

## INTRODUCTION

### 1. The necessity of topic research

In fact, participating in international trade activities is a complex series of transactions involving in many different entities, including: export-import enterprises, service providers; shipping companies, port operators, warehousing, logistics, banking, insurance companies,... With the economy opening up to 200% of GDP, the growth rate of Viet Nam's economy depends crucially on growth of exports and imports; in order to make progress in this field, and ensure competitiveness with other economies requires our country to take drastic measures to facilitate trade and ensure national competitiveness. Towards that aim, in 2005, Viet Nam signed an Agreement via Establishment and Implementation of ASEAN Single Window (ASW) and with the implementation of the National Single Window (NSW). After efforts to deploy NSW, until the end of 2019, Viet Nam has implemented 188 administrative procedures in NSW, however, for administrative procedures with fees, public service level 3 is applied, payment of fees and charges among enterprises, as well as among enterprises and regulatory agencies related to export, import and transit goods (XNK), exit, entry and transit vehicles (XNC) in Viet Nam are still manually made, basically separating with other procedures, taking a lot of time and directly affects customs clearance process of goods and vehicles.

Thus, solutions for electronic payments via NSW comes from the following requirements: (i) the need to integrate and implement international commitments; (ii) administrative reform of state agencies; (iii) create the most favorable environment for trade development, enhance national competitiveness; iv) implement the objectives of building e-government; v) implement cashless policy.

If payment can be made via NSW, enterprises can make payment in the fastest, safest and most convenient way, make one time payment for all different duties, fees and charges for import and transit goods (XNK), exit, entry and transit vehicles (XNC).

With these reasons, the author has chosen the topic ***“Solutions***

*to make electronic payment via National Single Window”,* with the desire to offer solutions. The solutions to implement a critically important content of the National Single Window mechanism, and facilitate the development of Viet Nam’s trade in the coming time.

## **2. Purpose, subject and scope of the research**

- The purpose of the research is to propose several solutions to make electronic payment via Viet Nam’s National Single Window in the period of 2020-2030.

- Subject of the research: The subject of the thesis are electronic methods of collection of duties, fees, charges of import and transit goods (XNK), exit, entry and transit vehicles (XNC) via National Single Window in Viet Nam.

- Scope of the research: The research scope of the thesis includes: research on making electronic payment of duties, fees and charges via National Single Window for import and transit goods (XNK), exit, entry and transit vehicles (XNC) among enterprises and state management agencies.

## **3. Scientific and practical significance of the thesis**

**Scientific significance:** The thesis contributes to generalization and systematization of electronic payment via National Single Window; points out the factors affecting the payment by electronic method via National Single Window, builds econometric model to assess the impact of these factors.

Moreover, the thesis has also constructed a simulation model to make electronic payment via National Single Window. Thereby, the effectiveness of electronic payment via National Single Window is proved.

**Practical significance:** The thesis has systematically synthesized and analyzed the current situation of electronic payment of Viet Nam’s revenue for import and export goods. On the basis of analyzing the achieved results, shortcomings as well as the importance of electronic payment via National Single Window, models, processes, and roadmaps, ... and other practical solutions are proposed. These research outcome of the thesis can serve as a

reference, for the purpose of direction and deployment of electronic payment via National Single Window and development of integrated payment applications of duties, fees and charges via Viet Nam and ASEAN Single Window.

## **CHAPTER 1**

### **OVERVIEW OF CURRENT LITERATURE AND THEORETICAL FOUNDATIONS OF THE THESIS**

#### **1.1. OVERVIEW OF CURRENT RESEARCH RELATED TO THE THESIS**

To complete the thesis, the author has reviewed research works and materials related to National Single Window and electronic payment from domestic and foreign sources. Those works provided theoretical and practical foundations regarding National Single Window, electronic payment of duties, fees and charges, enabling the author to continue analysis to identify the benefits, needs as well as solutions to implement electronic payment via National Single Window in Vietnam.

