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Family Firms and Investment Innovation

Abstract. This study, with the aim of improving the performance of small and medium-sized companies, expresses the impact of the decision-making of managers and entrepreneurs of these companies in the direction of investment innovation in today's business conditions with wide variables and technological growth. This paper focuses on the phenomenon of innovation within family businesses, seeking to identify and analyse its role in enhancing family-owned firms. The research investigates the influence of family ownership, family management involvement, internationalization strategies, and company size on innovation within the context of family-owned manufacturing companies listed on the Indonesia Stock Exchange. Data spanning is the 2019-2021 period, collected from annual reports and announcements of these manufacturing firms, reveals that family ownership and firm size correlate with investment in innovation. However, the recruitment of family management and the implementation of family-owned business internationalization strategies appear to exert limited influence on innovation activities. Considering the importance of family companies in economic and technical progress and the complexities and changing conditions governing their business environment, this research main contribution is to show how managers and entrepreneurs make decisions in investment innovation according to the conditions of governing in family small and medium companies.

Keywords: Investment Innovation; Decision Science; Family Management Involvement; Internationalization Strategy
JEL Classifications: D1; E2; O31; P42
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1. Introduction

The rapid changes and complexities governing today's world, especially technological developments, have created a turbulent environment for today's businesses. Identifying the decision-making patterns of managers in complex conditions is important for business management and its development (Bharathi et al., 2024; Revilla et al., 2016). Research across various disciplines has extensively delved into the realm of innovation management, with a substantial portion of the literature centred on companies characterized by a dichotomy between ownership and management. It is imperative to conduct studies explicitly aimed at pinpointing the critical aspects inherent in the amalgamation of ownership and management, particularly in light of the burgeoning prevalence of family-owned enterprises. The fusion of ownership and management is emblematic of family-run businesses, thereby necessitating a comprehensive exploration of how innovation is orchestrated within these entities. Such an investigation should address the nuanced dimensions of innovation within family firms, shedding light on the multifaceted role of family engagement in business management, specifically as it pertains to innovation.

In general, the subject of decision-making in the conditions of deep uncertainty and complexity of the environment is a relatively new subject that has not been addressed in small family businesses investment innovation. Researchers address this gap by analysing the extent of expenditure/investment devoted to innovation within family businesses (Suprihono et al., 2022; Ishenin et al., 2021). The research query at hand delves into whether family ownership, family management involvement (FMI), internationalization strategy, and company size in family-owned manufacturing enterprises serve as driving factors for engaging in innovation. The main contribution of this research is confined to family businesses, specifically those in the manufacturing sector, listed on the Indonesia Stock Exchange, where more than 10% of shares are owned by families or individuals (Moen & Servais, 2002). The issue under scrutiny holds significant relevance in today's business landscape. Family businesses entail the participation of family members in management, and herein lies our endeavour to achieve a deeper understanding of this dynamic (Lee et al., 2019). Family enterprises should participate in developing Indonesia's economic potential through the channels of innovation. Innovation within family businesses has received limited attention from other researchers, hence it is anticipated that this study will usher in novelty and yield beneficial insights.

Confronted with the potential risk of innovation failure, managers tend to priorities the sustained, long-term growth of the firm while concurrently adjusting their risk mitigation strategies. The research model based on the dependent variables and independent variable which affect the firm performance is illustrated in Figure 1.

Hypotheses to be tested in the research model are formulated as follows:

H 1: A discernible relationship exists between family ownership involvement (FOI) and investment in innovation.

H 2: A discernible relationship exists between family management involvement (FMI) and investment in innovation.

