is different from previous research. This study aims not only to prove the effect of Green Accounting, Intellectual Capital and Business Strategy variables on firm value in companies in two different sectors partially or simultaneously and also to prove the success of Business Strategies in strengthening or weakening the influence of Green Accounting and Intellectual Capital on firm value in two different sectors.

THEORETICAL REVIEW

Signalling Theory. Signalling theory focuses on the importance of the information produced by the company for making investment decisions by parties outside the company (Brigham and Ehrhardt, 2016). A disclosure is said to contain information if it can trigger a market reaction, which can be in the form of changes in stock prices or abnormal returns (Panggau and Septiani, 2017).

Information is an important element for investors and business people because information essentially presents information, notes, or a good picture of past conditions, for the survival of a company and how the effects will be (Ulum, 2016). Furthermore, it is stated that the voluntary disclosure of Intellectual Capital information and information generated by Green Accounting (Tri et al., 2022) will be a very effective medium for companies to convey a signal of superior quality or competitive advantage related to Intellectual Capital which is significant for the creation of wealth in the future.



Resources-Based Theory (RBT). Resources-based theory (RBT) is a theory developed to analyze the competitive advantage of a company that emphasizes the advantages of knowledge or an economy that relies on intangible assets (Albertini and Berger-Remy, 2019; Mirwan, 2018). The Resource-Base View theory pioneered by Barney in 1991 states that the economic value in a company's competitive advantage lies in the ownership and effective use of organizational resources that are able to add value, are rare, difficult to imitate, and are not replaced by other resources. Therefore, efforts are needed to find, obtain, develop, and maintain strategic resources. Furthermore, Josua stated that the strategic resource is Intellectual Capital (IC) (Josua et al., 2019).

The high value of Intellectual Capital reflects that the company has high-quality human resources as well. The results of Eristy's research (Utami, 2018) show a positive relationship between IC and firm value. Companies that are able to utilize their intellectual capital efficiently will increase their market value (Ahmed et al., 2019; Ni Made and Ni Putu, 2019; Subaida and Mardiaty, 2018; Utami, 2018).

Company value is a value that can be used in measuring the level of interest of a company from several points of view, such as the assessment of investors who value the company from the stock price. The higher the share price, the higher the shareholder's profit, so this situation will be in demand by investors because the increasing demand for shares causes the value of the company to also increase. The value of the company in this study is described through the price book value (PBV) (Nuryana and Bhebhe, 2019).

Price book value (PBV) is defined as a comparison of the market value of a stock against its own book value so that it can measure whether the stock price is overvalued or undervalued. Price book value or commonly known as the market to book value, describes how much the market appreciates the book value of a company's shares (Brigham and Ehrhardt, 2016). This ratio shows how far a company is able to create firm value relative to the amount of capital invested and can be interpreted as an indicator that the company's future returns are expected to be exactly equal to the returns required by the market (Robinson et al., 2016)

The regression equation model used is:

$$FV = \alpha + \beta_1 GA + \beta_2 IC + e \quad \dots\dots\dots (1)$$

$$FV = \alpha + \beta_1 GA + \beta_2 IC + \beta_3 BS + e \quad \dots\dots\dots (2)$$

$$FV = \beta_4 \{GA * BS\} + \beta_5 \{IC * BS\} + e \quad \dots\dots\dots (3)$$

Where; FV is the Dependent variable, namely price book value; α is Constanta; β_1 , β_2 are Regression coefficient; GA is Green Accounting; IC is Intellectual Capital; BS is Business Strategy; and e is an error (interrupt)

Intellectual Capital will increase competitiveness. Companies that are able to utilize their intellectual capital more efficiently than their market value will increase (Ida et al., 2018; Ni Made and Ni Putu, 2019; Rabaya et al., 2020). Intellectual Capital has a positive effect on firm value. Intellectual Capital is one of the factors that determine the high Firm Value for investors. This is because intellectual capital is a company knowledge asset that will be used by the company to face business competition (Badarudin and Eni, 2018). The value given by investors to the company will be reflected in the company's stock price (Danang and Kunto, 2020).

Environmental management accounting is part of Green Accounting involving full cost accounting, life cycle costs, strategic planning for environmental management and



profit assessment (Rosaline et al., 2020). Environmental management accounting that is applied properly by the company can increase the company's profit and, at the same time, increase the value of the company. This is in line with previous research.

The practice of Green Accounting /Environmental Management Accounting will produce relevant information about environmental management and is relevant information for decision making if implemented properly by the company can increase company profits and, at the same time, increase Company Value (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Danang and Kunto, 2020; Ni et al., 2020; Panggau and Septiani, 2017).

H1: There is the influence of Green Accounting and Intellectual Capital together on Company Value.