#### **1.2. THEORETICAL FOUNDATIONS**

##### **1.2.1. Theories employed in the thesis**

In addition to the economic development goals and viewpoints of Party and the State, the author used the following theories during his research: Theories related to the National Single Window which have been applied in development, formulation and operation of electronic payment; Theories related to duties, fees and charges; Theories related to electronic payment, electronic transactions; Theories related to statistics, linear regression and forecast analysis.

##### **1.1.2. Research questions**

Questions raised in this research include:

- What are the benefits of electronic payment via National Single Window?
- What are the factors which affect electronic payment via National Single Window and what are the methods/means of

measurement/assessment of such factors' impacts via implementation of electronic payment via National Single Window?

- What is the current situation of electronic payment of collectible amounts related to exports and imported goods, transport means on entry and exit in Vietnam? What are the achievements? Any shortcomings and their causes?

- The readiness of Vietnamese traders and authorities in implementing electronic payment of duties, fees and charges via National Single Window?

Solutions to effectively implement electronic payment via National Single Window in Vietnam?

## **CHAPTER 2**

### **LITERATURE REVIEW ON ELECTRONIC PAYMENT VIA THE NATIONAL SINGLE WINDOW**

#### **2.1. DEFINITIONS OF STATE BUDGET REVENUES FOR IMPORTED, EXPORTED AND TRANSITED GOODS; MEANS OF TRANSPORT ON EXIT, ENTRY AND TRANSIT**

In most countries in the world, imported and exported goods are subject to import and export taxes. In addition, depending on the type of goods or in particular period, countries may apply additional taxes: Special Consumption Tax, Environmental Protection Tax, Value Added Tax, and anti-dumping tax, countervailing duties, safeguard duties may be added in accordance with the WTO commitments. Charges and fees on exported, imported and transited goods may include customs fees; licensing fees, quality inspection fees, animal and plant quarantine charges, certificate of origin fee (C/O). In addition, all countries apply road toll for means of transport on entry, exit and transit in Vietnam to construct, develop, maintain transport infrastructure.

#### **2.2. DEFINITION OF NATIONAL SINGLE WINDOW AND**

## **ELECTRONIC PAYMENT**

### **2.2.1. Definition of National Single Window and parties involved**

In accordance to Article 4, Customs Law number 54/2014/QH13: *“National single-window mechanism means permission for customs declarants to send information and electronic documents for completion of customs procedures and procedures of state management agencies related to imported and exported goods through an integrated information system. State management agencies shall decide to permit import, export and transit of goods; customs offices shall decide on customs clearance and release of goods on the integrated information system”*

The parties involved in Vietnam's national single window include:

- State management agencies at seaports; customs authorities, port authorities, agencies for quarantine of plants and animals, health agency, licensing agencies;
- Import and export enterprises; transportation company, port and warehouse enterprises; customs agents, freight forwarding enterprises; commercial banks, insurance enterprises.

### **2.2.2. Definition of electronic payment**

Dennis (2004) defines electronic payment system as a form of financial commitment involving buyers and sellers through the use of electronic communications. The current legal documents of Vietnam only define the "payment transaction" and "electronic transaction". Accordingly, "Payment transaction is the performance of the obligation to pay or transfer money between organizations and individuals through different payment instruments (cash and non-cash)." Thus, payment using electronic method, also known as "Electronic payment", can be understood as the fulfillment of the obligation to pay or transfer money between entities in the economy through electronic means.

## **2.3. E-PAYMENT VIA NATIONAL SINGLE WINDOW**

### **2.3.1. Definition and basic features of electronic payment via**

## **National Single Window**

The concept of e-payment via National Single Window is based on the concept of electronic payment and the concept of the National Single Window in the context of development of international trade, trade facilitation and development of the 4.0 industrial revolution.

Accordingly, "E-payment via National Single Window" is the fulfillment of the obligation to pay or transfer money between the parties by connecting and processing information via National Single Window system."

From the basic theories mentioned above, it can be seen the characteristics of electronic payment via National Single Window, including:

Firstly, the parties participating in the National Single Window implement-payment.

The parties do not make manual or partial e-payment. All duties, fees and charges will be paid electronically.

