

THE EFFECT OF STRATEGIC LEADERSHIP, GOOD CORPORATE GOVERNANCE, AND OPEN INNOVATION ON FAMILY BUSINESS SUSTAINABILITY IN JAVA ISLAND WITH SUSTAINABLE COMPETITIVE ADVANTAGE AS AN INTERVENING VARIABLE

Rio Antoni¹, Daniel Kurniawan^{2*}
Universitas Ciputra

*Corresponding author: daniel.kurniawan@ciputra.ac.id

ABSTRACT

This research aim for analyze the effect of strategic leadership, good corporate governance, and open innovation on the sustainability of family businesses on the island of Java with sustainable competitive advantage as intervening variables. This research use method quantitative with the primary data collected through questionnaire to 260 family businesses on the island of Java. Data analysis techniques used is PLS (Partial Least Squares). The results of the research show that strategic leadership and good corporate governance have an influence positive and significant towards the sustainability of family businesses. Open innovation also has an impact positive and significant towards the sustainability of family businesses, but its influence can also be mediated by sustainable competitive advantage. Sustainable competitive advantage is proven capable mediate The influence of open innovation on family business sustainability. This research give implications important for family business leaders on the island of Java. Family business leaders need implementing strategic leadership and good corporate governance to increasing the sustainability of family businesses. Open innovation can also implemented For improve the sustainability of family businesses, but need noticed that sustainable competitive advantage is variables important mediator The influence of open innovation on family business sustainability. Competitive Advantage.

Keywords: Strategic Leadership, Good Corporate Governance, Open Innovation, Sustainability Family Business, and Sustainable Competitive Advantage

INTRODUCTION

Family business holding role important for sector the Indonesian economy is driven by the fact that 95% of Indonesian companies are family businesses. Furthermore, family businesses contribute 90% of Indonesia is total Gross Domestic Product (GDP) (Budiarti et al., 2018). Company it is said as a family business if founder or the acquiring family company have at least 25% of the shares in the company as well as there is one member the family that occupies position management or council (Malelak et al., 2020). In Indonesia, according to data from The Jakarta Consulting Group, only 61% of family businesses survive. until to generation second and 24 % which can endure until to third generation (Susanto, 2018). A family business views sustainability as a core goal from company. Research from Kristanti et al., (2019) showed that in the period 2009 to 2018, the results survival analysis shows Many MSMEs in Indonesia are experiencing difficulty finance because not capable to compete in face condition macro economics. So that, see fact empirical about failure business that occurs in MSMEs in Indonesia Of course need doing study about factors that influence the sustainability of family businesses so that can reduce risk failure business in Indonesia.

Barney in Hunitie (2018) introduced the Resource-Based View (RBV) Theory, which explains that organizational resources can provide sustainable competitive advantage when those resources are rare, valuable, inimitable, and non-substitutable. In relation to RBV, Egwakhe et al. (2019) stated that competitive advantage is also influenced by strategic leadership, which involves risk-taking, decision-making, and commitment to strategic

objectives. Strategic leadership is an important variable to study further because it enhances a company's competitive power not only through strategies, but also through vision, culture, climate, leadership style, structure, and systems (Rush in Hunitie, 2018).

However, according to Susanto (2018), leadership remains a major challenge in ensuring the sustainability of family businesses. A common issue in family enterprises is the presence of "multiple leadership" and a "one-man show" approach. Family businesses need to be cautious of the "superman syndrome," where a leader or owner acts as if they are capable of handling every role and solving all internal business problems alone. In addition to strategic leadership, the sustainability of family businesses is also influenced by good corporate governance (GCG) (Pottag, 2022). GCG is essential because it enables companies to build competitive advantage by establishing governance characteristics that are unique and difficult for competitors to imitate (Ana et al., 2021). However, according to the Asian Corporate Governance Association (ACGA, 2020), the implementation of good corporate governance in Indonesia remains low — among 12 countries in the Asia-Pacific region, Indonesia ranks near the bottom.

Furthermore, to achieve family business sustainability, innovation within the company is also essential. Al Rawaf et al. (2023) stated that innovation has a positive and significant influence on the sustainability of family businesses. Previous studies have shown that innovation in family firms is characterized by a paradox: family businesses tend to possess greater capability for innovation compared to non-family firms; however, they often exhibit lower levels of innovation activity due to risk aversion or reluctance to share control (De Massis et al., 2014 in Elisa, 2019). Based on the background discussed above, this study focuses on family business sustainability, considering the phenomenon of the low percentage of sustainable family businesses (Porfirio et al., 2020).

Therefore, the main problems addressed in this study are as follows, Does strategic leadership affect the sustainable competitive advantage of family businesses on Java Island? Does good corporate governance affect the sustainable competitive advantage of family businesses on Java Island? Does open innovation affect the sustainable competitive advantage of family businesses on Java Island? Does strategic leadership influence the sustainability of family businesses on Java Island? Does good corporate governance influence the sustainability of family businesses on Java Island? Does open innovation influence the sustainability of family businesses on Java Island? Does sustainable competitive advantage influence the sustainability of family businesses on Java Island? Does strategic leadership, through sustainable competitive advantage, influence the sustainability of family businesses on Java Island? Does good corporate governance, through sustainable competitive advantage, influence the sustainability of family businesses on Java Island? Does open innovation, through sustainable competitive advantage, influence the sustainability of family businesses on Java Island?

