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### Factors Affecting Innovation of Small and Medium Enterprises in Thanh Hoa Province, Vietnam

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#### Abstract

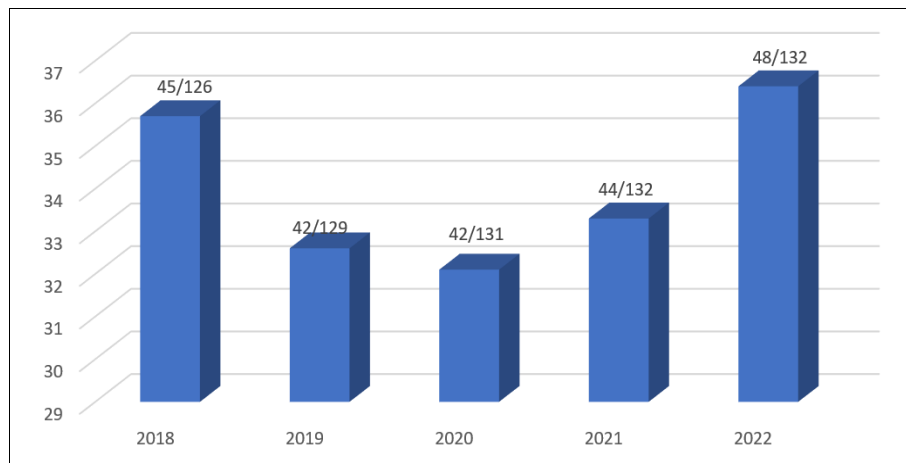
In a rapidly changing, flexible and highly competitive business environment, innovation is considered an important differentiation strategy to gain business advantage. Looking back at history, most long-standing, developed businesses possess highly creative and innovative human resources such as Microsoft, Apple, and Intel. Vietnamese businesses are currently keeping pace with the increasing momentum in the world's Innovation Index (in the GII 2022 rankings, Vietnam ranks 48th out of 132 countries/economies and considers innovation as the national priority). Innovation in businesses needs to be managed in the right direction to create a creative culture, not miss development opportunities and improve competitiveness. This article uses business statistics in Thanh Hoa province, Vietnam to find innovative

directions to improve the management efficiency of small and medium-sized enterprises in the province. Research results show that more than 90% of enterprises in the province are small and medium-sized enterprises, each enterprise has an average of 30-40 employees, so the administrative costs of enterprises are quite high, leading to low production efficiency. Besides, many businesses are still passive with new trends and not ready to change their production and business models. However, some businesses have applied software in management and innovation of production and business processes, thereby increasing production efficiency, improving competitiveness and income for workers.

**Keywords:** Innovation, Small and Medium Enterprises, Thanh Hoa, Vietnam

#### 1. Introduction

Along with "technology 4.0" and "digital transformation", the phrase "innovation" is increasingly appearing more commonly in the context of multinational integration and commercialization. According to the definition, "Innovation is the process by which businesses develop new products, services, processes or management systems to meet requirements due to changes in the business environment, technology or competitive model". (D'Aveni, R. A. (1994), *Hypercompetition: Managing the Dynamics of Strategic Manoeuvring*, New York: The Free Press); or "Innovation is the process of introducing a new product or process, a new marketing method, or a new organizational method or significant improvement in production and business activities (OCED, Oslo Manual, 2005).



Source: World Intellectual Property Organization (WIPO), 2018-2022

Fig 1: Vietnam's ranking on the global innovation index (GII)

Innovation is an activity that promotes economic growth. To have innovation, businesses need to be properly aware of the nature and methods of implementing innovation. Factors related to innovation in businesses will determine innovation policies and appropriate promotion measures. Surveys show that Vietnamese businesses that change their management methods have increased labor productivity by an average of 15%. Thus, innovation in business has important meaning for small and medium-sized enterprises, which is to help these enterprises compete with other types of domestic and foreign enterprises.

Thanh Hoa is a key economic region in the North Central region. The application of foundational technologies of the fourth industrial revolution will help the province effectively exploit its strengths in developing manufacturing and industrial industries. Construction materials, encouraging the promotion of agricultural product production; developing the transportation service industry, banking, finance, post and telecommunications, etc. The application of innovation also allows to promote labor productivity as well as the ability to transform production and management systems and administration for businesses in the province businesses in the area.

