

THE INFLUENCE OF SUSTAINABILITY MANAGEMENT ON NATURAL ENVIRONMENTAL CONTROL IN SUSTAINABLE COMPANIES WITH FAMILY OWNERSHIP AS MODERATOR

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Abstract: This research aims to analyse the influence of sustainability management on natural environmental control within sustainable family companies, with family ownership acting as a moderating variable. The study focuses on 62 manufacturing family companies listed on the Indonesia Stock Exchange, employing purposive sampling. Secondary data, comprising financial and non-financial sources, were also used. This study is predictive and exploratory in nature, using the partial least squares structural model with Smart PLS 3. It was found that sustainability management has a positive and significant effect on the sustainability of family companies. Additionally, the moderation test indicates that family ownership strengthens the influence of sustainability management on these companies. This research contributes to the development of sustainability concepts aimed at preserving the natural environment in family-owned manufacturing firms by optimally applying sustainability principles. The findings suggest that authorities should establish robust regulations to enforce sustainability practices for listed companies, ensuring a positive impact on business, environmental, and social sustainability.

Keywords: Family ownership, sustainability management, natural environment, companies.

Introduction

Family-owned companies are pivotal to both developing and developed economies. Their growth and prosperity have a major impact on national economic development and job creation (Amit & Villalonga, 2020). A defining feature of family businesses is concentrated ownership, known as family ownership (Brahmana *et al.*, 2019; Chou & Shih, 2020).

Family ownership is crucial to family companies, particularly in terms of management control. This control mechanism is seen through shared ownership or the involvement of family members in company management, which can reduce conflicts between agents and principals (S. Purkayastha *et al.*, 2019; A. Purkayastha *et al.*, 2021). This family ownership serves as a key control device in guiding the strategic decisions of family companies.

Research on family companies remains a compelling topic as they are one of the most basic forms of business organisations in the

world. The phenomenon of family companies is also prevalent in Indonesia. In 2014, Price Waterhouse Cooper (PwC) conducted a survey on family businesses in Indonesia, revealing that over 95% of companies in the country are family-owned. The dominance of family companies in Indonesia imparts unique characteristics and perspectives. According to Mulyani *et al.* (2016), family-controlled businesses contribute about 40% of the market capitalisation in Indonesia and exert considerable influence in key sectors such as property, agriculture, energy, and consumer goods.

Family ownership is a crucial internal governance mechanism for family companies, particularly in developing countries such as those in Asia, including Indonesia, where high levels of family shareholding are common (R. Chakrabarti *et al.*, 2008). The structure of corporate ownership structure as an internal

mechanism receives significant attention in empirical research and literature reviews (Connelly *et al.*, 2010). Even when family companies go public, family ownership remains pivotal due to the internal desire to retain control and ensure the company's longevity. Family companies are often more stable in business (Badrul Muttakin *et al.*, 2014; Halili *et al.*, 2015) and demonstrate higher survival rates and better performance compared with non-family companies. Family shareholders aim to preserve the business for future generations by leveraging unique family resources owned and enhancing company value (Le Breton-Miller *et al.*, 2015; Riswan & Suyono, 2016).

Sustainable management is a strategic approach aimed at ensuring the survival of family companies, mitigating risks, and supporting growth and development. One key advantage of a sustainable management strategy is its ability to create synergy in business operations and provide co-insurance effects. Through diversification policies, this strategy offers an alternative route to achieve core goals of family companies such as establishing and maintaining businesses for the next generation of family successors (Ducassy & Prevot, 2010; Bae *et al.*, 2011).

Research on sustainable management in family business has yielded inconsistent results, with some studies suggesting that diversification can either positively or negatively affect the performance of family companies. Variations in findings may stem from differences in empirical data across countries, whether developed or developing and the theoretical frameworks employed. For example, agency theory posits that sustainable management might facilitate opportunistic behaviour by agents against companies due to excess funds (Young, 2008; Lin & Chuang, 2011). On the other hand, family companies often resort to high leverage as a form of external financing, which is viewed as an effective means of disciplining agents due to debt repayment responsibilities, thereby mitigating moral hazard (Myers, 2001).