LITERATURE REVIEW

Resource Based View (RBV) Theory

The Resource-Based View (RBV) proposed by Barney (1991) is considered one of the most influential theories within strategic management (Foss and Knudsen, 2003 in Salazar, 2017). In his article, Barney examined the relationship between a company's resources and its sustainable competitive advantage. Sustainable competitive advantage arises from the effective utilization of internal strengths in responding to environmental opportunities, while simultaneously neutralizing external threats and internal weaknesses (Barney, 1991 in Salazar, 2017). According to the RBV, an organization can be viewed as a collection of physical resources, human resources, and organizational resources. Resources that are valuable, rare, imperfectly imitable, and non-substitutable constitute the key sources of sustainable competitive advantage that contribute to superior organizational performance (Barney, 1991). A resource must meet the VRIN criteria in order to provide competitive advantage and support sustainable performance. The VRIN criteria are explained below and illustrated in Figure 2.1.



Figure 2.1 Relationship between VRIN Attributes and Competitive Advantage

Source: Salazar (2017)

Strategic Leadership

According to Rowe (2001), strategic leadership is the ability to influence others in making decisions related to daily activities that enhance the long-term sustainability of an organization. Rowe (2001) also stated that strategic leadership is a combination of managerial leadership and visionary leadership. Essentially, strategic leadership operates at the highest level of an organization, encompassing the board of directors and members of the top management team, such as the Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Information Officer (CIO), Chief Marketing Officer (CMO), Chief Operating Officer (COO), Chief Sustainability Officer (CSO), as well as General Managers (GM) and Strategic Business Unit (SBU) leaders (Singh et al., 2023). Based on the Resource-Based View (RBV), strategic leaders must effectively manage resources, capabilities, and key competencies as organizational strengths, because these elements are enabling factors in creating sustainable competitive advantage and ensuring the company's long-term success (Mahdi et al., 2021).

Good Corporate Governance

According to the Organization for Economic Cooperation and Development (OECD), good governance is a system used to direct and control business activities within a company. Good governance regulates the distribution of duties, rights, and responsibilities among all parties involved in the life of the company, including shareholders, the board of directors, managers, and non-shareholder stakeholders. It also establishes the rules and procedures for decision-making processes (Kaur et al., 2018). The implementation of good corporate governance (GCG) mechanisms in family businesses influences the company's overall performance. The effectiveness of governance depends on several board attributes, such as the presence of independent or external directors, board size, the degree of family control over the board, and the concentration of ownership. These factors contribute to the independent monitoring of managerial decisions and actions to protect the interests of principals or shareholders (Gupta et al., 2023). From the perspective of the Resource-Based View (RBV), the implementation of good corporate governance enables a company to effectively manage its resources and capabilities, thereby helping to minimize agency.

Open Innovation

Since the publication of Chesbrough's work *Open Innovation: The New Imperative for Creating and Profiting from Technology* in 2003, the concept of open innovation has gained more attention from academics and practitioners. Open innovation was developed based on observations of large innovative companies and their deviations from traditional innovation methods (Chesbrough, 2003 in Bigliardi et al., 2020). The genuine definition of open innovation emphasizes that "valuable ideas can come from inside or outside the company and can enter the market from inside or outside the company as well. This approach places external ideas and external paths to the market as equally important as internal ideas and internal paths" (Chesbrough, 2003 in Bigliardi et al., 2020). In 2014, Chesbrough proposed the next definition of open innovation based on the business model concept: "We define open innovation as a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using monetary and non-monetary mechanisms in line with the organization's business

model” (Chesbrough and Bogers, 2014 in Bigliardi et al., 2020). From the RBV perspective, innovation is recognized as a source of competitive advantage for industries to compete in the global market (Tritos et al., 2014 in Sabourin, 2020).

Sustainable Competitive Advantage

Based on the RBV perspective according to Barney (1991), valuable, rare, inimitable, and non-substitutable resources allow businesses to develop and maintain sustainable competitive advantage. By utilizing resources and sustainable competitive advantage, it will create superior company performance in order to realize business sustainability (Wernerfelt, 1984; Grant, 1991; Collis and Montgomery, 1995 in Chigara, 2021). However, when the market becomes more volatile and unpredictable, then the speed of response through flexibility becomes more important as a source of competitive advantage (Grimm et al., 2006 in Ceglinski, 2016). As claimed by Afonina and Chalupsky, the key elements to achieve and support competitive advantage in unstable economic and political environments are strategic management tools (Afonina and Chalupsky, 2012 in Ceglinski, 2016). Thus, the concept of sustainable competitive advantage can be created if the company has the ability to continuously update its resources to be in harmony with the market, which is carried out by managers in adapting, integrating, and combining internal and external resources into new configurations aimed at responding to demands from a dynamic environment (Teece et al., 1997 in Fernandes et al., 2023).

Sustainability Family Business

Basically, sustainability is defined as the continuity of resources at this moment for the next generation. In addition, sustainability practices are stated as organizational efforts and managerial implementation in creating successful family business performance in the long term (Memili, Misra, Chrisman & Welsh, 2017 in Yilmaz et al., 2021). Family business can be considered as an intersystem that becomes a combination of three systems, namely the success of the family system (functionality, cohesion, wealth), the quality of local attachment (shared community values, social bonds with local stakeholders), and the growth of the business system (financial performance, business sustainability). Family businesses also need the ability for rapid adaptation to persist and engage in competition. Changes in the work environment also become a trigger for the development of family business strategy (Chirapanda, 2019 in Yilmaz et al., 2021). In relation to RBV and sustainability, companies are required to be able to cooperate with stakeholders in overcoming Environmental, Social, and Governance (ESG) challenges.