The province still has many difficulties and challenges. According to data from the Statistics Department of Thanh Hoa province as of December 2012, there are more than 26,000 operating businesses in the province [1]. However, businesses in the province are mostly small and micro-scale (over 90%), have limited competitiveness, and are not ready to access new technology. Many businesses are still passive with new trends and not ready to change their production and business models. Notably, development enterprises still lack linkages with each other and with other economic sectors, especially between production and distribution, weak management capabilities while there are many intermediary enterprises, causing orders to fail. Products are overpriced, reducing competitiveness. Therefore, it is necessary to research and fully evaluate the impact of innovation in businesses in the province in the context of the 4.0 industrial revolution in order to provide solutions and recommendations to promote innovation activities. innovation in businesses to contribute to the socio-economic development of the province

Thanh Hoa Vietnam.

Based on the above reasons, the authors wrote this article with three specific goals: (i) Systematize the theoretical

basis for innovation in businesses; (ii) Assess the current status of small and medium-sized enterprises and the current state of innovation of small and medium-sized enterprises in Thanh Hoa province; (iii) Propose some recommendations to promote innovation activities of small and medium-sized enterprises in Thanh Hoa province in the coming time.

## 2. Research Methods

To achieve the set research objectives, the following main research methods are applied as follows:

1. Data collection and processing method: To collect data related to the current situation and data on quantity, quality, and indicators of innovation activities of small and medium-sized enterprises in the locality. Thanh province table for the period 2020-2022 from the General Statistics Office; Statistical yearbook of Thanh Hoa province.
2. Survey and interview method: the research team conducted a questionnaire survey and interviewed 40 businesses in Thanh Hoa province. The content of the questionnaire includes basic information about businesses and evaluates the innovation capacity of small and medium-sized enterprises in the province.

## 3. Overview of Innovation

### *Creative Innovation Concept*

Innovation in the most general sense is the creation of a new thing or new method, the expression, combination or synthesis of knowledge into a new product, process or service in a valuable way and suitable [7].

At the enterprise level, innovation is a systematic process of applying knowledge, skills and company resources to the implementation of innovation activities to create technical innovations. Technical and non-technical innovations [13, 15].

### *Factors Affecting Innovation*

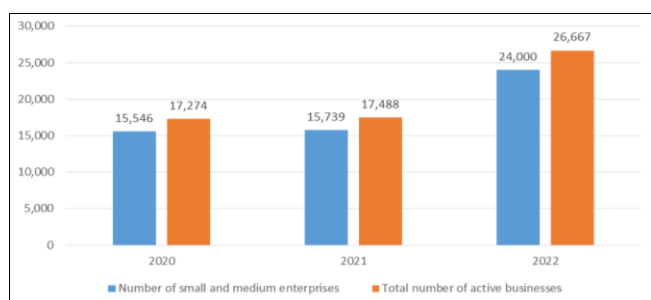
Innovation depends greatly on organizational structure, strategic thinking, vision of business leaders and the development of a culture of innovation. Businesses need to invest a lot in people, considering this as the main factor for innovation. Studies emphasize that businesses that want to innovate must have a flexible and organic organizational structure. The administrative nature of an organization is often a major obstacle to innovation. Innovation must be associated with teamwork and innovative thinking. In small businesses, leaders are always the leaders in innovation.

Risk and passion are two important qualities for leaders/entrepreneurs to carry out this activity. On the contrary, in large enterprises, the motivation of the management team plays an important role in innovation. Another factor that plays a core role is personnel training and development. Innovation becomes the core value of corporate culture. At the macro level, to enhance innovation capacity, countries focus on developing national innovation systems (NIS). This system operates on the foundation of integrating cooperative relationships between three subjects of innovation: businesses, universities-research institutes and state support agencies. NIS is closely related to the knowledge economy. Research on NIS mainly revolves around the flow of knowledge between system subjects. The effectiveness of cooperation between these entities is measured by the quality and price of the products and services that businesses provide to the market. Therefore, the purpose of innovation is to improve the quality and reduce the cost of products and services, thereby bringing success to businesses in particular and innovation subjects in general.

Currently, in Vietnam there have been a number of studies and articles related to exchange capacity innovation like Phung Xuan Nha and his colleagues, the research was conducted to clarify the current state of innovation in Vietnamese businesses, expressed through the following contents: awareness and culture of innovation, innovation results, forms of innovation, human resource capacity to serve innovation [12, 13]; From the overall research, it can be seen that the factors that have a positive and strong impact on innovation are: (i) idea creation; (ii) affiliate relationship; (iii) research, development and technological advancement; (iv) relationships with professional associations; (v) innovation support policy.