This research provides an in-depth analysis of how sustainability management influences natural environmental control within sustainable companies, with family ownership serving as a moderating variable. The study uses the percentage of family ownership as a proxy for ownership, which acts as a control mechanism. Specifically, it examines the influence of family control devices in the form of family ownership on business continuity management and the role of control on business continuity. The findings aim to guide family companies in addressing ownership issues, including family share ownership and leverage control policies to maximise company value and mitigate agent or manager over-investment behaviour.

Literature Review and Hypothesis Development

Sustainable Management Business and Corporate Value

Sustainability has gained considerable academic and organisational interest, driven by stakeholder pressure to adopt sustainable management practices (Saputra *et al.*, 2021). These practices aim to fulfil current organisational and stakeholder needs, while preserving resources for future generations (Saputra *et al.*, 2022). They encompass corporate responsibility towards both the environment and society, which helps companies gain legitimacy (Saputra *et al.*, 2023).

As sustainable management can enhance legitimacy, many companies have recently take steps to improve their performance by adopting best sustainable practices (Saputra *et al.*, 2022; 2023). Several factors drive the adoption of sustainable management practices, including government regulations, community relations, the impact on business performance, cost reduction, and the broader societal and environmental effect. Additionally, the economic crisis has highlighted the need for organisations to be more efficient and cost-effective by implementing sustainable management practices (Saputra *et al.*, 2021). The decision for a company to enter a new market is often aligned with its resource capabilities and guided

by resource theory. This theory helps managers recognise that specific resources can be an important foundation for competitive advantage (Montgomery & Hariharan, 1991). If a company possesses resources that are sufficiently specific to the final product and are inflexible, then, the choice of the company leads to related diversification.

Sustainable management is a strategy to maintain the survival of family companies, with diversification serving as a tool to achieve the central goal of establishing and sustaining the family business for future generations (Ducassy & Prevot, 2010; Bae *et al.*, 2011). Diversification is important for family companies as it helps them navigate increasingly competitive environments and uncertain business climates, influencing their overall performance (A. Chakrabarti *et al.*, 2007). Sustainable management stands out as an innovative approach in the field of sustainability and corporate strategy. Alameeri *et al.* (2018) argued that sustainable management is sustainable integration in a company's strategy.

Sustainable management can increase shareholder value and improve long-term company performance. Direct involvement in diversification directly allows a company to achieve better returns from sustainable activities, positively impact the overall performance (Gleason, 2012; Krivokapic *et al.*, 2017). Research also indicates that the next generation of family companies that engage in diversification often experience better performance due to effective development and attention to sales growth (Weng & Chi, 2019). Sales growth is crucial in implementing a sustainable management strategy, as it affects the company's revenue. An increasing revenue from the value of existing sales through diversification not only boosts current profits but also enhances future earnings, thereby directly impact the company's value (Kwon *et al.*, 2021).

Although family businesses often adopt more intensified socio-environmental practices, their relationship with the family can vary significantly. For example, some family-owned companies may not have a majority of the

voting capital controlled by family members, while others may lack family members in senior executive roles (Pestana *et al.*, 2021). These factors directly impact family businesses' decisions regarding to the profit and their focus on short, medium, and long-term goals. Thus, depending on the level of family involvement in the company, the adoption Sustainable Development Goals (SDGs) may differ. Therefore, this study analyses the effect of family businesses' participation in the Corporate Sustainability Index on the adoption of SDGs.

Hypothesis 1: Sustainable management business has a positive and significant influence on company value.

Sustainable Management Business and Family Company Leverage

Sustainable management reflects the company's strategic decisions (Hitt *et al.*, 1994), which are closely related to its capital structure. Companies have the option between debt or equity financing (L. D. Su, 2010). Previous research indicates that industry-diversified companies have higher leverage ratios due to risk reduction (Kochhar & Hitt, 1998). According to the trade-off theory, companies will incur a certain level of debt to achieve an optimal capital structure, balancing between tax and fee benefits of financial distress. In addition, leverage can be used by controlling shareholders to take over minority shareholders. Controlling shareholders are less interested in raising equity because the stock's market value tends to be undervalued. Thus, they prefer financing leverage (Myers & Majluf, 1984), which can also serve as a mechanism for disciplining management (Abor, 2008).

