

The Role of The Formalization Process on The Product Innovation Results of Small and Medium-sized Private Enterprises in Vietnam

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Abstract

This study assesses the role of formalized business in the innovation activities of small and medium-sized enterprises (SMEs) in the private sector in Vietnam. Panel data regression analysis is employed in this study. Research data were extracted from three surveys of small and medium private enterprises conducted by the United Nations University (UNU) in 2011, 2013 and 2015. The dataset contains information about enterprises in all major manufacturing sectors, on innovation activity, firm formalization status, and enterprises' characteristics. Research results show that improving the status of the firm from informal to formal has a significant boost to the overall innovation performance, as well as each type of innovation of small and medium enterprises in Vietnam. This is the first study in Vietnam that examines the impact of formalization on product innovation outcomes of small and medium-sized private enterprises, taking into account the characteristics of enterprises such as size, age, technology level, and other specific features.

Keywords: Formalization, Innovation, Improvement, Innovation Results, Innovation Activities.

1. INTRODUCTION

Innovation is becoming increasingly crucial for competitive advantage, especially for enterprises with low capital scale. There are two research approaches to innovation, that is, (1) consider innovation as a process and the other view (2) consider innovation as an outcome (Crossan & Apaydin, 2010). Innovation is a process that deals with the question of "how," while innovation is a result of what deals with the aspect of "what". Innovation as a process considers where the innovation process takes place, the internal and external drivers for innovation (e.g., availability of resources and knowledge, market opportunities, adherence to a new standard),

and the resources for innovation (internal and external). Meanwhile, innovation, as a result, focuses on innovation types (Product, process, organization, and marketing), innovation level (increase or advanced), and introducer (company, market, industry) used to assess novelty. Although innovation as a process precedes innovation, this aspect has received less attention than other issues (Crossan & Apaydin, 2010). The innovation process is an enterprise's comprehensive and complete set of activities to create conditions and support the innovation strategy. It refers to the ability to apply acquired knowledge to find new things, improve and optimize value creating methods and increase organizational productivity (Barbieri, Buonomo, Farnese, & Benevene, 2021; Beltramino, García-Perez-de-Lema, & Valdez-Juárez, 2020; Dilawo & Salimi, 2019; Duodu & Rowlinson, 2021). Nham Phong Tuan (2016) asserts that innovation is about innovation activities (products, processes, marketing, organization) and the results of those innovation activities in the organization (Nham Phong Tuan, 2016). Therefore, innovation creates a distinct competitive advantage for businesses. The success of many start-ups and small and medium enterprises in developing countries like Vietnam especially proves this. However, there are many factors affecting the innovation of firms, such as the role of knowledge capital (Prajogo & Ahmed, 2006), knowledge capital management (Jassawalla & Sashittal, 1998; Subramaniamand & Youndt, 2005), or the role of business formalization (Thao & Phuong, 2022). In this study, the authors use the connotations of enterprise innovation results through its three manifestations: (1) product innovation (new product introduction activities (Innovation 1); (2) product upgrades (Improvement 2); and (3) production processes and technology upgrades (Improvement 3).

Many studies on innovation have shown that innovation is influenced by one's knowledge (Hussinki, 2015), other characteristics such as enterprise size, enterprise age, leadership, technology characteristics..., may also influence decisions to apply new technology or management methods (Thao et al., 2021; Truong & Bui, 2022), affect the business performance (Hai, Xuan, Thao, & Hien, 2021; Xuan & Thao, 2021). Therefore, in this study, we also examine the role of these factors along with how the level of formalization affects the innovation results of small and medium-sized enterprises.

Business formalization is a term that has been mentioned a lot in recent years in Vietnam, primarily since 2016, when the start-up movement broke out in all localities across the country, and a series of activities are being carried out. Training and consulting activities have been implemented in localities to guide business households to transform from household business (informal) to enterprise (formalized) (Thao & Phuong, 2022). However, many business owners do not want to formalize their activities because they believe that their business scale is still good without formalization. They do not have to pay insurance for their employees or worry about labor costs, taxes, etc. Besides, formalization will lead to increased registration, tax payment, and employee insurance costs. Therefore, many businesses are still unregistered (Cling, Razafindrakoto, & Roubaud, 2012). However, the formalization of operations will also create many benefits for businesses, better access to public goods and services, infrastructure, a more extensive customer base, more professional operations, and especially conditions to build a foundation for sustainable development in the future (García-Herrero, Gavilá, & Santabárbara, 2009). Due to limited capital, technology, and innovation capacity, business households or SMEs need to build a solid foundation and maintain a competitive advantage. Therefore, it is necessary to have an early market strategy and orientation (Truong Duc Thao & Nguyen Duc Xuan, 2020), creating sources of knowledge capital for innovation activities to maintain competitiveness (Le Anh Hung, 2021).

