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FIRM INNOVATION, SUPPLY CHAIN MANAGEMENT AND PERFORMANCE IN SOCIAL RESPONSIBILITY ORIENTATION TO PROTECT THE FOREST

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Abstract: Supply chain management is no longer a strange issue for businesses around the world. However, for textile enterprises in Vietnam, this problem is still relatively new. These enterprises are mainly small and medium sized, so improving SCM is still a difficult choice. This study evaluates the mediating role of innovation on the impact of SCM on firm performance to draw more specific conclusions for textile enterprises in Vietnam. Data collected from 486 textile enterprises in Vietnam was included in the analysis. The results of analysis by PLS-SEM method show that SCM has a positive impact on firm performance. This effect is mainly indirect through firm innovation. In addition, firm size, and firm export both moderate the impact of SCM on firm performance. From these results, recommendations for businesses and the government have been made to improve innovation and operational efficiency in the textile and garment industry in Vietnam.

Keyword: supply chain management, firm innovation, firm performance, Vietnam textile enterprises

1. Introduction

Supply Chain Management (SCM) plays an important role in global Supply Chain operations. Currently, in the context of global integration, more competitive businesses have promoted the emergence of research on SCM (Foster et al., 2011). In general, most studies emphasize the role of SCM in helping businesses coordinate operations and run smooth operations in the Supply Chain. At the same time, the application of SCM helps to improve product and service quality and increase customer satisfaction (Soares et al., 2017). In addition, some scholars have shown that SCM has an impact on firm performance (FP) (Chow et al., 2008). However, there are few studies that directly explore the relationship between firm FP and SCM.

In Vietnam, Textile is one of the main export industries. In the past decade or so, garment and textile enterprises have seized the opportunity to participate in the global integration process. The strong development of many textile and garment enterprises contributes to strengthening the country's sustainable development goals. Specifically, the export activities of the textile and garment industry help increase foreign currency reserves for the economy - boosting the textile and garment export turnover to about 36.14 billion USD/year in the period 2006-2018. Not only that, the job supply helps to solve unemployment, increase the proportion of labor, the textile industry alone has reached 2.5 million jobs in 2017, accounting for 80% of female employees. The efforts of the textile and garment enterprises over the years marked a new step thanks to the successful application of SCM in the production and supply of products. However, besides many achievements, in fact, Vietnam's textile and garment industry only participates in simple production stages, low-skilled workers are still many, profits are not high, competitive advantages depend on cheap labor wages and electricity costs. Not only that, production activities - product supply are heavily dependent on outsiders to reach customers. The above situation shows that the supply chain in Vietnam is still limited, fragmented and less homogeneous, lacking in technology transfer, knowledge transfer and inhibiting labor productivity growth.

Currently, there are many studies on Supply Chain in Vietnam such as Nguyen Hong Thu (2016) giving results that SCM in Vietnam is the cause of creating competitive advantages for businesses. However, there have been no studies analyzing the current situation of SCM in textile enterprises and the influence of SCM on the performance of Vietnamese textile and garment enterprises. Furthermore, very few studies directly exploit the relationship between firms and SCM (Harvie et al., 2010). Studies show that the application of SCM in other processing enterprises is different, and at the same time, enterprises involved in exporting or manufacturing will have a larger scale, efficiency, and skill proficiency than other enterprises. In Vietnam, the influence of the size and role of exports in enterprises, especially in manufacturing enterprises, has not been thoroughly studied. Many current studies only explain the impact of SCM on FP as a positive or negative impact, few studies aim to analyze the impact of SCM on FP and innovation performance of enterprises.

From the limitations of previous studies, the study analyzed the situation of SCM in textile enterprises and the influence of SCM on FP of Vietnamese textile enterprises, thereby proposing a research model. The study uses 3 variables Innovation as an intermediate variable with the goal

of focusing on exploiting the impact of SCM and FP on Vietnamese textile enterprises and finding the link between the factors. From there, the research analyzes mediating role of innovation in the impact from SCM to FP. In addition, the moderating role of firm Size and Export is also considered.

The following layout of the paper includes: (1) Theoretical framework and hypotheses development (3) Methods; (4) Results and (5) Conclusion.

2. Theoretical framework and hypotheses development

2.1. Supply chain management (SCM)

In the study of Ganeshan et al. (1995), a supply chain is defined as a set of production and distribution options with the aim of performing the functions of purchasing raw materials, converting input materials, etc. into semi-finished products as well as finished products and the distribution of products to customers. In book on SCM by Chopra and Meindl (Habib, 2011), supply chain includes the stages involved, both directly and indirectly, in the fulfillment of user requirements. Supply chain includes not only manufacturer , supplier but also transporter, retailer, warehouse, customer, etc. In simpler terms, supply chain is the linkage and relationships of manufacturers, producers, customers and service providers directly and indirectly related to the production and business process of the enterprise.

Supply chain management is a system or strategic collaboration of traditional business functions as well as the policies and plans associated with these business functions of an enterprise, throughout its operations in the supply chain (Mentzer et al., 2001). From there, this activity aims to improve the process performance in a stable way in the long-term of enterprises in particular or the entire supply chain in general. As Christopher (2005), supply chain management is the management of multi-dimensional relationships between suppliers and customers with the aim of delivering high value products to customers at minimal cost throughout the entire supply chain. Accordingly, for SCM to be most effective, it is necessary to measure the effects of these SCM activities on firm performance (Green et al., 2013).

Gandhi et al (2017) described SCM through four distinctive aspects emerging from SCM practice including: (1) Customer Relationship Management (CRM); (2) Supplier relationship management (SRM); (3) Goal Congruence; (4) Information sharing. In that:

- CRM deals with building long-term relationships with customers, managing their complaints, and improving overall customer satisfaction (Tan et al., 1999). Activities that strengthen customer relationship management help an organization enhance their value, as the company can build loyalty through customer satisfaction (Cox, 2004). The ability of a business to be able to respond to customer requirements and offer new products or services in a more consistent manner will allow a company to perform better during certain periods of time (Gawankar et al., 2013). If the customer relationship is well managed, the right goods and products will be available to the customer (Sundram et al., 2011). Customer relationship management enables customer growth and retention (Ranjan, 2010). Therefore, customer relationship management can have a significant impact on how a firm manages a company's complete value chain (Gharakhani et al., 2012).

