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Factors Affecting Innovation in The Textile and Garment Industry: Evidence from Thanh Hoa Province, Vietnam

Do Thi Man

Faculty of Economic and Business Administration, Hong Duc University, Vietnam

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ABSTRACT

This paper focuses on examining the factors influencing innovation in textile and garment enterprises located in Thanh Hoa province, in the context of increasing pressures for transformation and growing competition within the industry. The study employs a quantitative research method through Partial Least Squares Structural Equation Modeling (PLS-SEM) using data collected from 186 textile and garment enterprises in the province. The research findings indicate that four internal factors - technological capability, corporate culture, financial capacity, and leadership style - positively impact innovation. However, government support shows no significant effect on innovation. This finding raises important concerns regarding the effectiveness and efficiency of public policies in promoting innovation within the local textile and garment sector. The study also provides several recommendations for both enterprises and government agencies, emphasizing the critical role of endogenous capabilities in driving innovation, while highlighting existing limitations and offering solutions for more effective policy implementation at the local level.

Keywords: Creative innovation, government support, internal factors, textile and garment enterprises, Vietnam.

1. INTRODUCTION

In the context of today's highly challenging business environment, the adoption of innovation by enterprises to enhance competitive advantage is not merely a trend but a key driver of renewal, agility, and breakthrough growth (Syamsurijal et al., 2021). Innovation enables firms to reduce production costs and improve the quality of goods and services (OECD & Eurostat, 2005). Numerous studies have demonstrated that innovation enhances firm performance, primarily because it leads to increased competitiveness. The innovation process transforms internal capabilities and enables enterprises to better adapt to changing (Ndesaulwa & Kikula, 2016;

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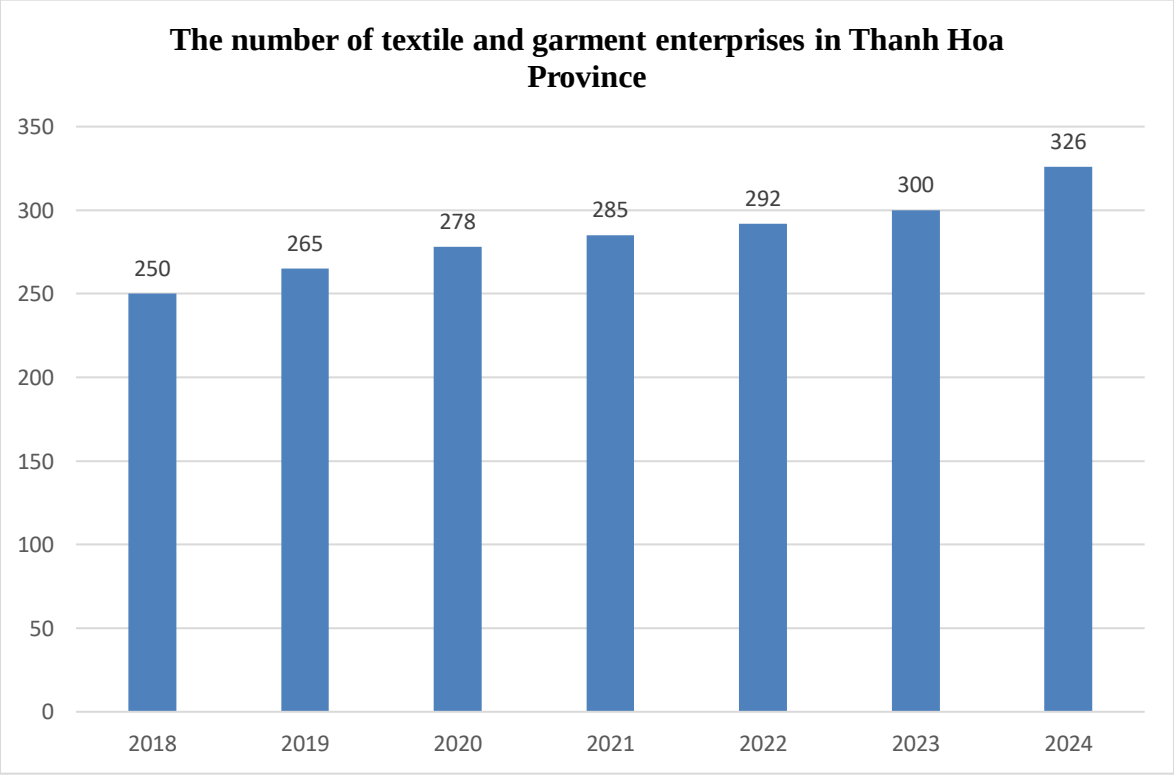
Man, 2024). Innovation allows businesses to develop new products, services, and processes, and even undertake comprehensive transformations in organization, systems, and markets - providing a foundation for improved productivity, efficiency, and competitiveness (Schumpeter, 1934).