Green Accounting or environmental accounting Environmental Management Accounting (EMA) is an accounting that identifies, measures assesses and discloses costs related to company activities related to the environment in order to reduce the impact of business activities on the environment and make reports on environmental costs (Agustia et al., 2019; Chasbiandani et al., 2019). Through the application of Green Accounting, it is hoped that the company will voluntarily comply with the government policies where the company runs its business (Rosaline et al., 2020). Furthermore, it is explained that environmental management accounting consists of estimating and collecting, identifying, reporting, analyzing and sending information about 1) Information based on environmental costs, 2) Information based on energy and material flows, 3) Measurable cost information, made based on environmental costs, for decision making (Ria, 2020).

As explained above, one of the reasons companies implements Green Accounting is that it can support the company's development and operation of the overall environmental management system. Such a system will soon become a must for companies engaged in international trade due to the approval of the implementation of the international standard ISO 14001 (Che Ahmad and Nosakhare, 2016). Therefore, environmental accounting measurements that focus on the application of environmental management accounting in this study were adopted from the research of Afazis and Nosakhare (Afazis and Handayani, 2020; Che Ahmad and Nosakhare, 2016), which used the definition of environmental management accounting as a company's effort to manage environmental and financial performance, by implementing an environmental accounting system that is in accordance with the company's condition as represented by the ISO 14001 certificate obtained by the company.

The practice of Green Accounting /Environmental Management Accounting will produce relevant information about environmental management and is relevant information for decision-making if implemented properly by the company, can increase company profits and, at the same time, increase Company Value (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Danang and Kunto, 2020; Ni et al., 2020; Panggau and Septiani, 2017).

H2: There is a positive effect of Green Accounting on firm value.

Intellectual Capital is defined as knowledge, information and intellectual property that is able to find opportunities and manage threats in the life of a company so that it can affect resilience and competitive advantage in various ways (Rhoma and Subowo, 2016; Ulum, 2016). Three elements of Intellectual Capital, namely intellectual capital that is attached to



humans (human capital), intellectual capital that is attached to the organization (structural capital), and intellectual capital that is attached to relationships with external parties (customer capital) (Ulum, 2016).

Human capital is the core of Intellectual Capital because, in human capital, there is innovation and improvement (Meles et al., 2016). Some basic characteristics that can be measured from this capital are training programs, credentials, experience, competence, recruitment, mentoring, learning programs, individual potential and personality (Dwi, 2021).

Structural capital is the organization's ability to process routines through its structure that supports employees to produce optimal intellectual performance and business performance to create competitive advantages, for example, company operating systems, manufacturing processes, organizational culture and management philosophy. Relational capital is a relationship (network) with its partners, both from reliable suppliers and from customers who are loyal and satisfied with the services provided, the company's relationship with the government and with the surrounding community so as to create value-added (Meles et al., 2016).

The Public developed a method of measuring Intellectual Capital with monetary valuation known as VAICTM. Pulic (Pulic, 2000) proposed the ValueAdded Intellectual Coefficient (VAICTM) to provide information on the efficiency of value creation from tangible and intangible assets in companies, and VAICTM is considered suitable to measure IC in empirical research (Ulum, 2016).

H3: There is a positive influence of Intellectual Capital on Firm Value.

The company has established a Business Strategy since the company was founded, and the strategy has always been consistent from time to time (Irfan et al., 2020). According to Wheelen et al. (Wheelen et al., 2018), Business Strategy is a strategy for conducting the business competition and cooperating with business partners that emphasize increasing the competitive position for products and services produced by the company in a particular industry or market segment. Furthermore, it is also explained that Business Strategy describes how an organization deals with competitors, what products are sold in the market, and through what methods the company's products/services are delivered/distributed (Muchammad, 2018).

Business strategy can be measured using indicators of cost leadership, product differentiation and focus (Nasri and Ikra, 2016). A similar opinion is expressed by Surono (Surono et al., 2020) that cost leadership, differentiation, and Focused strategy are dimensions used in measuring the concept of Business Strategy.

This study uses one of the measurements used by Putri (Putri et al., 2017), which is also used by Al-Rdaydeh et al. (Al-Rdaydeh et al., 2018) to measure Business Strategy to be able to compete through premium price capability (PPC). Companies that implement an innovation strategy will offer unique products/services at premium prices. Therefore, companies that implement an innovation strategy will have a higher premium price capability than companies that implement a cost-efficiency strategy (Al-Rdaydeh et al., 2018).

The right business strategy in a company will have an impact on performance and Company Value (Hariyanto, 2019; Hermawan, 2021). Furthermore, Ung (Ung et al., 2018) conclude that the defensive strategy, particularly the retrenchment strategy, has a positive



significance on the company's excess value. This means that a defensive strategy will increase the value of the company.

H4: There is a positive influence of Business Strategy on Firm Value.

Previously it was explained that the application of environmental accounting by the company is an attempt by the company to fulfil the wishes of stakeholders because the focus of the stakeholders is not only on the company's financial factors but also related to the company's environmental factors. Environmental management accounting which is part of the company's environmental accounting that is well implemented by the company, can increase company profits and, at the same time, increase company value (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Danang and Kunto, 2020; Panggau and Septiani, 2017). Likewise, the implementation of Intellectual Capital will have an effect on Company Value.

