

Adoption of E-invoicing In Vietnam

Case: Electricity of Vietnam Group, Danang
Power Company

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ABSTRACT

Today, invoicing is a critical part of company's operation. The creation of new technologies involves invoicing. Alongside the traditional paper-based invoice, electronic invoice, is also called e-invoice, has been another area of focus of governments and organizations across the globe. However, in Vietnam, businesses are still skeptical of the implementation of e-invoicing. E-invoicing development is the main theme of the thesis.

The purpose of the research is to gain insights into e-invoice and how e-invoicing can be beneficial for a company. Furthermore, the author aims to identify the obstacles that Danang Power Company, the case company, is tackling while switching to paperless invoicing. By doing so, the thesis can propose comprehensive recommendations for the development of e-invoicing in the case company.

The deductive approach is predominantly used in the thesis. While the theoretical part of the study presents all the relevant theories, the empirical part includes two interviews with the case company personnel and an online survey conducted among its customers.

The results attained from the research address the solutions for internal and external challenges of implementing e-invoicing in Danang Power Company. As a result, the thesis is able to improve e-invoicing efficiency of the case company and drive its customers towards new system – e-invoicing.

Key words: Paper invoice, electronic invoice, e-invoicing, Danang Power Company

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1 INTRODUCTION

The introduction aims to generate an overview for readers about the thesis topic. In the first place, the background clarifies the reasons why this topic is worth investigating. Second, the research objectives and research questions are discussed further. The description of research methods used in the thesis and some limitations will follow promptly. Last but not least, the theoretical framework of the thesis will be addressed.

1.1 Research Background

We rely on technology for mostly everything we do. There are enormous demands to use technology to simplify almost any process and to make it more productive and efficient. Government bodies from many countries all over the world have adopted electronic invoicing – favoured over paper invoicing. For example, Denmark, Finland, and Sweden have successfully implemented the transition from paper invoicing to e-invoicing. (Wall 2016.)

The enforcement of electronic invoices has gained attention and support from several nations, and Vietnam is not the exception. A draft circular concerning the replacement of paper invoice from the start of 2018 has been approved by Vietnam's Ministry of Finance. The new draft replaced the decree 51/2010 and decree 04/2014, which were formerly established to officially instruct the implementation of electronic invoicing for the sale of goods and services. (The Paypers 2017.)

According to the Ministry of Finance, the use of electronic invoices has been an inevitable trend for the past few years. There is a significant increase in the number of e-invoices issued, from 9,014 in 2011 to more than 377 million in 2016. (Minh 2017.) These figures give an idea how popular the implementation of e-invoicing is.

Electricity of Vietnam Group (EVN) is one of the few pioneers in adopting the e-invoicing system. EVN first deployed the electronic billing system at Saigon Power Company for over 90,000 customers. The topic of the thesis

covers both EVN and its subsidiary – Danang Power Company. (E-invoicing Platform 2016.)

However, the transition in the first few months is quite challenging for both the enterprise and its customers. And, despite the clear regulations about the new system, EVN is still taking their time to become accustomed to the system and to be capable enough of handling the entire invoice-related flows at the same time. The goal of EVN is to provide the electronic billing for its customers nationwide. (EVNNPT 2013.)

1.2 Thesis Objectives, Research Questions and Limitations

Objectives

In today's world, switching to paperless invoices receives a greater encouragement from many countries. The main objective of this research is to clarify the benefits that companies reap and challenges involved when companies and their customers use the new method of invoicing - electronic invoicing. After that, recommendations to overcome the challenges are suggested.

The theoretical framework focuses on theories related to e-invoicing. Based on the primary data analysis, the thesis aims to suggest recommendations on how to overcome the obstacles in the transition from paper invoicing to electronic invoicing and how to encourage business customers of Danang Power Company to accept the new system.

Research questions

A crucial starting point for conducting research is formulating research questions. The role of research questions is setting the scene for the study and guiding the data collection and analysis process. Obviously, research questions should be answerable and clearly explain the topic of the research. An answerable research question permits the researcher to discover the answer after data collection process. (Bui 2014, 33.)

The following questions arise from the objective of the thesis:

1. What could the case company do to improve its e-invoicing system?
2. What could be done to encourage business customers to use the electronic invoicing?

In addition, there are two sub-questions to facilitate the process of searching answers for main questions.

3. What is electronic invoicing?
4. What are the challenges to the implementation of e-invoicing of the case company?

Limitations

The thesis is mainly connected with challenges that the case company might face when switching to an e-invoicing system. From the findings of the research, the author proposes several recommendations to promote the spread of electronic invoicing among Danang Power Company and its business partners. However, the thesis is not fully constructed for giving instructions how to implement the system efficiently. The thesis only addresses the solutions based on the key information collected from the primary data analysis.

The case study approach is adopted, which leads to several limitations. First of all, because of the size of the company, it is difficult to analyse data and present it in a simple way. Moreover, due to the shortage of time and effort, the author is impossible to collect data on a large scale. Also, the author only mentions the theories and information related to the topic to make the thesis simple and reader-friendly. Finally, the author believes that an attempt to examine clients' perspective on e-billing is relatively expensive and time-consuming but generalizing the result of the study to a wider population is impossible. (UK Essays 2013.)

A single case study analysis is also criticized that researcher subjectivity is involved in the empirical process. Therefore, the author's own bias in data

collection can influence results more than in different designs. (Willis 2014.)

1.3 Theoretical Framework

Key theories are used in this research to facilitate the understanding of the research. Firstly, it is important to understand the differences between the concept of paper-based invoicing and e-invoicing. In addition, the challenges of paper invoicing system are clarified to prove the necessity of an adoption of e-invoicing.

The thesis aims to offer recommendations for the case company to improve the acceptance among customers. Another relevant theory concept is the updated status of the deployment of electronic invoicing worldwide. Furthermore, the study mentions the enforcement as well as the legal procedure of e-invoicing in Vietnam.

Lastly, the theoretical framework includes an analysis of strengths and obstacles regarding e-invoicing. Consequently, the author is able to develop a comprehensive plan from the company's perspectives with the help of data collected and the analysis.