- Target of SRM that the first logistics processes are guaranteed. It starts with selecting the right suppliers, who can manufacture and ship the company's orders, at the right time, so that the store can receive the right input of raw materials. continuously and perfectly to serve the needs of customers (Day and Lichtenstein, 2006). Effective implementation of SRM has an impact on certain processes such as sourcing planning and execution, sourcing analysis, supplier performance monitoring, contract supplier collaboration (Boddy et al., 2000), planning and problem solving (Gunasekaran and Chung, 2004) and all the processes that enable retailers to optimize sourcing. Castelli and Brun (2010) state that synergies between suppliers and producer in the fields will add value to the end users. Therefore, successful relationship management with suppliers will ensure that you have a seamless source of materials and information between the suppliers and the company, and that the product will always be available as the plan, setting the stage for enhancing the supply chain performance of enterprises (Sundram et al., 2011).
- Goal Congruence is the degree to which supply chain partners perceive their own goals to be satisfied by the accomplishment of shared supply chain objectives. Harmonization of goals determines the level of cooperation and understanding among supply chain partners. It requires close cooperation between partners to ensure that the product source is coordinated right from the suppliers to the retail stores (Sundram et al., 2011). This cannot be achieved unless all members of the supply chain share the same agreed-upon goal and vision, i.e. demonstrate goal harmonization. Targeting harmonization among supply chain partners can benefit all partners involved by reducing costs and risks and increasing productivity and profits. Target harmonization among supply chain partners also has a significant effect on firm performance (Sundram et al., 2011). Jap (1999) has also stated that cooperation and coordination between buyers and sellers in the supply chain will lead to enhanced performance over a certain period of time. If the goals of all partners in the supply chain are linked to achieve the ultimate goal, the operational efficiency of the enterprise will certainly improve (Larson and Kulchitsky, 2000).
- Two-way information sharing between supply chain partners is required for successful implementation of SCM activities. Information sharing includes regular, business-to-personal communications between buyers and suppliers. To find common solutions to customer feedback, retailers need to share information with suppliers. At the same time, suppliers need to share important information regarding their production and delivery schedules with retailers. Newman and Rhee (1990) determined that many supplier product problems are caused by poor communication among supply chain partners. Lee et al (2000) mention that information sharing can lead to lower costs through reducing stock holding units and reducing shortages. It allows for synchronous addition and collaborative product development, which in turn leads to better supply chain performance (Gawankar et al., 2013). Nyaga et al (2010) claim that information sharing leads to trust and commitment, which in turn leads to improved satisfaction and enhanced business performance.

Supply activities are one of the most important activities of an enterprise, whereby SCM also plays a core role to effectively solve input and output problems of the enterprise. Thanks to SCM, businesses can maximize the process of importing input materials for products and services,

moreover, it also helps businesses save costs for supply, production and distribution activities, synchronously, which promoting the competitiveness of enterprises. In addition, in this day and age, scholars have also commented that SCM will also bring the potential to improve the efficiency of enterprises' production and business activities. It can be affirmed that SCM is the key to a process of improvement and quality management of enterprises, especially when it comes to an enterprise in the manufacturing industry such as textiles.

2.2. Resource-based View

The resource-based View, originating from Barney (1991), was then developed by Acedo et al. (2006) and built into the resource-based theory. Although the theory still has many controversial issues, almost everyone agrees on its core essence, especially in an enterprise, the RBT mentioned has 3 main trends according to Acedo's research (2006), includes: resource-based view; knowledge-based view; view on relationships. Within the scope of the research, the paper focus on using the resource-based perspective to explain the relationship between SCM and FP.

Resource-based view is understood that each organization, each business always has different specific resources, it represents the ability of the business, can be expressed in the form of physical assets or assets, the ability to control, own, represent the core characteristics and history of the enterprise. Organizational resources are considered as a tool to make a difference, innovate as well as shape the competitiveness of enterprises in both the long and short term. Therefore, resources can be divided into general types according to Vitolina and Cals (2013), including:

- Physical resources: finance, facilities, factories, machinery and equipment, technology, etc.
- Non-physical resources: brand, reputation, network of partnerships, licenses, databases, etc.
- Competence: knowledge, management ability, organization of the use of fixed assets, selection of business opportunities, production innovation, etc.

They can be considered as a special resource of the enterprise. It requires the trade-off of the current opportunities of the business to have a methodical system from the beginning, from which it can develop sustainably in the future. On the contrary, if the business only wants to survive and have immediate benefits, it will not be able to develop sustainably in the long run, although it is possible to sign orders with current partners, it is not good SCM. Therefore, both suppliers and partners are not satisfied, which greatly damages the reputation and value of the business, which is very difficult to build, making the business's performance unoptimized.

In order to determine the factors that create the success of the business, create the competitive advantage of the organization, the resource-based theory helps businesses to perform this activity more easily. It helps businesses identify valuable resources, typical potentials as well as core competencies that make the difference of the business, thereby maximizing the advantages of the enterprise in the global market.

In an industry that depends heavily on trends and tastes like the textile and garment industry, resources need to be taken care of more than ever, otherwise, businesses can easily lose their core values quickly. Therefore, thanks to the resource-based theory, the sustainable competitive advantage of enterprises can be found, here is the ability of SCM. It helps businesses

to forecast the market as well as the reactions of competitors, creating products with high value and outperforming competitors. From there, at the most basic level, businesses can create a sustainable competitive advantage by managing the supply chain well.

2.3. Supply chain management and firm performance

Firm Performance can be assessed as one of the key concepts in management and around which most management tasks are focused. FP can be described as the summation of the achievements of a business or department. This success refers to an organizational goal achieved over a certain period of time, such as at a point in time or over an extended period of time.

The short-term goals of SCM are mainly to increase productivity and reduce inventory and cycle time of goods, while the long-term goal is to increase market share and profitability for all elements that make up the supply chain. response. In Holmberg's (2000) study, financial metrics were used by him as a tool to compare organizations and evaluate an organization's behavior. The results show that, any organization that makes proper use of SCM activities, will ultimately lead to enhanced FP. Several previous studies have measured FP using both financial and market metrics, including return on investment (ROI), market share, return on sales, ROI growth, and more. , sales growth, market share growth and overall competitive position (Stock et al., 2000; Chow et al. 2008) have also shown this positive relationship.

Previous studies have shown that components of SCM (such as CRM and SRM) have an impact on various aspects of competitive advantage (such as cost). For example, SRM can improve supplier performance, reduce time to market, and increase customer responsiveness or satisfaction (Power et al, 2001). Or information sharing leads to a high degree of supply chain integration by allowing trusted delivery organizations to get products to market quickly. According to Lee (1999), information sharing and information quality contribute positively to customer satisfaction as well as partnership quality. SCM not only increases flexibility in the supply chain, but also balances efficiency and responsiveness for customers.