This condition indicates that investors can capture the signals provided by companies through Intellectual Capital and use that information in the analysis of investment decision-making (Cheng-Hung and Eugene, 2020). Companies that are able to utilize their intellectual capital efficiently will increase their market value (Ahmed et al., 2019; Ni Made and Ni Putu, 2019; Subaida and Mardiaty, 2018; Utami, 2018). Furthermore, the value of the company is also determined by the determination of the Business Strategy. The right business strategy will create the proper market share so that the company can win the business competition with its competitors. The right business strategy in a company that will generate profit opportunities will be responded to positively by investors (Hariyanto, 2019; Muchammad, 2018). The right plan and unit or different in serving consumers will affect the company's performance (Hermawan, 2021).

H5: There is a positive influence of Green Accounting, Intellectual Capital on Firm Value Moderated by Business Strategy.

METHODS

This is associative research aiming to determine the relationship between the independent and dependent variables. Source of data using secondary data sources, namely financial statements company reports in the Consumer Goods sector and the Automotive and Components sector for 2016 to 2021 obtained from the Indonesia Stock Exchange website Exchange (IDX) www.idx.co.id and their respective websites company. The population is all companies in the Consumer Goods sector and in the Automotive and Components sector listed on the Indonesia Stock Exchange (IDX) using a purposive sampling technique. Hypothesis testing using multiple linear regression.

The variables and their measurements in this study are as follows:



Table 2. Measuring Scale

Variable	Proxy	Scale
Green Accounting (GA)	Companies that have ISO 14000	Dummy
Intellectual Capital (IC)	$VAICTM = VACA + VAHU + STVA$	Ratio
Business Strategy (BS)	$PPC = \text{Gross Margin}/\text{Sales}$	Ratio
Firm Value (FV)	$PBV = \text{Price per share}/\text{Book Value Per Share}$	Ratio

Table 2 shows describes the proxies and scales used for the variables used in this study. Green Accounting or environmental management accounting identifies, measures, assesses and discloses costs related to company activities related to the environment in order to reduce the impact of business activities on the environment and make reports on environmental costs (Agustia et al., 2019; Chasbiandani et al., 2019). Implementing it requires an overall environmental management system that is internationally recognized through the acquisition of an ISO 14001 certificate. Therefore in this study, the proxy of Green Accounting is a company that obtains the certificate with a dummy scale. Companies that obtain ISO 14001 certificates will be given a value of 1, and those that are not given a value of zero.

Furthermore, the measurement of intellectual capital in this study uses the Value Added Intellectual Coefficient (VAICTM) proxy, which provides information about the efficiency of value creation from tangible and intangible assets in the company. VACA is an indicator of the VA created by a unit of physical capital. This ratio shows the contribution made by each unit of CE to the value-added of the organization. VAHU is an indicator that shows how much VA is generated with the funds spent on labour. This ratio indicates the contribution made by each rupiah invested in HC to the value added to the organization. STVA (Structural Capital Value Added) is a ratio to measure the amount of SC needed to generate 1 rupiah from VA.

Strategy Business uses a PPC measure that indicates the company's ability to charge customers a premium price. Companies that implement an innovation strategy will offer unique products/services at premium prices. Therefore, a company that implements an innovation strategy will have a higher premium price capability compared to a company that implements a cost-efficiency strategy.

Then, the value of the company is a value that can be used in measuring the level of importance of a company from several points of view. Measured by PBV proxy. Price book value (PBV) is defined as a comparison of the market value of a stock against its own book value so that it can measure whether the stock price is overvalued or undervalued.

The research model is as follows:

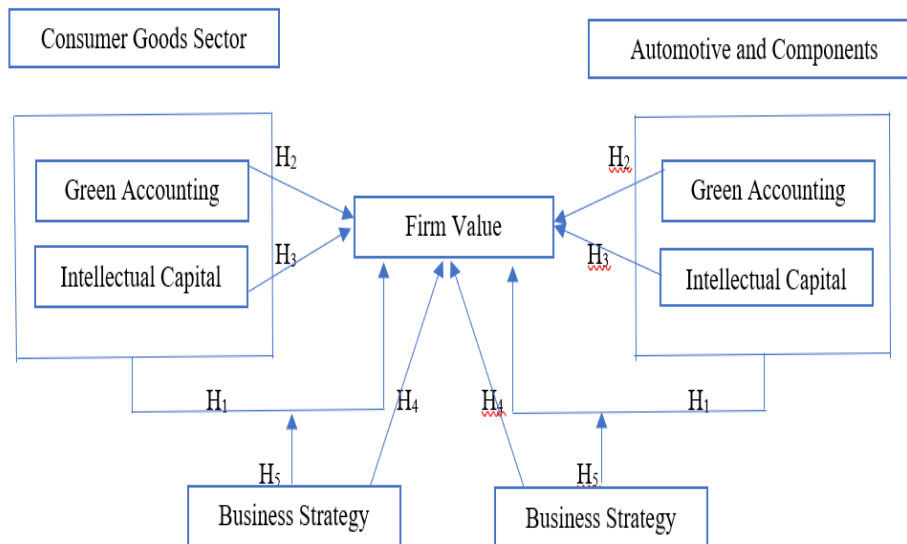


Figure 1. Research Model

RESULTS

Prior to the classical assumption test, the data normality test was carried out first, and the results showed that the data used were normally distributed for both sectors.