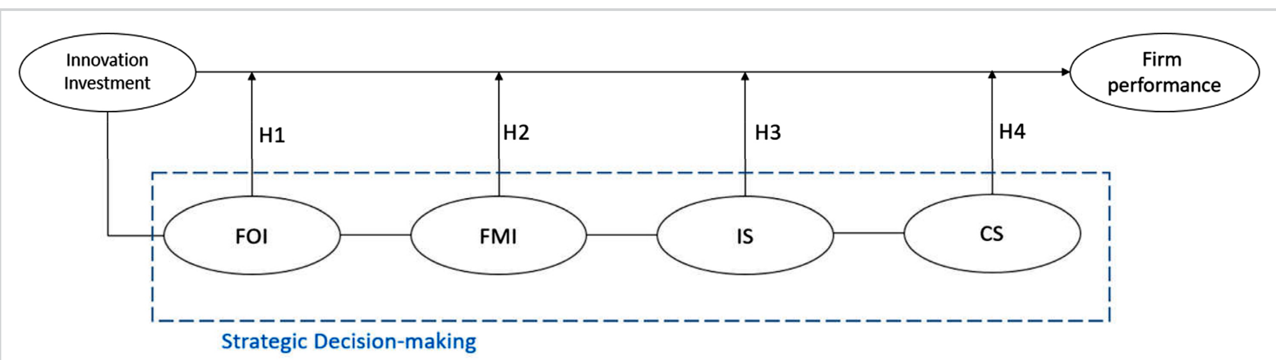

Figure 1:
Research model
Source: Authors' findings

H 3: The strategy of internationalization (IS) exerts influence on investment in innovation.
H 4: Company size (CS) exerts influence over innovation investment.

2. Research Methodology

Sample selection

A total of 56 manufacturing companies were selected as samples from a population of 227 during the research period spanning from 2019 to 2021. Cronbach-alpha was computed to assess the reliability coefficient. The results show that the Cronbach's Alpha for all variables exceeded the lowest required value of 0.7, verifying the accuracy of data. Data were collected from the annual reports and announcements of manufacturing companies listed on the Indonesia Stock Exchange during the period 2019-2021. This study adopts a non-experimental, cross-sectional design with a quantitative approach, utilizing the Partial Least Squares Structural Equation Model (PLS-SEM) statistical technique, facilitated by the SmartPLS4 software. To check the normality of the data, the skewness and Kurtosis test of the data was used to determine whether the distribution of the collected data has a normal or normal distribution. Then validation and verification of the data was applied through the assessment of reflective construct measurement.

Variable Measurement

This study encompasses a dependent variable, innovation investment (II), and independent variables including FOI, FMI, internationalization strategy, and firm size. Succinctly presented in Table 1 is the operational definition of these variables.

Table 1:
Description of Variables

Variable / Variable Name	Description
Dependent / Innovation Investment (II)	R&D Expenditure/Revenue
Independent / FOI	Family ownership ratio as the primary controlling stake
Independent / FMI	Family executives among the senior executive team (Dummy)
Independent / Internationalization Strategy (IS)	Foreign sales
Independent / Firm Size (FS)	Natural logarithm of total assets

Source: Authors' findings

3. Results

The results of the descriptive analysis, based on data processing (as shown in Table 2), indicate that the mean FOI is 0.2875 with a standard deviation of 0.2882. The average FMI is recorded at 0.5292, with a standard deviation of 0.2958. Moreover, the mean Internationalization Strategy (IS) is calculated as 0.4896, accompanied by a standard deviation of 0.3167. Lastly, the average Firm Size (FS) stands at 27.971, accompanied by a standard deviation of 1.5730.

Table 2:
Descriptive Statistics

Name	Mean	Median	Standard deviation
FOI	0.2875	0.1840	0.2882
FMI	0.5292	1.000	0.2958
Internationalization Strategy (IS)	0.4896	1.000	0.3167
Firm Size (FS)	27.971	27.768	1.5730
Innovation Investment (II)	0.011	0.002	0.0310

Source: Authors' findings

For the validation and reliability of the proposed model, the diagnostic test based on the mean variance (mean), composite reliability (CR) maximum variance (MV), Max reliability (Rmax) and correlation factor were presented in Table 3. The CR must be higher 0.7 and mean should be more than 0.5. The findings of all factors approve the reliability and validity of proposed model.

As shown in Table 3, composite reliability is larger than 0.7, mean was larger than 0.5, MV was mean and root of mean is larger than correlation, which approves the model's factors reliability.