Connectedness between Variable

Connectivity between Strategic Leadership and Sustainable Competitive Advantage

In order for the organization can keep going performing with good so required development progressive competitive advantage system from time to time. This competitive advantage requires a competitive strategy for ensure that a series selected activities has blend with right values. The process of implementing this strategy naturally requires capable strategic leadership ensure staff performance and delegation process not quite enough answer can efficient and effective (Nyawira et al., 2022). Research Previously conducted by Hunitie (2018) showed that strategic leadership has an influence positive and significant towards competitive advantage, where according to Rush (2011) in Hunitie (2018) explains that strategic leadership improves Power competition sustainable something organization not only through the strategy but also its vision, values, culture, climate, leadership, structure, and systems. This study submit first hypothesis, namely:

H1: Strategic leadership has an influence significant towards sustainable competitive advantage

Connectivity between Good Corporate Governance and Sustainable Competitive Advantage variables

Good corporate governance focuses on relationships between the board of commissioners, the board of directors and all stakeholders interests to avoid from conflict and differences interests. With free from conflict and differences

interest so company can focus on creation performance company and excellence competitive (Linggahua et al., 2023). In addition, good corporate governance also has role important in develop appropriate corporate strategies with environment business and make company flexible in accommodate strengths, weaknesses, opportunities and threats (Nginyo et al., 2018). Of course for realize matter the required transparency principle, accountability, responsibility, independence, and justice as well as ability from the board of commissioners to the board of directors in make decision effective and efficient strategy in create superiority competitive company (Linggahua et al., 2023). According to study previously by Nginyo et al. (2018), good corporate governance has positive and significant influence towards competitive advantage. This study submit second hypothesis, namely:

H2: Good corporate governance has an effect significant towards sustainable competitive advantage

Connectivity between Open Innovation and Sustainable Competitive Advantage variables

Lee et al. (2019) stated that open innovation has succeed changing the original traditional innovation innovation only based on R&D capabilities that depend on resources power within company become open innovation with use diverse and in depth knowledge through collaboration environment external for create innovation more products effective and efficient. In the knowledge based view (KBV) it states that core tasks of the company is acquire, integrate, and use knowledge. Effective integration between knowledge, information, and capital in environment external can compensate lack companies, enriching the resource based power for innovation, acceleration rate innovation and reducing cost from risk innovation as well as expand output innovation for opening up new markets (Zhang et al., 2023). With this open innovation expected company can create innovation effective and efficient products so that products produced own quality, function and offers superiority more products to customers (Lee et al., 2019). According to Zhang et al.s (2023) research found that open innovation has positive influence significant towards competitive advantage. This study submit third hypothesis, namely:

H3: Open innovation has an effect significant towards sustainable competitive advantage

Connectivity between Sustainable Competitive Advantage and Sustainability Family Business variables

According to Cloutier, 2015 in Chundu et al. (2021), that competitive advantage can creating sustainable family businesses through four pillars of power competitive, namely competence, quality, innovation, and acceptance to customers. With these four pillars so company will capable develop ability unique that leads to performance more companies good. Meanwhile according to Saepulloh et al. (2021) for create competitive advantage then company must implementing sustainable competitive strategies so that company maintain sustainability and become market leader. Competitive strategy the naturally must capable optimize all source existing resources. Barney, 1991 in Salazar (2017) introduced the Resource Based View Theory (RBV) where company must capable manage source valuable, rare, difficult power imitated and can organized with both by the company in order to create a competitive advantage for company. According to study Jermsittiparsert (2020) and Chundu et al. (2021), competitive advantage influential significant towards business sustainability. This study submit fourth hypothesis, namely:

H4: Competitive advantage has an effect significant towards the sustainability of the family business

Connectivity between Strategic Leadership and Family Business Sustainability Variables

Strategic leadership is combination synergistic between leader managerial and visionary leaders. Strategic leadership must capable create, build and maintain competence organization so that direction strategic implemented organization can create results real organization. In addition, strategic leadership must capable visionary thinking in understand environment the competition that will appear to create direction strategic profitable future for goals and sustainability organization (Akpoviroro et al., 2019). Research Suriyankietkaew (2021) has proved that strategic leadership has an influence positive and significant towards business sustainability. This study submit fifth hypothesis, namely:

H5: Strategic leadership has an influence significant towards the sustainability of the family business

Connectivity between Good Corporate Governance and Family Business Sustainability variables

According to theory agency state that holder share as principal and agent management have different interests. Good corporate governance has role important in overcome conflict between principal and agent. Related sustainability company, theory agency emphasize that board mechanism that implements sustainability social will give benefit for company (Chams and García-Blando, 2019 in Tjahjadi et al., 2021). Based on theory agency, GCG will improve corporate sustainability performance. Krechovsk, 2014 in Tjahjadi et al. (2021) stated that good corporate governance influences performance sustainability including welfare social, economic, and environmental. The influence of good corporate governance on sustainability will also increase mark companies and CSR (Klettner et al., 2014; Sharma and Khanna, 2014; Jaimes-Valdez and Jacobo-Hernandez, 2016 in Tjahjadi et al., 2021). Matten and Moon, 2008 in Tjahjadi et al. (2021) stated that that not quite enough answer social company (CSR) is instrument important to use for build performance sustainability. According to study Setyahadi et al. (2020) that good corporate governance has influence positive towards corporate sustainability. This study submit sixth hypothesis, namely:

H6: Good corporate governance has an effect significant towards the sustainability of the family business

Connectedness between Variables Open Innovation and Sustainability Family Business

Open innovation aims for create ideal conditions for realization innovation product based on development carried out Good both internally and externally external. This Innovations even more important Again for business sustainable that you want give impact positive to environment and society (Kazancoglu, Sezer, Ozkan-Ozen, Mangla, & Kumar, 2021 in Cherif et al., 2023). The differentiation result from innovation product in sustainable companies not only related with functionality or design, but most importantly is values that drive innovation, those values can nature social or environment and produce innovation sustainable for growth business sustainable (Chistov, Tanwar, & Yadav, 2021 in Cherif et al., 2023). In addition, sustainable open innovation can direct the creation of new markets that do not unmatched so that make competitors looks No relevant and less accountable. (AllalCh'erif, Guijarro Garcia, & Ulrich, 2022; Yildirim et al., 2022 in Cherif et al., 2023). According to research by Cherif et al. (2023) elements the compiler of sustainability business, namely open sustainable product innovation, influences sustainability company. This study submit seventh hypothesis, namely:

H7: Open innovation has an effect significant towards the sustainability of the family business

Connectivity between Strategic Leadership and Sustainability Variables of Family Business with Sustainable Competitive Advantage as Intervening Variables

Study about the influence of strategic leadership on the sustainability of family businesses with competitive advantage as an intervening medium has not been found in theory and study empirical previously. So that intervening research, this can become knowledge new about the influence of strategic leadership on family business sustainability with competitive advantage as a media.

Connectivity between Good Corporate Governance and Sustainability Variables of Family Business with Sustainable Competitive Advantage as Intervening Variables

Study about the influence of good corporate governance on the sustainability of family businesses with competitive advantage as an intervening medium has not been found in theory and study empirical previously. So that this study can become knowledge new about the influence of good corporate governance on the sustainability of family businesses with competitive advantage as an intervening media.

Connectivity between Open Innovation and Sustainability Variables of Family Business with Sustainable Competitive Advantage as Intervening Variables

Study about the influence of open innovation on the sustainability of family businesses with competitive advantage as an intervening medium has not been found in theory and study empirical previously. So that this study can become knowledge new about the influence of open innovation on family business sustainability with competitive advantage as an intervening media.

Conceptual Framework

In this research there are 3 variables free namely X1 (strategic leadership), X2 (good corporate governance), X3 (open innovation) with variables intermediary Z (competitive advantage) and variables bound Y (sustainability family business) where the research model depicted as following:

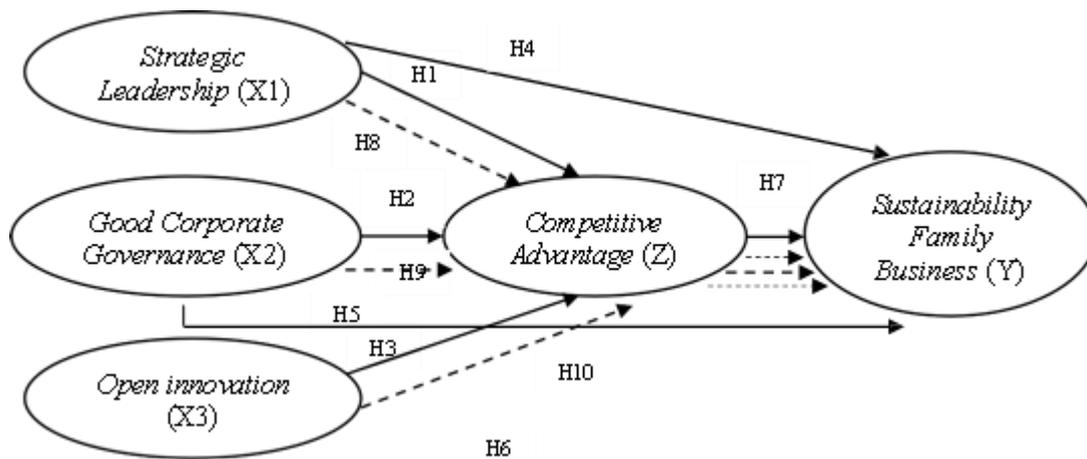


Figure 3.2 Conceptual Framework

Source: Processed data researcher (2023)

As for the hypothesis in study This is as follows:

- H1: Strategic leadership has an influence towards the sustainable competitive advantage of family businesses on the island of Java
- H2: Good corporate governance has an effect towards the sustainable competitive advantage of family businesses on the island of Java
- H3: Open innovation has an effect towards the sustainable competitive advantage of family businesses on the island of Java
- H4: Strategic leadership has an influence towards the sustainability of family businesses on the island of Java
- H5: Good corporate governance has an effect towards the sustainability of family businesses on the island of Java.
- H6: Open innovation has an effect towards the sustainability of family businesses on the island of Java
- H7: Sustainable competitive advantage has an effect towards the sustainability of family businesses on the island of Java
- H8: Strategic leadership through sustainable competitive advantage has an influence towards the sustainability of family businesses on the island of Java
- H9: Good corporate governance through sustainable competitive advantage has an influence towards the sustainability of family businesses on the island of Java
- H10: Open innovation through sustainable competitive advantage has an influence towards the sustainability of family businesses on the island of Java