Table 3. Kolmogorov-Smirnov Test of the Automotive and Components Sector

Description		Non Moderation Unstandardized Residual	Moderation Unstandardized Residual
N		39	39
Normal Parameters ^b	Mean	0.000	0.000
	Std. Deviation	0.738	0.728
	Absolute	0.123	0.125
Most Extreme Differences	Positive	0.123	0.125
	Negative	-0.122	-0.087
Kolmogorov-Smirnov Z		0.771	0.783
Asymp. Sig. (2-tailed)		0.592	0.571

Table 3 shows describes the results of the normality test of the data tested using the Kolmogorov-Smirnov test for the Automotive and Components sector before and after being moderated. The test results show that the Asymp.Sig (2-tailed) values of 0.592 and 0.571, which exceeds 0.050, which means that they are normally distributed.

Table 4. Kolmogorov-Smirnov Test of the Consumer Goods Sector

Description		Non Moderation Unstandardized Residual	Moderation Unstandardized Residual
N		130	39
Normal Parameters ^b	Mean	0.000	0.000
	Std. Deviation	1.432	1.246
	Absolute	0.115	0.098
Most Extreme Differences	Positive	0.115	0.098
	Negative	-0.078	-0.083
Kolmogorov-Smirnov Z		1.310	1.114
Asymp. Sig. (2-tailed)		0.065	0.167

Table 4 shows describes the results of the normality test of the data tested using the Kolmogorov-Smirnov test for the Consumer Goods sector before and after being moderated. The test results show that the Asymp. Sig (2-tailed) values of 0.065 and 0.167, which exceed 0.050, mean that they are normally distributed.

The multicollinearity test was tested through the value of the Variance Inflation Factor (VIF). The test results of the two sectors are as follows:

Table 5. Multicollinearity Test of the Automotive and Components Sector

Model	Collinearity Statistics non Moderated		Model	Collinearity Statistics Moderated	
	Tolerance	VIF		Tolerance	VIF
ISO14001	0.947	1.056	ISO14001_PPC	0.732	1.367
VAIC TM	0.253	3.955	VAIC TM _PPC	0.732	1.367
PPC	0.259	3.857			

Table 5 shows the results of the multicollinearity test. Green Accounting variables as measured by ISO14001, Intellectual Capital as measured by VAICTM and Business Strategy as measured by PPC in the automotive and component sectors before and after being moderated have a VIF value below ten which means that there is no multicollinearity.

Table 6. Multicollinearity Test of the Consumer Goods Sector

Model	Collinearity Statistics non Moderated		Model	Collinearity Statistics Moderated	
	Tolerance	VIF		Tolerance	VIF
ISO14001	0.741	1.349	ISO14001_PPC	0.664	1.505
VAIC TM	0.649	1.540	VAIC TM _PPC	0.664	1.505
PPC	0.771	1.296			

Table 6 shows the results of the multicollinearity test in the Consumer Goods sector before and after being moderated. Green Accounting variables, as measured by ISO14001, Intellectual Capital, as measured by VAICTM and Business Strategy, as measured by PPC, have a VIF value below ten which means there is no multicollinearity.

Heteroscedasticity test in this study using a scatter plot, the test results in the Automotive and Component sectors are as follows:

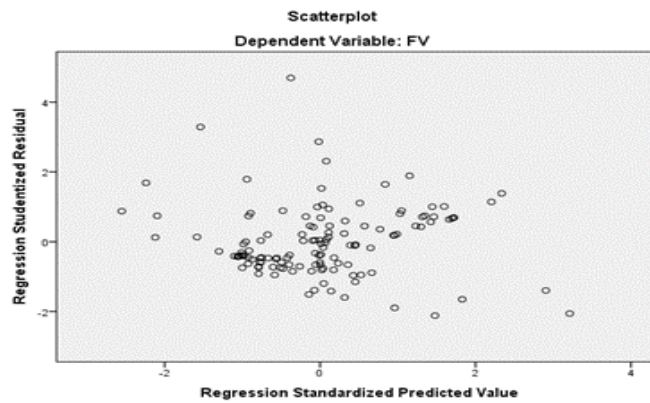


Figure 2. Heteroscedasticity test Automotive and Component Sector

In **Figure 2** shows, these points appear randomly and are scattered below and above the number 0 on the Y-axis. It can be concluded that there is no heteroscedasticity in the Automotive and Components sector.