Most governments consider private SMEs necessary for economic growth, income distribution, and job creation (Ayyagari, Demirguc-Kunt, & Maksimovic, 2014). In Vietnam, several SMEs

account for most of the economy, especially in the private sector (Thao & Phuong, 2022). However, small and medium-sized enterprises often focus on low added value products only. In addition, many SMEs operate in the informal economy, making it difficult to expand their scale, with low growth, and their brand value is threatened, their credit access is also difficult, and the rights of workers are affected heavily due to working in the informal economic sector, (Thao & Phuong, 2022). Therefore, the government is currently implementing many measures to promote the establishment of new businesses, transform the form of activities from informal to formal (Thao & Phuong, 2022), creating a favorable environment for innovation activities in small and medium enterprises (Le Anh Hung, 2021).

From the problems above, the author raises the question, how does the formalization of SMEs' business activities in Vietnam affect innovation results? This process creates a distinct competitive advantage for businesses, building a foundation for sustainable development. Accordingly, the research paper is conducted by presenting data and research methods; next, the author presents key findings on the different effects of formalization on firms' innovation outcomes; finally, the author proposes management implications based on the findings in the analyzed data results. This study results can be a good reference source for planning households and SMEs managing policies in Vietnam and in developing countries of similar socio-economic characteristics.

2. DATA SOURCES AND METHODOLOGY

Data sources

The data used in this study were extracted from three surveys of small and medium-sized private manufacturing enterprises in 2011, 2013, and 2015. This dataset was investigated by the United Nations University (UNU). The dataset is an array of private manufacturing SMEs covering all major manufacturing sectors containing critical information on innovation activity, firm formalization status, and firm characteristics. This information allows researchers to examine the role of formalization in the innovation performance of SMEs. Based on this secondary data set, the authors estimate the model using linear regression according to Rand & Torm mathematical equation (2012) built to determine the level and the impact formalization on the innovation activities of enterprises. Accordingly, in this study, the authors simultaneously consider the impact of formalization on business innovation activities from an overall perspective and in detail of each component of product innovation (introducing new products (Improvement 1), product upgrades (Improvement 2), upgrades of production processes and technology (Improvement 3)).

Research Methods

In this study, the author uses a combination of qualitative and quantitative research methods, in which quantitative research methods are the main one. Qualitative research is used to collect and review theoretical concepts and components such as: the role of small and medium enterprises in the economy, the process of transitioning from formal to informal activities, the benefits achieved when SMEs formalize their operations, and its relationship with the innovation results of small and medium enterprises.

On the basis of the theoretical framework built by the qualitative research results, the authors exploited the secondary data to conduct quantitative research, by determining the relationship between formalization status and business innovation activities. To assess the impact of formalization on enterprise innovation, the model is based on previous studies, for example, Rand & Torm (2012), we have:

$$Y_{it} = \alpha_1 + \alpha_2 * Formalization_{it} + \alpha_3 * X_{it} + \alpha_4 * Z_{it} + \nu$$
(1)

In there:

Y_{it} is the dependent variable, which includes innovation activities such as introducing a new product (Improvement 1), performing a product upgrade (Improvement 2), performing a process upgrade, and production technology (Improvement 3).

Formalization: measures the formalization status of small and medium-sized private enterprises.

X_{it}: is the vector including the characteristics of the enterprise such as enterprise size (number of employees); enterprise age (number of years of operation); export activities; pay informal fees; Business owners are members of the Communist Party, and businesses are members of business associations.

Z_{it}: are variables of industry characteristics (low, high, and medium technology) and time dummy variables to control for unobserved factors over time that affect the operation of enterprises.

3. RESULTS AND DISCUSSION

The results of the regression analysis in Tables 1, 2, 3, and 4 show that, in general, formalized enterprises have higher innovation capacity than informal. This result is consistent even when the model controls for important firm characteristics such as firm size, years of establishment, technological level, and social capital. For example, Table 1 shows that formalized small and medium-sized private enterprises are 14% more creative than informal ones. Which firm size positively affects the transition from informal to formal. Enterprises engaged in export activities will promote this process more powerfully. Enterprises that are members of business associations will tend to have more positive transformation than enterprises whose head is a Party member. Moreover, being low-tech or outdated will hinder the formalization process and thereby negatively affect the innovation results of SMEs. This is understandable because informal business is limited by the size of the labor force, the size of capital, etc. Therefore, increasing the scale of operations will create pressure for businesses to transform.