RESEARCH METHODS

This study employs a quantitative explanatory research design. The research is conducted within family business enterprises located on the island of Java, with the unit of analysis focusing on business owners or members of top management from selected family-owned firms. Data collection was carried out over the period of November to December 2023. The population of this study comprises family business companies operating on the island of Java. A purposive sampling technique was applied to select respondents who met the predetermined research criteria. Regarding sample size determination for SEM-PLS analysis, Hair et al. (2022) suggest that the minimum sample size should be calculated by multiplying the total number of indicators by a factor of five to ten. In this study, a total of 26 measurement indicators were employed. Accordingly, the sample size was determined to be 260 respondents, based on the upper threshold of the recommended multiplier (26 × 10). The use of the maximum multiplier was intended to obtain a more comprehensive representation of micro, small, and medium-sized enterprises (MSMEs) across Java Island. Respondents’ perceptions were measured using a structured questionnaire with a four-point Likert scale.

RESULTS AND DISCUSSIONS

Structural Model Equation Analysis

This study use method quantitative with Structural Equation Modeling (SEM) approach. SEM is selected because own a number of superiority compared to method statistics traditional, such as stronger because not too depends on the scale measurement, size sample, and residual distribution. SEM is also more comprehensive Because allows researchers for test connection between variables in a way simultaneously, so that produce more models comprehensive. In addition, SEM is also more flexible Because can used for test various types of models, including causal models and correlational models. With using SEM, research This expected can produce more results accurate and reliable.

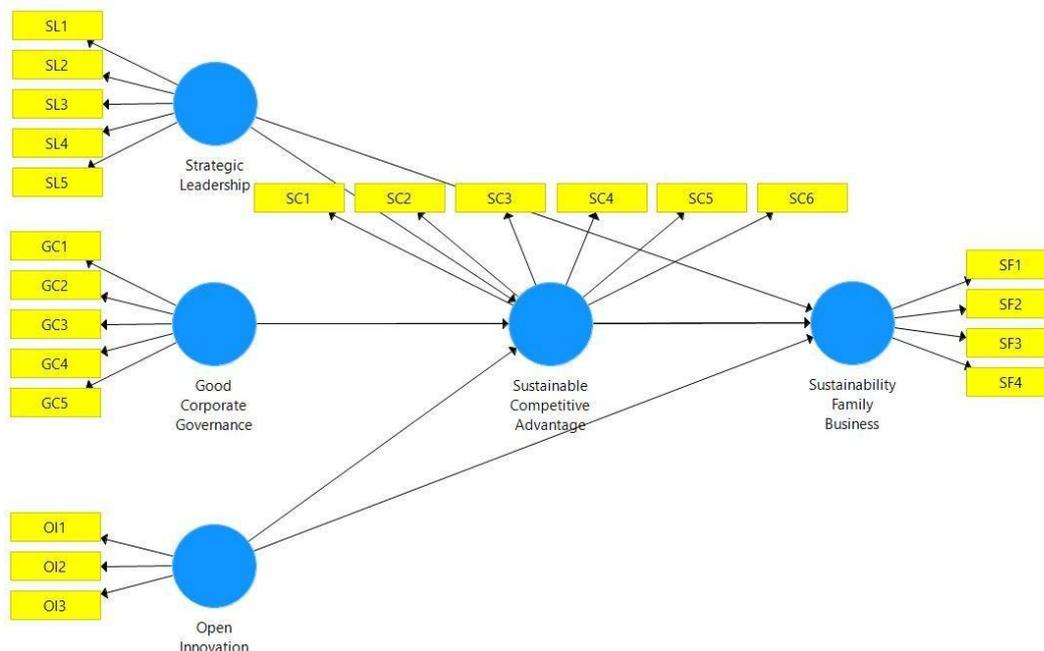


Figure 4.1 Framework Model Study
Source: Processed Data SmartPLS

Outer Model
Reliability Indicators

Table 4.2 PLS Loading Factor Test Results

Variables	Indicator	Loading Factor
	SL1	0.847

	SL2	0,767
Strategic Leadership	SL3	0,737
	SL4	0,807
	SL5	0,811
	GC1	0,719
Good Corporate Governance	GC2	0,718
	GC3	0,721
	GC4	0,707
	GC5	0,741
Open Innovation	OI1	0,828
	OI2	0,819
	OI3	0,801
	SC1	0,707
Sustainable Competitive Advantage	SC2	0,749
	SC3	0,774
	SC4	0,788
	SC5	0,704
	SC6	0,708
Sustainability Family Business	SF1	0,816
	SF2	0,724
	SF3	0,749
	SF4	0,787

Source: Processed Data SmartPLS

Research result show that all 23 statements in study this is valid. This is proven with loading factor values that meet minimum requirement of 0.7. Loading factor shows how much strong connection between statements and the constructs they measure. High factor loading values show that statement the relevant and representative the construct being measured.

