



# **SUPPLIER'S DELIVERY IMPROVEMENT**

Case study: Post & Telecommunication  
Equipment Joint Stock Company

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Bachelor's Thesis  
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## **ABSTRACT**

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Supplier's Delivery Improvement – Case study: Post & Telecommunication Equipment  
Joint Stock Company

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The commissioner of this thesis is Post & Telecommunication Equipment Joint Stock Company (POSTEF). The supply chain model of POSTEF is make-to-order which means that POSTEF only produces when receiving order from customers, but POSTEF always have late shipments affecting to its production. Besides, based on company's business strategy, POSTEF wants to expand business to neighboring countries, so improving supplier delivery performance is a hot issue at POSTEF in order to secure supply for production and improve to be stronger before expanding to other countries.

The thesis is to point out factors having an impact on supplier delivery performance and further, it suggests solutions and implementation method. The qualitative analysis from internal documents, literature resources, annual report of POSTEF and interview with Sales Manager of POSTEF who is responsible for supply chain, logistics, import-export, sales and customer service at Southern Branch of POSTEF are applied to analyze situation of POSTEF.

The findings of analysis is that POSTEF is not active in delivery control and direct handling in sea shipment. In addition, communication between POSTEF and its suppliers is not effective to speed up work process and update shipment information soon to POSTEF. The author suggests POSTEF to change importing by Incoterm 2010 CIF to Incoterms 2010 EXW and FOB to gain more responsibilities in shipment planning and handling in order to have more rights in delivery control. Besides, to communicate effectively with suppliers, EDI is suggestion of the author to transfer information and data faster and secure data from losing as well as reduce errors in keyboard data entry.

The thesis can be used as a guideline of improving supplier delivery performance for relevant late shipment affecting factors. To implement these solutions, POSTEF needs to have commitment with top managers of POSTEF, trading partners, forwarding company, carrier and EDI network provider. Making careful analysis and selection in forwarding company, carrier and EDI network provider are the most important step to implement these solutions successfully.

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Key words: Supplier Delivery Improvement  
Communication with suppliers  
EDI

Active delivery control  
Incoterms 2010

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**GLOSSARY or ABBREVIATIONS AND TERMS (choose one or other)**

POSTEF	Post & Telecommunication Equipment Joint Stock Company
EXW	Ex Works
FCA	Free Carrier
FAS	Free Alongside Ship
FOB	Free On Board
CFR	Cost and Freight
CIF	Cost, Insurance and Freight
CPT	Cost Paid To
CIP	Cost Insurance Paid To
DAT	Delivered at Terminal
DAP	Delivered at Place
DDP	Delivered Duty Paid
EDI	Electronic Data Interchange
EFI	Electronic Funds Interchange
ERP	Enterprise Resource Planning
SAP R/3	Systems, Applications and Products

# 1. INTRODUCTION

## 1.1 Necessity of thesis

According to General Statistics Office of Vietnam, in the first nine months of year 2015 total Gross Domestic Products (GDP) went up 6.5% compared to the same period of last year, while GDP of industry and construction group increased by 9.57% (Social and economic situation in 9 months of 2015). Through these statistics numbers, it is clear that Vietnam economy is on the increase, and it is not an exception to telecommunication sector.

The evidence of the development of telecommunication sector is that total mobile phone subscribers of the first six months were estimated to rise 14.3% compared with 2014 as well as the revenue increase of 8.4% in telecommunication sector based on publication “Social and economic situation in 6 months of 2015” of General Statistics Office of Vietnam. Corresponding with the rise in consumption and revenue of telecommunication sector, the large amount of telecommunication product has been produced, and obviously the amount of material imported has climbed respectively. Therefore, it is important to take control of delivery and enhance communication with suppliers. This is a major issue that has got attention of all companies, and it is always on top priorities of any manufacturers to secure supply for production.

Understanding the importance of on-time delivery, the author decides to write a thesis named “Supplier’s Delivery Improvement - Case study: Post & Telecommunication Equipment Joint Stock Company (POSTEF)”. In this thesis, the author will present her suggestions to the commissioner company POSTEF to improve delivery performance of suppliers in the situation that delay shipment results from inactive delivery control and ineffective communication with suppliers. Following that, the author analyses current business situation at Post & Telecommunication Equipment Joint Stock Company and provides solutions in order that POSTEF will be more active and effective in delivery control and communication with suppliers. This thesis topic appeared in author’s mind while doing practical training at the commissioner company as an import documentation intern student. Therefore, the author can observe follow-up shipment process of the company and realizes that every week the company always has delay shipments without

delay information from suppliers. After acknowledgement of the delay shipments, next action of the company is to contact to suppliers by email, request suppliers to explain for delay shipments and remind them to deliver agreed shipment at the earliest opportunity. Stemming from inadequacies, the author was inspired in figuring out some solutions to improve delivery performance of suppliers practically by replacing another Incoterms 2010 and applying Electronic Data Interchange in communication with suppliers at POSTEF.

## **1.2 Thesis objectives**

By researching current business situation at POSTEF and author's desire to reduce occurrence frequency of delay shipments, the author focuses to answer these research questions as followed to reach her desire:

1. How does POSTEF implement the most active and cost effective Incoterms 2010 in shipment control?
2. How could POSTEF improve supplier delivery performance by communication with suppliers?

## **1.3 Research method**

The thesis is applied qualitative research to figure out answers of research questions and reach the goal of thesis. The thesis gives a clear view of current operations method in importing materials at POSTEF. From there, the author suggests implementation method of the most advantageous Incoterms and effective interaction tool with suppliers EDI in order to improve delivery performance of suppliers. Primary data of POSTEF can be taken from the official website of the company. Additionally, to gain internal information, point of view of POSTEF leader and supervision, an interview is conducted with Sales Manager who is also responsible for logistics and supply chain at Southern Branch of POSTEF. Besides, literature from reliable articles, business journals and official website of reliable organization is used to strengthen author's opinions in the thesis.

## **1.4 Thesis structure**

The thesis is divided into six chapters. The first part is to introduce why the author chooses this thesis topic, the goal that the author wants to achieve and the research methodology applied in the thesis. The second chapter mentions about theoretical framework about the importance of delivery performance in supply chain and factors affecting to delivery performance of suppliers, especially highlighting the delivery control activeness factor which is the core problem of POSTEF in importing materials. In this chapter, the author also focuses to introduce two concepts Incoterms 2010 and Electronic Data Interchange as effective solutions to improve delivery performance of suppliers. Then, the third chapter describes current business situation at POSTEF focusing on importing material process. In the same chapter, the author presents two solutions to improve delivery performance of suppliers through Incoterms 2010 and EDI as well as implementation method of these solutions for POSTEF. In the fourth chapter, result of the interview is analyzed to have clues for thesis and show opinions of POSTEF leaders in their issues and suggested solutions. The fifth chapter is given the conclusion to sum up findings of the thesis. Finally, the last chapter is the recommendation of the author to POSTEF based on the conclusion.



## **2. THEORETICAL FRAMEWORK**

### **2.1 Delivery performance and its affected factors**

#### **2.1.1 Supply chain management theory**

During the existence and development of any organization, purchasing operations and supply of goods are indispensable activity. The more the society has grown the more important role of supply chain. Nowadays, supply chain is considered to be strategic weapons to improve competitiveness of enterprises in the market. Although concept of supply chain is quite new in Vietnam, but around the world, many researchers have made various concepts about it. Supply chain is the link between companies which are responsible for bringing products and services to market, and it includes external and internal linkage for companies (Chow and Heaver, 1999:413). Particularly, supply chain is a network of factories and distribution selection to perform functions of materials procurement, transforming these materials into semi-finished products, finished products and distributing these finished products to customer. Thus, supply chain comprises all matters related directly or indirectly to satisfy customer demand. It does not only include manufacturers, suppliers but also relates to transportation agencies, warehousing service providers, retailers and customers.

According to Council of Supply Chain Management Professionals (2009), Supply Chain Management includes “designing and management of all activities involved in sourcing and purchasing, transforming, and all logistics management activities”. Based on this concept, managing supply chain is the manipulations affecting supply chain operations to achieve desired results. It is to manage the relationship with suppliers and customers in order to provide customers the highest value of products and services at the lowest cost for the overall supply chain. The work of managing supply chain is the coordination of production, storage, location and transport between members of supply chain to optimize all activities from the first stage which is order receiving to the last step that is distribution to customers including after-sales phase. The last objective of supply chain management is to create products and services of high quality with the lowest cost and deliver them to customer as fast as possible.

### 2.1.2 Process of supply chain

The value chain of supply chain is shown in figure 1 below which describes the process of five stages in supply chain.