1.4 Research Methodology and Data Collection

Brown (2006,12) concludes that "Methodology is the philosophical framework within which the research is conducted or the foundation upon which the research is based". Figure 1 pictures the formulating of the research methodology. The first concern is related to research approach which includes inductive approach, deductive approach, and abductive approach.

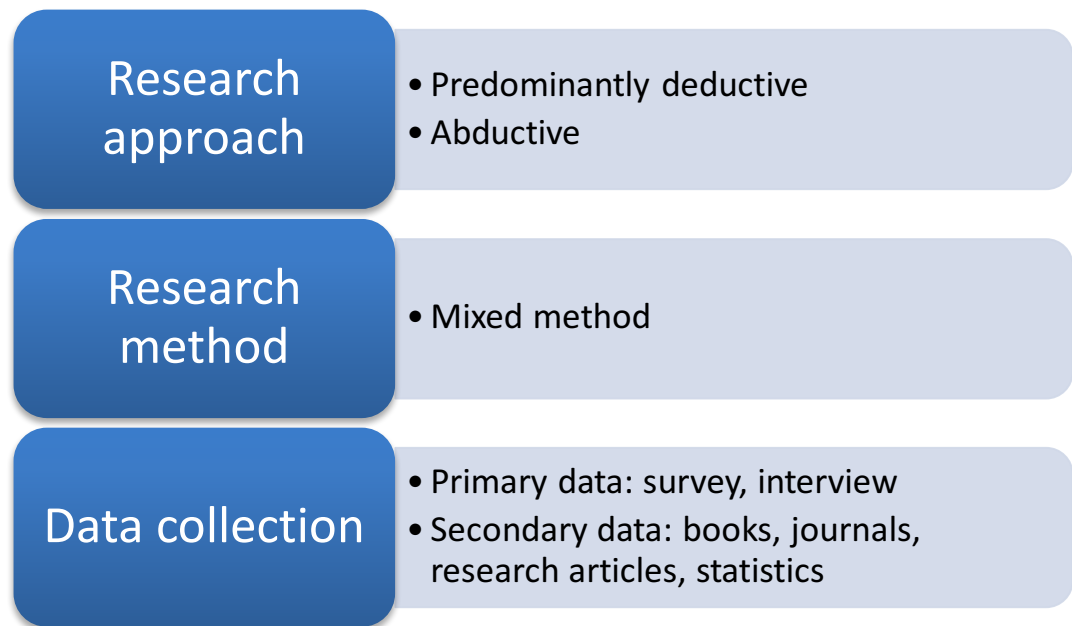


FIGURE 1. Research methodology

Deductive reasoning is predominantly applied in the thesis. The thesis introduces the theoretical framework – general premises- at the beginning, then forms a hypothesis from it. Based on top-down logic, it will test the theory from an observation of the case company. In brief, deduction goes from general to specific, inductive vice versa. Consequently, inductive approach is regarded as bottom up logic. The author decides to use deductive reasoning to discover e-invoicing barriers for the case company. (Rousse 2018.)

Abductive reasoning emphasizes an intellectual presumption arrived from an incomplete observation. As a result, the findings can be wrong when a new possibility arises. (Walton 2004.) Taking the nature of three research approaches and the research topic into consideration, alongside deductive approach, the author chooses to use the abduction as a methodological approach. The reasons for this selection are the significant differences among the research approaches regarding logic and generalizability. The differences are summarised in TABLE 1.

TABLE 1. Major differences between research approaches regarding logic and generalisability (Saunders, Lewis & Thornhill 2012, 144)

	Deduction	Induction	Abduction
Logic	In deductive logic, one or more true statements lead to a true conclusion	In inductive logic, known statements are generalized for an explanation or a theory	In abductive logic, known statements are used to generate an educated guess
Generalizability	From the generation to the individual	From the individual to the generation	From the likeliest possibility

Firstly, the data collection stemming from abduction can be used to explore the phenomenon – e-invoicing’s barriers – and then generates the conceptual solutions for the phenomenon. Secondly, despite the shortage of resources, a plausible theory can be produced by an inadequate observation of the sample. Finally, abductive reasoning allows providing recommendations based on the findings.

There are three main types of research methods, namely qualitative, quantitative and mixed method. Quantitative research gathers numeric data for an analysis process. Quantitative research method usually asks for "how many," "how much" and "how often" (Josh 2016). After that, a statistical result is interpreted based on measuring things. The goal of this method is to test and validate already-built theories; therefore, this method is considered to be scientifically objective and rational. (Wilson 2010, 15.)

In contrast, qualitative research seeks for non-numeric data such as words, images, videos, etc (Saunders et al. 2012, 161). Qualitative

research is used to understand the underlying nature of a subject. Qualitative research method aims to "why" and "how" questions (Josh 2016). This research method usually aims to gain insights into social problems and to collect views or perspectives of people in the study. There are several qualitative data collection methods such as individual interviews, observations and group discussions. (Yin 2015, 3-9.)

An integrated method of qualitative method and quantitative method is applied for the data collection. A combination of two methods grants not only a richer theoretical perspective of the research but also elaborates findings. Another reason for using the mixed method is the generalisability and diversity. A mixed method permits the author to examine multiple attributes from a different method to generalize the study. Last but not least, a mixed method can solve the problem of insufficient data, which boosts the confidence of the author in concluding. (Saunders et al. 2012, 164-165.)

In the thesis, the primary data collection process relies mainly on interviews (qualitative type) and the result of a survey (quantitative type). The secondary data is collected from books, journals, newspapers and Internet websites.

1.5 Thesis Structure

Thesis sequence is formed of two main parts, theoretical and empirical part. Figure 2 summarizes the thesis structure. Firstly, the theory related to paper-based invoicing and electronic invoice is introduced and followed by some practices in the adoption of a new technique in Vietnam. The empirical part presents the suggestions for the case company to face the obstacles of electronic invoicing.

The introduction explains why the topic is worth studying and outlines the applied research method study. Chapter 2 covers the traditional method of invoicing – paper invoice, in terms of definition and challenges. Chapter 3 reviews the concept of electronic invoice and presents the barriers in

regard to the implementation of electronic invoicing. Chapter 4 addresses the e-invoicing development in Vietnam. The chapter also describes the legal procedure regarding e-invoicing and general guidelines for the adoption.