Thanh Hoa is one of the provinces with a strongly developed textile and garment industry, making a significant contribution to the local economy. According to data from the Thanh Hoa Department of Industry and Trade, the textile and garment sector contributes approximately USD 1 billion annually to the province's export value and employs tens of thousands of workers. As of the end of 2024, there were 326 textile and garment enterprises operating in Thanh Hoa Province, producing over 700 million products, of which approximately 450 million were exported, marking a 20% increase compared to the previous year (Industry and Trade Department of Thanh Hoa Province, 2024).

Figure 1. The number of textile and garment enterprises in Thanh Hoa Province from 2018 to 2024



Source: Industry and Trade Department of Thanh Hoa Province, 2024

The number of textile and garment enterprises in Thanh Hoa Province has shown a consistent upward trend from 2018 to 2024, increasing from 250 to 326 enterprises, equivalent to a 30.4%

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growth over the period. The data in Figure 1 highlights a positive development trajectory for the textile and garment industry in Thanh Hoa Province, signaling its growing importance in the regional economy. However, the local textile and garment enterprises are currently facing serious challenges such as rising labor costs, increasingly stringent product quality requirements, and intense pressure from both domestic and international competitors. Without timely and effective innovation measures, these businesses risk losing their market position and suffering substantial economic losses (Vietnam Textile and Garment Association, 2024).

This study aims to analyze the factors influencing innovation in textile and garment enterprises in Thanh Hoa Province and to propose solutions for enhancing innovation capacity within these firms. The research findings will provide scientific evidence to support policymakers and business leaders in designing programs to support and develop the textile and garment industry in the province.

Additionally, this study seeks to raise awareness among enterprises about the critical importance of innovation in the current economic context. Firms will gain deeper insight into the need for continuous innovation to maintain and enhance their competitive advantage in the market. This shift in mindset is not only a matter of survival but also a driving force for the strong and sustainable development of the textile and garment industry in Thanh Hoa Province.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Innovation in Enterprises

Schumpeter (1943) was among the first scholars to introduce the concept of innovation, defining it as the introduction of new products, processes, methods, or systems by enterprises. From Schumpeter's perspective, innovation also encompasses the creation of new markets or new forms of industrial organization. Thompson (1967) offered a more concise definition, stating that innovation is the generation, acceptance, and implementation of new ideas, processes, or services. According to OECD & Eurostat (2005), innovation at the enterprise level involves the implementation of a new or significantly improved product (goods/services), process, marketing method, or organizational method in business practices, workplace organization, or external relations.

This study adopts four dimensions of innovation in enterprises: product innovation, process innovation, marketing innovation, and organizational innovation. In line with this framework, Atalay et al. (2013) also categorized innovation using these four dimensions, which are defined as follows:

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Product innovation refers to a new or significantly improved product or service concerning its characteristics or intended uses. This includes improvements in technical specifications, components and materials, embedded software, user-friendliness, or other functional characteristics.

Process innovation refers to a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment, or software. For instance, the installation of new or improved manufacturing technologies.

Organizational innovation involves the implementation of a new organizational method in the firm's business practices, workplace organization, or external relations. It aims to improve firm performance by reducing administrative and operational costs, enhancing employee satisfaction and productivity, and enabling better knowledge sharing. It can also be understood as administrative innovation.

Marketing innovation refers to the implementation of a new marketing strategy that involves significant changes in product design or packaging, product placement, pricing, or promotion. Such innovations aim to better meet customer needs, open new markets, or reposition a firm's product in the market to boost sales.

According to Clause 16, Article 3 of the 2013 Law on Science and Technology of Vietnam, "Innovation refers to the creation and application of technical, technological, and managerial solutions to improve economic and social development efficiency, increase productivity, product quality, and added value."

2.2. Factors Influencing Innovation in Enterprises

Researchers typically categorize the factors influencing innovation into internal and external factors (Edison et al., 2013; Becheikh et al., 2006). External factors are beyond the enterprise's control, such as government support (Edison et al., 2013), while internal factors are within the firm's control and include financial resources (Lecerf, 2012), innovation strategy, corporate culture (Tan, 2023), leadership style, technological capacity, and human resource quality (Thuy & Dat, 2019).