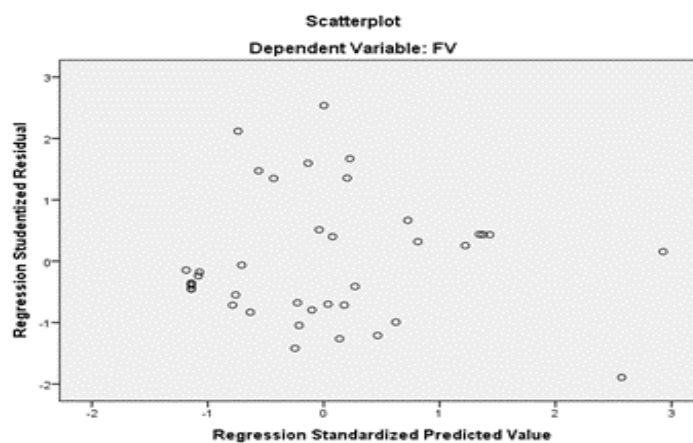


Figure 3. Heteroscedasticity test Consumer Goods Sector

In **Figure 3** shows, these points appear randomly and are scattered below and above the number 0 on the Y-axis. It can be concluded that there is no heteroscedasticity in the Automotive and Components sector.

The results of the autocorrelation test for both sectors with Durbin Watson are as follows:

Table 7. Autocorrelation Test of The Automotive and Component Sector

Non Moderation		Moderation	
Description	Value	Description	Value
Durbin Watson	2.089	Durbin Watson	2.172
DU	1.658	DU	1.597
4-DU	2.423	4-DU	2.403

Table 7 shows the results of the autocorrelation test in the Automotive and Components sector before and after being moderated. Durbin Watson's value with a non-moderating variable is 2.089 is greater than the DU value of 1.658 and smaller than the 4-DU value of 2.423. Based on these results, it can be concluded that the data does not occur autocorrelation. Durbin Watson's value with moderating variable is 2.172 is greater than the DU value of 1.597 and smaller than the 4-DU value of 2.403. Based on these results, it can be concluded that the data does not occur autocorrelation

Table 8. Autocorrelation Test of The Consumer Goods Sector

Non Moderation		Moderation	
Description	Value	Description	Value
Durbin Watson	1.901	Durbin Watson	1.753
DU	1.761	DU	1.745
4-DU	2.239	4-DU	2.255

Table 8 shows the results of the autocorrelation test in the Consumer Goods sector before and after being moderated. Durbin Watson's value with a non-moderating variable is 1.901 is greater than the DU value of 1.761 and smaller than the 4-DU value of 2.239. Based on these results, it can be concluded that the data does not occur autocorrelation. Durbin Watson's value with moderating variable is 1.753 is greater than the DU value of 1.745 and smaller than the 4-DU value of 2.255. Based on these results, it can be concluded that the data does not occur autocorrelation

The results of the descriptive test for the Automotive sector are as follows:

Table 9. Descriptive Statistics of the Automotive and Components Sector

	N	Minimum	Maximum	Mean	Std. Deviation
GA-ISO14001	78	0.000	1.000	0.718	0.453
IC-VAICTM	78	-5.110	237.600	22.270	50.366
BS-PPC	78	0.0000	36.440	17.682	7.723
FV-PBV	78	0.140	607131.340	17609.297	96053.947
Valid N (listwise)	78				

Table 9 shows, the information obtained, Green Accounting is proxied by the acquisition or implementation of ISO 14001, which amounts to 10 companies out of 13 companies in this sector. In 2016 there were seven companies, and this continued to increase until 2019 (10 companies), decreased in 2020 to 9 companies and then increased to 10 companies in 2021.

Intellectual Capital, as proxied by VAICTM has a minimum value of -5.110 for issuers with ASII code in 2020 and a maximum value of 237.600 for issuers with LPIN code in 2016. In addition, the results also show a mean value of 22.270 and a standard deviation of 50.366. The value of the standard deviation shows that it is greater than the average value, meaning that the data for this variable has a large/wide distribution of data.

Business Strategy measured by PPC has a minimum value of 0.000 for companies with GJTL issuer code in 2018, and the maximum value is 36.440 for companies with LPIN issuer code in 2016. Furthermore, the results also show a mean value of 17.682 and a



standard deviation of 7.723. The standard deviation value is smaller than the average value, which means that the data on this variable has a small/narrow data distribution

Company value as proxied by PBV, the minimum value is 0.140 for companies with issuer code PRAS 2016, the maximum value is 607131.340 for companies with issuer code INDS in 2018 and has an average of 17609.297 and the standard deviation amounted to 96053,947. The standard deviation value greater than the average value means that the data used in this variable has a large/wide distribution of data.

Furthermore, the results of the descriptive test for the Consumer Goods sector are as follows:

Table 10. Results of Descriptive Statistics of the Consumer Goods Sector

	N	Minimum	Maximum	Mean	Std. Deviation
GA-ISO14001	240	0.000	1.000	0.454	0.499
IC-VAICTM	240	-80.390	172.970	8.853	24.378
BS-PPC	240	-50.600	98.400	30.772	20.478
FV-PBV	240	-0.510	1946.700	130.533	372.353
Valid N (listwise)	240				

Table 10 shows, the information obtained, Green Accounting is proxied by the acquisition or implementation of ISO 14001. The number that obtained and implemented ISO 14001 was originally 14 companies from 40 companies. In 2020 increased to 21 and decreased again to 16 companies in 2021.