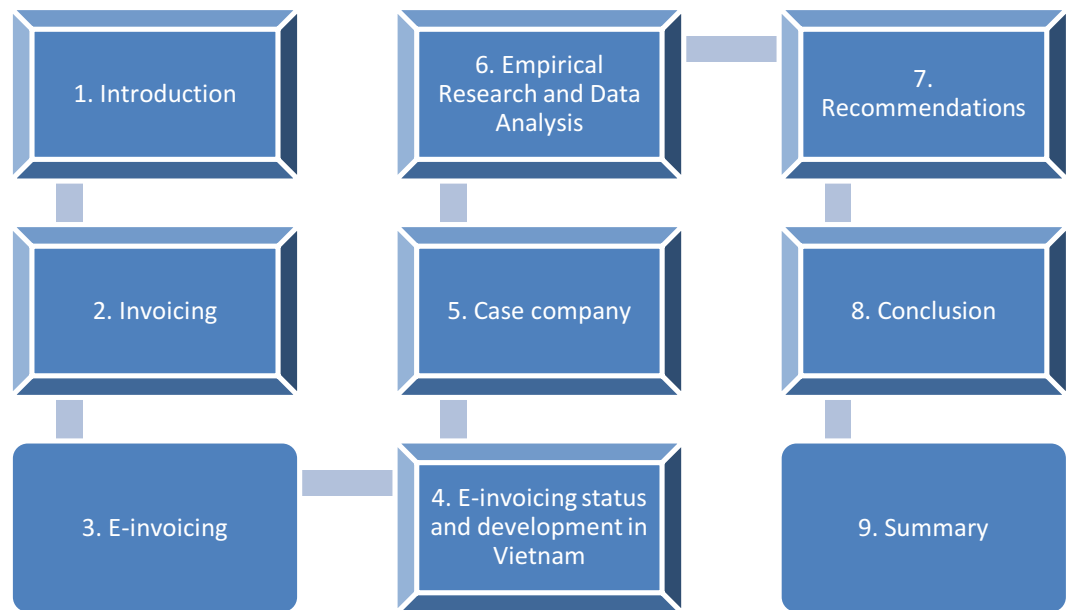


FIGURE 2. Thesis structure

The empirical part includes Chapter 5 and Chapter 6. In Chapter 5, the author describes EVN's e-invoicing development status and introduces Danang Power Company's current e-invoicing situation. The sixth chapter mentions the collection of primary source data. After that, the result obtained from the survey and two interviews will then be analyzed, supported by the theoretical research. Based on the empirical results, the author presents suggestions for the development of e-invoicing of the case company.

Chapter 8 concludes the findings of the study. It answers the questions that have been outlined at the beginning of the study. Chapter 9 – a summary – is the last chapter of the thesis

2 INVOICING

The purpose of this chapter is to present the concept of paper invoice and its process. According to the new draft governed by Vietnam's Ministry of Finance, the transition from paper invoice to electronic invoicing takes place in 2018. The reasons for the transition are the challenges related to paper-based invoicing, which are mentioned later.

2.1 Basic Concepts of Invoicing

An invoice is defined as a business document that lists all the goods or services traded together with the price and terms of the sale (Whitehead 2016, 335). In addition, an invoice is regarded as a legal binding or contract between seller and buyer in the courts of law. Being pursuant to the Vietnam Government's Decree 51/2010, all entities in Vietnam can create an invoice in three formats, namely invoice printed in order, self-printed invoice and electronic invoice.

According to Vietnam's regulations, Decree 51/2010, the following are compulsory contents of an invoice.

- The type of the invoice. E.g., sale invoice, export invoice, etc.
- Invoice template numbers and symbol of invoice
- Name of copies of an invoice
- Serial number of invoices
- Name, address, tax ID of buyer and seller
- Information related to goods and services: units, quantities, price per unit before and after tax, VAT rate and VAT amount, the total amount in figures and words
- Signatures of buyer and seller and seller's seal
- Issued date

(Government's Decree on goods sale and service provision invoices 51/2010, 1 §)

2.2 Paper-based Invoicing

2.2.1 Different forms of Paper-based Invoicing

Paper-based invoicing implies the use of self-printed invoice and printed in order invoice. An invoice is considered as a self-printed one when it is printed by companies themselves on computers, cash registers or other machines in conjunction with the sale of goods or provision of services. This is only applied to companies and banks with a contributed charter capital of VND15 billion or more. Meanwhile, either the company orders ready-made invoices from tax authorities or asks for the right to create the invoice form from tax offices and then print it as ordered. Therefore, such invoices are called printed in order invoice. Figure 3 illustrates the format of a self-printed invoice. (Government's Decree on goods sale and service provision invoices 51/2010.)



 <p>SIÊU THỊ ĐIỆN MÁY CÔNG TY TNHH EBEST</p> <p>Địa chỉ: 126 Hồ Tùng Mậu, Từ Liêm, Hà Nội Tel: 3943 7758 - 3943 8192 Fax: 3943 7748 MST/V.A.T. Code: 0103084555</p>		<p>HOÁ ĐƠN GTGT (V.A.T INVOICE)</p> <p>Liên 1: (Lưu/Kept)</p> <p>Ngày/Date:.....</p>		<p>Được phép sử dụng theo CV số: 6424/CT-QTTVAC ngày 21/4/2009 của Cục thuế TP. Hà Nội</p> <p>Mẫu số: 01GTKT-3LN-01 Ký hiệu/Series No.: AA/2009T HĐ số/Invoice No:</p>		
Khách hàng/Customer:						
Địa chỉ/Address:						
Phương thức thanh toán/Method of payment:				MST/V.A.T. Code:		
STT No.	TÊN HÀNG HOÁ, DỊCH VỤ Description	MÃ HÀNG Item Code	ĐVT Unit	SL Quantity	ĐƠN GIÁ Unit Price	THÀNH TIỀN (VND) Amount VND
						
Cộng tiền hàng/Sub-Total:						
Thuế GTGT/V.A.T. (%)						
Tổng tiền phải trả/Grand Total:						
Số tiền bằng chữ/Amount in words:						
NGƯỜI MUA/CUSTOMER (Ký, ghi rõ họ tên)		NGƯỜI BÁN HÀNG/SALER (Ký, ghi rõ họ tên)		GIÁM ĐỐC/DIRECTOR (Ký, đóng dấu, ghi rõ họ tên)		

FIGURE 3. A sample of a self-printed invoice

2.2.2 Paper-based Invoicing Process

Most organizations have an explicit instruction in the process of invoicing. Figure 4 implies how a typical invoice is handled by both suppliers and customers.