In many companies, there is a separation between ownership and control. However, this is less common in family businesses since family members tend to occupy senior management positions. The primary reason for this presence is to ensure the continuity of the company, as it is considered a family asset that should be passed on to future generations in at least as good, if not better condition (Monteiro *et al.*, 2019; Pestana *et al.*, 2021). Consequently, family businesses

often exhibit different behaviours compared with non-family companies. For example, they have lower levels of indebtedness to third parties and prefer investments with a lower level of risk (Ampenberger *et al.*, 2013; Mehboob *et al.*, 2015). This cautious approach stems from the attempt to avoid breaching covenants and jeopardising the family's power and influence within the company (Platikanova, 2017).

Leverage provides benefits in terms of monitoring through creditors (Mulyani *et al.*, 2016) and can be used to maximise company. The value of family companies, with their concentrated wealth is strongly committed to minimising risk (Vishny, 1997; Anderson & Reeb, 2003). Diversification serves as a risk-reducing strategy for companies by mitigating earnings volatility, thus, providing greater financial security for family companies (Schulze *et al.*, 2003) and supporting their long-term survival (Faccio & Lang, 2002).

Leverage financing in diversification is used to maximise the potential of developed market segments, so, it is mainly utilised to sustain development, enhance competitiveness, and ensure the survival of the company (Lam *et al.*, 2020). Diversified companies typically exhibit higher leverage compared with their focused companies because diversification can mitigate cash flow volatility, facilitating the fulfilment of obligations to creditors (Margaritis & Psillaki, 2010).

Hypothesis 2: Sustainable management business positively influences the leverage of family companies.

Family Ownership and Family Company Leverage

The paradigm of socio-emotional wealth (SEW) rooted in agency theory, is particularly relevant to family companies. The SEW perspective emphasises a commitment from companies to preserve socio-emotional wealth, which tends to reduce agency conflicts within family firms. The goal of SEW is to be long-term oriented and maintain family control. Family companies often involve family members,

with the attention of aligning interests between managers (Jensen & Meckling, 1976; Gómez-Mejía *et al.*, 2007; Berrone *et al.*, 2012). Family ownership positively impacts the reduction of tensions by aligning family interests among its members (Trasobares & Górriz, 2015). It serves as an internal governance mechanism to control strategic decisions of family companies, reducing the negative impacts of agency issues (Jensen & Warner, 1988). Additionally, agency problems can arise between dominant or controlling shareholders and other stakeholders, potentially affecting funding, including leverage (Hubert, 2012).

A high level of leverage is an efficient mechanism for maintaining control within family companies. The centralisation of voting rights and avoidance of reduced ownership are primary motivations for this approach (King & Santor, 2008). Family companies often opt for leverage and use the control derived from family shareholdings to oversee leverage and manage agent behaviour (Ramalho *et al.*, 2018). Thus, in family companies, both leverage and ownership function as internal control mechanisms (Keasey *et al.*, 2015). An increasing leverage signals to shareholders that the company is subject to creditor supervision, thereby reducing agency conflicts with creditors. Moreover, long-term commitments and efforts to reduce agency conflicts result in low agency costs and capital costs (Anderson & Reeb, 2003).

In addition to these characteristics, family businesses tend to be concerned to a greater extent than others about decisions that not only provide short-term returns, but also offer economic benefits in the medium- and long-term. This behaviour stems from their focus on continuity and survival in a highly competitive market (Ferasso *et al.*, 2020). In this case, for long-term decisions, such companies plan for the future and strive to adopt practices that mitigate risks of non-survival in the long term.

With climate change driven by global warming, environmental sustainability has become a central topic in discussions among companies and countries. The conferences in

Stockholm (1972), Rio de Janeiro (1992, 2012), and Paris (2015), along with the agreement reached at COP26 were pivotal in setting goals and actions to reduce greenhouse gas emissions. Companies' adherence to these agreements signals a commitment to long-term environmental sustainability and other social initiatives. Recognising that carbon emission reduction targets will impact businesses, adopting sustainable practices becomes a strategic resource for companies aiming for long-term survival (Ferasso *et al.*, 2020; Ferreira *et al.*, 2021).

Hypothesis 3: Family ownership positively influences family company leverage.