Secondly, the parties connect and implement e-payment via National Single Window.

Instead of connecting each party to pay for each individual transaction as currently, the parties implement centralized payments via National Single Window Portal.

### **2.3.2. Factors affecting electronic payment via National Single Window**

Through research, the factors influencing electronic payment via National Single Window include:

- Legal factors;
- Model factors and payment process;
- Technical factors;
- Financial factors;
- Awareness factors of participants;

With the study and reference of research models of domestic and foreign scholars, and the analysis of the factors affecting the implementation of electronic payment via National Single Window, in the context of Vietnam, the author has specifically proposed impact factors on a number of specific evaluation criteria.

#### **2.4. EXPERIENCE ON E-PAYMENT VIA NATIONAL SINGLE WINDOW IN SOME COUNTRIES IN THE WORLD AND LESSONS FOR VIETNAM**

In the framework of this thesis, the author chose to study the electronic payment via national single window of 4 countries, including Singapore, Indonesia, which are close to Vietnam; Japan is the country that supported the development and implementation of VNACCS/VCISS System for Vietnam; and the United States, which has the world's leading developed economy.

The national single-window of these countries allows collection and payment of duties, fees, charges and many other revenues related to import-export and export activities via national single window.

Based on the practical implementation of the countries, it is possible to draw experience for implementation in Vietnam, including: (1) fully studying the recommendations of international organizations such as UN, WCO, and WTO to build a model of electronic payment on a national single window to suit the reality in Vietnam; (2) focus on reviewing and standardizing procedures, harmonizing data from the beginning of the implementation process; (3) need to balance and identify priority resources for complete investment in technology infrastructure as well as solutions to ensure information safety and security; (4) there should be a system of legal documents, complete guidance documents, ensuring a legal basis for people and businesses to ease of implementation; (5) propaganda, guidance and dissemination should also be taken into consideration to help people and businesses easily access electronic payment via National Single Window

## **CHAPTER 3**

### **SITUATION OF ELECTRONIC PAYMENT THROUGH THE NATIONAL SINGLE WINDOW IN VIETNAM**

#### **3.1. INTERNATIONAL TRADE ACTIVITIES AND CURRENT SITUATION OF ELECTRONIC PAYMENT IN VIETNAM**

According to statistics of the General Department of Customs, the import and export turnover of Vietnam's goods in 2019 exceeded \$500 billion, which is nearly 1.6 times higher compared that of 2015. The explosion of Information technology, the strong development of e-commerce is the fundamental for banks to quickly access and expand electronic payment services to serve citizens and businesses. The statistics of the General Department of Customs also shows that the revenue collection from taxes, fees and charges of import and export goods has increased every year and the revenue collected from electronic payments also increased accordingly. If in 2015, the collection rate by electronic payment was only 62.88%, that in 2019 reached 97.11%. The number of banks coordinate with the General Department of Customs to collect revenue also increased rapidly. By the end of 2019, there were 43 coordinating banks, in which 32 banks participate in the 24/7 electronic tax collection program.

#### **3.2. CURRENT SITUATION OF DEVELOPING THE NATIONAL SINGLE WINDOW AND ELECTRONIC PAYMENT THROUGH THE NATIONAL SINGLE WINDOW IN VIETNAM**

Since 2014, Vietnam has promoted the implementation of the National Single Window. As of 30 December, 2019, the National Single Window implemented 188 administrative procedures of 13 connected ministries and agencies (including Ministry of Finance) with over 2.7 million dossiers from about 35,000 enterprises participating. According to the data collected by author, in addition to collecting taxes, fees and charges related to export and import goods procedures of the Customs administration, as of December 2018, there are 122 procedures of other related ministries charge



fees with regard to import-export goods, transport vehicles. Among those, the Ministry of Transport has 85 administrative procedures charge fees. Currently, taxes, fees and charges of many ministries have implemented by electronic methods but have not yet connected through the National Single Window