From the above arguments, hypothesis H1 is built:

Hypothesis H1: *Supply chain management has a positive impact on firm performance*

2.4. The mediating role of firm innovation

In today's ever-evolving market, innovation is an important factor for all businesses. It also became a factor that scientists noticed in previous studies. Traditional innovation can be divided into product innovation and process innovation (Prajogo and Sohal, 2003). However, Kim et al. (2012) also mentioned a new dimension called innovation management to be able to measure innovation performance more comprehensively. In summary, it can be said that innovation performance is measured by three core factors including: (1) Product innovation; (2) Process innovation; (3) Innovation management.

(1) Product innovation is understood as offering a product that is better than existing products in the market, in the sense that it provides more functionality or performs better (Meeus and Faber, 2006). Product innovation can be expressed at different levels of complexity, of which according to Maier (2018), the possible levels include: A change of concept based on a new idea, which can be powered by a new technology; Make the product use other materials and ingredients with better

properties than the previous product; A new design, often not only means a change in shape or appearance, but it may involve other aspects or production changes; New services to accompany the product or find new uses for the product. Through product innovation, a company can gain a competitive advantage by differentiating production and increasing the quality and variety of goods allowing it to increase demand and open up new growth opportunities. Thanks to SCM activities, the product innovation process can be accelerated in a more logical and planned manner. Thereby leading to new optimal products, in accordance with consumer tastes.

(2) Process innovation is the implementation of a production method or significant changes in specific technology, equipment or software, in order to reduce production and distribution costs, improve quality, manufacture or distribute distribution of new or improved products, to increase the efficiency or flexibility of production or supply operations and to reduce risks to the environment. In the innovation process, we can distinguish between Process innovation and Technological innovations or Increase innovation. Technological innovations is technological additions, upgrades, and changes in the processes of creating finished products. Examples are assembly automation in the automotive industry, binding of numerical control machines to designers, etc. Increase innovation to improve outcomes without new knowledge, for example Moore's law in computer science, etc. Other hand, Process Innovations is radically changing the way production is done, for example, the production process of float glass, word processor, etc. In short, all kinds of process innovation must be characterized by novelty. SCM can effectively promote this innovation, only when managed effectively, processes are closely related to each other can innovation be effective, towards the goal of adding value. company's products in the market.

(3) Mol and Birkinshaw (2009) have identified innovation management is based on the purpose of improving performance, which is the application of new management methods by the company to increase FP. Damanpour and Aravind (2012) apply the same opinion when claims that innovation management is a new organization, a new administrative system, a new management method or a new way to create value for the company. Hamel (2006) assumes that innovation management is the main source of competitive advantage. He argues that this concept is fundamental to achieving a sustainable competitive advantage and creating a unique skill set for the company. Innovation management provides the foundation for a firm's core competencies. Furthermore, it can be seen that innovation management is most strongly promoted based on SCM. When SCM is implemented effectively, businesses will be able to easily apply innovation management to their systems, thereby creating innovation of products, processes and creating competitive advantages for the enterprise.

Ju et al (2016) verified that supply chain dynamism has a positive impact on technical innovation from supply chain information sharing, supply chain agility, chain collaboration, etc. supply and supply chain integration. Cheng et al (2014) also found through the study that information technology in flexibility among supply chain partners, is an important factor to enhance dynamic ability, which can improve inter-organizational innovation performance. Partnering with a wide variety of clients can inspire a company to design new products that

customers want. On the other hand, maintaining a good relationship with the primary suppliers is a useful way to be able to convey technical information and innovation. Prajogo and Sohal (2003) also confirmed that SCM has a positive impact on product quality and innovation. From these widely recognized studies, it can be concluded that the SCM association has a complementary and positive impact on corporate innovation.

Innovation and corporate FP are closely linked. The reason is that the innovation of enterprises will increase competitiveness and profits (Handfield et al., 1999). As a long-term measure, Innovation helps businesses improve the importance, usefulness and performance of products and services. That will be difficult if a competitor wants to imitate new technology at a business that maintains a competitive advantage through innovation across the entire Supply Chain. The company's Product Innovation and Process Innovation are considered as Performance Innovation (Prajogo and Sohal, 2003). Thanks to this innovation process, businesses maintain and increase their competitive advantages, promoting FP for businesses. In addition, Kim et al (2012) offer a new dimension in Management Innovation to measure innovation performance, from these Innovations, businesses are able to penetrate market, attract human resources, improve the FP of enterprises. In general, innovation by firms increases competitiveness and profitability (Handfield et al., 1999). Since then, Innovation has a high position in the relationship between SCM and FP of enterprises.

From the above arguments, hypothesis H2 is built:

Hypothesis H2: *Firm innovation plays a mediating role on the effect of supply chain management on firm performance*

2.5. The moderating roles of firm size and firm export

Indeed, SCM activities can affect the performance of enterprises according to the actual strength or weakness depending on the regulation of two factors: Size and Export rate of that enterprise. This is clarified as follows:

- The larger the enterprise, the more effective SCM is shown by large organizations with many different relationships, information, and goals to the overall value of the business. In contrast, in small enterprises, the efficiency in SCM has not been shown much. Therefore, its impact on firm performance is higher for larger firms than for small firms.
- Enterprises with a large export rate, often require strict and highly effective SCM, because these are large enterprises, export products require higher requirements, which means higher requirements about chain management. Since then, the impact of SCM is also shown more clearly than that of enterprises with a small export rate. Therefore, it can be concluded that enterprises and organizations with a larger export rate will have a higher impact of SCM on FP.

From the above arguments, hypotheses H3, H4 is built:

Hypothesis H3: *Size plays a moderating role on the effect of supply chain management on firm performance.*

Hypothesis H4: *Export plays a moderating role on the effect of supply chain management on firm performance.*

3. Methods

3.1. Context

Vietnam has a long history of being involved in the textile and garment sector and has developed industry characteristics that set the Vietnamese textile and garment industry apart from other competitors in the Asian region (according to the ILO, 2021). The textile and garment industry is a key sector of the Vietnamese economy, in terms of size, exports and employment. Exports from Vietnam in the textile, garment and footwear industries have nearly doubled in the past five years (Finn, 2019). Vietnam is currently ranked 4th in terms of total export value of textile products according to the parameters announced by the International Trade Center (ITC) in 2019. The textile industry is one of the important economic sectors. important role of Vietnam, playing a key role in foreign economic activities.

However, supply chain management activities still have many shortcomings, becoming a barrier causing difficulties for Vietnam's textile and garment industry when trying to improve its role and efficiency in the world market. Vietnamese textile and garment enterprises still mainly use old machinery and equipment imported from abroad. Moreover, mainly Vietnamese textile and garment enterprises only participate in processing, assembling and supplying spare parts - the lowest part in the supply chain, but cannot participate in the production of main products. Supply chains determine about 90-95% of added value in the manufacturing sector including input materials, production, design, and research. However, Vietnam's textile industry only uses nearly 10% of input materials of domestic origin, the rest is imported. This ratio shows that the Vietnamese textile and garment industry has not yet overcome the weakness of the supply chain. The world garment market always has fierce competition, the lack of synchronization in raw materials, lack of connection with the textile industry in other countries will make Vietnam's textile and garment industry face many difficulties.