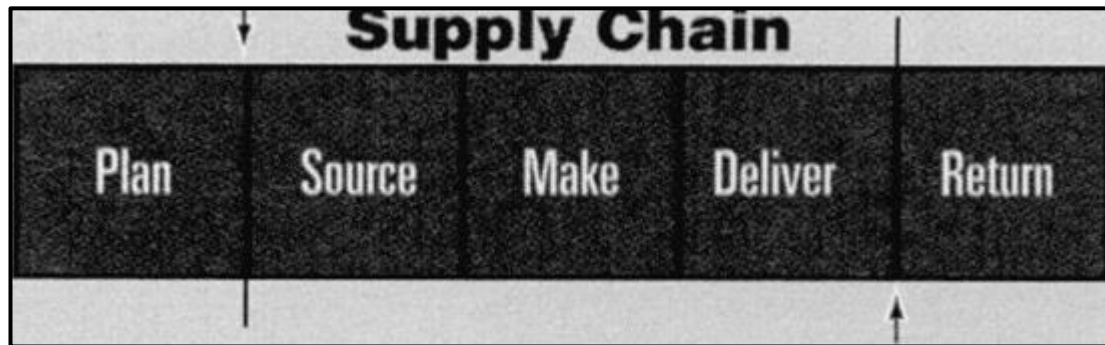


FIGURE 1. Value chain level 1 process relationship map

(Source: Bolstorff, 2005:20)

Based on Bolstorff (2005:19), there are five basic stages of supply chain process which includes planning, sourcing, making, delivery and return. Planning is the first step of supply chain, and at this stage the enterprise decides and plans products and services to produce. After deciding products and services to make, all components of products and services need to be listed to prepare for next step. Obviously, at the planning stage, the enterprise must forecast sales order to estimate the amount of components they need to produce so as to calculate relevant number of materials to purchase. Next phase is sourcing that is when the enterprise has the list of components of products and services on hand, the company will collect information of all suppliers who are possible to provide materials to produce the components. Based on supplier criteria of company, the most suitable supplier will be selected and next, they will implement contract discussion and contract signing to purchase materials. Then, making is the third step of basic supply chain process. In making phase, materials are transformed from components and materials to semi-finished components, and they will be assembled to become finished products and services. The fourth stage is delivery to customers which can be considered as the important step because it is the step to bring products and services to customers. If delivery stage is slow or makes errors, customers' feedback to the company will be not good although other previous stages of basic supply chain process are perfect. To achieve the highest value in delivery stage, transportation management and warehousing management should cooperate closely in order to fulfill customers' order

fast and correct, and then dispatch these orders to customers quickly. Finally, return is the last phase to collect feedbacks from different departments and organizations to assess the process and build improvement plan for better and more complete supply chain. This step is also to return products which are damaged, under performance, in need of upgrade and excess production.

### **2.1.3 Definition of delivery performance and its affected factors**

Delivery performance is an important indicator to assess successful level of supply chain in delivering the right quantity with the right quality to the right place at the right time. It is supposed to be an extent of customer's expectation to the delivery of products or services. In supply chain, there are many suppliers and customers involved in the chain, but in this thesis, delivery performance improvement is considered only between the selling supplier of materials and the purchasing supplier. Delivery performance is rarely to use separately, it will be used with others measurements to evaluate supply chain from the first suppliers in the chain to end customers (Madhusudhana Rao, Prahlada Rao and Muniswamy, 2011:205). Besides, delivery is the final step in every process of supply chain to provide products and services to the next customers who could be the end customer or another supplier. Consequently, no matter how perfect previous steps are, if delivery to customer fails or makes errors in quality, quantity, time and place, all efforts are affected by poor delivery performance.

In competitive market and abundant product brand names, customer's requirement has become more and more severe towards suppliers. To customers, product availability for usage is important, so suppliers need to improve delivery performance by reducing delivery lead time which is calculated from the moment that customer places an order to product receipt at customer's hands. In practice, delivery performance improvement is not easy, especially for nation-wide companies or international brand names. The reason is that regards nation-wide companies and global-wide trademarks, the complexity of supply chain is inevitable explained by following factors cross-cultural management, technology establishments, educational level and geographical distance. Due to difficulties listed above, for the ease of controlling and monitoring, and synchronization of the entire organization these companies have to apply measure indicators about delivery performance to evaluate delivery performance level and examine which factors they need to be improved.

In order to improve delivery performance, suppliers seek elements affected delivery performance that are delivery speed, activeness in delivery control, lead time in manufacturing and procurement (Giovani J.C. da Silveira, Snider, Balakrishnan, 2013:426). To a supplier, making an impact on delivery speed is hard because it depends on carrier and objective reasons happening during transport. Based on experience and business advantage of each carrier, suppliers need to collect the information and make criteria to choose the best suited carrier since delivery speed is based on transport route and driving experience of physical carriers. About delivery control activeness, it is better if purchasing company takes more responsibilities in delivery so that this company has more rights to control and solve problems incurred. The last factors are lead time in manufacturing which is time from receiving materials for production to completing finished products and lead time in procurement that is time from placing an order to receiving materials from supplier. Obviously, these two factors make a direct and clear impact on delivery performance as if lead time in manufacturing and procurement are extended, there are three prospects of late delivery, delivery time extension or inventory increase happened. Due to increase in total lead time, delivery time needs to be extended or if suppliers keep normal delivery time, products and services are sent late to purchasing company as anticipated. In case of inventory increase, although total lead time in procurement and manufacturing rise, so as to be in time for normal delivery lead time to end customers, the purchasing suppliers have to increase the size of inventory which goes up warehousing and inventory costs. Through the explanation above, delivery speed, delivery control activeness, lead time in procurement and lead time in manufacturing are core elements in delivery performance improvement of a purchasing company toward its suppliers. In this thesis, delivery control activeness which is also called delivery dependability is analyzed and applied to improve delivery performance of suppliers. Particularly, delivery control activeness is shown through taking more responsibilities in delivery expressed through more active Incoterms, and it can be supported by applying more effective communication with modern technology Electronic Data Interchange which both terms are explained below.

## **2.2 Incoterms 2010**

### **2.2.1 Definition and role of Incoterms 2010**

Incoterms which were first published in 1936 by International Chamber of Commerce are essential terms in international trade to regulate responsibilities of seller and buyer in details. In addition, they state clearly time of risk transfer between seller and buyer about damage and loss of commodity, transportation, insurance, tax and customs clearance responsibilities (Gardner, 2008). Clearly, they define responsibilities between seller and buyer during transport of commodity, and they do not mention about the ownership or the ownership transfer during shipping. In January 2011, new Incoterms edition was introduced with some changes compared to previous edition, and there are eleven terms in Incoterms 2010.

According to International Chamber of Commerce, Incoterms 2010 can be divided into two categories such as Incoterms which can be used for any modes of transport and Incoterms which can be applied for sea mode and waterway transport. In the first category, there are seven Incoterms which are Ex Works (EXW), Free Carrier (FCA), Carriage Paid To (CPT), Carriage and Insurance Paid To (CIP), Delivered At Terminal (DAT), Delivered At Place (DAP) and Delivered Duty Paid (DDP). Free Alongside Ship (FAS), Free On Board (FOB), Cost and Freight (CFR), Cost, Insurance and Freight (CIF) belong to the second category which can be used for only sea and waterway transport. In the figure 2, all Incoterms 2010 illustrates clearly responsibilities of exporter and importer as well as time of risk transfer.

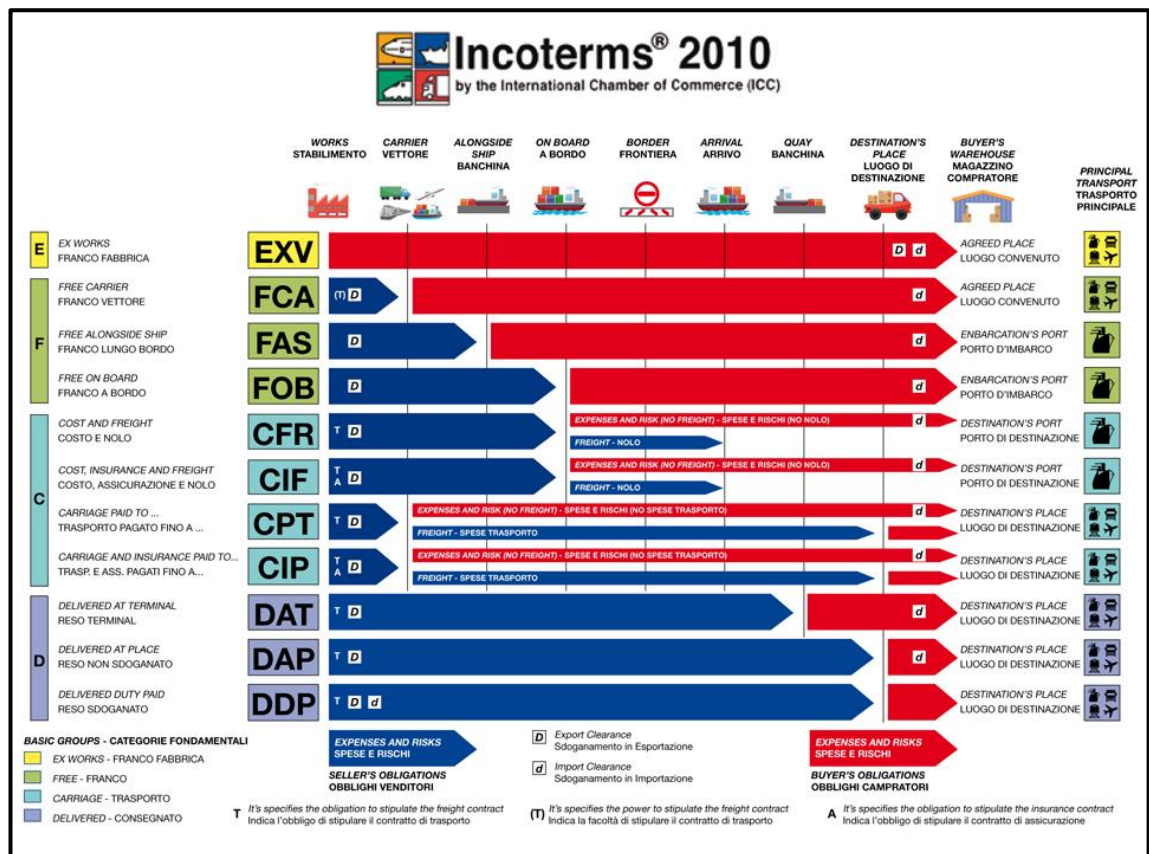


FIGURE 2. Incoterms 2010

(Source: the International Chamber of Commerce website)

The first category is Incoterms which can be used for any modes of transport.