Intellectual Capital, as proxied by VAICTM has a minimum value of -80.390 for issuers with SKBM code in 2019, and the maximum value is 172.970 for issuers with AISA code in 2021. In addition, the results also show a mean value of 8.853 and a standard deviation of 24.378. The standard deviation value is greater than the average value. This means that the data for this variable has a large/wide distribution of data.

The Business Strategy variable, as measured by PPC, has a minimum value of -50.600 for companies with an IKP issuer code in 2020 and a maximum value of 98.400 for companies with an SCPI issuer code in 2021. Furthermore, the results also show a mean value of 30.772 and a standard deviation of 20.478. The standard deviation value is smaller than the average value, which means that the data on this variable has a small/narrow data distribution

The minimum value of PBV is -0.510 for companies with issuer code AISA 2018, and the maximum value is 1946.700 for companies with issuer code DVLA in 2021 and has an average is 130.533, and the standard deviation is 372.353. The standard deviation value greater than the average value means that the data used in this variable has a large/wide distribution of data.

Furthermore, after testing the classical assumption, a hypothesis test is carried out with the following results. Simultaneous test results in the Automotive and Component sectors are as follows:

Table 11. F - Test of The Automotive and Component Sector

Non Moderation					
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	19.707	3	6.569	11.102	0.000 ^b
Residual	20.709	35	0.592		
Total	40.416	38			
Moderation					
Regression	20.336	2	10.168	18.192	0.000 ^b
Residual	20.122	36	0.559		
Total	40.458	38			

Table 11 shows, the results of the F test in the Automotive and Component sectors with moderating variables or not showing a significance value of 0.000 means that together with Green Accounting, Intellectual Capital has a significant effect on firm value.

Table 12. F - Test of The Consumer Goods Sector

Non Moderation					
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	99.651	3	33.217	15.825	0.000 ^b
Residual	264.476	126	2.099		
Total	364.126	129			
Moderation					
Regression	163.730	2	81.865	51.882	0.000 ^b
Residual	200.396	127	1.578		
Total	364.126	129			

Table 12 shows, the results of the F test in the Consumer Goods sectors with moderating variables or not, showing a significance value of 0.000, means that together with Green Accounting, Intellectual Capital has a significant effect on firm value.

Table 13. Results Summary of Data Processing

No	Industrial Sector	Result			
		Non Moderation Coefficient	Sig	Moderation Coefficient	Sig
1	Consumer Goods Sector				
	Adj R ²	0.193			
	(Constant)	1.708			
	GA_ISO14	- 0.123	0.708		
	IC_VAIC TM	0.407	0.000		
	Adj R ²	0.256		0.441	
	(Constant)	0.948		1.417	
	GA_ISO14	- 0.209	0.512		
	IC_VAIC TM	0.250	0.003		
	BS_PPC	0.046	0.000		
2	GA_ISO14_BS			-0.009	0.305
	IC_VAIC TM _BS			0.210	0.000
	Automotive and Components Sector				
	Adj R ²	0.459			
	(Constant)	0.652			
	GA_ISO14	0.552	0.044		

IC_VAICT TM	0.242	0.000		
Adj R2	0.444		0.475	
(Constant)	0.737		0.467	
GA_ISO14	0.549	0.048		
IC_VAICT TM	0.258	0.012		
BS_PPC	-0.009	0.846		
GA_ISO14_BS			0.053	0.011
IC_VAICT TM -BS			0.015	0.003

Table 13 shows, H₁ in the Consumer Goods sector is accepted because it gives significant positive results, and H₁ in the Automotive and Components sector is also accepted.

Another hypothesis test result is that before being moderated by Business Strategy, H₂ in the Consumer Goods sector was rejected because it gave insignificant negative results, but H₂ in the Automotive and Components sector was accepted because it gave significant positive results (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Danang and Kunto, 2020; Ni et al., 2020; Panggau and Septiani, 2017). This can be interpreted that the implementation of Green Accounting alone in the Consumer Goods sector without the use of Intellectual Capital has a negative effect on firm value. The model equations for Consumer Goods before being moderated:

$$FV = 1.708 - 0.123GA + 0.407IC \dots\dots\dots (4)$$

The equation model for the Automotive and Components sector before being moderated:

$$FV = 0.652 + 0.552GA + 0.242IC \dots\dots\dots (5)$$

In Consumer Goods, if the use of Green Accounting is followed by the use of Intellectual Capital or innovation, it will result in a company value of 1,992. The value of the company will be positive if the value of IC is greater than GA. In the Automotive and Components sector company value is 1.446. Then after being moderated, H₂ in the Consumer Goods sector was rejected because it gave insignificant negative results, but H₂ in the Automotive and Components sector was accepted because it gave significant positive results with the equation model.