This study collects data in two forms, face-to-face and online, during the period from 2019 to 2021. Then with the collected data, the study conducts quantitative analysis according to the structural model. PLS - SEM architecture by using two software SPSS 23 and Smart PLS 3.3 to analyze data and report research results. In the article, the study chooses a method of random sampling of textile and garment enterprises based on the enterprise size stratification structure with the respondents to the survey being middle managers or higher in textile enterprises across the country.

With the number of 3000 votes sent, the study collected 534 responses, corresponding to a response rate of 17.8% which is not too high. After filtering out the inappropriate responses, the study officially obtained 486 observations (valid response rate was 91.01%). This result shows that businesses that have responded are likely to give a valid response. Classifying enterprises by size and rate of export, the study obtained the results in Table 1. According to Table 1, enterprises with sizes from 100 employees to 500 employees account for the majority (about 71.2 percent in total). In addition, enterprises with an export rate of 40% or more accounted for the majority (about 82.1% in total), in line with reality. Vietnamese textile enterprises operate mainly in manufacturing and processing and mainly export to foreign countries. The statistics of enterprises' addresses also

show that textile enterprises in Vietnam are currently mainly operating in the north and south (about 86.0% in total).

Table 1: Sample descriptive statistics

Size (number of employees)	**n**	**%**
< 50	55	11.3%
< 100	95	19.5%
< 200	136	28.0%
< 500	115	23.7%
> 500	85	17.5%
Export rate	**n**	**%**
[0;20)	38	7.8%
[20;40)	49	10.1%
[40;60)	71	14.6%
[60;80)	95	19.5%
[80;100]	233	47.9%
Firm address	**n**	**%**
North	197	40.5%
Central	68	14.0%
South	221	45.5%

3.3. Measures

Through studying the influence of supply chain management on innovation, as well as the effect of innovation on business performance of Vietnamese textile and garment enterprises, the study decides to propose a research model. Experimental study:

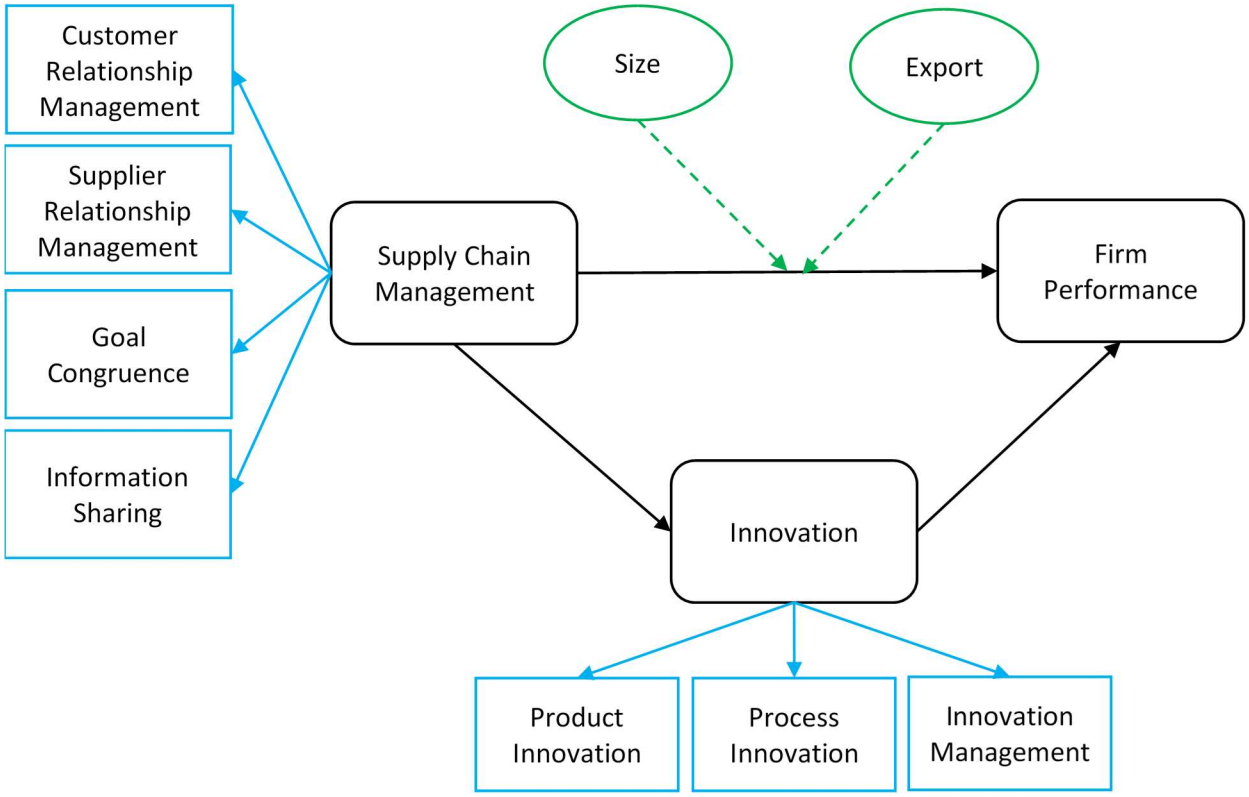

Figure 1. Research model

All variables in the model are measured using a Likert scale from 1 to 5, respectively, from strongly disagree to strongly agree. In which, Supply Chain Management (SCM), which is represented by four second-order factors, is: Customer relationship management (CRM); Supplier relationship management (SRM); Goal congruence and Information sharing. CRM was developed based on research by AV Gandhi et al (2017), including 5 items (for example: "our firm frequently evaluates the formal and informal complaints of our customers"). SRM was developed based on research by AV Gandhi et al. (2017), including 3 items (eg: "our firm relies on a few dependable and highquality suppliers"). Goal congruence is developed based on research by AV Gandhi et al. (2017), including 4 items, for example "our firm and supply chain partners have common, agreed goals for supply chain management". Information sharing is developed based on the research of AV Gandhi et al. (2017) including 3 items, for example "our firm and our suppliers exchange information that helps establishment of business planning".

Innovative transformation includes 3 aspects. Product innovation was developed based on research by Jiangtao Hong et al (2019) including 3 items (for example: "The innovation outcome of the enterprise's products has improved"). Process innovation was developed based on research by Jiangtao Hong et al (2019) with 3 items (for example: "The enterprise can use value innovation to promote the quality of new product development (NPD) process". Innovation Management was

developed. Developed based on research by Jiangtao Hong et al (2019) including 3 items (eg: "The enterprise implements new or existing computer-based administrative applications").