- EXW

The seller has responsibility to deliver commodity to buyer at seller's establishments or other places which are near seller's establishments. Loading goods, transport and customs clearance included export and import customs are importer's responsibilities. There is no obligation related to insurance in EXW. As can be seen, EXW is the riskiest Incoterms to buyer because the importer has to arrange the entire transport journey and costs. However, it is the least responsibility Incoterms to the seller.

- FCA

FCA makes regulation that the exporter delivers commodity to carrier designated by the importer at seller's establishments or another named place and declare export customs for commodity. The risk transfers when goods are already loaded to means of transport.

tation of carrier which means that loading goods is responsibility of seller. If the buyer does not specify exact delivery place, the seller chooses a location where carrier can receive commodity. If the seller is required to assist in finding and making a contract with carrier, the buyer has to take responsibility of risk and costs. All responsibilities related to import tax and import procedure will be at the disposal of the importer. Both sides do not have insurance payment obligation.

- CPT

The characteristics of CPT is the same as that of CFR, but CPT includes a clause that the seller pays freight cost to receiving location specified by the buyer and bears all risks of damage and loss of goods before delivering goods to carrier including loading goods. After goods are delivered to the carrier, all risks of damage and loss of goods are transferred from the seller to the buyer. In this Incoterms, the exporter takes responsibility of carrying out export procedure and the importer takes care of import procedure and import tax. CPT does not require insurance obligation for both sides.

- CIP

In CIP, the seller is obliged similarly CPT, but with CIP the exporter has additional obligation to buy insurance premium which has minimum cover for risks in damage and loss of goods during transport to named place agreed with the buyer, and the insurance which the seller requires to buy is the minimum insurance level for commodity transport. The exporter has responsibility to carry out export procedure, pay freight cost and buy insurance for commodity during transport while the buyer is obliged to carry out import tax and import procedure.

- DAT

DAT is a new term complemented in Incoterms 2010. The seller is only be considered to complete delivery responsibility when goods are unloaded from transport vehicle to assigned wharf, port or place of destination and place commodity at the disposal of the buyer. Place of destination can include piers, warehouses, container yard or road, rail and airport terminals. The seller and buyer can agree on delivery station and if it is possible, both sides should specify location of terminal where transfers risk of commodity

from seller to buyer. The seller has obligation to carry out export procedure whereas the buyer is responsible for import procedure, customs procedure and import tax. The exporter and importer have no responsibility to make contract of insurance.

- DAP

DAP is a new term in Incoterms 2010. In DAP term, the seller is deemed to complete commodity delivery when commodity is placed at the disposal of the buyer on the arriving vehicle, and goods are ready to unload to destination place. Both parties are advised to specify named place as known as destination place as clearly as possible because that is time of risk transfer of goods from the seller to the buyer. The seller is responsible for export customs while import tax and import procedure is carried out by the buyer. No insurance obligation is mentioned in DAP.

- DDP

The seller is obliged to deliver goods to agreed place, and goods are ready for unloading from vehicle in the importer's country. Additionally, the seller bears all costs and risks until goods arrive at the destination included tax payment and customs clearance for both imports and exports. In this Incoterm, the buyer has the least responsibility in goods delivery. Meanwhile, the seller has the biggest obligation in this Incoterm. Both parties have no insurance responsibility.

The second category is Incoterms which can be applied for only sea and inland waterway transport.

- FAS

The seller is believed to complete delivery obligation when goods are placed next to vessel side at the port and from this moment, the buyer bears all costs and risks of commodity. The seller is obliged to carry out export procedure while import tax and import procedure are at the disposal of the buyer. There is no responsibility for contract of insurance for both parties.

- FOB



The seller is responsible for delivering goods until the commodity is already on board on the ship. After that, the buyer bears all costs and risks to deliver goods. The seller has to carry out export procedure while import procedure and import tax are the buyer's responsibility. No insurance obligation is at the disposal of both sides.

- CFR

The seller is responsible for paying freight cost to port of discharge. The time of risk transfer from the seller to the buyer starts immediately after goods are delivered via the ship's rail at port of loading. The seller takes responsibility for export procedure while the buyer is obliged to carry out import procedure and import tax. The contract of insurance is not mentioned in CFR.

- CIF

The seller is obliged the same as in CFR which means that when goods are delivered over ship's rail at the port, delivery risk transfers from the seller to the buyer. However, the seller has obligation to buy insurance about damage and loss of goods during transport. The seller is responsible for export procedure whereas the buyer is obliged to pay import tax and do import declaration.

From practices in international trade, Incoterms have five key roles:

- Incoterms are set of rules aimed to systematize international trade practices which are applied by companies over the world.
- Incoterms are international language in delivery and transport of goods in foreign trade
- Incoterms are important means to accelerate negotiation pace, construct contract of sale and implement foreign contract.
- Incoterms are important basis to determine purchase price of goods
- Incoterms are important legal base to make a complaint and settle disputes between seller and buyer in foreign contract of sale implementation process.

### **2.2.2 Risks from Incoterms misinterpretation**

International trade rules in Incoterms regulate responsibilities of both parties in transport, customs, insurance and responsibilities for losses incurred in shipping process. The use of Incoterms in unclear way is very easy to cause conflicts. It leads to unnecessary risks.

When international business grows steadily, goods are transported by container occupied growing proportion. FOB, CFR and CIF are still in favor of company, especially in Vietnam. Carriers and banks also make available documents which indicate three Incoterms to select FOB, CFR and CIF. That confirms that the situation of these Incoterms in container transport is very popular. However, it is not always the optimal choice.

Besides, it is needed to understand that Incoterms are part of the contract, and they do not cover all problems in the contract. Particularly, Incoterms do not include transfer of ownership of goods, breach of contract, applicable legislation. Therefore, these problems should be specifically mentioned in the contract. In the seminar 30.11 Limitation of risks in international trade in 2011, according to lawyer Thang Vo Nhat, Vice President of Vietnam International Arbitration Centre, Vietnamese companies do not know profoundly appropriate rules for large volume of bulk cargo and for container carriage. When goods are transported by container, Incoterms FAS, FOB, FCR and CIF are not appropriate choices. As for mode of transport used container, carriage stage from depot to port for loading on board is entirely carrier's responsibility. Since then, the majority of cases, risks will be transferred from seller to buyer from the time goods were delivered to transport agency in the depot not at the deck as rules FOB, FCR, FAS and CIF. Simultaneously, import and export enterprises should pay attention to eliminate to make regulations in the contract that lose the nature of business conditions in Incoterms. As such rules are likely to cause disputes for parties, and if there are any disputes, it would be difficult to resolve.

To be consistent with the time of risk transfer, the effect of insurance contract typically begins when goods are delivered to the transport agency. Because of not mastering rules of Incoterms, when foreign buyer requires Vietnamese seller to carry out transportation and insurance for export goods transported by container in the contract, some companies sign contract with Incoterm CIF instead of CIP. Perhaps Vietnamese export com-

panies are not familiar to rules of CIP. Therefore when they sign an export contract, they prefer to sign with Incoterm CIF. Consequently, if any damages occur during transport from depot to port, the insurance company can refuse to pay compensation and the seller hardly disclaim its compensation responsibility with the buyer.

For many years Vietnam involved in global economy, many Vietnamese export companies still have conception that Incoterm FOB is default in exports. Because foreign buyers have to borrow ship to take goods from Vietnam, Vietnamese export companies are only responsible until goods are delivered on board. Regards imports, Vietnamese companies often buy under Incoterm CFR or CIF. It means that the shipment will be delivered to port of discharge by carrier. Primarily, Vietnamese export companies think that this way is beneficial to reduce shipping responsibility. In fact, this has accidentally made way for foreigners to entitle the difference in insurance and transport costs.

## **2.3 Electronic Data Interchange**

### **2.3.1 Definition and basic information of Electronic Data Interchange**

According to United Nations Commission on International Trade Law (UNCITRAL), Electronic Data Interchange (EDI) is “the electronic transfer from computer to computer of information using an agreed standard to structure the information” (1998:4). Electronic Data Interchange is a process of data exchange including inventory information, invoices, vouchers, announcement documents, delivery notes, purchase orders and other business documents from one computer to another computer no matter data format of both parties is different. This process can take place between companies or organizations that agreed to trade with each other, and the process is totally automatic without intervention of human being. Also EDI can help to eliminate paper procedure by using computer and the Internet. EDI can reduce substantially time interval from starting transaction to finishing payment by sending necessary information and avoid from duplication throughout transaction process.

The operations process of EDI starts when the transaction is done by EDI, computer system of company will operate as a stockpile of necessary data to support transaction. When EDI is used, it takes information from company’s applications and transmits paperless transaction documents in the readable form of computer via telephone lines or

other network devices. At the receiving device, data can be entered directly into the computer system of partner, and it is automatically handled with internal applications at the receiving device. Because data at the sending and receiving company stores in different format, both parties need EDI Translator in order to change from company's data format to EDI standard format so that when data comes from the sending company to computer system of the receiving company, EDI Translator will translate content of data from EDI standard format to data format of the receiving company. To be clearer, the process of EDI operations can be seen in figure 3 (Hansen & Hill, 1989:409).