### **3.3. REGRESSION ANALYSES ON FACTORS AFFECTING THE USE OF ELLECTRONIC PAYMENT THROUGH THE NATIONAL SINGLE WINDOW BASED ON THE RESULTS OF SURVEY ON BUSINESSES AND THE STATE MANAGEMENT AGENCIES**

In order to identify and assess the factors that affect the use of electronic payment through the National Single Window, author has conducted surveys from enterprises, state management agencies and experts. Data collection tool is a questionnaire. In the study, the author used the Likert scale (from 1-5) to measure the factors. Observed variables were measured using a 5-point Likert scale, from level 1 (Strongly disagree) to level 5 (Strongly agree)

*Conduct the survey:* Author use a questionnaire to survey related parties. The questionnaire was built and sent on paper to 800 participants.

*Data collection:* From the questionnaire, author collected 598 answers and imported into Excel spreadsheets.

#### **3.3.1. Assess the reliability of the scale**

The study of factors affecting the use of electronic payment through the National Single Window is conducted through quantitative data analyzes. Through SPSS 20 statistical processing software, the evaluation of the reliability of the scale is done using Cronbach's alpha with observed variables.

#### **3.3.2. Analysis of EFA**

To identify the factors affecting the use of electronic payment through the National Single Window, the author uses EFA analysis techniques to identify those factors. The results of the rotation matrix showed that 25 observed variables were collected into 5 factors, all observed variables had the Loading factor greater than 0.5.

The results achieved through the study shows that it is possible to conclude the influence of the factors on Customs administrations; the usefulness brought from electronic payment through the National Single Window; the law regulations; the quality of the electronic payment system through the National Single Window, functions of electronic payment through the National Single Window; Technical assistance; active participation of Vietnam Chamber of Commerce and Industry (VCCI), Association of Import-Export Businesses, media units (television, newspaper, radio) in propagating the application of Electronic payment through the National Single Window. It has a positive impact on the level of deciding how much people use electronic payment through the National Single Window.

#### **3.4. SHORTCOMINGS AND THE CAUSES IN THE IMPLEMENTATION OF ELECTRONIC PAYMENT VIA NATIONAL SINGLE WINDOW MECHANISM IN VIETNAM**

Shortcomings in the electronic payment via National Single Window mechanism include: (i) Enterprises still have difficulties in paying duties, fees and charges on import and export goods, entry and exit means with electronic methods; (ii) The connection among stakeholders in the implementation of electronic payment is complicated; (iii) Stakeholders involved in the National Single Window mechanism in Vietnam are making payments manually, which takes a lot of time and manpower. (iv) There are concerns about security, safety and lack of support upon making electronic payments.

The electronic payment via the National Single Window mechanism has not been implemented due to some following main reasons:

- The legal basis system for making payments via the National Single Window mechanism is not comprehensive;
- There is a shortage of a consistent payment model and process among stakeholders involving in the National Single Window mechanism;
- Information technology infrastructure is not guaranteed;

- There is different awareness of the parties involving in the National Single Window mechanism;

- The supports of State agencies for enterprises is not clear;

- Other causes: In addition to the above reasons, there are a number of other causes, including: Resources of stakeholders are limited; the propaganda has not been effective; investment procedures of information technology projects in State management agencies are still inadequate.

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## **CHAPTER 4**

### **BACKGROUND AND SOLUTIONS TO PROMOTE ELECTRONIC PAYMENT VIA NATIONAL SINGLE WINDOW IN VIETNAM**

#### **4.1. BACKGROUND AND ORIENTATION TO MAKE ELECTRONIC PAYMENT THROUGH THE NATIONAL SINGLE WINDOW MECHANISM IN VIETNAM**

The national single window mechanism takes place in the context of a blossom in goods trade; all countries are concentrating on cooperation and trade development in both goods and services. Vietnam is not out of that trend. In particular, the implementation of electronic payment through the National Single Window mechanism has an extremely important role in providing public services at level 4 via National Single Window Portal.