Firm performance is developed based on the research of Jiangtao Hong et al (2019) including 6 items (for example, "High-performance products that meet customer needs.

3.3. Data analysis method

With the support of Smart PLS software, the PLS-SEM method was selected to analyze the obtained data as suggested by Hair et al (2017). This method is suitable for analyzing relationships that do not have a unified theory. In addition, it overcomes the limitations of small sample size and non-normal distribution of the data. In general, it is very suitable to study issues that are new to textile enterprises in Vietnam such as supply chain management and corporate innovation. PLS-SEM is a set of statistical techniques to evaluate model quality (including reliability, convergent validity, discriminant validity, multicollinearity, R-square, f-square) and hypotheses test. PLS-SEM is very supportive for testing the mediating and moderating roles. In addition, handling 2nd order factors such as SCM and innovation is also a huge advantage of PLS-SEM. Therefore, this study chooses PLS-SEM as the formal data analysis method.

4. Results

Measurement model

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	Composite Reliability	AVE
CRM	0.884	0.915	0.684
Firm Performance	0.879	0.908	0.625
GC	0.855	0.903	0.700
IM	0.832	0.899	0.748
IS	0.730	0.846	0.647
PCI	0.824	0.895	0.740
PDI	0.799	0.882	0.714
SRM	**0.561**		

Table 2 shows that all research variables have Cronbach Apha > 0.7, ensuring good reliability of the scale (Nunnally and Bernstein, 1994) except SRM with Cronbach Alpha = 0.561 < 0.7. This variable will be eliminated as suggested by Nunnally and Bernstein (1994) to ensure the reliability of the scale. On the other hand, the Composite Reliability values all > 0.7 also ensure reliability according to Hair et al. (2014), so the variables are reliable and only the SRM variable is removed. Regarding convergent validity, after removing SRM variable, all items have Outer loading > 0.7 and therefore no items need to be removed (Henseler et al., 2009). In addition, the AVE values (showing convergent validity) of all variables > 0.5 also show that the convergence validity in the model is guaranteed (Hair et al., 2014). Regarding the discriminant validity, Heterotrait - Monotrait Ratio was used in this study as suggested by Henseler et al (2015) with the maximum acceptable value of 0.85. The results in Table 3 have shown that the variables in the

model do not have significant overlap with each other because HTMT < 0.85, ensuring the standard of discriminant validity (Henseler et al., 2015).

Table 3. Heterotrait - Monotrait Ratio (HTMT)

	CRM	Firm Performance	GC	IM	IS	PCI	PDI
CRM							
Firm Performance	0.523						
GC	0.310	0.485					
IM	0.348	0.476	0.311				
IS	0.351	0.502	0.300	0.402			
PCI	0.475	0.693	0.370	0.275	0.447		
PDI	0.492	0.809	0.424	0.324	0.421	0.605	

Finally, to evaluate the problem of multicollinearity in the model, the VIF coefficient is used (Hair et al., 2014). According to Hair et al (2014), VIF < 5 will be the guaranteed threshold for multicollinearity problem in the model. Based on this criterion, it can be seen that the problem of multicollinearity in this model is acceptable because the largest VIF coefficient is 3,145 < 5 (table 4).

Table 4. VIF

	VIF		VIF		VIF
CRM1	2.098	**FP6**	3.240	**IS3**	1.476
CRM2	2.431	**GC1**	1.881	**PCI1**	1.990
CRM3	1.869	**GC2**	3.145	**PCI2**	1.850
CRM4	2.042	**GC3**	3.038	**PCI3**	1.782
CRM5	2.196	**GC4**	1.520	**PDI1**	1.712
FP1	1.690	**IM1**	1.979	**PDI2**	1.745
FP2	1.786	**IM2**	2.031	**PDI3**	1.674
FP3	1.787	**IM3**	1.784	**SRM1**	1.479
FP4	1.901	**IS1**	1.544	**SRM2**	1.477
FP5	2.785	**IS2**	1.353	**SRM3**	1.273

Structural model

Table 5 shows that FP is explained by 62.3% by the model, which proves that SCM and Innovation explain very well the variation in performance of textile enterprises in Vietnam. In addition, innovation volatility is also explained by more than 40% by the model, which is also a positive result. This has shown that improving SCM affects not only firm performance but also firm innovation.

Table 5. R-square

	R Square	R Square Adjusted
Firm Performance	0.624	0.623
Innovation	0.406	0.405

:

Table 6 shows that SCM has an extremely strong influence on Innovation with the coefficient f-square = 0.684 > 0.35 (Hair et al., 2017). Similarly, Innovation also has a strong influence on firm performance with the coefficient f-square = 0.657 > 0.35 (Hair et al., 2017). Thus, it can be stated in advance that the mediating role of Innovation on the impact of SCM on firm performance is very effective. In addition, the results also show that the relationship between SCM and firm performance is not really strong, but still has a certain influence due to f-square > 0.02 (Hair et al., 2017).

Table 6. f– square

	Firm Performance	Innovation	SCM
Firm Performance			
Innovation	**0.657**		
SCM	0.065	**0.684**	