Family Ownership and Corporate Value

Family shareholding is a crucial component of corporate governance. In developing countries, corporate governance may be less robust, so, family ownership serves as an effective substitution mechanism for controlling management policies (Anderson & Reeb, 2003; Bhagat & Bolton, 2008; Buvanendra *et al.*, 2017). Shareholders use their ownership stake to monitor managerial activities through the board, offering both oversight and advisory support. This involvement helps manage managerial behaviour and mitigate moral hazards, which could otherwise harm the company.

The use of control mechanisms through the percentage of family share ownership accounts for the asymmetric level of information. A higher percentage of shares owned enhances the ability to monitor managerial activities (Shleifer & Vishny, 1986; Ho *et al.*, 2020). Family ownership can serve as a more effective managerial monitoring mechanism for aligning the interests of majority and minority shareholders, potentially increasing company value in emerging markets (Wang & Shailer, 2017). This suggests that shareholding can positively influence the performance of family companies.

Depending on the companies' characteristics, this intensity of resource use can be vary. Family companies, compared with non-family

companies are more likely to adopt practices related to socio-environmental responsibility (Westhead & Howorth, 2007; Oudah *et al.*, 2018; Ferreira *et al.*, 2021; Kazancoglu *et al.*, 2021; Haddoud *et al.*, 2021). This tendency arises because socio-environmental responsibility is necessary for the company's survival. Therefore, family company stakeholders are more inclined to adopt these practices intensively, as they provide a competitive advantage in the market and help preserve the company's heritage for future generations (Adomako *et al.*, 2019; Ferasso *et al.*, 2020).

Hypothesis 4: Family ownership has a positive influence on company value.

Family Ownership as Moderating Sustainable Management Business Towards Company Value

Research on corporate governance proposes several mechanisms to control opportunistic behaviour by agents, including market competition as an external mechanism and ownership concentration as an internal mechanism (A. Purkayastha *et al.*, 2021). Both factors are relevant to companies in emerging markets, which face high levels of competition and increasingly larger amounts of concentrated ownership (R. Chakrabarti *et al.*, 2008).

Family companies often excel in diversifying their business compared with non-family companies. This advantage arises from their commitment to maintaining business continuity and preserving control (Muñoz-Bullón & Sánchez-Bueno, 2012). Therefore, family companies diversify when they have the appropriate knowledge, take advantage of existing synergies, and reduce reliance on a single revenue stream by integrating various business units. This strategy enhances their survival prospects and the preservation of family-owned assets. This is consistent with SEW theory', which posits that family companies prioritise maintaining their viability and prefer sustainable management strategies that enhance corporate value while safeguarding socio-emotional wealth (Gomez-Mejia *et al.*,

2011). To ensure that sustainable management decisions do not negatively impact the company, the role of family ownership is very important in reinforcing the value of family companies. Family shareholding can control and monitor sustainable decisions made by managers (Jensen, 1986; Stulz, 1990; Denis et al., 1997).

Hypothesis 5: Family ownership moderates the effect of sustainable management business on corporate value.

Leverage As a Mediator of Sustainable Management Business into Family Company Value

The decision to employ a high leverage policy in diversified family companies is driven by agency theory, which suggests that excess funds can lead to opportunistic behaviour or moral hazard. By utilising leverage, agents are incentivised to be more prudent with fund allocation to avoid excessive investment. Additionally, leverage introduces obligations to service debt and increased scrutiny from creditors (La Rocca et al., 2009).

Sustainable management is a viable strategy for family companies due to the coinsurance effect, which helps mitigate operational risk by reducing the correlation between cash flows from different industries in which the company operates. In addition to sustainable management, the company can also reduce systematic risk (La Rocca et al., 2009; Hann et al., 2013). Therefore, it is crucial for family companies to use leverage

to control and monitor decision-making, ensuring that sustainable management financing does not lead to excessive investment. This approach helps to maintain business continuity and can positively impact company value.

Hypothesis 6: Leverage mediates the effect of sustainable management business on company value.

Based on the theoretical review, empirical literature, and hypothesis development, this study presents a research framework illustrated in Figure 1 to offer a comprehensive overview of the research objectives discussed in this study.