#### 4. Current Status of Innovation in Small and Medium Enterprises in Thanh Hoa Province

In the period 2020-2022, the number of businesses operating in economic areas of Thanh Hoa province tends to increase sharply, specifically from 17,274 businesses in 2020 to 26,667 businesses in 2022, compared to 2021: 52.5%.



Source: Thanh Hoa statistical yearbook, 2020, 2021, 2022

Fig 2: Number of businesses operating in Thanh Hoa province

It can be seen that the majority of businesses operating in Thanh Hoa province are mainly small and medium enterprises, specifically in 2020 there were 15,546 businesses, by 2021 it increased to 15,739 businesses and by 2022 it increased sharply 24,000 businesses. However, among the total number of businesses operating in Thanh Hoa province, the number of small and medium-sized enterprises accounts for over 90%.

year by year. Most businesses in the province still encounter many difficulties in doing business due to weak internal resources of businesses, especially capital and scientific and technological level; Experience and conditions for participating in integration are still limited; The model of organizing production and business activities is still slow to innovate.

#### About the Innovation Awareness of Businesses

Out of a total of 40 officials and business managers interviewed about the importance of innovation in businesses, 65% answered that it is very important, and 30% said that it is important and 5% answered neutrally. Often. Thus, basically all business owners realize the role and importance of innovation activities.

Table 1: Awareness of innovation among small and medium-sized enterprises

Targets	Very important		Important		Normal	
	Votes	Proportion (%)	Votes	Proportion (%)	Votes	Proportion (%)
Awareness of innovation	26	65	12	30	2	5

Source: Survey results of the authors, February 2023

However, in reality, many interviewed businesses do not pay attention to innovation policies. Specifically, businesses with plans for future innovation achieved the highest score of 2.25/5 points, this score is relatively low compared to the total score of 5 points; Enterprises that build human resource policies for innovation achieved the second highest score of 2.03/5 points; Enterprises have policies to cooperate and develop partners to serve innovation; Enterprises applying digital technology to their businesses and enterprises with financial investment policies for innovation all have very low scores of less than 2/5 points.

Table 2: Evaluation of innovation implementation of small and medium-sized enterprises

Targets	Mean
The business has plans to innovate in the future	2.25
Enterprises have financial investment policies for innovation	1.45
Enterprises apply digital technology to their businesses	1.85
The enterprise has a policy of cooperation and partner development to serve innovation	1.65
Enterprises develop human resource policies for innovation	2.03

Source: Survey results of the author group, February 2023

#### About Ways to Innovate in Businesses

Asked about innovative ways, businesses have applied innovative software in their businesses. There are 9 businesses (accounting for 22.5%) that have not yet applied business management software in their production and business activities, there are 13 businesses (accounting for 32.5%) preparing to apply management software. corporate value in production and business activities. In contrast, 18 businesses (accounting for 45%) have applied business management software in their production and business activities. Thus, some small and medium-sized enterprises in the province, although still facing financial difficulties, have proactively applied software to better manage their businesses and reduce human resources in unnecessary activities.

**Table 3:** Application of business management software in small and medium enterprises

Targets	Not yet applied		Prepare to apply		Applied	
	Votes	Proportion (%)	Votes	Proportion (%)	Votes	Proportion (%)
Apply business management software	9	22.5	13	32.5	18	45

Source: Survey results of the authors, February 2023

Next, when asked about the organization and management capacity of businesses at the present time. The authors have received quite clear feedback from businesses. It can be seen that the organizational and administrative capacity of small and medium-sized enterprises is relatively low and lower than average. Specifically, raw materials management activities were rated lowest at only 2.3/5 points, and other activities such as strategic planning capacity, human resource management, supervision, and control of production and business. and quality management are also rated relatively low, both below 3/5 points. However, being able to use information technology is rated at a relatively high score of 3.5/5 points. This can be seen that a number of small and medium-sized enterprises in the province have strengths in applying information technology in their business activities.

**Table 4:** Corporate governance activities of small and medium-sized enterprises

Targets	Mean
Strategic planning capacity	2.4
Capacity to use information technology	3.5
Employee manager	2.8
Monitor	2.6
Control production and business	2.7
Materials management	2.3
Quality Management	2.5

Source: Survey results of the authors, February 2023

Innovative activities in applying information technology are relatively widely applied by businesses. Among them, businesses that apply information technology in marketing activities and in payment activities are the most used by businesses, reaching 3.8/5 and 3.6/5 points. In addition, the fact that customers can check the order fulfillment status through the information technology system and apply information technology in people management is also widely used, accounting for 3.2/5 points. Thus, small and medium-sized enterprises in Thanh Hoa province know how to apply a variety of activities in using information technology in business management activities.