Convergent Validity AVE (Average Variance Extracted)

Table 4.2 Results of the PLS Construct Validity Test

Variable	Average Variance Extracted (AVE)
Strategic Leadership	0,631
Good Corporate Governance	0,520
Open Innovation	0,666
Sustainable Competitive Advantage	0,546
Sustainability Family Business	0,593

Source: Processed Data SmartPLS

The test results in Table 5.8 were obtained The AVE value of strategic leadership is 0.631, good corporate governance is 0.520, open innovation is 0.666, sustainable competitive advantage is 0.546, and family business sustainability is 0.593, then can concluded that fifth variables used in study this is valid because AVE value is higher big from 0.5.

Discriminant Validity (Cross Loading)

Table 4.3 Results of the PLS Cross-Loading Test

Indicator	Strategic Leadership	Good Corporate Governance	Open Innovation	Sustainable Competitive Advantage	Sustainability Family Business
SL1	0,847	0,558	0,538	0,599	0,603
SL2	0,767	0,570	0,524	0,574	0,583

SL3	0,737	0,534	0,535	0,590	0,574
SL4	0,807	0,568	0,471	0,568	0,576
SL5	0,811	0,536	0,507	0,573	0,553
GC1	0,455	0,719	0,498	0,618	0,545
GC2	0,478	0,718	0,489	0,667	0,605
GC3	0,545	0,721	0,561	0,657	0,606
GC4	0,510	0,707	0,414	0,636	0,551
GC5	0,524	0,741	0,419	0,636	0,560
OI1	0,600	0,527	0,828	0,570	0,583
OI2	0,456	0,535	0,819	0,564	0,593
OI3	0,534	0,557	0,801	0,582	0,595
SC1	0,567	0,624	0,493	0,707	0,598
SC2	0,594	0,672	0,512	0,749	0,643
SC3	0,596	0,679	0,618	0,774	0,659
SC4	0,551	0,715	0,518	0,788	0,636
SC5	0,470	0,636	0,527	0,704	0,537
SC6	0,451	0,625	0,430	0,708	0,511
SF1	0,540	0,631	0,592	0,588	0,816
SF2	0,552	0,572	0,526	0,626	0,724
SF3	0,597	0,602	0,565	0,632	0,749
SF4	0,552	0,643	0,545	0,653	0,787

Source: Processed Data SmartPLS

The results of the cross loading test obtained in Table 5.9 show that results indicator to each variable is mark the biggest If compared to with results indicator to other variables where mark For all variables bigger from 0.70 to matter This in accordance with provisions and can stated that all over statements used in study this is valid.

Composite Reliability

Table 4.4 Results of the PLS Construct Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Strategic Leadership	0,853	0,895
Good Corporate Governance	0,770	0,844
Open Innovation	0,749	0,857
Sustainable Competitive Advantage	0,833	0,878
Sustainability Family Business	0,770	0,853

Source: Processed Data SmartPLS

The results of composite reliability and Cronbach's alpha must be show greater value big from 0.7 to considered reliable. In the results of the reliability test, the constructs in Table 5.10 can be seen that composite reliability and Cronbach's alpha values are appropriate with provision that is bigger from 0.7. So can concluded that third variables stated reliable.

Inner Model

Following is the structural model used in this study before inner model test was conducted. Outer model test has been conducted done previous and the results show that all construct in the model has good validity and reliability.

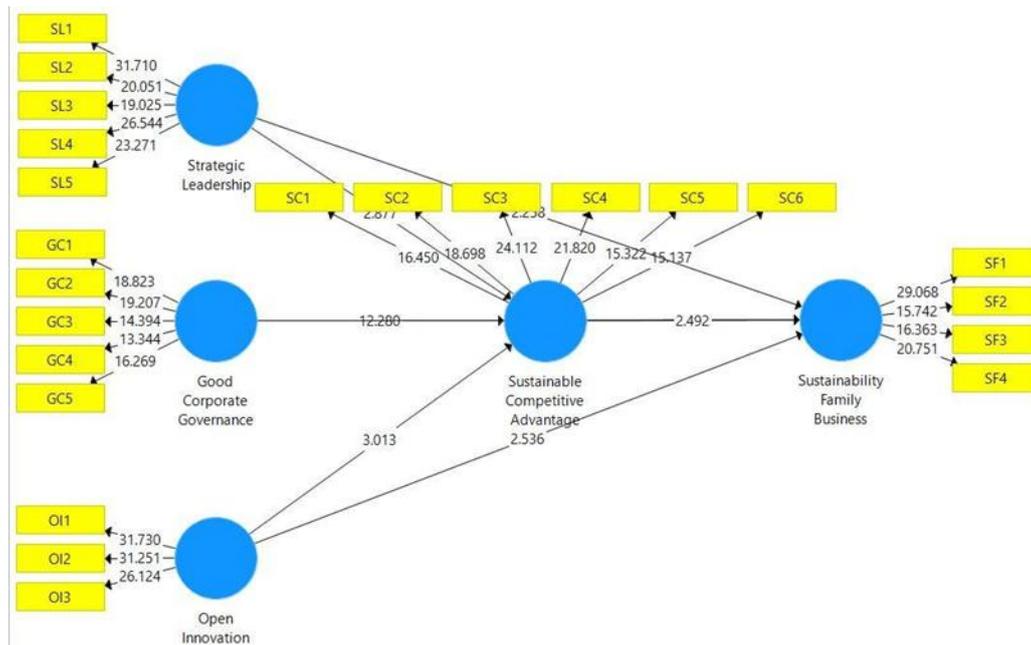


Figure 4.2 PLS Research Model
Source: Processed Data SmartPLS

R-square test

Table 4.5 Results of Inner Model R Square and Q Square Tests

	R Square	R Square Adjusted	Q Square
Sustainability Family Business	0.741	0.737	0.422
Sustainable Competitive Advantage	0.830	0.828	0.442

Source: Data Processed *SmartPLS*

Interpretation of R2 in PLS-SEM based on Table 5.11, the R2 value obtained for sustainable family business is 0.741, while for sustainable competitive advantage it is 0.830. An R2 value above 0.70 indicates that the model is strong.