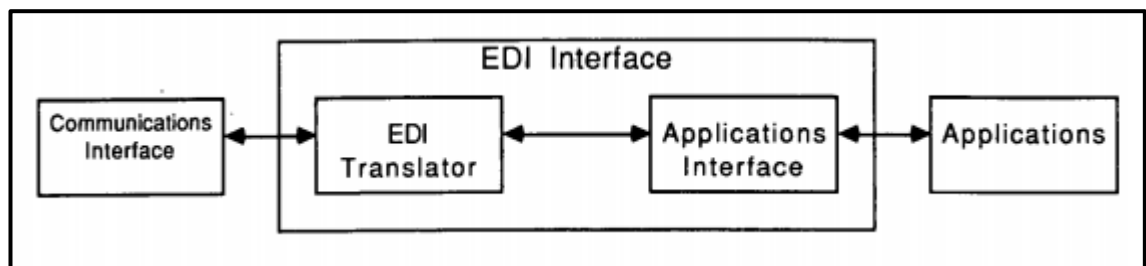


FIGURE 3. EDI Interface

### 2.3.2 Benefits of EDI

Because the mass amount of business transactions has increased significantly, paperless business transaction is getting attention from many companies due to its huge benefits. Deriving from this, many companies came to EDI as an effective tool to transmit business documents and communicate automatically and accurately with partners. The highlight of EDI is to transfer data to distant places and the content of documents is stored in agreed EDI language which can eliminate errors and cannot be rejected to receive. The use of EDI is likely using an electronic mailbox, but EDI is more convenient than a normal electronic mailbox. The data is kept in a network provider and is sent to the receiving computer system when this system is ready to receive. This is more convenient than email because in case of maintenance, system failure, or full memory, an email service provider will send an announcement email to notify the user of the failure of sending data and users need to resend data later, while EDI holds data and sends it at another appropriate time automatically. EDI is safe for information sending because data is stored in the system and it only disappears when someone deletes it. Besides, all business transactions made by EDI are recorded for referencing objectives. It also provides reports of the status of sending data such as successful transmitting or receiving data (Fynes and Ennis, 1993:16).

The advantages of Electronic Data Interchange could be divided into three groups that are strategic, operational and opportunity. Regards strategic advantages, EDI brings important and long term benefits to the company. Firstly, because sending and receiving data by EDI is faster, more accurate and undeniable than electronic mailbox, work is finished faster which leads to quicker trading cycle. Secondly, EDI helps information to be transmitted faster, and this characteristic of EDI is suitable for nature of Just-in-time manufacturing which requires real-time information for company's partners so as that the corporate and its partners can share updated information quickly and produce enough products when needed. Thirdly, inventory management will be more efficient when using EDI because stock information is transmitted and updated to all necessary entities. Last but not least, thanks to advantages of EDI in Just-in-time manufacturing and inventory management mentioned above, EDI can create win-win relationship and competitive benefits through the win-win relationship it made.

Other than strategic benefits of EDI, operational advantages of EDI have a major impact on daily activities of particular department in the company. First of all, EDI can enhance security in data transfer within the corporate and to the partners since data is hold and sent when the receiving computer system is ready to receive, and data which is hold in the system will not disappear unless someone affects it. Moreover, all trading transactions are recorded for audit purpose and the status of data transfer is announced to the sender. Next, EDI usage can reduce errors since data is transmitted in EDI language and it will be converted to data format of the receiving system when data has already been in the receiving system. Another operational advantage of EDI is to confirm receipt of purchase order, sales order and delivery order. EDI can record all trading transactions and makes a report of status of data transfer so that when the corporate sends or receives the orders, the company and its partners will acknowledge about them and have ability to track these trading transactions later.

About the last type of EDI benefits, opportunity advantage of EDI is the most difficult benefit to recognize. This benefit helps the company strengthen company's image and competitiveness. The use of EDI enhances the possibility of co-operating with more suppliers because more and more companies have been using EDI as an interaction tool for trading transactions, data and trading document transfer, these companies which are using EDI are more likely to co-operate and create long-term trading relationship with EDI-using companies (Fynes and Ennis, 1993:16).

### **3. CASE OF POST & TELECOMMUNICATION EQUIPMENT JOINT STOCK COMPANY (POSTEF)**

#### **3.1 Introduction of POSTEF**

##### **3.1.1 General information**

The precursor of company is Central Post Factory formed in 1954 after the liberation of Vietnam capital, under General Post Department. The abbreviated international trading name of Post & Telecommunication Equipment Joint Stock Company is POSTEF. Headquarter of the company is in Hanoi, capital of Vietnam, and there are many factories and branches throughout the country. In 1990, it was renamed as Postal Equipment Factory under the decision number 202/QĐ-TCBĐ of the General Director of Post & Telecommunication. In 2004, Post & Telecommunication Equipment Joint Stock Company was converted from Post & Telecommunication Equipment Joint Stock Factory under the decision number 46/2004/QĐ-BBCVT of the Ministry of Post & Telecommunication which is now Ministry of Information and Communication. Now POSTEF is one of subsidiaries of Post & Telecommunication Corporations.

POSTEF has stable market with 90% of its products is consumed by companies of Vietnam Post and Telecommunication Group including the entire post offices in all provinces and cities in Vietnam, company Viettel, Vinaphone, Mobiphone. In addition, the company's products are sold by Military Telecommunication Company, Electricity Telecommunication Company, Sai Gon Telecommunication Joint Stock Company and some production and trading units in other businesses. POSTEF also plans to export products to Laos, Cambodia and Myanmar.

According to the certificate of business registration, POSTEF' business line includes:

- Export and import of materials and equipment in postal, telecommunication, electronics and information technology sectors.
- Production and assembly of machinery and equipment in the field of post, telecommunication, radio, television, electronics and information technology.

- Sales of supplies and specialized equipment in postal, telecommunication, electronics and information technology sector.
- Construction, installation, maintenance and repair of postal, telecommunication, electrical, electronics and information technology equipment.

POSTEF produces various products in the field of post and telecommunication. There are around over 300 products categorized in 15 main product groups. Some main products can be listed as:

- Telephone: telephone set, specialized phone, coin phone, cordless phone, network device and wireless equipment.
- Postal product: electronic scale, printer, specialized postal machine, many types of mailbox, postal cabinet, cart, stamp, envelope and cachet.
- Cable and cable duct: all kinds of copper cable, coaxial cable, PVC pipe, HDPE pipe and some types of optical cable.
- Lightning protection: lightning protection system, cutting lightning equipment and lightning filter equipment.
- Connection equipment: connection blade, connection cabinet and connection box.
- Other products: speaker, power equipment, fuse, fluorescent trough, accessories for suspension cable.

### **3.1.2 Business strategy**

POSTEF enhances marketing and participation in foreign and domestic bidding to supply telecommunication and information technology equipment for construction works. Based on the advantage of the market, quality and product price, warranty service, POSTEF focuses on bonded warehouse exporting which means that the company directly exports sales to foreign contractors to build construction works in Vietnam. The company is planned to build offices in China to seek partners and supplies. To train skilled workers, POSTEF operates training under Vietnam-Japan cooperation and sends workers to China to train skill improvement. Besides, the company is seeking for exporting opportunity to neighboring markets such as Laos, Cambodia and Myanmar.

### 3.1.3 Financial performance

The summarization of POSTEF's business result between 2013 and 2014 can be shown in the Table 1 below.

Billion VND	2013	2014
Sales revenue including service providing	487	514
Net sales revenue including service providing	486.9	511.7
Cost of goods sold	425.5	431.8
Profit of sales and service providing	61.4	79.9
Net profit from business operations	9	11.7
Other profits	0.2	0.8
Total profit before tax	9.2	12.5

TABLE 1. Report of business result

(Source: Audited separate financial report of 2014)

As can be seen, the business result of POSTEF was good in both 2013 and 2014. The sales revenue increased significantly from 2013 to 2014 and total profit before tax climbed by 3.3 billion Vietnam Dong (VND). This shows effort of POSTEF to develop continuously and desire of expanding business to Cambodia, Laos and Myanmar. As a consequence, urgent problem of POSTEF is to secure supply for production by improving supplier delivery performance.

### 3.2 Supply chain of POSTEF

POSTEF's headquarter is located in Hanoi which is the capital of Vietnam. Besides, the company has another office in Hanoi and two branches in two different cities Da Nang and Ho Chi Minh City, Vietnam. It also owns five factories in the capital of Vietnam Hanoi, Bac Ninh province, Danang and Ho Chi Minh cities, and one subsidiary company providing solutions in power technology. Although POSTEF has many factories in



Vietnam, the company needs to import raw material and components from various partners, mainly from China to produce and assemble finished products.

According to Sales Manager of POSTEF Mr. Thang Phan, the supply chain model of POSTEF is direct sales to customers, and customers of POSTEF are other telecommunication companies, Vietnam Post, and many electronics and telecommunication agents throughout Vietnam. Due to business characteristics of business to business, Make-to-order is the supply chain model applied at POSTEF and it means that POSTEF produces when it receives customer order. With this model, POSTEF does not have distributors and retailers, so the basic supply chain of POSTEF has suppliers who provide raw materials and components, and customers. POSTEF uses services of logistics companies for transportation and warehousing.

To suppliers, POSTEF has built good relationship with most of its suppliers. The company understands that the establishment of close relationships with partners allows POSTEF to reach maximum profit by fulfilling successfully customer orders with good quality at the minimum costs. Most of POSTEF's suppliers are domestic raw material suppliers, and some suppliers are component manufacturers who POSTEF buys components from because the company cannot produce these components and cannot purchase from domestic suppliers with the best price and high quality.