**Table 5:** Application of information technology in small and medium enterprises

Targets	Mean
Businesses often apply information technology in payment activities	3.6
Businesses always apply cloud computing technology	2.9
Businesses always apply information technology in marketing	3.8
Businesses always apply information technology in managing people	3.2
Customers can check the order fulfillment status via contact information technology system	3.2
Businesses use websites effectively to introduce their	2.6

business	
Information technology helps businesses manage supply chain planning	2.8
Information technology helps businesses forecast market demand	2.5
Information technology helps businesses schedule and deliver goods to customers	2.9

Source: Survey results of the authors, February 2023

▪ **Human Resource Management for Innovation Activities**

In human resource management activities, businesses have implemented various measures to improve the quality of their human resources. In particular, employees are always trained to perform many different jobs, achieving the highest score of 3.8/5 points. Thereby, to see the level of flexibility in the staff that can undertake many different jobs to limit the cost of recruiting new employees. In addition, the employee evaluation system encourages the pursuit of enterprise goals and the enterprise's employees receive training and skills development on a regular basis are also of interest to businesses. 1/5 and 3.3/5 points.

**Table 6:** Human resource management in small and medium enterprises

Targets	Mean
Employees are trained to perform a variety of jobs	3.8
The enterprise's employees have high professional skills	2.9
Businesses use employee rotation policies to improve their skills	2.9
Enterprise employees receive training and skills development periodically	3.3
The employee evaluation system encourages us to pursue corporate goals	3.1
Employee selection should be based on their abilities	2.6

Source: Survey results of the authors, February 2023

▪ **About the Level of Creativity of Employees in the Enterprise**

35% of businesses rate their employees' creativity as less creative and 25% of businesses rate their employees as not creative. No business rates employees as very creative. Businesses lack a system to evaluate employee capacity for innovation.

**Table 7:** Assessment of employee creativity level

Targets	Unit: %				
	Very creative	Creative	Normal	Less creative	Uncreative
Employee creativity level	0	15	25	35	25

Source: Survey results of the authors, February 2023

▪ **Quality Management for Innovation Activities**

In quality management activities, businesses have made efforts to implement various measures to improve product quality. In particular, statistics on employee productivity calculated by businesses annually reach 3.2/5 points; Senior managers highly encourage employees to participate in process improvement, scoring 3.3/5 points; Enterprises use a lot of statistical techniques to reduce deviations in processes, scoring 3.1/5 points, and statistical tools are always used by enterprises in quality management and are the most applied. 3.5/5 points.



**Table 8:** Quality management in small and medium enterprises

Targets	Mean
Businesses use many statistical techniques to reduce discrepancies in processes.	3.1
Businesses regularly investigate customer satisfaction	2.9
Our customers are satisfied with the products and services we provide	2.8
Our senior managers strongly encourage employees to participate in process improvement	3.3
Statistics on employee productivity are calculated by businesses annually	3.2
Enterprises have many programs to improve quality	2.6
Statistical tools are always used by businesses in quality management	3.5
The enterprise is managed according to modern standards such as ISO 9000, ISO 14000, SA 8000, HACCP, GMP	2.1

Source: Survey results of the authors, February 2023

However, the fact that businesses are managed according to modern standards such as ISO 9001, ISO 14000, SA 8000, HACCP, GMP, etc. is hardly applied, reaching the lowest score of 2.1/5 points. Because applying these management tools will cost a lot of initial investment, it will be difficult for SMEs to have enough financial resources to apply. During the research process, the authors conducted in-depth interviews with the leaders of Ha Hoa 2 Production and Trading Company Limited. Since its establishment, the Company's leaders have actively learned management styles and methods. Japanese business management such as 5S, TPS and apply it to business management. In quality management activities, the Company always determines that quality is the survival of the business, so in addition to strict quality management and continuous improvement according to the ISO 9001:2015 Quality management system.

**Evaluate Achieved Results and Limitations:**

From the above analysis, it shows that businesses in Thanh Hoa province have many strengths that need to be promoted, but there are also many weaknesses that need to be overcome to take advantage of external opportunities and limit challenges, consciousness can occur.