Internal Factors of Enterprises

Many researchers have asserted that the internal features of organizations—such as their structures, climates, and cultures—play a crucial role in the adoption of innovation (Dholakia & Kshetri, 2004; Russell & Hoang, 2004). Amabile (1988) emphasized that managerial capabilities, organizational encouragement, and resource support for innovation are pivotal in

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enhancing innovation performance. Quan (2018) identified five internal factors affecting innovation capacity in Vietnamese firms: enterprise characteristics, leadership attitudes toward innovation, existing technological and human capacities, managerial efficiency, and accessibility to external resources. Ha (2022), studying firms in Quang Nam Province across sectors like construction materials, textiles, processing industries, and mechanical engineering, found leadership to be the most influential factor on product innovation. Thuy & Dat (2019) also demonstrated the impact of internal factors such as R&D activities, managerial experience, and labor quality on innovation capabilities.

This study examines the internal factors affecting innovation in textile and garment enterprises in Thanh Hoa Province, including financial capacity, technological capacity, leadership style, and corporate culture. The following hypotheses are proposed:

*Corporate Culture (CC)***:** According to Schein (1992), corporate culture comprises values and beliefs that establish behavioral norms for employees. An organizational culture that fosters innovation, tolerates risk, and supports personal development is a critical prerequisite for innovation (Menzel et al., 2007). Ha (2022) suggested that organizational culture, human resource management practices, and technological infrastructure influence knowledge sharing, which in turn positively impacts innovation outcomes. Culture influences innovation capacity through its effect on the work environment and employee creativity (Tan, 2023). Tuan & Thang (2017) also emphasized the roles of leadership, working environment, organizational culture, and human resource management in successful innovation. Based on the above, the following hypothesis is proposed:

H1: Corporate culture positively influences innovation in textile and garment enterprises.

Leadership Style (LS): The managerial style of leaders is a key organizational feature predicting innovation. Managers who adopt an indirect, collaborative, and open style encourage experimentation (Russell, 1999). Middle managers play an important role in communicating innovation goals and facilitating execution (Bayarçelik et al., 2014). Leadership is vital in building processes, structures, and environments conducive to innovation and motivating teams (Wipulanusat et al., 2017). Costa et al. (2023) indicated that leadership styles and human capital are essential drivers of innovation. Xie et al. (2018) found that transformational leadership builds trust and fosters a positive innovation climate. Quan (2018) also emphasized leadership attitudes as a determining factor for innovation. Hence, the following hypothesis is proposed:

H2: Leadership style positively influences innovation in textile and garment enterprises.

Technological Capacity (TC): According to Bistra Vassileva (2017), technological capacity is a core determinant of innovation, as innovation often relies on advanced technologies.

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Subrahmanya (2011) argued that technological innovation is largely based on internal technological capabilities. Bell & Pavitt (1995) defined technological capacity as the ability to effectively utilize and manage technology to drive technical change. Tuan & Thang (2017) also noted that technology infrastructure fosters knowledge sharing and supports innovation outcomes. Based on these insights, the following hypothesis is proposed:

H3: Technological capacity positively influences innovation in textile and garment enterprises.

*Financial Capacity (FC)***:** Financial capacity plays a vital role in successful innovation. Lecerf (2012) identified financial resources as a main lever for innovation. Innovation is feasible only if sufficient financial resources are available. Laforet (2011) emphasized that innovation capacity involves having adequate resources and processes, particularly in small and medium enterprises (SMEs), where financial capital and skilled labor are critical. Hutahayan (2021) highlighted the importance of financial resources for SMEs, stating that smaller firms are more reliant on financial capital than larger firms. Thus, the hypothesis is proposed:

H4: Financial capacity positively influences innovation in textile and garment enterprises.

External Factors

The external business environment also affects a firm's innovation capability (King, 2002). Scupola (2003) emphasized that external pressures, including competition and government roles, affect enterprises' adoption of innovation. In this study, government support is examined as a key external factor affecting innovation in textile and garment enterprises in Thanh Hoa Province.

Xu et al. (2014) demonstrated that government support for R&D has a direct impact on product innovation. Shao & Wang (2023) showed that government subsidies significantly promote technological innovation in China. Jia et al. (2021) further indicated that the impact of government support on innovation investment is stronger in more marketized environments and with dispersed ownership structures, though its effect varies across industries. Anh (2014) also emphasized the government's role in developing human capital and supporting research institutions to enhance enterprise innovation. Thus, the following hypothesis is proposed:

H5: Government support positively influences innovation in textile and garment enterprises.