### **3.3 Purchasing and import procedure**

#### **3.3.1 Purchasing procedure**

First of all, supply chain staff or production division prepares purchase requisition when raw material and equipment supply are required. Then, purchase requisition with signature of person who set up the purchase requisition is submitted to supply chain manager as known as Sales Manager at Southern Branch of POSTEF. The purpose is to make sure that all purchase requisitions are allowed by related manager. The purchase requisition is sent to purchasing staff to find and select suppliers who have the best price and quality. In order to implement supplier selecting phase, purchaser must choose at least three suppliers by using different information sources to ensure that supplier choosing step is done very well in pricing and reliability. After selecting three best suppliers, purchasing staff prepares comparison note among these suppliers to make sure that supplier

selecting is implemented in the best and equal way. Moreover, the purchaser needs to create master data of potential suppliers on SAP R/3 which is the enterprise resource planning system of company for usage later. When Director of POSTEF receives the comparison note, quotations and all information about chosen suppliers from purchasing staff, Director will sign for purchasing approval after considering the comparison note. The objective of Director's signing for approval is to ensure that the purchase requisition is proposed by supply chain staff, and it is passed by appropriate management levels. If the purchase requisition requires products that POSTEF has fixed and long term suppliers, purchasing staff skips selecting supplier and comparison note preparation steps. In this case, the purchase requisition is submitted to Director of POSTEF with quotation for Director's quotation acknowledgement.

After Director approves the purchase requisition, purchasing staff drafts the purchasing contract and sends draft to the supplier for review and correction. The final contract is signed and kept by both sides. Next, the purchasing staff at POSTEF creates the purchase order on SAP, exports the purchase order from SAP and sends it to the supplier by email. The shipping information is arranged and agreed by both parties and logistics company. The purchasing staff and import documentation staff are responsible for controlling shipping timetable with the supplier and logistics company.

### **3.3.2 Import and follow-up shipment procedure**

Regards shipping companies, logistics companies which carry out transportation for POSTEF are DHL and domestic forwarding company Minh Long. Due to nature of electronics components, POSTEF uses air mode of transport of DHL Express for safe and fast delivery. The rest of shipment is handled by Minh Long forwarding company which has wide network system, good service and price.

After shipping timetable agreement between both parties and the logistics company, the information of open purchase order is updated on SAP including delivery date which is known as estimated arrival date of shipment. The import documentation staff will receive notices, import document drafts and import documents from logistics companies and the supplier. For notices and import document drafts, the import documentation staff does not need to save documents, but with draft documents the staff has to check the information and responds to logistics company and the supplier whether the drafts

are correct or they need to be revised. When the staff gets the official documents, the document is saved and important information in these documents is noted in an excel worksheet named “Follow-up shipment”. The purpose of “Follow-up shipment” worksheet is to create information source of all import shipments so as to be easy to search information related to import shipments and to follow the status of shipments.

When the documentation staff receives invoice and packing list documents, in the excel worksheet “Follow-up shipment” the shipment information is created including the supplier name, the logistics company name, commercial invoice number, the product code, purchase order number, purchase order line, quantity of each product code and number of packages. Next, estimated time of departure will be added when the documentation staff receives bill of lading from the logistics company, and information of estimated time of arrival can be taken from email of the logistics company or in case estimated time of arrival does not appear in the email, the staff can estimate it based on total shipping time of previous shipments which have the same logistics company and the supplier. Then, the import staff copies the purchase order number, searches it on SAP and chooses the purchase order line which is relevant to the product code of this purchase order number, the estimated time of arrival will be updated to the system so that all people at POSTEF know when the import components will be ready to use. There is regulation that in the “Follow-up shipment” excel file, normal rows which are in white color mean that the shipments have not yet sent import documents to customs brokers. When the import staff receives full set of commercial invoice, packing list, bill of lading, arrival notice and delivery invoice and sends them to the broker for online customs clearance, white lines of the shipment in the excel worksheet are changed to yellow color. After the shipment is dispatched to the company’s warehouse, the yellow lines of the shipment will be changed to green color. The import staff can get warehousing information by searching on SAP with the purchase order number and the product code. Because of the changing color regulation of shipment in the excel worksheet “Follow-up shipment”, when opening the worksheet the import documentation staff not only can search all shipping information of the import shipment but also know the status of the shipment whether the documents of the shipment have sent to the broker or not or the shipment has arrived already to POSTEF’s warehouse.

### **3.4 Incoterms applied at POSTEF and communication method with suppliers**

In imports, POSTEF uses Incoterms 2010 CIF which means that the supplier carries out freight cost, insurance cost. When goods are already on board, risk will transfer from the supplier to POSTEF. According to Mr. Thang Phan, Vietnam maritime business services and transport agents are not expanded strongly to foreign market. In addition, transport network of Vietnam in foreign countries is too little and agent system is thin. Because of these reasons, Vietnam maritime industry has not met the demand of transporting exports goods. Freight rates of Vietnamese shipping companies are very high as compared to level of freight rates in the region. The main reason is that fleets are old and obsolete, so fuel consumption is high and major of costs is for repairs. If cargo is transported in old and obsolete vessels, many risks could happen during transport. Consequently, insurance costs would increase, and one weak point of Vietnam maritime industry is lack of container vessels and specialized vessels to transport.

About insurance issue, there are many problems related to cargo insurance; thus, POSTEF and many Vietnam import companies are prefer to use CIF than other Incoterms to eliminate to involve in cargo insurance companies in Vietnam. There are only a few trained insurance workers, so when dealing with complaints of customers, insurance staff is often confused. It leads to extend compensation time and reduce prestige of the insurance companies. Moreover, the capital of Vietnam insurance companies is small. Hence, for contract of big insurance, international insurance companies with big capital have more advantages than Vietnam insurance companies. Additionally, method of calculating insurance cost of Vietnam insurance companies is inappropriate. Thus, import companies feel that their rights are not adequate.

Mr. Thang Phan also says that because of using CIF for import, Vietnam import companies are not responsible for borrowing vessels and buying cargo insurance. Therefore, they can avoid the risks of borrowing vessels and buying insurance such as rising freight cost, increasing insurance premium, renting inappropriate vessel and no possibility of renting vessels. Due to fear of these risks, POSTEF assigns borrowing vessel and buying insurance for the foreign suppliers.

Regarding communication method with supplier, email is used to transfer import documents, orders and notices. At POSTEF there is only the headquarter and some key executives of branches using Lotus Notes system which is an integrated system of electronic email and web applications for companies and organizations so as to improve

ability to meet customer requirements and their business process. The Lotus Notes is a leader in the software market modeling Client/Server for collaborative information system and electronic commerce. Using Lotus Notes brings many benefits such as electronic email, calendar, To-do list, address book, searching for an address on the Internet, web browser and security through electronic authentication. Based on Mr. Thang Phan's sharing, Lotus Notes is a desktop program which means that in order to use this email system, the user always needs to keep laptop or other types of computer which installed Lotus Notes to access and use the system. As a consequence, only employees of headquarter and key executives can keep the company's laptops which store the company's data and installed all necessary software. The other employees have to finish work at the company office and cannot bring company's devices out of the office. The rest of POESTEF's employees use Microsoft Outlook only for company business as another company's rule. ERP is using as internal source of data and trading transaction. ERP will charge POSTEF based on number of user, so there are some ERP accounts in each branch, and these ERP accounts are set up for key employees and executives in the company. However, the other employees can borrow ERP accounts for their work when needed. To communicate with others people outside the company, POSTEF uses email systems such as Lotus Notes and Microsoft Outlook. In some cases, for the need of quick conversation Skype is used especially between import and export staff with the external broker.

### **3.5 Implementation of POSTEF for late shipments**

According to Mr. Thang Phan, everyday POSTEF imports about 20 shipments. Every Friday, the list of overdue purchase order line is over 200 lines which are approximately 13 late shipments since the average of purchase order lines in a shipment is 15. Therefore, the percentage of late shipments is 10.83% over 120 shipments importing every week. POSTEF target is to reduce this percent to below 5%, and the company even terminated purchase contract with some suppliers who have high rate of late delivery.

In work of the import documentation staff, every Friday from SAP this employee exports a list of open purchase orders which estimated time of arrival has been overdue in excel format, and names the worksheet as "Shipping Notification". If estimated time of arrival of the shipment has been passed, the purchase order will be closed. However, the purchase order is still open which means that the shipment is late as compared to agreed

shipping day. Some shipments POSTEF was announced about delay information while the others POSTEF did not receive any information about delay shipment because of forgotten notice from suppliers, late notice, missing some products in the shipment or out of the supplier's control. The next action of POSTEF is to figure out reasons for these shipments in order to remind the suppliers, require the suppliers to pay late compensation or support to arrange the shipments to arrive to POSTEF's warehouse as soon as possible.

To find out the reason of late shipments, the import documentation staff searches on "Missing goods" Excel file. In the Excel file "Missing goods", the shipment which lost goods can be found there. If the shipment appears in this Excel file, the import staff knows that the shipment has arrived already to POSTEF, but specific goods in the shipment lost. Short comment of the "missing goods" reason is noted in "Shipping Notification" worksheet. Otherwise, the import staff needs to check on follow-up shipment excel file. If the shipment appears in follow-up shipment excel worksheet, the shipment has delivered late compared to agreed date. If the late shipment does not lose goods and the import staff does not receive any shipping information recorded in follow-up shipment excel worksheet, the import documentation staff contacted to suppliers to find reasons and urged them to deliver the shipments.