Materials and Methods

Sample and Data Collection

The population for this study consists of manufacturing companies listed in the Indonesia Stock Exchange during the period from 2015 to 2021. Using purposive sampling techniques, the study selected a sample of 62 family-owned manufacturing companies. The selection criteria for these companies included: Operating within the manufacturing sector with both related and unrelated business segments; having at least 20% family ownership; consistently publishing audited financial statements and annual reports as of 31st December for the years 2015 through 2021; providing segment reports; and having a minimum of two business segments. Additionally, data on total sales, sales per segment, debt-to-equity ratio (DER), and Tobin’s Q were required.

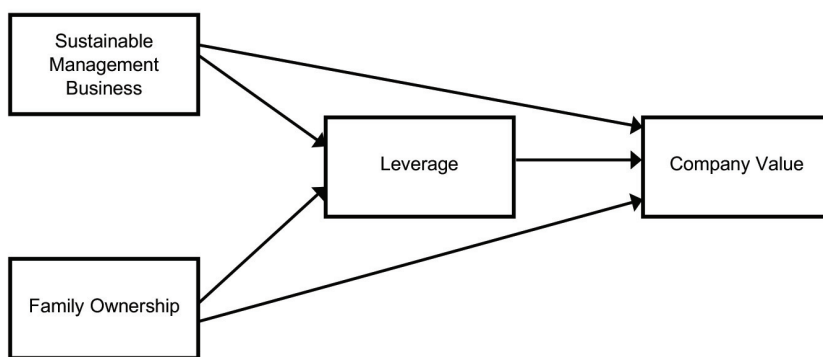


Figure 1: Research framework

Data Instrument

This research utilises panel data, which are collected online from the Indonesia Stock Exchange and Blomberg. The study focuses on family-owned companies within the manufacturing sector, as this sector predominantly features companies that fit the characteristics of family ownership. The selected companies are those where family ownership constitutes at least 20% in accordance with PSAK guidelines No. 15 of 2009 and Financial Services Authority Regulation No. 30/POJK/4/2017.

In analysing the relationships between diversification, leverage, family ownership, and performance, Tobin's Q was used as the dependent variable to assess the performance of family firms (Thomsen & Pedersen, 2000; Villalonga & Amit, 2006; Zhou *et al.*, 2021). Tobin's Q is chosen because it reflects both the current value of the company and its potential for future profits. The independent variable, sustainable management business (DIV) is determined based on the comprehensive activities of both the parent company and its subsidiaries (Chen & Yu, 2012; Patrisia & Dastgir, 2016; Chou & Shih, 2020). Family ownership is calculated using methodologies established in previous research (Prabowo & Simpson, 2011; Pukthuanthong *et al.*, 2013; Buvanendra *et al.*, 2017). For the mediation variable, leverage is represented by the DER, which is the ratio of total liabilities to total equity (Hussainey *et al.*, 2012; Pukthuanthong *et al.*, 2013; San Martin-Reyna & Duran-Encalada, 2015; Qazi Awais Amin, 2020).

Data Analysis

This research employs a predictive and exploratory approach to test hypotheses using path analysis. The analysis is conducted through partial least squares structural model (PLS-SEM) with the SmartPLS 3 software to analyse the effect of independent variables (exogenous variables) on dependent variables. PLS-SEM is particularly suited for handling small sample sizes and complex models, and it operates with more flexible data assumptions compared to Covariance-based SEM (F. Hair Jr *et al.*, 2014). PLS-SEM offers several advantages, including its applicability to both primary and secondary data, and its capability to test multiple mediation effects. This statistical technique is used to model indirectly observed variables, which are measured through variations in observable indicators or proxies, whether single or multiple (H. Hair *et al.*, 2017).

Results

Descriptive Statistics

The descriptive statistics of this study include mean, median, minimum, maximum, and standard deviation values. The standard deviation value meets the criteria because it is smaller than the mean value of the Total Div value (DR, DU) of 0.209 and the leverage value (DER proxy) value of 1.144 is smaller than the mean value of 1.253. The Tobin's Q value is 1.173 and a mean of 1.544. Family ownership (FO) has a value of 18.923 and a mean value of 59.439. Detailed results are presented in Table 1.