Based on the proposed hypotheses, the research model is constructed with innovation in textile and garment enterprises as the dependent variable, and five independent variables, including

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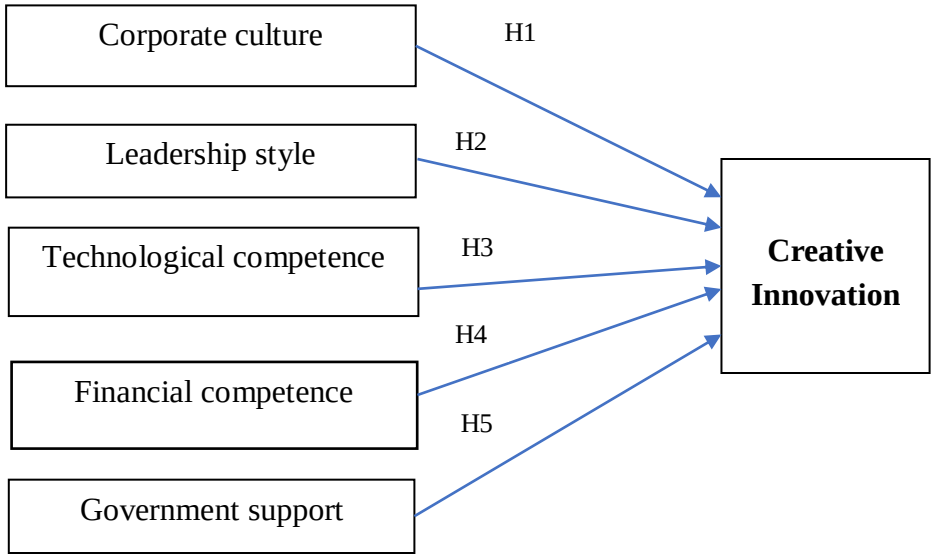
corporate culture, leadership style, technological competence, financial competence, and government support.

Figure 2. Proposed Research Model



Based on previous studies, the author has inherited and adjusted the measurement scales for the factors included in the research model. The finalized scales for the six factors are presented in Table 1. The observed variables were assessed by enterprise leaders using a five-point Likert scale, ranging from 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, to 5 = Strongly Agree.

Table 1. Measurement Scales of Variables in the Research Model

Code	Scales	Source
CI	*Creative Innovation*	
CI1	The enterprise regularly develops new products/services based on market demand.	OECD & Eurostat (2005)
CI2	The enterprise always implements creative sales promotion policies.	
CI3	The enterprise regularly restructures its organization to pursue operational efficiency goals.	
CI4	The enterprise frequently experiments with different processes to accelerate the achievement of set goals.	Atalay et al. (2013)

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LS	*Leadership Style*	
LS1	Business leaders are interested in exploring new technologies/processes/product ideas	Ha (2022)
LS2	Business leaders actively seek innovative ideas.	
LS3	Business leaders consistently encourage innovation activities.	
LS4	Business leaders are tolerant of mistakes related to individual efforts in innovation.	
CC	*Corporate Culture*	
CC1	Business leaders are willing to innovate and accept risks.	Ha (2022)
CC2	The enterprise consistently encourages creative ideas.	
CC3	The enterprise always values the willingness to experiment with new ideas.	
CC4	The enterprise always encourages employees to collaborate in implementing new processes.	
TC	*Technological Competence*	
TC1	The enterprise regularly updates new technologies into its production activities.	Vassileva (2017)
TC2	The enterprise can apply modern technologies in production.	
TC3	The enterprise always values investment in research and deployment of new technologies.	
TC4	The enterprise effectively implements Industry 4.0 technologies in its production activities.	
FC	*Financial Competence*	
FC1	The enterprise has sufficient financial resources to carry out innovation activities.	Hutahayan (2021)
FC2	The enterprise always prioritizes investment in innovation activities.	
FC3	The investment capital for innovation activities is used effectively.	Lecerf (2012)
FC4	The enterprise can access external funding sources for innovation.	
GS	*Government Support*	
GS1	The government has financial support policies for textile	Jia et al. (2021)

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	enterprises to innovate.	Tan (2023)
GS2	The government provides technical and technological support to enterprises for innovation.	
GS3	The government offers training support for innovation and creativity to textile enterprises.	
GS4	Enterprises can easily access government policies supporting innovation.	