- SWOT analysis

<p><b>STRENGTH</b></p> <ul style="list-style-type: none"> <li>• Support of SAP for accurate data in exporting open purchase orders which the estimated time of arrival was overdue</li> <li>• There is collaboration between warehousing workers and import documentation staff in providing information of missing goods</li> <li>• Follow-up shipment work of import staff brings updated and reliable source of upcoming import shipments for tracking</li> <li>• The import staff investigates carefully reasons of late shipment before contacting the supplier</li> </ul>	<p><b>WEAKNESS</b></p> <ul style="list-style-type: none"> <li>• The inactiveness of POSTEF in the direct handling of shipment</li> <li>• Delay in communication between POSTEF and suppliers about late shipment issue</li> </ul>
<p><b>OPPORTUNITY</b></p> <ul style="list-style-type: none"> <li>• The careful process of POSTEF in late shipment investigation and use of IT system and software make the company more sustainable and potential in business development</li> </ul>	<p><b>THREAT</b></p> <ul style="list-style-type: none"> <li>• The prolonged stagnation of import shipments</li> </ul>

Since 2013, POSTEF has started using SAP R/3 to support works. Although this decision was costly and time consuming in the beginning, when all employees have been familiar with using SAP, workload has been reduced substantially and working time has been saved for doing other works. Moreover, data accuracy has been improved since the date of using SAP. Besides, work process at POSTEF is designed step by step and it always requires employees to save data of their work for reference and to collaborate with other colleagues by sharing their work data. When receiving a new shipment, the import documentation staff has to update information of the new shipment precisely to the excel file to follow-up shipment as the reference of all import shipments. This excel worksheet could be used for supply chain staff to plan the purchase requisitions based on the arriving shipments and for warehousing staff to control goods receipt at the company warehouse.

The late shipment can cause from unexpected issues that are out of the suppliers' control. Due to the fact that POSTEF applies CIF for the import shipment, responsibility of POSTEF is limited to practically begin when the import shipment is at the port of unloading. As a consequence, most of delivery control power is on the supplier's hand. This shows that how inactive POSTEF is in shipment control if the company is still applying CIF in imports. Exporting "Shipping Notification" excel worksheet is conducted once per week, so there is blank time for discovery of late shipment and waiting the supplier's reply as well as settlement plan.

It cannot be denied that work process at POSTEF is well-organized and it has sequence step by step followed carefully by its employees. Furthermore, POSTEF uses many modern programs and systems such as SAP and Lotus Notes in saving money way to decrease workload for employees and enhance work efficiency. These things lead POSTEF to raise the company image to the suppliers. Following this, POSTEF has more choices in cooperating with many good suppliers and building long lasting relationships with reliable suppliers.

Every week the import documentation staff of POSTEF contacts to the suppliers who deliver shipment late as compared to agreed time to remind and support the suppliers to deliver the shipment at the latest opportunity. However, if the suppliers delay in responding POSTEF's email and providing solutions, there will be stagnation of the shipment from this week to another week. This has big impact on lead time increase,



production schedule and rise in warehouse size to POSTEF. These things affect directly to POSTEF operations, increase substantial costs for POSTEF and decrease competitive advantage of POSTEF.

### **3.6 Suggestion for Incoterms and Implementation**

POSTEF always apply CIF for importing sea shipment. However, CIF limits POSTEF delivery responsibility and the activeness in shipment control. To strengthen delivery responsibility and the activeness in shipment handling, the author suggests that POSTEF should change the habit of using CIF in imports and applies EXW and FOB in importing shipment. It is worth to mention that with electronics components which required air mode of transport POSTEF uses carrier company DHL Express, and domestic forwarding company Minh Long is using for contacting to shipping line, booking vessel and transportation sea shipment. Due to strong network, good service and reasonable price, DHL Express can offer all services for POSTEF under Incoterms EXW. Consequently, importing electronics components is always handled by DHL Express under Incoterm EXW. For importing sea shipment, Incoterm CIF is applied and handled by Minh Long forwarding company. Although in recent years Minh Long forwarding company has expanded offices in China where most of sea shipments of POSTEF come from, POSTEF cannot change its habit of using Incoterm EXW for sea shipment.

To EXW, the buyer has to undertake from truck and container arrangement to the factory of the seller in order to get goods, and then carry out export and import procedure, do booking for vessel, airplane and other means of transport until products will be put in the buyer's premises. Characteristic of EXW is that the importer can be active in all stages from delivery stage, understanding situation of transport to be active in cost planning to bring the highest benefits for the company. From there, the company can come up with the most reasonable production schedule, sales plan and delivery plan to customers.

When buying in Incoterm EXW, POSTEF must work with a forwarding company which has offices in Vietnam and in the supplier's country to receive the shipment and deliver it on board according to schedule. The supplier only supports to pack the shipment to be eligible for transport or to follow agreed packing standards. In addition, the supplier has to bring the shipment to agreed place in the supplier's premises or nearby

the supplier's premises. Although POSTEF uses EXW, the enterprise cannot carry out the entire shipping process because it will take lots of time, cost and human resources. Therefore, there are some stages POSTEF can outsource some activities. In applying EXW, logistics is a phase that most of companies will outsource by forwarding companies and logistics companies. The obligation of these forwarding and logistics companies is to deliver the shipment on time with reasonable shipping cost to bring benefits to POSTEF. With Incoterm 2010 EXW, the forwarding company's office in the supplier's country will perform these steps:

- Check and provide transportation costs, suitable shipping schedule with the most effective cost
- Arrive to the supplier's warehouse, receive the shipment and inspect the shipment at the supplier's warehouse
- Transport the shipment to port of loading and implement customs procedure
- Load the shipment on board, track the shipment until it is transported to port of discharge

The forwarding office in Vietnam will carry out these actions:

- Contact with the forwarding office in the supplier's country to update the shipment information and track the shipment to know the arrival date
- Prepare import documents and carry out customs procedure for imports
- Transport the shipment to POSTEF's warehouse

Imports used Incoterm CIF or CFR will not reduce more risks for the importers than FOB. Because CFR, CIF and FOB are similar in time of risk transfer that the shipment is already on board, the difference is cost responsibility. According to CFR, the supplier must bear the transportation cost to port of discharge, and to CIF, the supplier of POSTEF has to bear transportation cost which is the same as CFR, but the insurance cost is added to CIF cost. Therefore, POSTEF should clearly distinguish between risk obligation and cost obligation.

However, import by FOB will have multiple benefits both on national level and for the importer. On the national level, imports under FOB the Vietnamese importer has contributed to reduce foreign currency spending because the purchasing price of FOB is

cheaper than CIF and CFR. On the corporate level, when signing a purchase contract imported under FOB means that the importer wins the right to decide transport and insurance of the shipment. POSTEF can actively negotiate transportation and insurance contracts so that the company can save money when they negotiate to have better freight rate and cheaper insurance cost. Even when POSTEF has the same freight rate and insurance cost as the supplier, taking the right to decide transportation and insurance costs will contribute to national interests and simultaneously, it will reduce more risks when POSTEF can actively assign carrier company and forwarding company at the supplier's country. Agents of carrier at the port of loading will contact the supplier to check the availability of goods, quantity, volume and the like. The inspection result will be then reported to the importer POSTEF by the agent of carrier at the port of loading. This work will help to reduce risks when the supplier is unreal or production situation of the supplier has problems.

Importing under CFR or CIF brings underlying risks for the importer. Since the exporter is usually assisted to select the carrier, the carrier and the exporter can together participate to deceive the importer. For example, although the shipment has not yet delivered to the carrier or the shipment has not been already on board, the carrier issued bill of lading as evidence to force the importer paid costs for the exporter when the payment condition regulates to pay total costs after delivery. The imports under FOB, CFR and CIF are completely independent in payment for goods. The payment depends on the conditions and payment method between the exporter and the importer.

In addition to get to know carefully the exporter, POSTEF has to pay attention to other factors such as certificate of quantity and quality of a reputable intermediary agency, making a request to the carrier supervised packing, delivering and tallying rather than only trusting in delivery conditions to minimize risks. Although it is probably hard to persuade big suppliers to let POSTEF do all arrangements, POSTEF should try to win more rights to decide as much as possible included hiring the carrier and buying insurance for the shipment.

The implementation of Incoterms EXW and FOB is quite similar. For both Incoterms EXW and FOB, POSTEF needs to find trustworthy forwarding company. For Incoterm EXW, POSTEF has to assign transportation company to deliver from the supplier's premises to deck of vessel at port of loading or supervises the forwarding company to

select appropriate transportation company, while to FOB POSTEF does not need to use transportation company for this journey. Furthermore, the forwarding company has to carry out export and import declaration under Incoterm EXW whereas importing under FOB the forwarding company is only responsible for import declaration. Besides, POSTEF needs to pay export and import tax for importing under Incoterm EXW while only import tax will be paid by POSTEF when importing Incoterm FOB.

As mentioned above, in order to apply Incoterms 2010 EXW and FOB POSTEF needs a forwarding company which has offices or branches at the supplier's country. To China where most of foreign suppliers of POSTEF are located, POSTEF could try Incoterms EXW and FOB China with Minh Long forwarding company. If anything does not go well, POSTEF could change partly of sea shipments using Incoterms EXW and FOB to new forwarding company which has been researched carefully and when the new forwarding company can prove its ability to operate sea shipment under Incoterms EXW and FOB, all sea shipments will be handled by the new forwarding company.

### **3.7 Suggestion for communication method with suppliers**

In relationship with foreign suppliers, email is the only one communication method of POSTEF. However, using email in communication with the supplier brings many drawbacks. Everyday export-import staff receives hundreds of email or even a thousand emails sending from suppliers, forwarding companies, carriers, brokers and colleagues with many kinds of export-import documents. Therefore, memory of email is full very quickly after a few using days. It will lead to not be capable of receiving any emails when the memory is full and then, the export-import will receive failure message automatically from email system or emails can be failed to reach the recipient although they were sent successfully. It is very dangerous when the supplier assumes that email was sent to the import documentation staff of POSTEF, but in fact the email was missed and cannot reach POSTEF staff. Meanwhile, EDI system will store data until the receiving device is ready to receive and the strong points of EDI are to inform the status of sending data and to record all trading transactions for reference. In consequence of these strong points, the supplier knows whether the import staff of POSTEF has received the data or the data has been opened by the receiver. Besides, the supplier has trusted evidence for all transaction made by EDI.