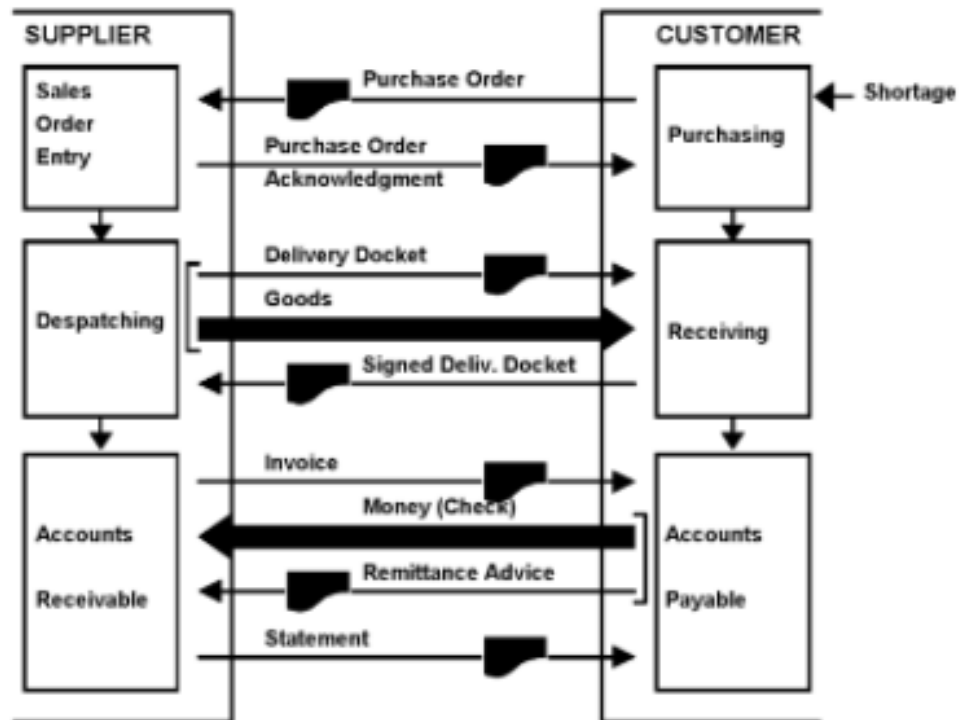


FIGURE 4. Traditional paper-mediated process (Rahman 1999, 44)

The first step of invoicing process begins with the credit of a purchase order. The supplier is responsible to transfer it into invoice creation following the requirements to supply goods. This also means that the purchase order has been acknowledged by the seller. Hereafter, invoices shall be printed and sent to the business partner. Once received, invoices are manually booked into the Accounts Payable system of the customer. Invoices then go through quality assurance to ensure there are no errors related to invoices such as wrong account number, wrong invoice number, unparalleled amount of goods received, etc. Meanwhile, the supplier is in

charge of following up whether the invoice has been well-received or not. In addition, if any dispute regarding the invoice occurs, the buyer must contact the seller or vice versa to resolve the issue. Before the payment is made, the Accounts Payable administrators have to allocate invoice for approval, store, and archive for tax audit purposes. In case there is an issue related to payment, remittance advice is circulated to the supplier. (E-invoicing Basics 2018.)

2.2.3 Concerns about Paper-based Invoicing

Taking all the phases of paper-based invoicing into consideration, a standard process normally takes up to 23 days. However, in reality, errors and disputes can unexpectedly occur, which apparently lengthens the process to approximately 90 days. By delaying the invoicing process, buyers can put suppliers in danger of delays in payments. Consequently, a shortage of cash flow is likely to happen, and as a result, companies, especially small-sized ones, may suffer a financial crisis. (E-invoicing Basics 2018.)

In fact, mistakes can easily arise through each phase of this manual process. The most well-known error is the loss of invoices when they are sent to the customers. Apparently, the handling process is beyond sellers' control, which is a tremendous reason for the loss of invoices or a delay in payment. Moreover, since sellers are incapable of following up the status of the invoice after mailing it, any updated quantity or amount cannot be amended right away. Therefore, the purchaser could reject invoices because of their inaccuracy. (Kuraman 2015.)

Aside from the waste of time of this process, paper-based invoicing also requires a huge amount of money and labour. Specifically, the direct cost for an invoice is spent on ink, paper, and mailing and the cost varies from business to business. In addition, indirect cost related to labour might be incurred, for example: paying for a worker to monitor invoicing process, paying for an accountant to create an invoice and so on. (Lyman 2015.)

Figure 5 exposes the cost of a paper invoice incurred by 190 companies based in the US.