Source: Author's compilation

3. METHODOLOGY

This study uses a quantitative research method, employing Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the hypotheses concerning the relationships between various factors and innovation in enterprises. The research data were collected through a survey conducted with leaders of textile enterprises in Thanh Hoa province using a convenience sampling method.

3.1 Sample size

The sample for this study was selected using Slovin's (1960) sampling formula to ensure the representativeness of the population. The sampling formula is as follows:

$$n = \frac{N}{1+N*e^2}$$

Where:

- n is the number of samples to be collected;
- N is the total population;
- e is the margin of error (the author chose 0.05).

At the time of the survey, the number of textile enterprises operating in Thanh Hoa province was 326, so the required sample size was at least 180 enterprises. To ensure objectivity and reliability, the author selected a survey sample of 200. The sample was chosen using the convenience sampling method. The author distributed the survey to the leaders of the enterprises through both direct meetings and indirectly by sending a survey link via email. As a result, 186 valid samples were collected for analysis.

3.2. Statistical Procedures

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This study employed PLS-SEM to analyze the effects of the paths. PLS-SEM was chosen for its several advantages. First, PLS-SEM does not require the assumption of data normality, making it highly suitable for real-world data that often violates normal distribution assumptions (Bacq & Alt, 2018). Second, PLS-SEM requires only a small sample size based on the "10-times rule." (Xin et al., 2015), which means the sample size needs to be at least ten times the largest number of paths leading to a latent variable in the model (Chin, 1998). In this study, the maximum number of paths leading to a latent variable is 5 paths, and the sample size of 186 meets this requirement. Finally, PLS-SEM is well-suited for exploratory research and theory development, where explaining and predicting dependent variables are the primary objectives (Reinartz et al., 2009). Given the latent variables measured by multiple indicators in this study, PLS-SEM is an ideal choice.

The data collected from the survey were processed and analyzed using SMART PLS 3.0 software. The analysis process includes:

- Testing the reliability of the scales through the Cronbach's alpha coefficient and composite reliability coefficient;
- Checking convergent and discriminant validity through the AVE coefficient and HTMT table;
- Testing the multicollinearity of the observed variables through the outer VIF/inner VIF coefficient;
- Evaluating the PLS-SEM structural model to test the research hypotheses.

4. RESULTS AND DISCUSSION

4.1. The social characteristics of participants

The characteristics of businesses in the survey sample are presented in Table 2. Regarding the operational duration of the businesses, 38.17% of the companies have been in operation for 5 to under 10 years, while 18.82% have been in operation for over 10 years. This suggests that the study sample is focused on businesses with considerable experience and stability, providing a solid foundation for evaluating business aspects. In terms of business types, joint-stock companies make up the largest proportion at 30.11%, followed by limited liability companies at 27.96%. These two types reflect the development of businesses with strong organizational structures and high capital mobilization capabilities. Other business forms, such as sole proprietorships, partnerships, and individual business households, make up a smaller portion, yet still contribute to the diversity of the sample.

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Regarding the size of the workforce, the majority of businesses have a workforce of 100 employees or more, accounting for 67.74%. This group tends to have strong potential and a significant market impact. On the other hand, small businesses with fewer than 10 employees make up only 6.45%, indicating that the sample contains a limited proportion of small businesses. Thus, the research sample is diverse in terms of operational duration, business type, and company size. This ensures representativeness and lays the groundwork for a deeper and more comprehensive analysis of related issues.

Table 2. The social characteristics of participants

Category	Frequency	Percentage (%)
Operational Duration of the Business	*186*	*100.00*
Less than 3 years	25	13.44
From 3 to under 5 years	55	29.57
From 5 to under 10 years	71	38.17
10 years or more	35	18.82
Type of Business Entity	*186*	*100*
Sole Proprietorship	38	20.43
Joint Stock Company	56	30.11
Household Business	18	9.68
Limited Liability Company	52	27.96
Partnership	24	12.90
Business Size by Number of Employees	*186*	*100*
Up to 10 employees	12	6.45
More than 10 to 100 employees	48	25.81
More than 100 to 500 employees	73	39.25
More than 500 employees	53	28.49

Source: Author's data analysis results

4.2. Measurement model assessment

According to Hair et al. (2022), in the measurement model, the quality of observed variables is reflected through the outer loading coefficient. If the coefficient is ≥ 0.7, it is considered very good; if it is < 0.4, the item should be eliminated. The analysis results of the observed variables

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in this study indicate that all outer loadings are greater than 0.7 (Table 3), which confirms that the quality of the observed variables is appropriate for further analysis.