Table 1: Descriptive test results

	Mean	Median	Minimum	Maximum	Standard Deviation
DR	0.104	0.055	0.001	0.368	0.11
DU	0.170	0.15	0.003	0.368	0.117
DER	1.253	0.95	0.07	9.550	1.144
Tobin's Q	1.544	1.130	0.34	10.570	1.173
Total Div	0.273	0.211	0.005	0.718	0.209
FO	59.439	58.000	11.500	97.200	18.923

Measurement Model

PLS-SEM is a multivariate statistical analysis that is employed to estimate the relationships between variables simultaneously, focusing on exploratory studies, predictions, and structural model development. PLS models include both structural and measurement components. In this study, single-item measurements are used, wherein the latent variable is equivalent to the indicator. SmartPLS 3 is utilised for testing, which does not differentiate between reflective or formative indicators, although single-item measurements often involve formative indicators (F. Hair Jr et al., 2014; J. F. Hair et al., 2019). Construct correlations, when measured formatively with a single-item construct that measures the same concept, must reach 0.70 or higher. Although single-item measurements can be reflective or formative, some opinions suggest they are often formative. PLS-SEM is suitable for structural models incorporating formative constructs. The measurement model is assessed based on convergent validity, evaluated through loading factors, composite reliability (CR), average variance extracted (AVE), and the Fornell-Larcker criterion for discriminant validity (H. Hair et al., 2017).

Convergent validity is assessed using the loading factor values. A loading factor (LF)

greater than 0.70 indicates that the construct explains more than 50% of the variance in the indicator, thereby providing acceptable item reliability (J. F. Hair et al., 2019) (Table 2). Convergent validity is further supported by AVE and CR values. Specifically, AVE values should exceed 0.50 and CR values should be 0.70 or higher to confirm the construct’s validity (J. F. Hair et al., 2019; Mohammed, 2021). Discriminant validity is evaluated by examining the extent to which a construct is empirically distinct from other constructs in the structural model. Each construct’s AVE should be compared to the squared correlations with other constructs, the Fornell-Larcker criterion requires that the AVE value for each construct should be higher than its correlations with other constructs (Larcker, 1981) (Table 3).

Structural Model

The assessment of structural models involves several key criteria: The coefficient of determination or R-squared value, (R^2); a measure of the predictive accuracy of the independent variable on the dependent by the Q-squared value (Q^2); and the statistical significance and relevance of the path coefficients (J. F. Hair et al., 2019). Additionally, the PLS-SEM results should be compared to a

Table 2: Convergent validity

Main Variable	Loading Factor	CR	AVE
Diversification	DR	0.878	0.914
	DU	0.956	1.000
Firm value	Tobin’s Q	1.000	1.000
Family ownership	FO	1.000	1.000
Leverage	DER	1.000	1.000

Table 3: Validity value of discriminants with Fornell-Larcker criterion

	Diversification	Firm Value	Family Ownership	Leverage
Diversification	0.918			
Firm value	0.266	1.000		
Family ownership	0.024	0.055	1.000	
Leverage	0.197	-0.053	0.100	1.000

linear regression model using PLS procedures to assess the model’s predictive strength and overall effectiveness.

- R-square (R^2). The predictive power of the estimated model is evaluated using the R^2 value of the endogenous construct. The R^2 value ranges from 0 to 1, with a higher value indicating stronger predictive power (Table 4).
- PLS_Predict ($Q^2_{predict}$) (Table 5).

The accuracy of the PLS path model’s prediction is assessed by examining the magnitude of the Q^2 value. A Q^2 value greater than 0 indicates small predictive relevance while a value of 0.25 falls into the medium category. A Q^2 value greater than 0.50 suggests high predictive relevance for the endogenous construct in the research model (J. F. Hair *et al.*, 2019). A Q^2 value greater than 0 confirms that the exogenous variable holds predictive

relevance for the endogenous variable within the model.

- Testing the significance and path coefficient of direct effects between variables in structural models.

To assess the structural model in this study, the significance values and the relationships of the path coefficients were examined. Bootstrapping was employed, using the bias-corrected and accelerated (BCa) bootstrapping method for confidence intervals. The results of the tests, including the significance values and path coefficients for the direct effects in the structural model are presented in Table 6.