Due to step reduction in a trading transaction with EDI, POSTEF should implement EDI program following an implementation process of 11 phases excluded integration EDI with Electronic Funds Transfer based on Garren Hagemeyer (1997:28). The first step in the strategic plan of implementing EDI is to make a research and learn all concepts of EDI technology and requirements for EDI implementation. Although implementing EDI in the company requires a reputable EDI network provider, EDI usage is a big decision which will have a corporate-level impact on changes of the company's trading way. The changes of trading way starts from differences of a trading process between non-EDI applied process and EDI applied process because by using EDI, keyboard data entry and paper transfer can be reduced significantly. Also POSTEF needs to understand clearly all concepts used in EDI technology as well as advantages of EDI usage, requirements for EDI implementation and impacts on POSTEF business so as to control and support the implementation project of EDI network provider for POSTEF. The second step is to make an EDI project group which includes managers of all departments. EDI program will affect extensively to working process of all departments, so it is necessary to let all managers involved in. The purpose of this project group is to collect and analyze EDI concepts, basic requirements of EDI implementation and EDI project budget. In addition, the project group should share the information they found to the entire company to help other people get concerned about importance of EDI usage and utilities of EDI. Thirdly, POSTEF should evaluate EDI impact on financial situation and human resources of the organization. The company needs to calculate the total costs from creation internal EDI project group to the end of EDI implementation project including maintenance and upgrading EDI costs. Though EDI helps POSTEF save business operations costs and EDI network provider will supervise POSTEF through the implementation process, the company has to figure out economically EDI implementation way. Simultaneously, because of reduction in trading process and in trading time, EDI usage can reduce the need of the amount of current employees. As a result, POSTEF should consider and eliminate human resource disorder. In the fourth phase, managers of all departments provide support for EDI program and prepares a document listed and analyzed all internal and external factors to consider implementing EDI. As mentioned above, EDI will change trading process, purchasing and sales procedures. Furthermore, other departments will be affected by these changes such as marketing, customer service, accounting, warehousing and distribution. The managers will support EDI implementation project by using their knowledge and experience of their functional departments and their EDI understanding.

The fifth step of EDI implementation is to examine EDI standard types in EDI market. There are three types of EDI standard to select based on business industry and geographical scope of trading. The first type of EDI standards is EDI standard for trading only in one single industry. The second type is national EDI standard for trading in many industries, and the last EDI standard type is international EDI standard for administration, commerce and transportation. All EDI standard types use the same syntax which is known as EDI language, so the data transfer process is the same. The selection of suitable EDI standard types can be supported by group of all managers at POSTEF. The author suggests that POSTEF products are postal, telecommunication, electronics and information technology equipment which can be classified in many industries and POSTEF's scope of trading is mainly in Vietnam with a small part in neighboring countries in near future, so the international EDI standard for administration, commerce and transportation is the right one for POSTEF. The sixth phase is to persuade POSTEF's trading partners to implement EDI for their companies. There is no meaning when only POSTEF implements EDI while the rest of its trading partners use email to communicate with POSTEF. POSTEF should share its knowledge and analysis about EDI program to its trading partners and discuss with the trading partners about third party network provider selection and criteria. In addition to choosing EDI standards, the seventh step is that POSTEF has to select EDI transaction package based on company's needs and budget. POSTEF will contact to EDI network providers to be given more information about benefits of different EDI transaction packages. The eighth phase is to decide whether POSTEF would like to use value added network or internet based EDI. If POSTEF would love to use a third party network provider to provide value added network instead of internet based EDI, the company needs to choose carefully the network provider in order not to lose information. POSTEF should apply value added network to receive 24-hour support of network provider and other consulting in EDI usage. The important thing is to find out the trustworthy third party network provider.

In the ninth step of EDI implementation is to discuss with trading partners and third party service provider about legal obligation. It is important to determine legal responsibility and signs a commitment paper for that. Data transfer has to be protected under law from data leakage and losing information. The next step is to decide appropriate business process to integrate with EDI. As EDI will reduce steps in trading transaction and leads to the situation of fewer works, POSTEF could use the EDI implementation as

a chance to arrange business process of all departments and information flow in information system of the company. The last step is that POSTEF can start using EDI for several transactions with careful observation to test installed EDI system and learn to use EDI with its trading partners. When EDI implemented well at POSTEF and POSTEF staff and its trading partners can use EDI in data transfer smoothly, EDI will be applied extensively for all trading transactions of POSTEF with trading partners who have implemented EDI already for their companies.

Regarding cost of implementing EDI, it is varied based on EDI package and pricing calculation model of EDI network provider. As a consequence, POSTEF should make a research about suggested price of EDI from many different EDI network providers. The price is based on the number of trading partners in EDI system of POSTEF, how large POSTEF's business will cover based on geography, support and training services from EDI network provider and EDI package selection. Moreover, POSTEF has to pay for EDI network provider based on the amount of transferred data used by EDI, so the company should think whether they should choose to pay based on the kilo-characters of transferred data or they can pay monthly and annual subscriptions due to huge amount of kilo-characters transferred (Cost of EDI).

As mentioned above, EDI implementation has an impact on purchasing procedure process. Specifically, after POSTEF creates a purchase order, there is no need for POSTEF staff to send an email included the purchase order to the supplier because the purchase order is sent automatically to the supplier. In addition, the supplier will receive the purchase order immediately without need of checking email. The big advantage of EDI is that all information in the purchase order is transferred to the supplier's purchase order format. Thus, the supplier's staff does not need to type the purchase order in their system again. Next, the supplier's staff makes pick-up list and their warehousing staff will pick up and ship materials according to the pick-up list. Then, the invoice will be prepared by the supplier's staff and it is sent automatically to POSTEF due to EDI. The invoice will be appeared in POSTEF's computer system without checking email needs and the information in the invoice will be automatically updated accounts payable in accounting system of POSTEF. POSTEF's staff will make payment for the supplier and the supplier can check the payment through bank account. EDI implementation will affect to working habit of both POSTEF and its suppliers' staff since they have a habit to send and receive documents by email. Besides, the staff may feel confused when in-

formation in received documents will be automatically updated to ERP system of company. However, after they get used to using EDI, they will feel satisfied with EDI's benefits.



#### 4. RESULT ANALYSIS

The purpose of this thesis is to analyze the current business situation and import process of POSTEF. From the analysis, the author suggests suitable solutions to improve the supplier's delivery performance by changing Incoterm 2010 CIF to Incoterms 2010 EXW and FOB in imports and improving communication with suppliers through using EDI. To understand the situation of supplier delivery performance and reasons for late shipments as well as figure out POSTEF's opinion about the author's suggested solutions, the author conducted an interview with the Sales Manager of the Southern Branch of POSTEF, Mr. Thang Phan, to collect necessary information. Through the interview, the author was successful in collecting important information and the answers to the questionnaire which were received from Mr. Thang Phan are the target of the interview.

Mr. Thang Phan provided information that every week POSTEF has approximately 13 late import shipments out of 120 import shipments. Because of using a make-to-order supply chain model, late shipments are a big disadvantage to POSTEF's production and desire of expanding business to neighboring countries. In the interview, the author knows that there is a misunderstanding at POSTEF about the meaning of Incoterm 2010 CIF in imports. POSTEF wants to eliminate risks in arranging vessels and insurance and extend the time of risk transfer until the shipment is at the port of discharge, so CIF is POSTEF's choice in order to leave its suppliers to do all arrangements until the shipment is delivered to the port of discharge. However, according to Incoterm 2010 CIF, assigning the carrier and insurance is the importer's obligation; the exporter is only responsible for paying freight cost and insurance cost, and risk is transferred from the exporter to the importer when the shipment is already on board. After knowing the misunderstanding at POSTEF regarding Incoterms, the author analyzes the benefits of Incoterms 2010 EXW and FOB and suggests POSTEF to use them to gain more rights in delivery control. Simultaneously, through the interview the author also knows that Lotus Note and Microsoft Outlook are communication methods applied at POSTEF, but they are not an effective way to obtain data due to the huge amount of emails received and the loss of ability to find email. Hence, the author suggests EDI is a more effective method to gain information because of its many advantages. Besides, in the interview, Mr. Thang Phan stated that changing to another Incoterms is difficult to implement since the company has been used to applying CIF for a long time in imports. In addition, EDI is new technology to them, but it is quite interesting for them in order to improve their communication with suppliers. Based on these infor-

mation, the author gets to know POSTEF's problems, consideration of the company in lack of information and in implementation method for the author's suggestion. From this, the author introduces basic implementation way of both Incoterms 2010 EXW, FOB and EDI as well as their benefits to POSTEF.

After the interview, the author was successful to get needed information about import process of POSTEF and its consideration. Following this, the author knows that current business of POSTEF, late shipment causes and POSTEF's idea in using Incoterms 2010 EXW and FOB as well as in using EDI to obtain data from its other trading partners. Thus, the interview met its target.

## 5. CONCLUSION

The economy of Vietnam has developed steadily in recent years, and it entails rise in consumption of mobile subscribers and telecommunication equipment demand. Through profit before tax of POSTEF in 2013 and 2014, the large amount of telecommunication equipment produced which corresponds to huge amount of materials and components imported to produce finished products. Due to dependence on materials and components imported for production, delivery performance of suppliers gets much attention from POSTEF. In order to improve delivery performance of the suppliers, active delivery control and effective communication with suppliers by using EDI have been suggested by the author to ensure that all imported shipment will arrive to POSTEF's warehouse on time.