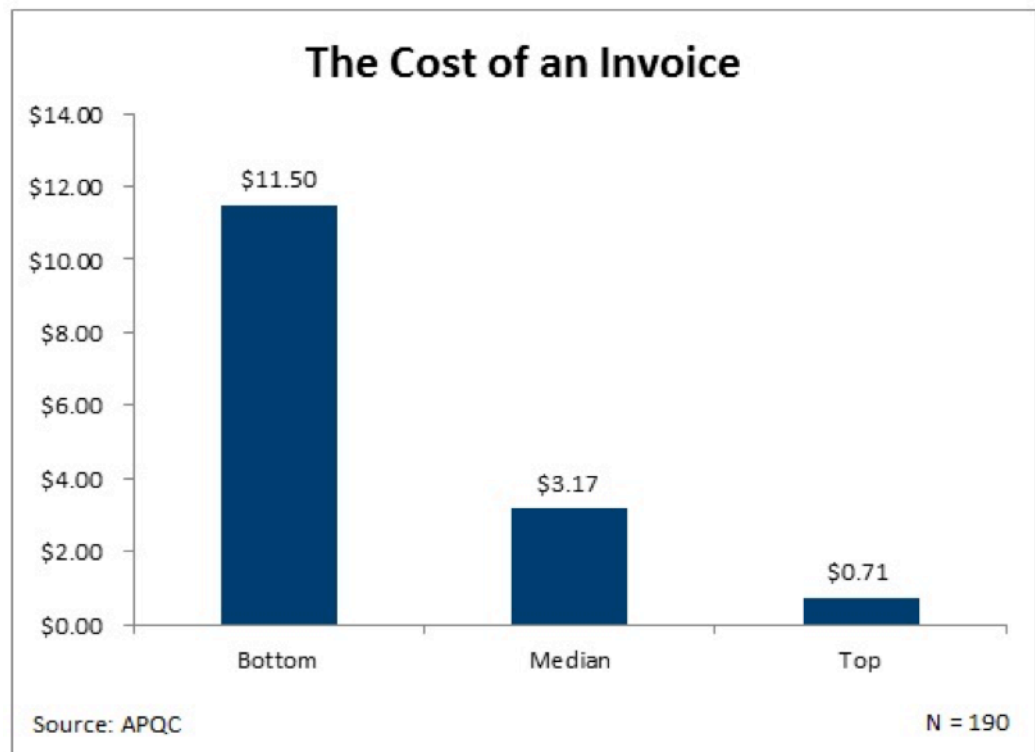


FIGURE 5. Cost of a paper invoice (Driscoll 2016)

As can be seen from the chart, companies which have the best performance in invoicing process paid 0.71 \$ per invoice, whereas the weakest performers spent 11.50 \$ or more per invoice. This means that if a company does not operate its paper-based billing system efficiently, the cost of a paper invoice is relatively expensive. Besides, on a day-to-day basis, the cost adds up and becomes a considerable expenditure and even a liability if the customer cannot pay for the invoice. It is clear that paper-based invoicing is time-consuming, problematic and overpriced if the system is not efficiently managed. Considering the challenges created by paper invoicing, migration to electronic invoicing is necessary.

3 E-INVOICING

This chapter of the thesis focuses on the theory linked with e-invoicing and the development of e-invoicing. Firstly, the definition of e-invoicing and the advantages of using electronic invoicing are covered in the second subsection. Finally, the author indicates the obstacles when a business applies the e-invoicing.

3.1 Electronic Invoicing

Electronic invoicing - a rising innovation- is receiving greater responsiveness in recent researches and experiments in different parts of the world. The European Commissions described electronic invoice as the receipt of goods exchanging activity between a supplier and a buyer in electronic format. In this case, automated billing completely replaces the role of a paper-based invoice as a tax receipt. It is a fundamental piece of an effective financial supply chain, which directly contributes to the purchase-to-pay system. (Koch 2016, 7-8.)

Consistent with Circular 32/2011 of March 14, 2011, guiding the creation, issuance, and use of e-invoices for goods sale and service provision, electronic invoice is defined as "a compilation of e-data messages on goods sale or service provision, which is created, billed, sent, received, stored and managed electronically. E-invoices shall be created, billed and processed in the computer system of an organization having a tax identification number upon the sale of goods or provision of services and stored in computers of involved parties under the law on e-transactions". For instance, invoices which are already printed, however, prepared, sent and saved in e-gadgets are not e-billing. To put it another way, e-invoicing eliminates the use of paper in every step of billing structure. Basically, it is an electronic end-to-end process.

There are two types of e-invoicing, which are divided based on how they are made and the degree of integration among financial systems of the

supplier and the buyer, namely unstructured invoice documents, and structured invoice documents. (EBA & Innopay 2010, 17.)

3.1.1 The Unstructured Invoice Document

The unstructured invoice document is either a scanned version of a traditional paper invoice or an electronic format which is manually or automatically created from the seller's system, instead of the transmission and storage of paper invoice. For example, PDF, text or HTML are some examples of electronic documents. However, after the buyer receives the invoice, he/she has to update the invoice accordingly to Accounts Payable system manually, meaning that there is not any synchronization between the order-to-cash system of the seller and the purchase-to-pay system of the purchaser. Therefore, this type of invoice is called the unstructured invoice document. (EBA & Innopay 2010, 17.)

3.1.2 The Structured Invoice Document

The structured invoice document implies a completely-electronic process, in which all the involved parties predefine and agree upon the content that will be included and the design that will be used. After that, all the required data is correctly structured in language EDIFACT or XML, thus, allows the automatic and direct transition from the Accounts Receivable to the buyer's Accounts Payable system. Figure 6 illustrates the data attributes of an XML invoice. (Data Interchange 2014.)

Meanwhile, the invoice which is in an electronic format is ready to process without manual intervention (EBA & Innopay 2010, 17). In addition, since the e-invoice compiles the information of both trading partners, it enables better compliance with the country's legal regulations. Furthermore, it facilitates the audit as well as VAT obligations of the issuer and receiver.

In essence, the latter format demands an integration from machine to machine but obviously brings a higher cost saving and efficiency thanks to the removal of unnecessary stages as in the unstructured one. However,

more and more evolutionary changes in technological fields take place nowadays. Thus, the unstructured invoice document format can be upgraded to hybrid documents which do not command any manual steps. In the next section, the benefits of electronic invoice in general are discussed further.

#	Attribute Name	Example Data	Optional or Mandatory
1	BILL_TO_NAME	Distributor Corporation	M
2	BILL_TO_ADDRESS	5000 Distributor Dr, Clearwater FL 33760, United States	M
3	SHIP_TO_NAME	Capital City Bank	M
4	SHIP_TO_ADDRESS	1860 Other Street, Tallahassee FL 32309, United States	M
5	INVOICE_NUMBER	316238	M
6	PO_NUMBER	3502156775	M
7	INVOICE_DATE	23 JUL 2014	M
8	PAYMENT_TERM	NET 30	M
9	DUE_DATE	22 AUG 2014	M
10	INVOICE_CURRENCY	USD	M
11	TOTAL_AMOUNT	618.00	M
12	DOMESTIC_WIRE_INSTRUCTIONS	Silicon Valley Bank Routing/Transit Number: 123456789....	M
13	Company ABC_SKU	SKU.CODE.1	M
14	DISTRIBUTOR_PART_CODE	9999999	M
15	LINE_QUANTITY	5	M
16	UNIT_PRICE	103.3500	M
17	LINE_AMOUNT	516.75	M

FIGURE 6. XML data attributes (Fernandes 2014)

3.2 Advantages of E-invoices

Harris (2009, 294) asserts that the advent of e-invoicing is considerably advantageous, which resulted in the change in trading partners' payments habit. It may, for instance, benefit buyers, suppliers and other involved parties in improving business operations and gaining revenue-generating opportunities. Nevertheless, changes are not easily accepted by many suppliers, for that reason, businesses must be convinced and see the real

benefits of the new system. In other studies, Salmony and Harald (2010) state the key advantages of the transition from paper invoice to e-invoice listed as followings.