In Table 6, the direct effect testing results indicate that diversification has a significant positive impact on company value, with a path coefficient (β) of 0.273 and p-values of 0.00, confirming significance at the 5% level. Similarly, diversification positively influences

Table 4: R-square value (R^2)

	R-square Value	R-square Adjusted
Firm value	0.156	0.148
Leverage	0.048	0.043

Table 5: PLS predict (Q^2)

	LM	RMSE	MAE	$Q^2_{Predict}$
Firm value		1.104	0.772	0.118
Leverage		1.112	0.771	0.059
	LM	RMSE	MAE	$Q^2_{Predict}$
Firm value		0.970	0.673	0.113
Leverage		0.997	0.694	0.039

Table 6: Direct effect testing

Direct Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P-values
Diversification → Firm value	0.273	0.272	0.040	6.885	0.000
Diversification → Leverage	0.195	0.196	0.047	4.184	0.000
Family ownership → Firm value	0.132	0.126	0.059	2.240	0.013
Family ownership → Leverage	0.095	0.096	0.042	2.288	0.011

the company’s leverage, evidenced by a path coefficient of 0.195 and p-values of 0.00, also below the 5% threshold. Family ownership is shown to positively affect company value, with a path coefficient of 0.132 and p-values of 0.013, indicating statistical significance. Moreover, family ownership positively influences the company’s leverage, with a path coefficient of 0.132 and p-values of 0.011, also significant at the 5% level.

Table 7 further explores indirect effects through moderation and mediation variables. The findings reveal that family ownership moderates the relationship between diversification and company value, with a coefficient of 0.312 and p-values of 0.00, indicating strong significance. Additionally, leverage mediates the effect of diversification on company value, with a coefficient of -0.031 and p-values of 0.012, reflecting a significant indirect effect.

Discussion

The results of testing Hypothesis 1 testing confirm that diversification has a positive and significant effect on company value. Family companies engage in diversification as a key strategy to maintain business continuity, ensuring the business can be passed down to future generations. This study measures total diversification, encompassing both related and unrelated businesses. Related diversification offers benefits to family companies by leveraging synergies in operations, including shared resources, assets, distribution networks, and access points that remain connected to the

company’s core business, leading to greater efficiency and cost reduction. Conversely, unrelated diversification provides the advantage of a co-insurance effect, where the income streams of different segments are not correlated. This means that if one segment underperforms, it does not negatively impact and the others, making unrelated diversification effective during industrial shocks or crises as a low-risk alternative for business development (C. L. Morris, 2017). The successful implementation of a diversification strategy can lead to higher sales growth, which in turn enhances company value (Kwon et al., 2021). This finding is supported by Doukas and Lang (2003), Phung and Mishra (2016), and Krivokapic et al. (2017), which indicates that sustainable management practices can bolster competitiveness, resulting in increased sales growth and improved company performance.

The results of testing Hypothesis 2 indicate that diversification has a positive and significant effect on a company’s leverage. Leverage provides advantages through the monitoring provided by creditors (Mulyani et al., 2016). In the context of diversification, leveraged financing is utilised to maximise the potential of developed market segments. Additionally, companies may opt for leverage in diversified financing as a strategy to reduce the risk associated with the majority family shareholder’s portfolio and to strengthen control over the family business (Amin & Liu, 2020). As family companies adopt increasingly diverse diversification strategies, their leverage tends to increase to support the more complex operational needs. However, the

Table 7: Indirect effect moderation and mediation variable

Moderation Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P-values
Diversification mod FO → Firm value	0.312	0.305	0.070	4.484	0.000
Mediation Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P-values
Diversification → Leverage → Firm value	-0.031	-0.032	0.014	2.269	0.012

expansion into new business areas also leads to higher sales, ultimately boosting the profits of family companies (Chou & Shih, 2020).

Hypothesis 3 posits that family ownership has a positive and significant influence on company value, this hypothesis is supported by the results. Family ownership functions as an internal control mechanism within family firms, serving to oversee management. The proportion of family shareholding helps align the interests of owners with those of managers, thereby mitigating opportunistic behaviour or moral hazard by agents or managers. A higher level of family shareholding enhances the monitoring of management (Shleifer & Vishny, 1986; Ho *et al.*, 2020). The enhanced monitoring effect also facilitates better alignment between the interests of majority and minority shareholders, contributing to an increase in company value, particularly in emerging markets (Wang & Shailer, 2017).