The author proposes the **main orientations** for electronic payment through the National Single Window mechanism in the coming time as follows:

- Prioritizing the electronic payment in the payment of duties, fees and charges between enterprises and the State management agency (B2G), which create the basis for electronic payment between enterprises and enterprises at Vietnam via National Single Window mechanism;

- Apply international standards in electronic payment for

enterprises via National Single Window mechanism;

- Paying attention to mobilizing the resources of the whole society through the socialization of services to make electronic payment to enterprises through the National Single Window mechanism;

- Strengthen communication to stakeholders about the benefits of electronic payment in the National Single Window mechanism;

- Continue to implement the Party's policy, complete the policies and regulations of the State in promoting electronic payment.

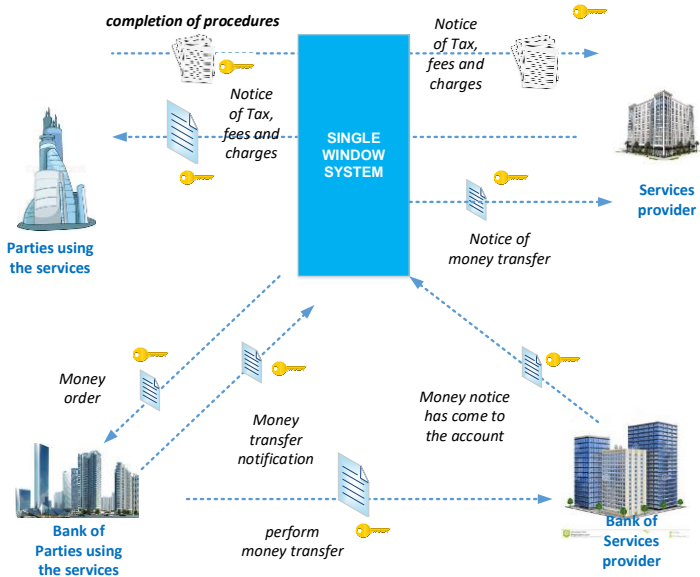
#### **4.2. PRINCIPAL SOLUTIONS TO ELECTRONIC PAYMENT IMPLEMENTATION VIA NATIONAL SINGLE WINDOW IN VIETNAM**

Principal solutions to electronic payment implementation via National Single Window in Vietnam, which are researched and proposed by the writer, consist of:

##### **4.2.1. Completing state policies and legal regulations**

Electronic payment via National Single Window mechanism is implemented by various parties (maritime carriers, logistics firms, import-export enterprises, ... commercial banks) for many state management agencies (Ministry of Transportation, Ministry of Finance - General Department of Customs, Ministry of Natural Resources and Environment, Ministry of Science and Technology, Ministry of Information and Communication, ...). Therefore, the writer proposes to issue: (i) Decree of the Government on electronic payment through the National Single Window mechanism to replace current legal regulations; (ii) The Circular of the Ministry of Finance regulating information criteria, processes and order of handling stages between the parties (state management agencies) served as a legal basis to deploy electronic payment through the National Single Window mechanism.

##### **4.2.2. Developing electronic payment models via the National Single Window mechanism**



Since Vietnam is in research and preparation phases for implementation, it is especially important to develop an electronic payment model through the National Single Window mechanism. The writer has researched and offered an integrated payment model to carry out electronic payment through the National Single Window mechanism. With this model, electronic payment through the National Single Window may be made by the following methods:

#### ***4.2.2.1. Making payment not via spent account***

In this method, the electronic payment via the National Single Window mechanism can be made in two different ways as following:

- The payer sends money transfer request to the National Single Window:

According to this method, the payer sends money transfer request to the National Single Window mechanism and this request

is forwarded to the Bank (*of the payer*).

- The payer makes electronic guaranty for their payment through the National Single Window mechanism.

This method is basically similar to the current electronic guaranty method. The difference is that the payer sends guaranty request to the National Single Window which is forwarded to his Bank to execute the guaranty instead of sending the guarantee request directly to the Bank.

#### ***4.2.2.2. Making payment via spent account:***

In order to make electronic payment via the National Single Window under this model, the payer shall open an account or electronic wallet (e-wallet) via National Single Window Portal. The account or e-wallet via National Single Window Portal of the payer will be linked to that individual's or entities' account at commercial banks or payer's e-wallet offered by intermediate paying service providers. The payer makes the payment transfer via a tool provided by the National Single Window Portal.