Furthermore, H₃ in the Consumer Goods sector and in the Automotive and components sector was accepted because it gave positive and significant results, both before and after moderation (Ahmed et al., 2019; Gantino and Alam, 2021; Mawaheb, 2020; Ni et al., 2020; Rabaya et al., 2020). H₄ in the Consumer Goods sector was accepted in the Consumer Goods sector because it gave positive and significant results, but H₄ in the Automotive and Components sector was rejected because it gave insignificant negative results. This means that Business Strategy, as measured by the application of premium prices in the automotive and component sectors, has a negative impact on firm value, although partially, the application of Green Accounting and Intellectual Capital has a positive and significant effect. In contrast, Business Strategy in the Consumer Goods sector has a positive and significant effect, although partially, the implementation of Green Accounting has a negative effect.

The model equations in the Consumer Goods sector are:

$$FV = 0.948 - 0.209GA + 0.250IC + 0.046BS \dots\dots\dots (6)$$



Through the above equation, even though the application of Green Accounting is negative, the value of FV remains positive as long as IC and BS are greater than the value of GA. If GA, IC and BS value is 1, then the FV value becomes 1.035.

Furthermore, the equation model in the Automotive and Components sector is

$$FV = 0.737 + 0.549GA + 0.258IC - 0.009BS \dots\dots\dots (7)$$

Through the above equation, although the implementation of the Business Strategy is negative, the value of FV remains positive as long as GA and IC are greater than the value of BS. If GA, IC and BS value is 1, then the FV value becomes 1.535. The firm value from the regression equation in the Consumer Goods sector is greater than the firm value in the Automotive and Components sector by including the Business Strategy.

H₅ in the Consumer Goods sector is accepted because the Business Strategy can moderate IC and PPC against Y, as well as H₅ in the Automotive and Components sector. The equation model for Consumer Goods:

$$FV = 1.417 - 0.009GA + 0.210IC \dots\dots\dots (8)$$

Although the Business Strategy is moderating, the value of Green Accounting is negative. It will result in a positive firm value if the value of the application of intellectual capital is greater than that of Green Accounting. This also proves that the application of Green Accounting and Intellectual Capital together in the Consumer Goods sector will increase the value of the company. Furthermore, the equation model for the Automotive and Components sector :

$$FV = 0.467 + 0.053GA + 0.015IC \dots\dots\dots (9)$$

Although the Business Strategy is moderating, the value of Green Accounting is negative. It will result in a positive firm value if the value of the application of intellectual capital is greater than that of Green Accounting. This also proves that the application of Green Accounting and Intellectual Capital together in the Consumer Goods sector will increase the value of the company.

DISCUSSION

Application of Green Accounting is the application of environmental cost accounting and the application of an environmental management system. A good environmental management system is characterized by the application of the international standard ISO 14001 (Pacana and Ulewicz, 2017). In the Food and Beverage sector, companies that obtained ISO 14001 were initially 14 companies out of 40 companies, then increased to 21 in 2020 and decreased again to 16 companies in 2021 or 35 per cent to 40 per cent on the contrary in the Automotive and Components sector that implemented ISO 14001 in 2016 there were seven companies and continued to increase until 2019 (10 companies), decreasing in 2020 to 9 companies then increasing to 10 companies in 2021 or 53.800 per cent to 76.9 per cent. The number of companies that obtained certificates in this study affected the value of the company.

The results of data processing before and after being moderated indicate that in the Automotive sector and components and the Consumer Goods sector, Green Accounting and intellectual capital together have a positive and significant effect on firm value. This means



that H_1 and H_5 are accepted. These results support the research of Agustia et al., Nosakhare and Che Ahmad, Mawaheb, Ni et al., Rabaya (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Mawaheb, 2020; Ni et al., 2020; Rabaya et al., 2020) and contrary to the research results of Afazis and Handayani, Subaida and Mardiyati, Wafiyudin (Afazis, R.D. and Handayani, 2020; Subaida and Mardiyati, 2018; Wafiyudin et al., 2020).

Then the results of partial data processing before and after being moderated indicate that Green Accounting has a positive and significant effect on the Automotive and Components sector, meaning that H_2 in this sector is accepted. These results support the research of Agustia et al., Nosakhare and Che Ahmad, Mawaheb, Ni et al., Rabaya (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Mawaheb, 2020; Ni et al., 2020; Rabaya et al., 2020) and contrary to the research results of Afazis and Handayani, Subaida and Mardiyati, Wafiyudin (Afazis, R.D. and Handayani, 2020; Subaida and Mardiyati, 2018; Wafiyudin et al., 2020). In the Consumer Goods sector, the results of data processing show that Green Accounting has a negative and insignificant effect. These results support the research of Afazis and Handayani, Subaida and Mardiyati, and Wafiyudin (Afazis, R.D. and Handayani, 2020; Subaida and Mardiyati, 2018; Wafiyudin et al., 2020) and contrary to the research of Agustia et al., Nosakhare and Che Ahmad, Mawaheb, Ni et al., Rabaya (Agustia et al., 2019; Che Ahmad and Nosakhare, 2016; Mawaheb, 2020; Ni et al., 2020; Rabaya et al., 2020).