Regarding the reliability assessment of measurement scales, Hair et al. (2022) also suggest that Cronbach's alpha and composite reliability values between 0.6 and 0.7 are acceptable, while values ranging from 0.7 to 0.9 are considered satisfactory. A value below 0.6 indicates a lack of internal consistency. As shown in Table 3, the reliability test results based on survey data in this study demonstrate that both Cronbach's alpha and composite reliability values exceed 0.7, indicating that the consistency and reliability of the measurement scales are ensured.

Table 3. Construct reliability and validity for measurement models

Latent variables	Item	Item loadings	Composite Reliability	Cronbach's Alpha	Average Variance Extracted (AVE)
Creative Innovation (CI)	CI1	0.866	0.935	0.907	0.783
	CI2	0.854			
	CI3	0.886			
	CI4	0.931			
Government Support (GS)	GS1	0.853	0.896	0.846	0.682
	GS2	0.840			
	GS3	0.817			
	GS4	0.793			
Corporate Culture (CC)	CC1	0.812	0.925	0.895	0.757
	CC2	0.923			
	CC3	0.900			
	CC4	0.840			
Financial Competence (FC)	FC1	0.921	0.929	0.899	0.767
	FC2	0.907			
	FC3	0.852			
	FC4	0.820			
Leadership Style (LS)	LS1	0.781	0.896	0.848	0.683
	LS2	0.865			
	LS3	0.833			

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	LS4	0.825			
Technological Competence (TC)	TC1	0.857	0.94	0.914	0.796
	TC2	0.922			
	TC3	0.903			
	TC4	0.886			

Source: Author's data analysis results

Next, the convergent validity of the measurement scales was assessed using the Average Variance Extracted (AVE) indicator. According to Hair et al. (2022), an AVE value of ≥ 0.50 indicates that the latent construct explains at least 50% of the variance in its observed indicators, thereby confirming convergent validity. As presented in Table 3, all constructs in the model exhibit AVE values exceeding 0.50, demonstrating adequate convergent validity and suitability for further structural analysis.

Discriminant validity was evaluated using the Heterotrait-Monotrait ratio (HTMT). A high HTMT value suggests potential issues with discriminant validity. As proposed by Henseler et al. (2015), the threshold for HTMT is 0.90; values exceeding this level indicate a lack of discriminant validity between constructs. The results of the analysis show that all HTMT values fall below the 0.90 threshold, thus confirming the discriminant validity of the measurement scales employed in this study.

4.3. Structural equation model

For the structural model, the study first examined the multicollinearity among independent variables using the Inner Variance Inflation Factor (VIF). According to Henseler et al. (2015), a VIF value greater than 5 indicates the presence of multicollinearity, which can undermine the reliability of the model for hypothesis testing. Although VIF values between 3.3 and 5 suggest a potential risk of multicollinearity, values below 3 indicate that the issue is not a concern. In this study, all VIF values were below 3, indicating no multicollinearity problems among the independent variables in the structural model.

Furthermore, the analysis results revealed that the R^2 value for the construct "CI" (Corporate Innovation) is 0.484 (Table 4), meaning that the independent variables in the model explain 48.4% of the variance in corporate innovation among textile and garment enterprises in Thanh Hoa province. The remaining 51.6% can be attributed to systematic error and other external factors not included in the model.