Cost-effectiveness

As it was mentioned earlier in the thesis, the cost of a printing invoice is relatively high, ranging from 0.71\$ to 11.5\$ depending on the performance of each company. A recap of the process of receiving invoice and its cost through different methods is demonstrated by Figure 7. As it is shown, the saving potential for incoming invoice is proved by a 90% reduction in both cost and time (Penttinen 2008).

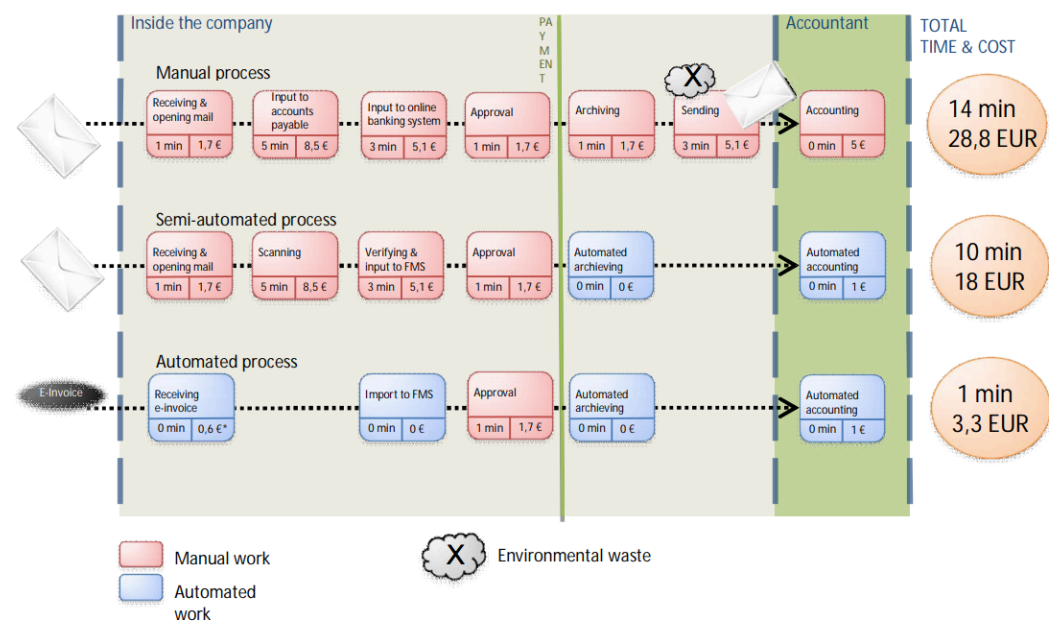


FIGURE 7. E-invoice responding process and its related cost and time (Penttinen 2008)

On the other hand, compared with the manual process, the automated one has avoided two intermediate stages – data inputting and internal routing.

As a result, the shifting toward e-invoicing not only reduces physical work but also saves the costs of printing and postage. Besides, thanks to the adoption of e-invoicing, the indirect cost and direct cost generated by paper invoicing is eliminated.

Simultaneously, such merits offered by the development of digital invoicing as errorless and loss prevention in delivery are other factors driving the increase in cost savings. Converting from printing to electronic form can generate 60-80% savings in terms of a payback period of 0.5-1.5 years (Koch 2015, 8). For instance, instead of opening mails, registering invoice one by one and circulating invoices between the buyer's departments, the Accounts Payable Department can control and manipulate automatically.

Cash flow management

The presentment of electronic invoice allows buyers to immediately see the invoice in Accounts Payable systems, as opposed to documents stored as paper form which have high possibility to be lost in the approval process. As Berez and Sheth (2007) recap, this can reduce Accounts Payable's overhead by more than 50%. It can be concluded that with the visibility to invoices, cash managers are aware of payment flow – thus advancing forecast accuracy.

On the other side, accounting transparency is enhanced. At the same time, more and more payments are handled quickly due to a significant reduction in manual work. As a result, while the supplier lowers the risk of cash deficit which is the main cause of most bankruptcies, the buyer takes advantage of purchasing goods and services at a discounted rate for early installment. Unless the automation is involved in Accounts Payable process, neither parties obtain any cash management benefit. (ICG Consulting 2018.)

Competitiveness

In the era of e-business, competitiveness is recognized as the most critical factor influencing the success of a business. Capturing digital invoices

presents the simplicity and errorproofness to customers, resulting in the improvement in customer relationship as well as customers' satisfaction. The more intensive exchange both parties produce through e-invoicing system, the better commitment and cooperation between them is established.

Moreover, the enhancement of the quality of the invoice enables the easier adaption for business partners, which lowers transaction costs for the buyers and benefits the sellers with long-term relationships with their customers (Penttinen, Hallikainen & Salomaki 2009). Besides the above, validating automated invoices boosts business's productivity, reducing time spending on sorting, routing and scanning paper invoice into an Accounts Payable system. Other beneficial features from the automation of invoice are faster payments, more payment approvals and the elimination of warehousing for paper invoices.

Account reconciliation

Account reconciliation requires two sets of records to double check all the figures are accurate in any payment. Buyers often unreconcile a payment as there may be deductions against an invoice caused by shipment such as damaged or missing items. In addition, multiple invoices are paid by a consolidated transfer rather than separate payment for each invoice due to the avoidance of banking fees. (ICG Consulting 2018.)

After receiving the consolidated payment, the explanation for the funds received is inquired by the confused supplier. They often call the buyer's Accounts Payable department to claim the settlement. However, the digital transformation of invoice is able to enhance supplier's account reconciliation by providing electronic remittance advice along with the payment. Consequently, all the details that the supplier demands such as credits, debits, and corrections taken are involved in the remittance. This not only reduces the number of calls between suppliers and buyers but also allocates human resources in a more efficient and knowledge-based way. (GXS 2011.)