In the Consumer Goods sector, obtaining an ISO 14001 certificate has a negative impact on company value both before and after being moderated by the company's strategy, meaning that stakeholders do not give a positive response to the implementation of ISO 14001, but in this sector, the implementation of the company's strategy is measured by PPC or burdening customers with prices. Premium and the application of a knowledge base have a significant effect on firm value. This may be because the business faces a high degree of environmental uncertainty (changes in consumer tastes, income levels, many competitors, etc.). Companies in this sector are more concerned with innovation in creating new types of products following changes in consumer tastes and/or changes in people's income levels. This is supported by the results of data processing before and after being moderated, showing that Intellectual Capital has a positive and significant effect on the Consumer Goods sector and the Automotive and Components sector also, meaning H_3 is accepted. These results support the research of Ahmed et al., Gantino and Alam, Mawaheb, Ni et al. and Rabaya (Ahmed et al., 2019; Gantino and Alam, 2021; Mawaheb, 2020; Ni et al., 2020; Rabaya et al., 2020) and contrary to the results of research by Zubaidah and Mandiri and Wafiyudin (Subaida and Mardiyati, 2018; Wafiyudin et al., 2020). Other results show that the Business Strategy variable has an insignificant negative effect on the Automotive and Components sector. This result means that H_4 is rejected. These results support Baihaqi's research (Muchammad, 2018) and are contrary to the research results of Farida, Hariyanto and Saidi (Farida, 2022; Hariyanto, 2019; Saidi et al., 2021). Business Strategy has a positive and significant impact on the Consumer Goods sector. This means that H_4 is accepted and supports the research of Farida, Hariyanto and Saidi (Farida, 2022; Hariyanto, 2019; Saidi et al., 2021) and contrary to Baihaqi research (Muchammad, 2018).

The results of R^2 before being moderated, it turns out that the variables used in this study do not have a major influence on the firm value, which is only 25.6 per cent. This means that in companies in the Consumer Goods sector, the firm value is greater influenced by the variable others, for example, profitability (Aldo and Jamaludin Iskak, 2020; Danang and Kunto, 2020) and capital structure (Diana, 2020; Kolamban et al., 2020) or others.



Although R² in both sectors is below 50 per cent both before and after being moderated, these results prove that the application of Green Accounting and resource-based use of Intellectual Capital together in both sectors will give a good signal and will be responded to positively by stakeholders through increasing firm value. The influence of Green Accounting and Intellectual Capital on firm value is strengthened by the moderating variable of Business Strategy. Although companies in both sectors face different consumer behaviour, consumers respond positively by increasing sales even though they have to pay a premium price.

On the other hand, the implementation of ISO 14001 in companies in the Automotive and Components sector has a positive and significant effect on the value of the company as well as the implementation of the knowledge base, but the company's strategy as measured by PPC has no significant negative effect. The business characteristics of companies in the Automotive and Components sector do not face as much competition as companies in the Consumer Goods sector but are also influenced by consumer tastes, people's income levels and other factors in running their business. Therefore, stakeholders give a positive response to the level of innovation and environmental management system that is implemented. With high innovation, environmentally friendly products will be produced and have an impact on the level of product sales and profits achieved. Likewise, the implementation of the PPC strategy by companies in this sector has a significant positive effect on the value of the company. This is because consumers will also give a positive response to innovative products that are of good quality even though the Price is more expensive. This can be seen from the results of data processing that R² before moderation is worth 0.444 to 0.475, which indicates that the company's strategy has succeeded in moderating the influence of GA and IC on FV.

CONCLUSION

Through hypothesis testing, it was concluded that jointly the effect of the application of Green Accounting and Intellectual Capital had a significant effect on FV in both sectors, and Business Strategy succeeded in moderating the effect of Green Accounting and Intellectual Capital on FV. Partially before being moderated by Business Strategy, the hypothesis about the application of Green Accounting in the Consumer Goods sector was rejected because it gave an insignificant negative result, but in the Automotive sector and the hypothesis, component was accepted because it gave a significant positive result. This can be interpreted that the implementation of Green Accounting only in the Consumer Goods sector without the use of Intellectual Capital has a negative effect on firm value. After being moderated, the hypothesis about the implementation of Green Accounting in the Consumer Goods sector was rejected because it gave insignificant negative results, but in the Automotive and Components sector, it was accepted because it gave significant positive results.

Furthermore, the hypothesis about the application of Intellectual Capital in the Consumer Goods sector and in the Automotive and components sector is accepted because it gives positive and significant results, both before and after moderation. The hypothesis about the application of Business Strategy in the Consumer Goods sector was accepted in the Consumer Goods sector because it gave positive and significant results, but in the Automotive and Components sector, it was rejected because it gave insignificant negative results. This means that Business Strategy, as measured by the application of premium



prices in the automotive and component sectors, has a negative impact on firm value, although partially, the application of Green Accounting and Intellectual Capital has a positive and significant effect. In contrast, Business Strategy in the Consumer Goods sector has a positive and significant effect, although partially, the implementation of Green Accounting has a negative effect.

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