Hypothesis testing

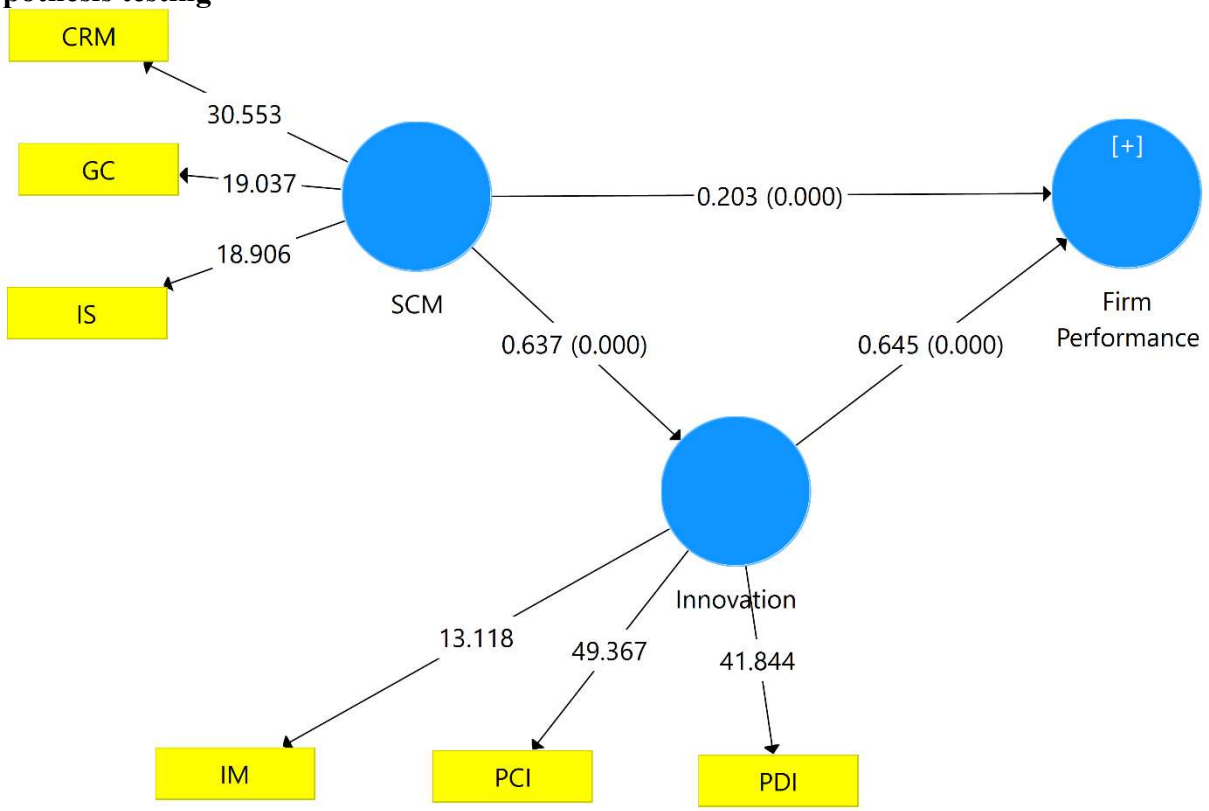

Figure 2. Model estimation results

Figure 2 shows that the P-values are all <1%, showing that the effects in the model are statistically significant at 1% significance level. In addition, the impact coefficients are all positive, showing that these are all positive impacts. Since then, hypothesis H1 is supported. The strong impact of SCM on Innovation (β = 0.637) has shown that improving SCM can improve the innovation capacity of textile enterprises in Vietnam. Innovation in Vietnamese textile enterprises is influenced by customer relationship management and information sharing and goal alignment. When improving relationships with customers, firms might quickly approach changes coming from customers' tastes and preferences, thereby quickly innovating products, processes and management systems to adapt to these changes. In addition, innovation also has a positive effect on firm performance (β = 0.645). This is consistent with the fact that improving the ability to innovate products, processes and governance creates many benefits for businesses, including business viability and competitive advantage. For the textile industry, it is very important to innovate products to match the needs of the market and create a profit foundation for businesses. The elements of process innovation are also important to business performance because they have an impact on the coordination of business processes. In Vietnam, because textile enterprises in Vietnam mainly produce in the form of outsourcing and export, innovation management can be a new concept for small and medium enterprises. However, the positive effects of innovation management on the performance of textile enterprises cannot be denied if these enterprises can implement innovation management well. Finally, SCM still has a direct impact on firm performance, but the impact is not so prominent (β = 0.203). This further emphasizes the mediating role of innovation in this relationship. Indeed, the results of the mediation test have shown that innovation has a mediating role in the impact of SCM on firm performance (due to p-value = 0.000 < 0.001) with β = 0.419. This effect is stronger than the direct effect (β = 0.203) and thus it can be asserted that the effect from SCM on firm performance is significantly explained by the mediating role of innovation. Thus, hypothesis H2 is supported.

Regarding the moderating role of firm size and firm export, this study uses Bootstrap technique and two-stage method in Smart PLS to test the moderating role. The test results are shown in figure 3.

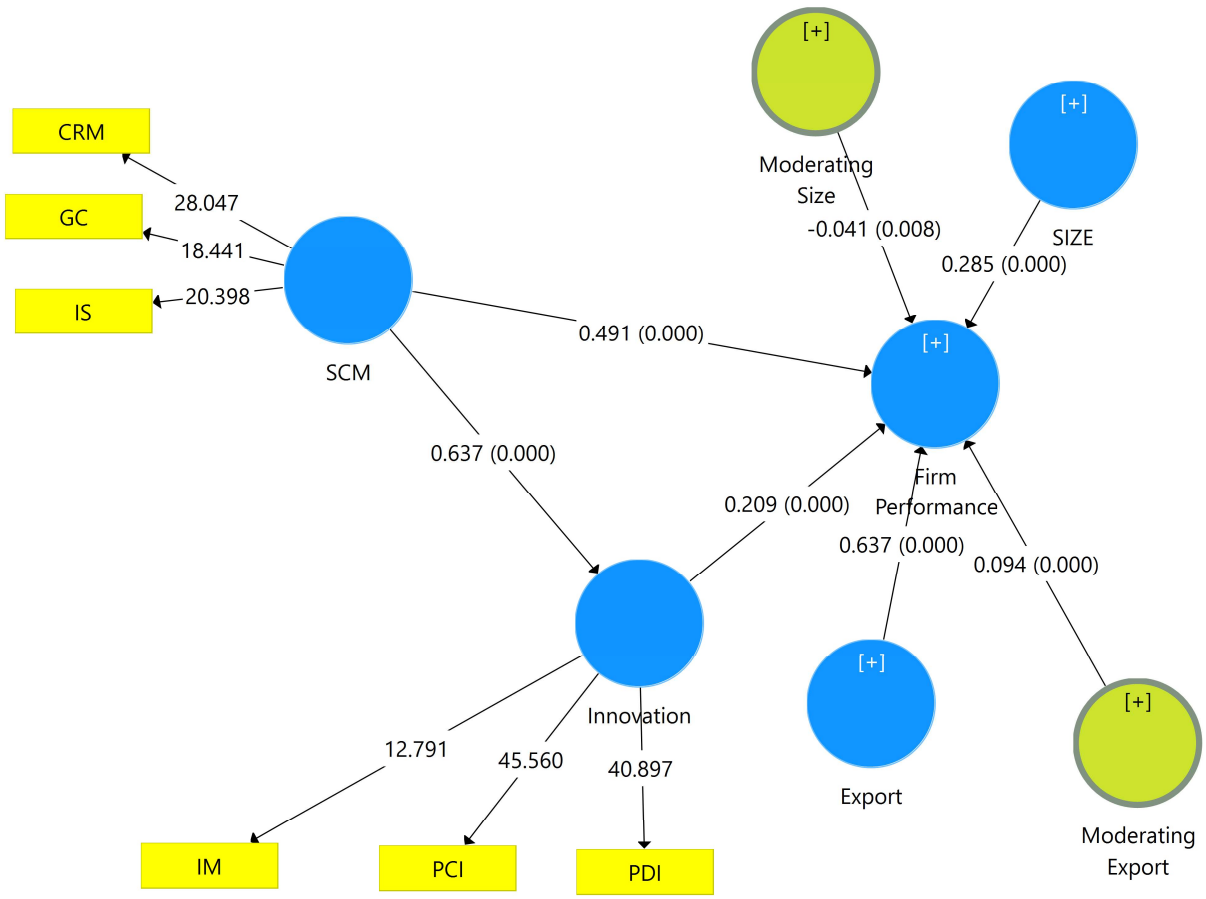

Figure 3. The results of the moderating roles test

Both moderating size and moderating export variables have a positive impact on firm performance at 1% significance level due to p-value < 0.01. This proves that hypothesis H3 and H4 are both supported. A more detailed analysis of the roles of the two moderator variables is presented as follows:

Moderating role of firm size

The results show that when improving the efficiency of supply chain management, Vietnamese textile enterprises increase their business performance. However, the level of impact is not the same according to the size of the enterprise. The larger the enterprise scale, the higher the increase in business performance. Therefore, improving supply chain management should be given more attention to large textile enterprises in Vietnam.

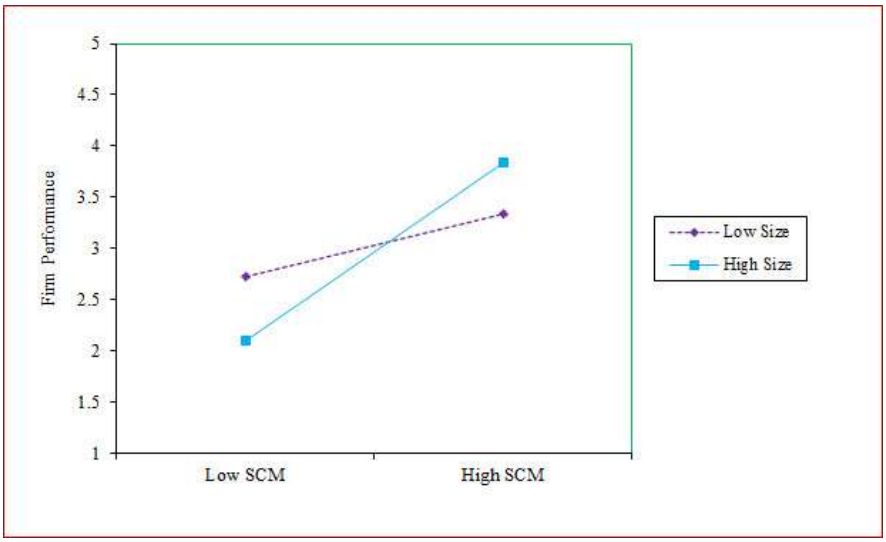

Figure 4. Moderating role of firm size

Moderating role of firm export

With the results in Figure 5, it can be concluded that improving supply chain management has a very positive impact on the business performance of textile enterprises with a high percentage of exported products. And this is also an essential requirement for businesses with a high percentage of exported products. Cooperation with foreign partners poses challenges for businesses in managing their supply chains well to ensure the efficiency of their business operations. On the other hand, for enterprises with a small percentage of exported products, implementing supply chain management improvements sometimes has no impact, but even negatively affects operational efficiency. The reason is that businesses must manage more work and incur many unnecessary costs. Thus, depending on the proportion of exported products, businesses need to make appropriate choices in improving operational efficiency.

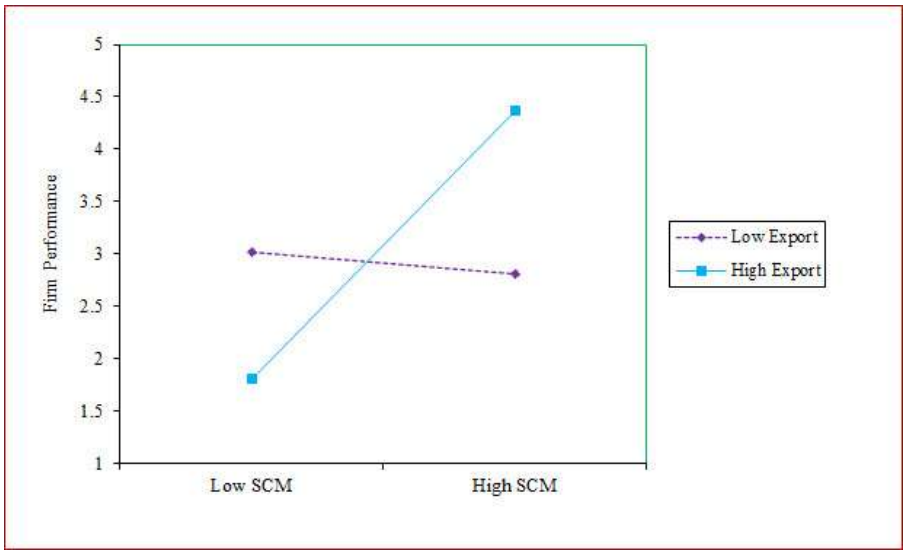

Figure 5. Moderating roles of firm export

5. Discussion and conclusion

5.1. Theoretical implication

The results of model testing showed that SCM (expressed based on 3 aspects: Customer Relationship Management, Goal Congruence and Information Sharing) has a positive impact on firm performance. A direct effect was found and in addition, an indirect effect through the mediator variable innovation was also confirmed. Customers are an important factor in the success or failure of supply chain management, the final link in the supply chain, and the output of the product. Customer preference is the competitive strength of enterprises. This relationship has been suggested by many successive researchers such as Sundram et al. (2011). That means the extent to which partners meet their goals when participating in the supply chain. Thereby, reducing the incentive for opportunism, which means that all supply chain partners are concerned with ensuring that the end customer has a unique and flawless experience. This is the basis for building a complete and progressive supply chain. To achieve this, all members of the supply chain must have a unified goal and strategic vision. Information sharing is also a factor that has a positive impact on the quality of supply chain management. By using available data and sharing that data (both in quality and quantity) with other parties in the supply chain, the information can be used as a source of competitive advantage. The fact that partners exchange information provides the basis for the supply chain to function as a whole, they can better understand the needs of their end customers and can therefore react to fluctuations faster. At the same time, sharing information to ensure the accuracy, timeliness, completeness and reliability is the key to improving the quality of the supply chain. Information sharing in the supply chain ensures a smooth flow of information and thus ensures an enhanced quality of supply chain management. Therefore, effective development of information sharing is a smoother supply chain system, better predictability of fluctuations and thereby avoiding risks for businesses.