#### **4.2.3. Developing process of electronic payment via the National Single Window mechanism**

It is suggested by the writer an electronic payment process which could be commonly applied for related parties who carry out procedures with vehicles and goods transported through roads, sea, rail and air ways via the National Single Window as and when qualified with the view of reducing time and cost for all stakeholders.

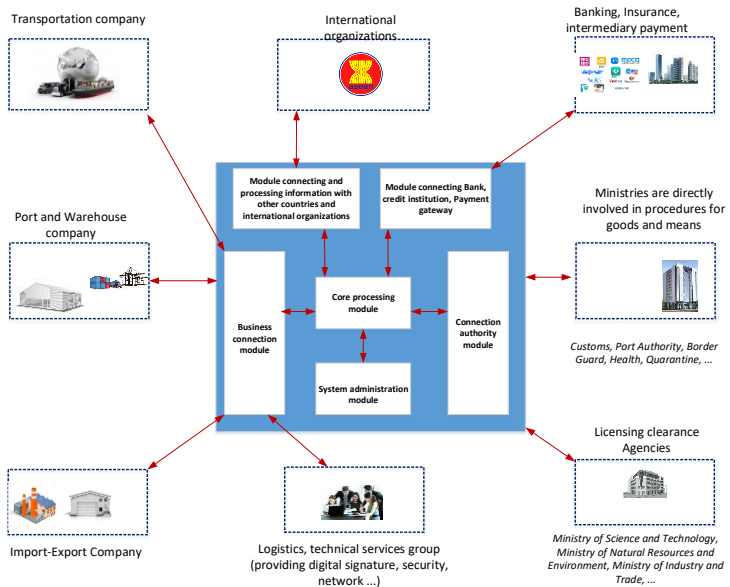
The processes are built upon the concept of "***Integrated payment***". The entire payment phase is tightly integrated in the process of implementing procedures including:

- Group of electronic payment processes not via a spent account.

- Group of electronic payment processes via a spent account.

#### **4.2.4. Ensuring information system for electronic payment through the National Single Window**

In order to ensure electronic payment through the National Single Window, the author has proposed a suitable information technology system model to ensure that it can be connected to all related parties, which meets current requirements as well as ensures future scalability and development in order to make electronic payment through the National Single Window.



In addition, the writer also proposes information technology solutions to ensure that all stakeholders are connected in accordance with telecommunications infrastructure, and infrastructure which provides current electronic transaction authentication services in Vietnam; which ensure that electronic transactions between the parties are fast, safe and confidential.

#### 4.2.5. Financial Solutions

For Government agencies, it is necessary to save sufficient funds for the following works:

- Completing legal regulations;
- Building a system of national single-window information

portals centrally deployed at the General Department of Customs;

- Building and upgrading information systems at ministries and branches;

- Communicating, training and supporting businesses.

Communication, training and business support should be coordinated with stakeholders such as commercial banks, companies providing value-added services (informatics companies, companies providing payment intermediary service .....) to match with training needs and reduce costs from the Government Budget.

For businesses that need preferential loans to upgrade their IT systems, it is necessary to have socialization policy for third parties (IT companies, companies providing intermediary payment services, ...) in order to provide solutions for businesses to make electronic payments via the National Single Window; and to create a mechanism so that third parties can invest and collect fees to provide services on solutions, connection, transmission, data processing, .....

#### **4.2.6. Other solutions**

In addition to the above-mentioned main solutions, the author proposes a number of solutions as follows: (i) Ensuring the technical support and operational guidance of the state agencies for the electronic payment system through the National Single Window; (ii) Ensuring a favorable social environment for electronic payment through the National Single Window; (iii) Increasing the awareness of stakeholders; (iv) Ensuring the human resources of the parties involved in making electronic payment via the National Single Window; (v) Enhancing the service providing capacity of commercial banks.