**Table 9:** Strengths and weaknesses in innovation of small and medium-sized enterprises in Thanh Hoa

Strength	Weakness
<ul style="list-style-type: none"> <li>▪ Businesses have realized the importance of innovation in business.</li> <li>▪ Many businesses have applied business management software in production and business activities.</li> <li>▪ The application of information technology in businesses is relatively widespread.</li> <li>▪ Employees in businesses are always trained to perform many different jobs.</li> <li>▪ - Statistical tools are always used by businesses in quality management.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Many businesses do not pay attention to innovation policies.</li> <li>▪ The organizational and administrative capacity of small and medium-sized enterprises is relatively low and lower than average.</li> <li>▪ Businesses lack a system to evaluate employee capacity for innovation.</li> <li>▪ The fact that businesses are managed according to modern standards such as ISO 9000, ISO 14000, SA 8000, HACCP, GMP has not been widely applied.</li> </ul>

Source: Survey results of the authors, February 2023

**5. Conclusion and Recommendations**

The ability to innovate is a core value and the key for businesses to achieve success in the future. Survey results show that small and medium-sized enterprises in Thanh Hoa province are initially interested in innovation, many businesses have applied business management software in production and business activities although there are still. Despite financial difficulties, businesses have also proactively applied software to better manage their businesses and reduce human resources in unnecessary activities. On the other hand, the relatively widespread application of information technology by businesses has helped increase the labor productivity of businesses after applying this software and employees in businesses are always training to perform a variety of jobs to see the flexibility of employees in these businesses.

However, many businesses in Thanh Hoa province have not paid attention to innovation policies and almost all corporate governance activities of small and medium-sized enterprises are relatively low and below average such as productivity, strategic planning, human resource management, production and business supervision and control, raw materials management, and quality management. In addition, the fact that businesses are managed according to modern standards such as ISO 9000, ISO 14000, SA 8000, HACCP, GMP, etc. has not been widely applied. The reasons why small and medium-sized enterprises in Thanh Hoa province are not really interested in investing much in corporate governance activities are: i) Financial and labor limitations because currently over 90% Enterprises in Thanh Hoa province are small and medium-sized enterprises, of which the number of micro enterprises (under 10 employees) is accounting for a very large proportion over the years (over 60%); ii) Limitations in employee capacity. Through the survey, it can be seen that 35% of businesses evaluate their employees' creativity as less creative and 25% of businesses evaluate their employees as not creative.

**Recommendations**

*For the People's Committee of Thanh Hoa Province*

To promote innovation activities, Thanh Hoa province first needs to have a number of reasonable guidelines and policies to maximally support the development of innovation capacity of small and medium-sized enterprises in the area. Province in the near future:

Firstly, Thanh Hoa province needs to create an ecosystem for innovation, deploy support for creative startups according to Project 844 locally through Circular 01/2018/TT-BKHCN and Circular 45/2019 /TT-BTC to promote local innovation startups and support businesses to implement innovation such as: establishing a system of innovation funds, venture capital funds, startup funds technology incubators, supporting businesses to manage according to modern standards such as ISO 9000, ISO 14000, SA 8000, HACCP, GMP.

Second, continue to improve policies to support small and medium-sized enterprises to make them the center of the innovation system, such as supporting applications, technology transfer, trial production, and commercialization. product commercialization; Research and supplement tax incentive policies, such as: Corporate income tax incentives

based on income calculated on products that are the results of scientific-technological and innovation activities, income from Intellectual property rights are inventions and useful solutions; Import and export tax incentives for imported components, spare parts, machinery and equipment to be assembled into machinery for scientific research and technological development.

Third, continue to issue policies to promote and build a creative culture in businesses, thereby stimulating innovation and passion in business such as sponsoring startup training programs entrepreneurship and innovation.

#### ***For Small and Medium Enterprises in the Province***

Firstly, invest human and financial resources in research and development (R&D) activities to find practical innovations for your unit. Strengthen the organizational structure and human resources, increase investment in equipment and improve the quality of operations of the enterprise's existing R&D organization in a practical and effective manner. In addition, businesses should actively develop and implement R&D plans, technology innovation, and increase the application of information technology according to their own strategies and development goals.

Second, businesses expand and promote links and joint ventures. In integration, joint ventures and links between businesses are extremely important, especially when the majority of businesses in the province are still small and medium-sized, facing many difficulties such as lack of capital and weak technology. Technology, little information about the market. Then linkages and joint ventures are very effective ways to overcome those difficulties.

Third, businesses need to take advantage of the support under Plan No. 5321/KH-UBND dated November 23, 2017 on Supporting the innovative startup ecosystem of Thanh Hoa province to create products and services and new business models. Actively promote startup activities in businesses through encouraging employee innovation and increasing investment in applied research activities.

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