Green initiatives

A paperless invoice does not require the printing of invoices as well as the envelopes they are sent in. Considering Figure 8, a digital invoice is on average four times eco-friendlier than its paper predecessor, in this case, carbon footprint is used to measure of environmental effect (Federation of Finnish Financial Services 2010).

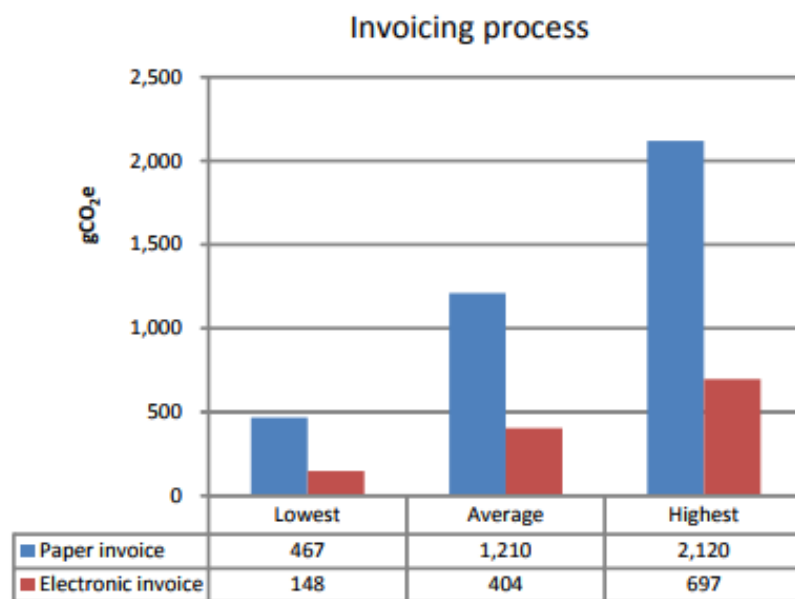


FIGURE 8. Comparison of carbon footprint between paper invoice and electronic invoice (Federation of Finnish Financial Services 2010)

Therefore, e-invoicing process consumes no paper, less energy, and resources, which is similar to help the environment to feel better in general and to preserve trees and save landfill spaces in specific. Another business impact of the switch is brand recognition and positive business reputation. Being environmentally responsible, a company is able to attract business partners who have a high corporate social responsibility (Muir 2015).

3.3 Obstacles for E-invoicing

According to Ahti Allicas (2017) - a member of the executive committee of the European E-invoicing Service Providers Association, the average e-invoicing awareness among European businesses is currently 20–25%. Considering all the benefits to be obtained, this rate is assumed to be relatively low, which means there could be several barriers to the adoption of e-invoicing. This section will reveal the challenges of implementation e-invoicing that every business could cope with.

The deployment of e-invoicing system is a complex process and requires the acknowledgment from both billers and receivers. Several studies carried out by Gall and Holland (2005), Thomson Reuters (2010), Rasmussen (2013) and Harald (2009, 17-18) address this issue as followings. The author separates the barriers into two categories, those for the firm itself (internal) and those caused by its partners (external). The former focuses on what factors that hamper the ability to computerization of invoice in a business, whereas the external elements explain why the adoption of e-invoicing is not appealing to the outsiders.

Internal factors

- Planning for digitalization of invoice – “Where to start?” is the biggest concern for many businesses.
- Switching to paperless invoicing demands a huge capital expenditure initially. Firms have to invest in IT and training, which can be extra costs to the company.
- In reality, e-invoices are sent and received in multiple formats by different e-billing vendors. Any insufficient IT infrastructure may hinder the ability to accept the digital invoice.
- Reallocating human resources or training staff for specialized duty for the adoption requires lots of time and efforts.
- Employees are used to working with the old system, and they are not willing to change.

- Even though the application of e-invoicing is considered to be fast and sustainable, it is a complicated procedure compared with the traditional one.
- Companies must have strong internal capabilities due to the multi-disciplinary nature of e-invoicing.

External factors

- Neither billers nor payers want to make the first step in conducting the pilot program. Consequently, buyers are often hesitant to acknowledge e-invoice.
- By sharing the data for bill presentment, both billers and payers may face the risk of exposing confidentiality and privacy of the financial information.
- Multinational legal compliance entails an interoperable adopting process. E.g., local standard of e-invoice in Finland (Finvoice), in Norway (EHF), in Belgium (BMF), etc.
- Public policymakers support the adoption but do not give any specific instruction how to apply legislation.

(Gall & Holland 2015; Harald 2009, 17-18; Thomson Reuters 2010; Rasmussen 2013.)

4 E-INVOICING STATUS AND DEVELOPMENT IN VIETNAM

In the starting of this chapter, the author presents the advanced movements of the transition to e-invoicing worldwide. After that, the economic context of Vietnam is briefly introduced together with the current expansion of e-invoicing in Vietnam. It is crucial to mention the economic context of Vietnam to understand the necessity of transition to e-invoicing. Finally, regulations and guidelines related to e-invoicing are examined.

4.1 E-invoicing Worldwide

Electronic data interchange (EDI) – a predecessor of e-invoicing was invented in the late 1960s in an attempt to promote paperless internal operations (Sounderpandian & Sinha 2007). Invoice data was exchange through a point-to-point connection among trading partners. However, only large and international companies considered the innovation, since the cost of technology was relatively high. (Hornburg 2017.)

In the 1990s, the first generation of e-invoicing was created, which granted the cross-border transmission from a supplier to any its customer. In 1999, Switzerland authorities published the first requirements for the modern e-invoice. Then, the trend was quickly spread to neighbor countries such as Germany and Austria 2 years later. (Hornburg 2017.)

It is stated that over 90% of invoices were still exchanged in paper worldwide, given that the invoice data had been digitally transferred for almost 30 years (Allikas 2017). After gaining a deeper penetration of e-invoicing, 56 countries already mandated e-invoices or embraced e-invoice, while others were at a nascent stage (Financial Operations Networks 2013). Figure 9 presents the up-to-date status of automation switching all over the world.