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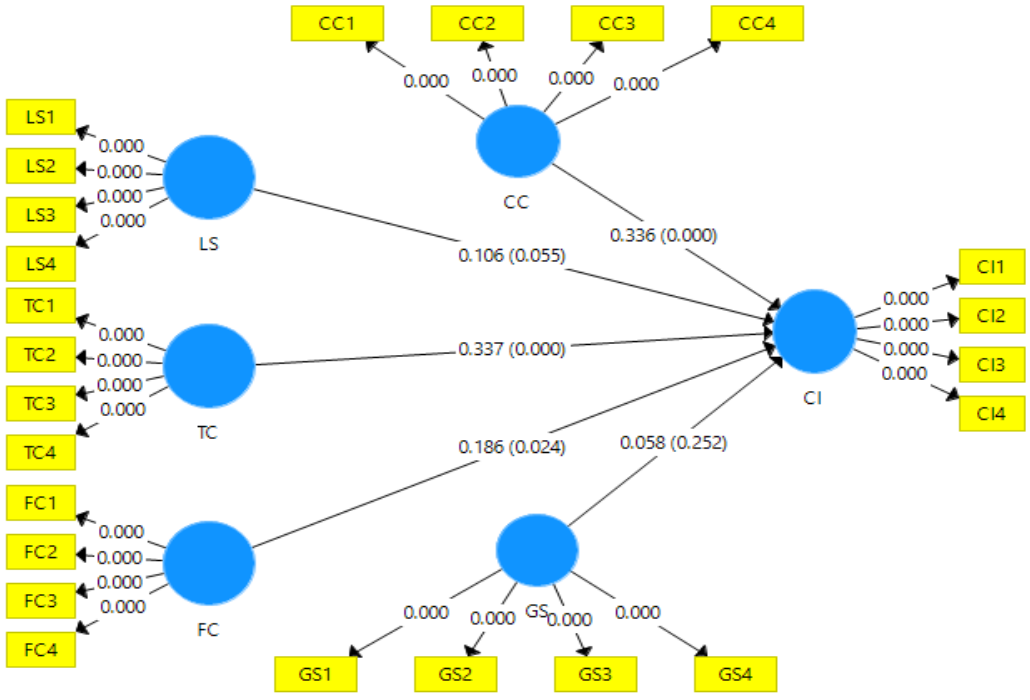
Table 4. Model Fit

	R Square	R Square Adjusted
CI	0.484	0.469

In this study, the structural model was estimated using a maximum of 5,000 iterations, with a convergence stop criterion set at 0.00000001. The results indicate that the algorithm converged in fewer iterations than the maximum specified. The estimation outcomes of the structural model, including the path relationships, are presented in Figure 3. These results show the regression coefficients and p-values used to test the statistical significance of the hypothesized relationships.

Figure 3. Results of the PLS-SEM Model Estimation



4.4. Results of Hypothesis Testing and Discussion

The results of the hypothesis testing of the model are shown in Table 5. According to the findings, after testing with the PLS-SEM model, at the 10% significance level, four hypotheses are accepted. However, at the 95% confidence level, the third hypothesis regarding the influence of leadership style on creative innovation in textile and garment enterprises in Thanh Hoa province is rejected. The research results also indicate that Hypothesis H5, concerning the impact

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of government support on creative innovation in enterprises, is not accepted. This suggests that government support policies have not significantly influenced innovation in the enterprises. This result can be explained by the fact that although the government has implemented support policies, textile and garment businesses still face many challenges in accessing these policies, which may explain why the effectiveness of the policies has not yet been firmly established.

Table 5. Results of Hypothesis Testing

Hypothesis	Relationship	Original Sample	P Values	Test results (Significance level of 10%)	Order of impact
H1	CC -> CI	0.336	0.000	Accept	2
H2	TC -> CI	0.337	0.000	Accept	1
H3	LS -> CI	0.106	0.055	Accept	4
H4	FC -> CI	0.186	0.024	Accept	3
H5	GS -> CI	0.058	0.252	Reject	

Source: Author's data analysis results

The results of hypothesis testing in Table 5 show that, at the 10% significance level, hypotheses H1, H2, H3, and H4 are accepted, meaning that four out of the five proposed factors have a positive impact on creative innovation (CI) in textile enterprises in Thanh Hoa province. These factors include: technological capability (TC), organizational culture (CC), financial capacity (FC), and leadership style (LS). Among these, technological capability has the strongest impact on creative innovation, with a coefficient of 0.337 and a p-value of 0.000, indicating the critical role of this factor in the context of digital transformation. This result is consistent with previous studies by Vassileva (2017) and Tuan & Thang (2017).

Similarly, organizational culture also has a significant impact (coefficient = 0.336, p-value = 0.000), reflecting the necessity of maintaining a cultural environment that encourages creativity, openness, and continuous innovation within enterprises. This conclusion aligns with findings on the influence of organizational culture on innovation from studies by Hà (2022) and Tan (2023). Financial capacity has a moderate impact on creative innovation in textile enterprises (coefficient = 0.186, p-value = 0.024), suggesting that ensuring financial resources is a necessary condition to support the innovation process. Meanwhile, although leadership style has the lowest coefficient among all factors (coefficient = 0.106, p-value = 0.055), it still shows a positive role in guiding and promoting a culture of innovation within the organization.