The assessment of reflective construct measurement was undertaken to examine both validity and reliability. Validity was tested based on the outcomes of outer loading, while the evaluation of reliability considered the values of composite reliability. The results revealed that each

Table 3:
Results of validity and reliability of the proposed model

Name	Mean	CR	MV	R_{max}	Correlation	FOI	FMI	IS	FS	II
FOI	0.788	0.908	0.443	0.922	0.703	0.866	0.318	0.091	0.292	0.658
FMI	0.556	0.783	0.101	0.933	0.332	0.318	0.738	0.271	0.279	0.223
IS	0.687	0.877	0.086	0.959	0.287	0.091	0.271	0.834	0.185	0.041
FS	0.642	0.846	0.091	0.968	0.308	0.292	0.279	0.185	0.821	0.301
II	0.509	0.721	0.451	0.701	0.658	0.658	0.223	0.041	0.301	0.801

Source: Authors' findings

variable met the established criteria, thereby leading to the conclusion that all variables exhibit a commendable level of both validity and reliability. The R Square value for II is 0.104. This signifies that the variables FOI, FMI, Internationalization Strategy (IS), and Firm Size (FS) collectively exert a 10.4% influence on the Innovation Investment variable. The remaining 89.6% is influenced by other variables not encompassed within the model. This observation underscores that the employed independent variables wield a relatively modest impact on the phenomenon of Innovation Investment.

Based on Table 4 data, the structural model is obtained as follows:

$$II = -0.128FOI - 0.318FMI + 0.074\,IS + 0.038FS\,. \tag{1}$$

The examination of the impact of FOI on II yielded a path coefficient of -0.128, with a significance level of 0.011, indicating statistical significance below the 5% threshold. Consequently, FOI is found to exert a significant and negative influence on II. Conversely, the relationship between FMI and II produced a path coefficient of -0.318, yet the corresponding significance level of 0.149 exceeds the 5% limit. As such, FMI does not display a statistically significant impact on II. Moving on to the impact of IS on II, the path coefficient obtained is 0.074, accompanied by a significance level of 0.335, surpassing the 5% threshold. Consequently, the statistical analysis does not indicate a significant relationship between IS and II. In contrast, the analysis of FS on II revealed a path coefficient of 0.038, with a significance level of 0.029, demonstrating statistical significance below the 5% threshold. This suggests that FS indeed exerts a significant and positive effect on II.

Table 4:
Significance Test Results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H1: FOI → II	-0.128	-0.150	0.051	2.536	0.011*
H2: FMI → II	-0.318	-0.241	0.178	1.239	0.149
H3: IS → II	0.074	0.089	0.105	0.4875	0.335
H4: FS → II	0.038	0.020	0.072	2.178	0.029*

Source: Authors' findings

4. Conclusion

The current era is facing a huge transformation in the field of information and communication and information technologies. In fact, it is characterized by a deep attitude that, with the increase in the amount of information and its availability, it shows the appropriate and correct use of information, the insight and qualitative abilities of management and the excellence of a manager. In this regard, freedom from the constraints of a large amount of information will require knowing how the decision-making process is and optimally using creative thinking, innovation management and employing decision-making techniques.

The research findings indicate that innovation investment is influenced by ownership involvement, manager decision-making and the size of the family business. A decrease in FOI corresponds to an increase in innovation investment. However, FMI does not exert a significant impact on Innovation Investment. One of the main limitations of this research is accessing to data of international companies and also comparing the business environment in various countries. It was suggested that company managers should focus on optimizing the ownership structure rather than FMI and resource allocation to enhance the effectiveness of innovation investment and mitigate technical innovation risks. Neither FMI nor internationalization strategy demonstrates a significant impact on innovation investment. Looking ahead, the agenda for FMI and the implementation of the internationalization strategy in the context of technical innovation accelerating must be executed effectively and judiciously. This is prompted by considerations of global competition and imperative to minimize traditional risks inherent to family businesses.

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