Hypothesis 4 posits that family ownership has a positive and significant influence on the leverage of family companies, this hypothesis is confirmed by the findings. Family shareholders face a trade-off between seeking external finance and maintaining control over company decisions. While equity financing may lead to a loss of control, leverage provides a solution without diluting ownership. Family firms often exhibit higher leverage, particularly in countries where minority shareholders have limited legal protections or weak regulatory frameworks (Ellul, 2008). The positive impact of family shareholding on debt leverage is attributed to the preference for maintaining control and avoiding ownership dilution. High levels of family shareholding are used to optimise control over leverage, optimising the use of company funds (Abdullah & Pok, 2015). This finding is supported by other research indicating that increased family ownership leads to leverage decisions that help prevent dilution of stock ownership (Mulyani *et al.*, 2016; ElBannan, 2017; Amin & Liu, 2020).

Hypothesis 5 posits that family ownership moderates the relationship between diversification

and corporate value, this hypothesis is supported by the results. Family ownership acts as an internal control mechanism that enhances the impact of diversification on corporate value. In family firms, this ownership structure facilitates better monitoring of managers and aligns the interests of majority and minority shareholders, thereby increasing company value, particularly in emerging markets (Wang & Shailer, 2017). This alignment also mitigates the risk of expropriation by majority shareholders (Gomes, 2000). According to SEW theory, diversification plays a dual role for family companies. It is pursued when it does not jeopardise the continuity of the family business, thus making family firms more adept at diversification when it aligns with their long-term goals (Muñoz-Bullón & Sánchez-Bueno, 2012). Family ownership strengthens control over diversification strategies, thereby positively influencing the value of family firms (Hernández-Trasobares & Galve-Górriz, 2016).

Hypothesis 6 is supported, indicating that leverage mediates the relationship between diversification and the value of family firms. Diversification strategies in family companies often necessitate substantial financing. However, excessive leverage can lead to financial distress, prompting companies to either reduce leverage or concentrate on internal capital markets. Family firms may opt to increase leverage when engaging in unrelated diversification due to the need for new resources distinct from their core business. This approach allows the company to benefit from better operational performance and tax advantages, potentially enhancing its value (Chou & Shih, 2020). On the other hand, related diversification, which aligns with existing business segments typically maximises internal funding and minimises reliance on external sources. Since related business segments are more closely correlated within a core business (Zahra, 2005; Gomez-Mejia *et al.*, 2010; Villasalero, 2017), this strategy can lead to improve financial performance by effectively leveraging existing resources and capabilities, thus, sustaining the company's competitive advantage (Holzmayer & Schmidt, 2020).

Conclusions

The results highlight the role of family ownership as an inherent control mechanism influencing corporate strategic decisions. Family ownership impacts company value and strengthens the effect of sustainable business management on company value. These findings underscore the benefits of family ownership in controlling investment development and the importance of monitoring strategies to avoid diversification discounts and overinvestment by agents. Maintaining a balanced proportion of family ownership is essential to prevent entrenchment due to excessive voting rights.

Findings related to leverage underscore its role as a control mechanism within companies, helping to mitigate opportunistic behaviour by shareholders. Diversification often necessitates substantial financing, requiring careful consideration of whether the diversification will be related or unrelated. Previous studies have suggested that leverage is more effectively maximised in unrelated diversification compared to related diversification, which tends to favour internal capital markets. These insights are crucial for optimising diversification strategies to enhance family company value, offering a positive signal to investors and shareholders.

Limitation Research and Future Research

The study has several limitations, especially in its use of diversification indicators. The analysis focuses solely on total diversification and uses Tobin's Q as the measure of company value, without incorporating sensitivity analyses with alternative metrics such as earnings per share (EPS) or price-earnings ratio (PER). Future research could address this limitation by incorporating these additional measurements. Moreover, to better understand the performance implications of diversification, future studies could utilise excess value to identify which types of diversification yield the best outcomes for family companies. Additionally, while family ownership and leverage serve as control mechanisms for managing agent

behaviour, future research should consider including variables that align with the unique characteristics of family companies. Such variables might include the presence of family versus professional CEOs, company age, gender diversity, the number of supervisory boards (both dependent and independent), and political connection.

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Conflict of Interest Statement

The authors declare that they have no conflicts of interest.

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