Q-square test

Next Q2 measures Good whether or not mark observations generated by the model and estimates parameters . If the results found mark $Q^2 > 0$, then the model has predictive relevance and vice versa . The Q-square results above zero show that the model has good predictive relevance .

$$\begin{aligned}
 Q^2 &= 1 - (1 - R^2_{SF}) \times (1 - R^2_{SC}) \\
 &= 1 - (1 - 0.422) \times (1 - 0.442) \\
 &= 1 - (0.578) \times (0.558) \\
 &= 1 - 0.322524 \\
 &= 0.677476
 \end{aligned}$$

The Q-square results are of 0.677, meaning can interpreted that the model has good predictive relevance Because own high value and close to 1.

F-square Test

Values obtained from the F2 test shows R-square changes in endogenous constructs. Changes R-square value shows influence construct exogenous to endogenous construct. The F2 value has three grouping namely 0.02, 0.15 and 0.35. These values can interpreted that predictor latent variables have influence small, medium and large at the structural level (Ghozali & Latan, 2015).

Table 4.6 Result of F test

	Sustainability Family Business	Sustainable Competitive Advantage
Good Corporate Governance	0,552	0,296
Open Innovation	0,572	0,459
Strategic Leadership	0,619	0,596
Sustainability Family Business		
Sustainable Competitive Advantage	0,468	

Source: Processed Data SmartPLS

SmartPLS F² test results show that good corporate governance, open innovation, and strategic leadership have influence positive and significant towards sustainable family business and sustainable competitive advantage. The F² value shows that good corporate governance has influence big towards sustainable competitive advantage, whereas its influence towards sustainable family businesses is also relatively high. Open innovation has influence big to sustainable family business and sustainable competitive advantage, sustainable competitive advantage has influence big towards sustainable family business. Sustainable competitive advantage has influence big towards sustainable family business.

Hypothesis Testing

The T Statistic value of 1.96 was used as a limit for determine significance influence between variable. If the T value obtained bigger from 1.96, then can concluded that there is influence significant from one variables to variables others. Structural model bootstrap testing shows path coefficient results. Path coefficient show strength connection between variable. High path coefficient value show strong relationship, whereas low path coefficient value show weak relationship. The path coefficient has values that are in the range -1 to with 1. If the value is in the range of -1 to with 0 then stated negative whereas If mark is in the range of 0 to with 1 then stated positive . if influence variables independent to variables dependent significant so It means changes in variables independent will Lots change variables dependent.

Tabel 4.7 Path Coefisien (Direct and In Direct Effect)

	Original Sample (O)	T Statistics (O/STDEV)	P Values	Information
Strategic Leadership -> Sustainable Competitive Advantage	0,162	2,877	0,004	Positive and Significant
Good Corporate Governance -> Sustainable Competitive Advantage	0,684	12,280	0,000	Positive and Significant
Open Innovation -> Sustainable Competitive Advantage	0.143	3,013	0.003	Positive and Significant
Strategic Leadership -> Sustainability Family Business	0.195	2,258	0.024	Positive and Significant
Good Corporate Governance -> Sustainability Family Business	0,268	2,679	0,008	Positive and Significant
Open Innovation -> Sustainability Family Business	0,233	2,536	0,012	Positive and Significant
Sustainable Competitive Advantage -> Sustainability Family Business	0,267	2,492	0,013	Positive and Significant
Strategic Leadership -> Sustainable Competitive Advantage -> Sustainability Family Business	0,143	2,096	0,041	Positive and Significant
Good Corporate Governance -> Sustainable Competitive Advantage -> Sustainability Family Business	0,183	2,545	0,011	Positive and Significant

Open Innovation -> Sustainable Competitive Advantage -> Sustainability Family Business	0,138	2,036	0,043	Positive and Significant
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Source: Processed Data SmartPLS

Based on Table 4.7, the results can be concluded as follows Strategic Leadership → Sustainable Competitive Advantage T-statistic = 2.877 (>1.96) and p-value < 0.05 → Significant. Good Corporate Governance → Sustainable Competitive Advantage T-statistic = 12.280 (>1.96) and p-value < 0.05 → Significant. Open Innovation → Sustainable Competitive Advantage T-statistic = 3.013 (>1.96) and p-value < 0.05 → Significant. Strategic Leadership → Family Business Sustainability T-statistic = 2.258 (>1.96) and p-value < 0.05 → Significant. Good Corporate Governance → Family Business Sustainability T-statistic = 2.679 (>1.96) and p-value < 0.05 → Significant. Open Innovation → Family Business Sustainability T-statistic = 2.536 (>1.96) and p-value < 0.05 → Significant. Sustainable Competitive Advantage → Family Business Sustainability T-statistic = 2.492 (>1.96) and p-value < 0.05 → Significant. Strategic Leadership → Family Business Sustainability (through Sustainable Competitive Advantage) T-statistic = 2.096 (>1.96) and p-value < 0.05 → Significant. Good Corporate Governance → Family Business Sustainability (through Sustainable Competitive Advantage) T-statistic = 2.545 (>1.96) and p-value < 0.05 → Significant. Open Innovation → Family Business Sustainability (through Sustainable Competitive Advantage) T-statistic = 2.036 (>1.96) and p-value < 0.05 → Significant.