In active delivery control, Incoterms are key role to get activeness in delivery planning and direct handling shipping issues. As a habit of using Incoterm CIF of POSTEF for imports, the suppliers plan the delivery and handle all issues incurred with initial agreement in shipping and other things between both parties. With Incoterm CIF, time of risk transfer from the supplier to POSTEF is when the shipment is delivered over the vessel's rail at port of loading, freight cost and insurance cost is paid by the supplier. As can be seen, all shipment arrangements outside Vietnam will be handled by the supplier and carrier company. Therefore, if there any problems happened during transport, the supplier and carrier company will handle first and in case the shipment will be late, the supplier will announce to POSTEF later. However, every week POSTEF still has had many late shipments without any late shipping information. This could result from forgetting late shipment announcement from the supplier, late announcement of late shipments from the supplier and unexpected problems which are out of the supplier's control. As a result, POSTEF should take more shipping responsibilities so as to gain more rights in delivery planning and control. Simultaneously, gaining more rights in delivery planning and control will prevent the supplier and carrier company from cooperating to cheat POSTEF in stating soon estimated time of departure on bill of lading in order to get money soon from POSTEF if the payment condition in the contract requires payment immediately after shipment is on board. For these two reasons, POSTEF should change their import sea shipments from Incoterm CIF to Incoterm EXW and FOB to have ability to select carrier companies, forwarding companies, make shipping plan, update shipping information soon and handle all shipping issues. By applying these In-

coterms, POSTEF can early intervene into incurred issues to ensure that all shipment could arrive to POSTEF at the earliest. To implement successfully Incoterms EXW and FOB, POSTEF needs to cooperate with a forwarding company which has offices or branches in Vietnam and in the supplier's country in order to be easy to carry out import and export customs, taxes, check the shipment from the supplier and arrange transportation.

Regarding applying EDI as a communication method, EDI can reduce time and errors causing from keyboard data entry. In addition, it works electronically, so the paperwork will be replaced by electronic forms and data transfer by EDI. EDI is more convenient and safer than email because EDI system will store data until the receiving device is ready to receive new data. The system also announces to the sender status of data transfer if the receiver opens the data transferred, the data is still waiting in the system to deliver to the receiving device or the data has been transferred successfully. All trading transactions are recorded in EDI system so that POSTEF staff is capable of tracking data transferred. Although EDI implementation will save business operations costs for POSTEF, the company should implement EDI in the most cost-effective way. The key point in using EDI is that POSTEF's trading partners have to implement and use EDI so that POSTEF not only can transfer data automatically but also can receive data which is transferred automatically and correctly by EDI. When implementing EDI, POSTEF should follow step by step with support of top managers of all departments. Before applying EDI for all trading transactions, POSTEF should use EDI system for some transactions with its suppliers to together learn how to use EDI with its suppliers as well as test EDI program. EDI usage will decrease workload and it will lead to reduce the need of number of current employees, so POSTEF should eliminate human resource disorder to stabilize the organization.

As Mr. Thang Phan said before, the percentage of late shipments at POSTEF now is around 10.83%. In order to secure company's production and strengthen business before expanding its market, POSTEF would like to reduce the percent of late shipments to below 5%. Hence, the most specific and clear performance parameter of the author's suggestion is the percentage of late shipments which POSTEF evaluates every week. If the percentage of late shipments reduces, the author's suggestion works well.

To sum up, POSTEF has desire to grow stronger in domestic market and expand business to neighboring countries. In order to implement this desire, POSTEF needs to improve supplier delivery performance to ensure that the company has enough materials and components for production. Active delivery control and effective communication method are two solutions to help POSTEF prevent from frequent late shipments. For active delivery control, POSTEF is advised to change from Incoterm CIF to Incoterms EXW and FOB for import shipments by sea mode of transport while EDI is suggested solution for effective communication method. To implement EDI and Incoterm changes, it is important that POSTEF obtain support from all managers, forwarding company, carrier, third-party network provider and trading partners. Additionally, implementation EDI and Incoterm changes need careful plan and clear analysis before implementing.

## 6. RECOMMENDATION

When POSTEF implements EDI, the company should mention company's ERP which is SAP R/3 to third-party network provider in order to choose the best option to interface ERP with EDI. Furthermore, EDI can integrate with EFI to transfer invoice payment electronically after EDI transfers invoice automatically and staff accepts the payment. However, electronic payment in Vietnam is not developed in technology and not popular to use in other companies in Vietnam. There will be lots of technology requirements and security risks if POSTEF would like to integrate EFI to EDI. Almost all companies which do business in Vietnam do not use EFI, so it is not economical to implement EFI only for foreign trading partners. Moreover, until now there are no banks in Vietnam supporting services for EFI. Consequently, it is risky and not effective in investment to integrate EFI to EDI. However, probably in the future, when more companies in Vietnam will implement EFI and banks offer services and consulting for EFI, POSTEF should consider integrating EFI to EDI to speed up trading process and gain more benefits from EFI.

Furthermore, POSTEF should try several transactions with its suppliers to study usage way with the suppliers in order to minimize risks which could happen during the first implementation time. Moreover, this could help POSTEF realize errors of EDI and make correction soon before using EDI extensively in the company. Also, for data and information security, three parties which are POSTEF, its suppliers and EDI network provider should determine legal obligation and together sign a commitment contract so as to have a memorable record of responsibilities and rights of three parties. These are the author's recommendation to POSTEF to minimize risks in EDI implementation.

## REFERENCES

Báo cáo tài chính riêng công ty cổ phần Thiết bị Bưu điện.

Bolstorff, P. 2005. How to make your supply chain more valuable. *Logistics Today*: 19-20, 22.

Chow, D., & Heaver, T. 1999. *Logistics strategies for North America*. 3<sup>rd</sup> ed. *Global Logistics and Distribution Planning*: 413-427.

Cost of EDI. EDI Basics – Your resource for learning about EDI. Read 18.12.2015. <http://www.edibasics.com/>

Fynes, B. & Ennis, S. 1993. The impact of electronic data interchange (EDI) on competitiveness in retail supply chains. *IBAR*: 16-29.

Gardner, D. 2008. A new chapter in Incoterms. *Journal of Commerce*.

Giovani J.C. da Silveira, Snider, B. & Balakrishnan, J. 2013. Compensation-based incentives, ERP and delivery performance. *International Journal of Operations & Production Management*: 415-441.

Hagemeier, Garren. 1997. EDI Special Report, Twelve steps to success. How to develop a strategic plan for EDI, 28.

Hansen, J.V. & Hill, N.C. 1989. Control and Audit of Electronic Data Interchange. *MIS Quarterly/December 1989*: 403-413.

Incoterms 2010 by the International Chamber of Commerce (ICC). International Chamber of Commerce (ICC). Read 15.11.2015. <http://www.iccwbo.org/>

Madhusudhana Rao, C., Prahlada Rao, K. & Muniswamy, V.V. 2011. Delivery Performance Measurement in an Integrated Supply Chain Management: Case study in batteries manufacturing firm. *Serbian Journal of Management* 6. 2<sup>nd</sup> ed : 205-220.

Social and economic situation in 9 months of 2015. 2015. General Statistics Office of Vietnam. Read 12.11.2015. <https://www.gso.gov.vn>.

Supply Chain management/ Logistics management definitions. 2009. Council of Supply Chain Management Professionals. Read 17.11.2015. <http://www.cscmp.org>.

Thang, V.N. The seminar 30.11 Limitation of risks in international trade in 2011. The seminar. Participated on 30.11.2010.

The Incoterms rules. 2010. International Chamber of Commerce. Read 14.11.2015. <http://www.iccwbo.org>.

Tình hình kinh tế - xã hội 6 tháng đầu năm 2015. 2015. General Statistics Office of Vietnam. Read 12.11.2015. <https://www.gso.gov.vn>.

UNCITRAL Model Law on Electronic Commerce with Guide to Enactment 1996 with additional article 5 bis as adopted in 1998. 1998. United Nations Commission on International Trade Law. Austria: United Nations Publication.



## APPENDICES

### Appendix. Results of the interview with Sales Manager of POSTEF

1. Does POSTEF have any difficulties in foreign supplier delivery performance?
  - Yes, we imports around 120 shipments every week while the amount of late shipments is about 13. It brings us a big problem because we always have to order more materials and components that we need to ensure having supply for production.
  
2. The problem could also come from POSTEF's supply chain. Could you tell me about POSTEF's supply chain?
  - POSTEF do not use distributors and retailers. Our customers are companies, electronics and telecommunication agents, so we sell directly to them and only produce when we have order.
  
3. How about delivery planning and control? IS POSTEF active to handle late shipments?
  - As other Vietnam import companies, POSTEF uses Incoterms 2010 CIF for imports. Our suppliers are responsible for borrowing vessel and buying insurance. We want to eliminate to bear risks in shipping and insurance, so we choose CIF. However, we cannot handle problems directly and information of problems happened is updated late to us. Sometimes announcement email of late shipment can be missed and lost in hundreds of receiving email.
  
4. Is email not effective in communication with suppliers?
  - Only staff at headquarter and key staff at branches can use Lotus Notes whereas the others use Outlook. We think about using more effective program to control data more effectively.
  
5. What do you think about applying Incoterms 2010 EXW and FOB?
  - It could be good suggestion, but it is difficult to implement to new Incoterms when POSTEF imports by CIF for very long time.

6. Has POSTEF ever thought that EDI implementation could improve communication and data transfer between POSTEF and suppliers?
  - Until now we have not had any plans to improve communication method with suppliers. It is apparent that we need to improve it and we will start to think about EDI as it is new to us.