The hypothesis regarding government support (GS) is rejected due to the p-value of 0.252, which exceeds the significance threshold (10%), indicating that this factor has not played a significant

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role in promoting creative innovation. This finding raises several concerns regarding the effectiveness of public policies in driving innovation in the textile enterprise sector. One reason for this could be the gap between policy implementation and the ability of businesses to access the support. Despite numerous innovation support programs and funds from central and local governments, most small and medium-sized enterprises in the textile industry still face difficulties in accessing them due to a lack of information, complex procedures, and limited organizational capacity (Tan, 2022). Furthermore, many existing policies are still general and not specifically designed for the textile sector, which involves specialized production technologies and requires innovation in processes, raw materials, environmental standards, and product design. Additionally, a reluctance towards legal risks and bureaucratic procedures has led many businesses to avoid participating in government support programs. Finally, the absence of a two-way feedback mechanism and co-creation of policies between businesses and regulators also contributes to the inefficiency of these policies. Businesses often serve only as "beneficiaries" rather than actively participating in the design and adjustment of policies. This leads to policies that are poorly focused, difficult to implement, and fail to generate trust within the business community.

The research results also show that the order of influence of factors on creative innovation in textile enterprises in Thanh Hoa province, from strongest to weakest, is as follows: technological capability, organizational culture, financial capacity, and leadership style. This implies that the internal factors of the organization play a decisive role in promoting and sustaining innovation within the business. Enterprises need to focus on investing in technology infrastructure, developing digital capabilities for their workforce, and building a culture that fosters creativity and adaptability. Moreover, enhancing the role of leadership in inspiring innovation is also a necessary step.

5. CONCLUSION AND RECOMMENDATIONS

This study identified and tested five factors affecting creative innovation in textile enterprises in Thanh Hoa province: technological capability, organizational culture, financial capacity, leadership style, and government support. The findings indicate that four internal factors - particularly technological capability and organizational culture - have a significant and positive impact on creative innovation. However, government support did not show a clear effect in the research model, reflecting a gap between public policies and practical outcomes in fostering innovation in textile enterprises within the study area. The results raise questions about the effectiveness of the implementation of government support policies. The lack of a noticeable impact from this factor may stem from barriers to accessing policies, the relevance of programs, or limitations in their dissemination.

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Regarding the Government, the provincial government should develop a strategy for promoting innovation in the textile sector until 2030, integrating it into the province's industrial development and digital transformation plans. A one-stop information portal should be established for innovation support programs to help businesses easily access information, procedures, and advisory services. Furthermore, cooperation with universities, research institutes, and textile industry associations should be strengthened to build a local innovation ecosystem, supporting applied research and experimental product development. Additionally, Thanh Hoa province could establish textile technology support centers at the provincial/regional level, acting as "technology incubators" for local businesses to access modern production equipment, production models, and technical experts. The government should also facilitate access to preferential loan sources or credit guarantees, especially for feasible innovation projects lacking collateral. Connecting businesses with financial consulting organizations and investment promotion agencies could also help businesses access resources from international cooperation programs, NGOs, or strategic investors.

Regarding the textile and garment enterprises, several management implications are proposed as follows: First, textile enterprises in Thanh Hoa province need to enhance technological capabilities suitable for the industry, prioritizing support for energy-efficient, low-emission, and environmentally friendly production technologies that meet export market requirements for green standards (ESG, carbon footprint). They should organize programs for technology transfer and digital skills training for workers and technical staff to upgrade technology without the need for large-scale investments. Second, enterprises should focus on building an innovation culture appropriate for the digital transformation context. Specifically, they can organize training programs to build a culture of continuous improvement and innovation, especially in small-scale outsourcing businesses that invest little in R&D. Involvement of workers in the innovation process should be encouraged through feedback mechanisms and experience-sharing platforms, creating a sense of recognition and encouraging proactive change. Third, businesses should focus on enhancing their financial capacity to invest in innovation activities. Fourth, textile enterprises need to develop innovative leadership by organizing training programs for business leaders on strategic thinking, innovative business models, and change management, especially for traditional private business owners. Moreover, integrating innovation leadership indicators into trade promotion activities, business introductions, and awards at the provincial level would be beneficial.

6. LIMITATIONS AND FUTURE RESEARCH

Although this study has explored the factors influencing creative innovation in textile and garment enterprises, the research sample is small and limited to Thanh Hoa province. Additionally, the study only examined the influence of four endogenous factors and government

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support within the model. Therefore, future research should expand the scope to other provinces with a larger sample size to ensure more meaningful results at a national level. Furthermore, additional factors such as business strategy, human resource capabilities, and technology absorption capacity should be incorporated into the model to provide a more comprehensive analysis from various aspects.

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