#### **4.3. EFFICIENCY AND CAPABILITY FOR EXPANSION OF E-PAYMENT VIA NATIONAL SINGLE WINDOW (NSW)**

Originated from the research gaps, research questions, proposed models, the author chose quantitative research to test the effectiveness of e-payment via NSW. Within the scope of research,



to prove the effectiveness of electronic payment through the National Single Window, the author built a payment simulation system between the parties on the computer system. Through the advanced programming language, the simulation system has calculated the time saved for the procedure of marine fees payment is 692 days and for the licensing of import and export goods is 1632 days in a year.

E-payment via NSW would satisfy the modern management methods that will apply in the future of state management agencies as well as the demand for payment between enterprises within chain of international trade in Vietnam.

#### **4.4. PROPOSED IMPLEMENTATION AND RECOMMENDATION PLAN**

Based on the aim the Party and the Government on the implementation of international commitments, trade facilitation, the implementation of the national single window mechanism, reduction of cash payment in the economy, the author proposed an implementation of e-payment via NSW as well as recommendations to the Government; the related ministries and agencies; Vietnam Chamber of Commerce and Industry VCCI, business associations; the business community and the press agencies.

### **CONCLUSION**

Viet Nam has deeply integrated on many levels and has diversified in form, in accordance with the principles and standards of the global market; have diplomatic relations with 185 countries, economic relations with 224 countries and territories, establish strategic partnerships with 15 countries, comprehensive partnership with 10 countries. So far, 64 countries have recognized Viet Nam's economy as a market economy,, including major trading partners of Viet Nam. Viet Nam has signed 12 bilateral and regional free trade agreement (FTAs) and is in process to negotiate 4 new generation FTAs. The international environment has witnessed rapid fluctuations in recent times. Participation in negotiations and signing FTAs have a positive impact on economic

development, but also face with many challenges coming from external and internal economy, especially protectionism which trends back to the world.

Until now, Viet Nam has joined in several value chains which play important role to global economy including: food security and the value chain; energy security and the value chain (oils, gas, coals); textile value chain, leather and footwear...and import-export has an important role in economic development of nation. The implementation of National Single Window is very important in mater plan of administrative procedure reforms, improve the national competitiveness. All of contents which mentioned in Chapter 3 has found that the government administrations play their key position in policy making, creating infrastructures and directly implement such operations but businesses also play very important roles in effective operation of National Single Window. Removing, simplifying, electronic administrative procedures between business and government administration only reduce a part of time and cost of supply chain, and the remaining responsibility is the businesses have to obey a common rule, that is standards of international commerce transaction.

The research results of the author in the thesis “The solution of e-payment operation in National Single Window” are included:

Reasoning: base on their basic theories, we can give out the definitions, basic characteristics of e-payment on National Single Window; Identifying model, impact elements and impact evaluation criteria to e-payment on National Single Window; studying the experiences of other developed countries all over the world as well as in region and lesson to Viet Nam.

Practical evaluation: Practical evaluation on National Single Window implementation; practical e-payment; practical import-export products; transportations; taxes, duties, fees levied by parties who are members of National Single Window; processing of investigating results on SPSS 20 software and identifying problems, cause of un-operated of e-payment on National Single Window;

Resolutions : Identified the context, identified direction, propose good resolutions to implement e-payment on National Single Window. The proposed resolutions were not only resolved existing problems of this thesis but also be expanded in the future. The simulator information system of e-payment on National Single Window has been built in advanced programming language to approve efficiency of new payment resolution in comparison with current resolutions. Operating plan as well as particular proposal to Government, Ministries, Business Association, Commercial Chamber and community are figured out to ensure the implementation of e-payment on National Single Window.

Through study result of this thesis, the postgraduate has given out a practical approaching, effective resolutions, to implement a breakthrough in payment of taxes, duties, fees on import-export goods, transportations in master plan of national trade procedures reforms, contribute to cut down, streamline trade procedures, reduce time and cost for government administration and business community. The result of this thesis can expand to operating the target of national social economic, improving national competitiveness in the coming time.