Similarly, for export firms or participating in commercial activities with corporate customers, the issues of contracts, invoices, and taxes are also a concern, leading to these enterprises needing to convert. Finally, enterprises with modern technology will create good conditions for innovation activities, increase market size and expand production activities; then, there will be a more robust level of transformation, and vice versa. Thus, the faster the transition from informal to formal, the stronger the innovation results of SMEs will be. In addition, enterprises with different characteristics will promote different transformation processes, indirectly affecting their innovation results.

Explanatory variable	Innovation	Innovation	Innovation	Innovation
	(first)	(2)	(3)	(4)
Formalization Status	0.140***	0.143***	0.103***	0.105***
	(0.013)	(0.014)	(0.014)	(0.014)
Enterprise size			0.001***	0.001***
			(0.000)	(0.000)
Enterprise age			-0.001	-0.001
			(0.001)	(0.001)
Export activities			0.110***	0.108***
			(0.028)	(0.029)

Table 1. Effect of Formalization on Overall Improvement

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Unofficial fee payment			0.009	0.010
			(0.013)	(0.013)
The business owner is			0.007	0.006
a member of the			(0.021)	(0.022)
Communist Party				
Enterprises are			0.094***	0.092***
members of business			(0.024)	(0.024)
associations				
Low technology			-0.115***	-0.113***
			(0.019)	(0.019)
Average technology			-0.086***	-0.084***
			(0.020)	(0.021)
Number of	5,400	5,400	5,381	5,381
observations				
Note: The dependent vari	able is the generall i	nnoration activity	with standard or	or in narouthacas

Note: The dependent variable is the overall innovation activity, with standard error in parentheses. The model is also controlled for the dummy variable year *** p < 0.01, ** p < 0.05, *p < 0.1. Marginal effects are reported. High-tech enterprises are the primary category.

Table 2 shows that formalized firms will have a higher positive impact on the ability to innovate in introducing new products in the market than informal enterprises (4, 3%). However, this difference is relatively low, and the variables of enterprise characteristics and industry characteristics do not clearly impact new product introduction activities, regardless of whether the business operates formally or informally. This is because introducing new products to the market is essentially the end result of the enterprise's innovation process, not activities that create improvement or innovation deep within the organization. This can be the same in different businesses and industries.

Explanatory variable	Innovation	Innovation	Innovation	Innovation
	of new	of new	of new	of new
	product	product	product	product
	(first)	(2)	(3)	(4)
Formalization Status	0.043***	0.043***	0.044***	0.045***
	(0.008)	(0.008)	(0.008)	(0.009)
Enterprise size			0.000	0.000
			(0.000)	(0.000)
Enterprise age			0.001***	0.001***
			(0.000)	(0.000)
Export activities			0.007	0.007
			(0.014)	(0.014)
Unofficial fee payment			-0.019***	-0.019***
			(0.007)	(0.007)
The business owner is a			0.007	0.007
member of the			(0.011)	(0.011)
Communist Party				
Enterprises are members			0.007	0.007
of business associations			(0.012)	(0.012)
Low technology			-0.023**	-0.022**

Table 2. Effect of Formalization on The Introduction of New Products in The Market

			(0.010)	(0.010)
			(0.010)	(0.010)
Average technology			-0.012	-0.012
			(0.010)	(0.010)
Number of observations	5,400	5,400	5,381	5,381
Note: The dependent variable is the importion activity that introduces new products in the market				

Note: The dependent variable is the innovation activity that introduces new products in the market, with standard error numbers in parentheses; the model is also controlled for dummy variables. year *** p < 0.01, ** p < 0.05, * p < 0.1. Marginal effects are reported. High-tech enterprises are the basic category.

In another dimension, considering the content of product innovation activities, that is, to innovate existing products, formalized firms will have a more positive impact on existing product innovation than informal enterprises and higher at 11%. According to research by Le Anh Hung (2021) and Nham Phong Tuan (2016), businesses have good product innovation results when they can accumulate and exploit the sources of knowledge capital well. Enterprises need a strict organizational structure and operating procedures to ensure the continuity and abundance of knowledge assets (Le Anh Hung, 2021; Nham Phong Tuan, 2016). This is only possible when businesses operate in a formalized form. The enterprises in the industry with slow and outdated technology will harm the innovation of existing products, and businesses participating in business associations will positively impact this activity.