Mediation Test

Table 4.8 Effect Test Results Mediation

	Original Sample (O)	T Statistics (O/STDEV)	P Values	Information
Good Corporate Governance -> Sustainable Competitive Advantage -> Sustainability Family Business	0.183	2,545	0.011	Positive and Significant
Open Innovation -> Sustainable Competitive Advantage -> Sustainability Family Business	0,138	2,036	0,043	Positif dan Significant

Source: Processed Data SmartPLS

In the mediation test, as shown in Table 5.14, all variables influence each other. However, in testing mediation, the results obtained must meet the following conditions:

- The path coefficient c (direct effect model before including the mediating variable) must be significant.
- The path coefficients a (from the predictor variable to the mediating variable) and b (from the mediating variable to the dependent variable) must be significant after the mediating variable is included in the model.

Based on these two conditions, the conclusions regarding the mediation effect are as follows:

- If the path coefficient c from the estimation results is significant, the mediation hypothesis is not supported.
- If the path coefficient c value decreases but remains significant, the form of mediation is partial mediation.
- If the path coefficient c value decreases and becomes insignificant, the form of mediation is full mediation.

Based on the T-statistic test results and the mediation test criteria, it can be concluded that partial mediation occurs in the relationships between:

- (1) strategic leadership and family business sustainability through sustainable competitive advantage,
- (2) good corporate governance and family business sustainability through sustainable competitive advantage, and
- (3) open innovation and family business sustainability through sustainable competitive advantage.

The existence of partial mediation produces a smaller indirect effect compared to the direct effect. This is shown by the original sample value and T-statistic of the indirect effect being smaller than those of the direct effect, indicating that partial mediation occurs.

Discussion

Based on the statistical analysis, all tests were conducted appropriately and met the required methodological standards, yielding valid and reliable results. The descriptive and inferential findings indicate that strategic leadership has a significant effect on sustainable competitive advantage. This result supports the study by Hunitie (2018), which highlights that strategic leadership enhances sustainable competitiveness through the alignment of vision, organizational values, culture, leadership practices, and organizational systems. Similarly, good corporate governance is found to have a significant influence on sustainable competitive advantage. This finding is consistent with Nginyo et al. (2018), who argue that strong governance structures enable firms to formulate strategies that are well aligned with their business environment, thereby allowing organizations to effectively manage strengths, weaknesses, opportunities, and threats. Furthermore, open innovation demonstrates a significant and positive effect on sustainable competitive advantage, corroborating the findings of Zhang et al. (2023). The effective integration of external knowledge, information, and capital enhances firms' innovation capabilities, reduces operational risks and costs, and facilitates access to new market opportunities.

In addition, the results reveal that strategic leadership significantly influences family business sustainability. This finding aligns with Jermisittiparsert (2020), who emphasizes that organizations capable of managing valuable, rare, and inimitable resources through visionary leadership and strategic planning are better positioned to achieve long-term sustainability. Likewise, good corporate governance has a significant impact on family business sustainability, supporting the findings of Suriyankietkaew (2021), which suggest that effective governance mechanisms foster visionary thinking, long-term orientation, transparency, and accountability within organizations. Moreover, open innovation is shown to positively influence family business sustainability, in line with Cherif et al. (2023). Both internal innovation efforts and external collaborative partnerships play a crucial role in sustaining long-term competitiveness while simultaneously generating positive social and environmental outcomes. The findings also confirm that sustainable competitive advantage is a key determinant of family business sustainability, as it supports business continuity and intergenerational success.

Regarding the mediation effects, the analysis indicates that sustainable competitive advantage mediates the relationship between strategic leadership and family business sustainability, suggesting that effective leadership enhances sustainability by enabling sound decision-making and the achievement of long-term strategic objectives. Similarly, good corporate governance influences sustainability through sustainable competitive advantage, as transparent, accountable, and fair governance practices strengthen organizational continuity. Finally, open innovation affects sustainability through sustainable competitive advantage, where collaboration with external partners improves innovation efficiency and effectiveness, thereby reinforcing the long-term sustainability of family businesses.

CONCLUSION AND IMPLEMENTATION

MSMEs need to increase technology acquisition to encourage innovation by building good information systems, conducting research, and mapping technology. Conduct an analysis of MSME technology readiness, including IT infrastructure, human resources, and digital culture. Identify appropriate technology according to the needs and capabilities of MSMEs, considering factors such as cost, ease of use, and effectiveness. Encourage the formation of digital ecosystems that support MSMEs, such as e-commerce platforms, digital marketplaces, and fintech services. The importance of good corporate culture, a strong and well-maintained company culture, can improve the performance and competitive advantage of MSMEs. This supports organizational culture theory, which states that a positive organizational culture can improve organizational performance and outcomes. Transparency and accessibility of information, transparency and good accessibility of information for stakeholders can increase their trust and participation, which in the end can improve the performance and sustainability of family businesses. This

is in line with stakeholder theory, which emphasizes the importance of good relationships and communication with stakeholders to achieve long-term success.

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