The mediating role of innovation in research is also confirmed. Through supply chain management, the process of product innovation can be accelerated in a more streamlined and planned manner. Thereby leading to new optimal products, in accordance with consumer tastes. Therefore, leading textile enterprises always appreciate product innovation and consider this as a strategic development goal. Large enterprises in Vietnam also soon realized this, typically Viet Tien when constantly upgrading and innovating product designs to meet consumer tastes. This relationship is understood to be due to changes in production methods or significant changes in specific techniques, equipment or software, thereby reducing production and distribution costs. The result is high revenue for the business. The effective implementation of the product innovation process requires the effective operation of supply chain management. Only when effectively managed and interrelated processes can innovation be effective. This research result is consistent with the study of Maier Dorin (2018). At the same time, according to research by Terjesen and Patel (2017), process innovation is a concern of many sustainable development-oriented businesses. In contrast, according to the study of Filippou and King (2011), innovation initiatives can affect the finances of enterprises, causing disruptions to the production process. Through product innovation, businesses provide better products, diversify their product portfolios, create

fashion trends instead of following fashion trends, and make a difference in their products. From there, the company can gain a competitive advantage from its product. In order to effectively develop the innovation process, it is necessary to strengthen the efficiency of supply chain management. Because the supply chain is the complete process from the designer's idea to the consumer's hand. The research results are consistent with the views of researchers such as Maier Dorin (2018) and Vadastreanu (2015). Besides, the innovation process ends with the use of the product but at the same time, it is the starting point for the new product innovation process. In addition, according to the research results, thanks to innovation management, that is to change the organizational structure or management method, thereby improving the operational efficiency of the business. Furthermore, it can be seen that innovation management is most strongly driven by supply chain management. When supply chain management is implemented effectively, businesses will be able to easily apply innovation management to their systems, thereby creating innovation of products, of processes and making profits. competitive position of enterprises. Specific management innovations are proven by numerous studies. Specifically, the study of Mol and Birkinshaw (2009), Damanpour and Schneider (2006) and Vaccaro et al (2012). Most research shows that promoting enterprises to innovate management cannot only rely on management experience but also need to rely on management practices.

Regarding the moderating role, both firm export and firm size variables moderate the impact from SCM on firm performance. In fact, supply chain management not only affects an organization's overall performance, but also indirectly through its competitive advantage. Businesses will improve their competitive advantage through price, quality, delivery, product distribution as well as time to market and product innovation. Supply chain management is more effective with large-scale enterprises and a high export rate. These businesses often have conditions and invest more in supply chain management. In addition, supply chain management has a direct impact on business performance and overall marketing of an organization. Therefore, textile enterprises in Vietnam, especially those with large scale and high export rate, need to improve the efficiency of supply chain management for sustainable development.

5.3. Managerial Implications

Currently, enterprises implementing supply chain management have not separated the roles and responsibilities of chain participants. This significantly reduces supply chain performance. Therefore, it is imperative to focus on building a supply chain management model. The supply chain organization model needs to be suitable for new trends and economic contexts of businesses and the world. Supply chain management needs to have specific, clear and consistent assignments. This is a condition that determines the operation of the supply chain. At the same time, officers in charge of tasks need to have the capacity and expertise to meet the assigned tasks. In addition, inventory management is also considered as one of the important tasks in supply chain management. This is explained because all mistakes and omissions in supply chain management or business operations are accumulated in reserves. Reserve management is also a high-risk activity, so the implementation of reserve management needs to meet the requirements of caution and accuracy. According to experts around the world, the most ideal state of reserve is having a

supply chain based on feedback. This lesson is clearly shown through the experience of the world's leading apparel enterprise - Zara.

In general, enterprises need to promote research and development of appropriate supply chain models. Based on the experience of the world's leading textile enterprises, the study proposes some suggestions as follows:

(1) Enterprises increase the search for quality and reliable partners at home and abroad to improve the quality of components in the supply chain;

(2) Associate strategic goals with enterprise supply chain development goals. Specifically, such as H&M, building a brand on the basis of supply chain development or Adidas corporation's experience in supply chain initiatives to generate outstanding revenue, etc.;

3) Currently, there are many efficient supply chain models in the world. At the same time, the Government is investing in building a supply chain model for the textile industry. Because of this, businesses can draw on world experience and combine their own potential to build a suitable model.

(4) Diversifying sales methods and shipping methods to meet customers' needs.

(5) For large-scale enterprises and the larger the export rate, the stronger the positive impact of the supply chain on the business performance of the enterprise. Therefore, businesses need to invest more in supply chain management and thereby form the basis of corporate brand formation. Moving from manufacturing to order to building your own brand, etc.

For the government, its institutions and policies play an important role in building a legal framework to improve supply chain performance. The Government needs to review and finalize clear and strict policies and legal documents, creating a premise for the development of a stable, sustainable and fair competitive environment for enterprises in the textile industry. First, the improvement of policy mechanisms needs to be synchronized from the central to local levels, ensuring consistency. At the same time, legal documents need to stick to reality, taking practice as the foundation to design appropriate policies. At the same time, build barriers to prevent illegal acts. In addition, one of the operational barriers in the supply chain is the cumbersome and delayed completion of tax and customs procedures. Therefore, the tax and customs declaration process should be streamlined but still ensure the accuracy and strictness. The State should encourage the application of technology in management practice of state agencies in general and tax and customs offices in particular. On that basis, the government can partially remove barriers in terms of procedures, encourage enterprises to export and actively participate in the global supply chain. The government should strengthen information support, trade promotion, and international cooperation to create advantages in building an advanced and effective global supply network. The Government should also support to boost export output through establishing international relations and negotiations, thereby creating a driving force for the export promotion of garment products of the country. Strengthening friendly diplomatic relations with other countries in the region and around the world, creating an advantage in finding quality suppliers and distributors. Since then, the supply chain system has become increasingly quality and efficient. In addition, the government should strengthen the removal of capital difficulties for businesses. Most of the textile enterprises

in Vietnam are small and medium sized. Therefore, capital issues are always difficult issues. The Government considers and promulgates supportive policies on the basis of appropriate development orientations in the context of the economy. These policies need to be implemented specifically, clearly, convenient for implementation and supporting businesses. Based on research results, innovation in products, processes and management activities play an important role in creating motivation to improve supply chain quality of enterprises. At the same time, the innovation culture needs to combine the application of science and technology to create a dual motivation for improving the quality of supply chain management. The State enhances the efficiency of technology transfer in combination with new thinking models in production and business. This is a lesson from the world's leading textile corporation - Zara. At the same time, the government should build and develop funds for science and technology activities. In addition, the issue of raising awareness and quality in technology investment in enterprises should be strictly examined and supervised. This helps to limit the phenomenon of importing outdated technology from abroad.

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