Explanatory variable	Existing	Existing	Existing	Existing		
	Product	Product	Product	Product		
	Innovation	Innovation	Innovation	Innovation		
	(first)	(2)	(3)	(4)		
Formalization Status	0.110***	0.112***	0.072***	0.073***		
	(0.012)	(0.013)	(0.013)	(0.013)		
Enterprise size			0.001***	0.001***		
			(0.000)	(0.000)		
Enterprise age			-0.002***	-0.002***		
			(0.001)	(0.001)		
Export activities			0.102***	0.098***		
			(0.024)	(0.025)		
Unofficial fee payment			0.013	0.015		
			(0.012)	(0.012)		
The business owner is a			0.015	0.015		
member of the			(0.019)	(0.019)		
Communist Party	Communist Party					
Enterprises are members			0.075***	0.071***		
of business associations			(0.021)	(0.021)		
Low technology			-0.116***	-0.114***		
			(0.016)	(0.017)		
Average technology			-0.084***	-0.081***		
			(0.018)	(0.018)		
Number of observations5,4005,4005,381				5,381		
Note: Dependent variable is existing product innovation activity, standard error number in						
parentheses; the model is also controlled for dummy year $***p < 0.01$, $**p < 0.05$, $*p < 0.1$. Marginal						
effects are reported. High-tech enterprises are the primary category.						

Table 3. Effect of Formalization on Existing Product Innovation

Similar to existing product innovation, the degree of formalization also has a more positive effect on technological and process innovation performance than firms operating in the informal sector (5.5%). In this respect, firms in the industry with low and medium technology still harm technology and process innovation; however, unlike the above aspects, firms with high technology medium will be more strongly hindered than enterprises with low technology. This is understandable because, with low-tech enterprises, the pressure to innovate will be more substantial. In addition, many studies emphasize that process innovation strongly impacts firms' innovation (Barbieri, Buonomo, Farnese, & Benevene, 2021; Beltramino, García- Perez-de-Lema, & Valdez-Juárez, 2020; Le Anh Hung, 2021; Nham Phong Tuan, 2016). Moreover, these studies also suggest that the production of enterprises should be organized according to strict processes and flexible and organized designs. This will be better if enterprises operate formally.

Explanator	Technologica	Technologica	Technologica	Technologica	
y variable	l and process	l and process	l and process	l and process	
	innovation	innovation	innovation	innovation	
	(1)	(2)	(3)	(4)	
Formalization	0.055***	0.055***	0.036***	0.036***	
Status	(0.009)	(0.009)	(0.009)	(0.009)	
Enterprise size			0.001***	0.001***	
			(0.000)	(0.000)	
Enterprise age			-0.001*	-0.001*	
			(0.000)	(0.000)	
Export			0.027*	0.028*	
activities			(0.015)	(0.015)	
Unofficial fee			0.013*	0.012*	
payment			(0.007)	(0.007)	
The business			-0.002	-0.0000	
owner is a			(0.012)	(0.013)	
member of the					
Communist					
Party					
Enterprises are			0.037***	0.036***	
members of			(0.013)	(0.013)	
business					
associations					
Low			-0.007	-0.007	
technology			(0.011)	(0.011)	
Average			-0.024**	-0.024*	
technology			(0.012)	(0.012)	
Number of	5,400	5,400	5,381	5,381	
observations					
Note: Dependent variable is technological and process innovation activity, with standard error in					
parentheses; the model is also controlled for dummy variable *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.					
Marginal effects are reported. High-tech enterprises are the essential category.					

Table 4. Effects of Formalization on Technological and Process Innovation

4. CONCLUSION

In Vietnam, many documents of state management agencies, start-up support organizations, Departments, Boards, and branches from central to local have emphasized the role and benefits of enterprises' transformation from informal to formal. Formalized businesses will gain many benefits, such as expanding the scale of operations, increasing the number of employees, increasing the ability to raise capital, and protecting the brand name on a broader scale. In recent years, several domestic studies have addressed the impact of formalization on access to credit, on access to credit over time, and the effect on the firm performance (Thao & Phuong, 2022). In addition, several studies mention the factors affecting innovation and innovation results and consider innovation results as part of business performance. These factors are usually knowledge capital and innovation management and are often associated with largescale enterprises with long operating times. The data is based on the survey of firm representatives and does not discriminate between enterprises in the public or private sector (Le Anh Hung, 2021). Therefore, this study examines the impact of the formalization of SMEs on innovation performance and considers factors such as size and scale, time, the firm's characteristics, and the industry/field of operation. The results confirm that SMEs in the formal sector have a higher ability to innovate than informal enterprises. Furthermore, the research result is consistent even when the model controls for important firm characteristics such as size, enterprise age, technological level, and social capital. This result will provide a practical basis for policymaking and solutions to enhance the transformation of enterprises.

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