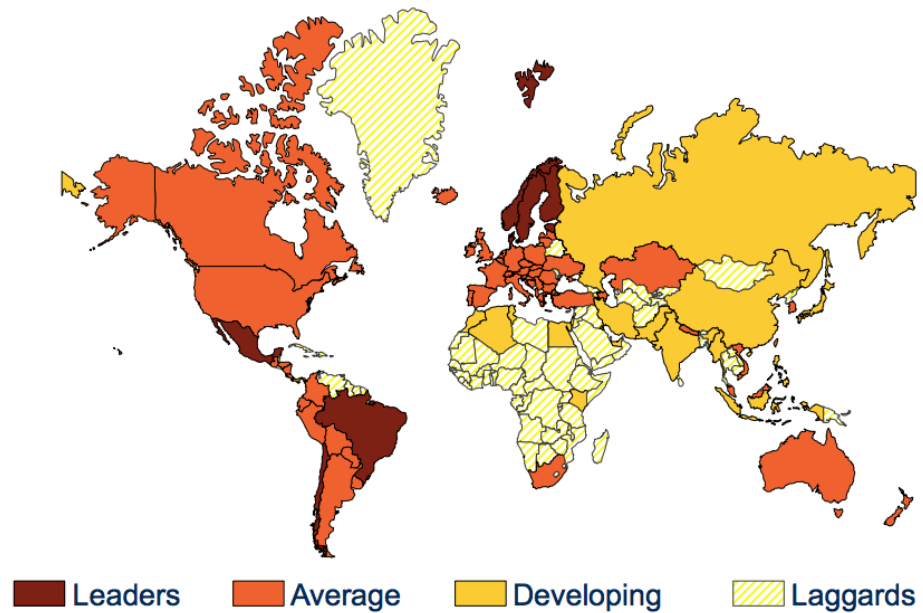


FIGURE 9. International e-invoicing market (Koch 2016).

Europe

In the past few years, Europe has experienced an outstanding surge of e-invoicing, particularly in B2G (Business-to-Government) segment. The public policymakers act as a driving force when it comes to encouraging the switch to paperless billing. All stakeholders enter the e-invoicing market on a voluntary basis and work together to deliver solutions to the implementation of e-billing. (Koch 2016.)

Koch (2017) emphasizes that "2018 is a milestone year in Europe: all governments must be prepared to receive e-invoices". Such Nordic countries as Finland, Norway, Sweden were the pioneers the e-invoicing. Since then, other European countries, namely Italy, Slovenia, Spain, etc. have followed the lead (Keats 2014).

Latin America

The e-invoicing development patter in Latin America is different from that of other regions of the world. Even e-invoicing regulations and compliance are totally different from country to country in this region. However, eight

countries in this region assure that all invoices regardless of types and digital signatures are authenticated by the government before they are issued. (Olivera 2016.)

The launch of digital invoice is authorized by the lawmakers, thus, is motivated by them. Indeed, the framework has ended up as an instrument to facilitate fiscal control and to ease the high rates of evasion. The nationwide use of e-invoicing also performs as a foundation for other tax compliance policies, which makes paying tax easier for taxpayers and eliminates unnecessary economic costs. (Edicom 2017.) As can be seen from the Figure 9, Chile, Brazil, and Mexico are top 3 countries that are frontrunners in the rollout of e-invoicing.

North America

The motive of adoption arises differently from Europe and Latin America. Electronic invoice is not compulsory in North America as the main purpose of the deployment is the optimization of procedure as well as the improvement of productivity. Besides, demand is rising for multinational companies who need to follow regulation legislated by other countries. The internal incentive generates a 14% - 18% increase in the volume of e-transaction in Business-to-Business (B2B) area as predicted. (Koch 2016.)

Asia and the Pacific

Countries in this area are still in the developing stage of e-invoicing. Currently, volumes of electronic billing traded in Asia stem from the Business-to-Consumer (B2C) area. In order to promote the use of e-invoices, a fundamental regulatory framework is essential along with the standardization of e-invoicing process. Likewise, tax compliance, as well as government incentives, should be practical to support electronic e-invoicing. B2B paperless billing is just starting to grow in this region. (Koch 2016.) For example, the change currently applies to the retail industry and public sector in nations such as Singapore, Hong Kong, South Korea and Taiwan (Edicom 2017).

Australia and New Zealand have a national standard for e-invoicing. Even though B2B e-transaction becomes familiar with companies in the two countries, especially in healthcare industry, the majority of invoices are still traded in paper. (Edicom 2017.)

Africa

Most of the African countries are laggards in the adoption of e-billing. The main reason for the issue is the unauthorization of e-invoice and the insufficient infrastructure in this area (Loughlin 2012). South Africa is the only nation that has a completely developed e-invoicing system and updates their regulation accordingly.

4.2 E-invoicing in Vietnam

4.2.1 Vietnam Economy

Vietnam is a Southeast Asian country on the South China Sea. Vietnam is bordered by China to the north, Laos to the northwest, Cambodia, and Thailand to the southwest. Hanoi is the capital Vietnam, while Ho Chi Minh City is the biggest city. In 2018, it is estimated that Vietnam population will reach 96.49 million. The landmass of the country is 127,123 square miles. (World Population Review 2018.)

In recent decades, Vietnam has presented strong economic growth. In the 2000s, Vietnam was among the nations that had the fastest GDP per capita growth, averaging 6.4 percent a year. Even though the international economy went through several financial crises, Vietnam economy remained resilient. GDP expanding in 2016 was around 6%. Currently, the country's main drivers of growth are domestic demand and export-oriented manufacturing. (The World Bank 2017.)

Figure 10 presents Vietnam GDP composition by 3 economic sectors such as agriculture, industry, and services. There is a decreasing distribution for agricultural sector while services sector contributes a larger percent to

national GDP from 2006 to 2016. Tourism and telecommunications are the main drivers of the growth of services sector (Export Enterprises 2017).

Regarding agriculture, cultivation and plantations such as rice, coffee, cashew nuts, corn, pepper, sweet potatoes, peanuts cotton rubber, and tea together with seafood are the dominants (Export Enterprises 2017). Besides, Vietnam targets to be a leading exporter of high value-added products by improving its agricultural value chain and food safety. Pariona (2017) indicated that Vietnam is the 28th largest exporter in the world with a volume of \$165 billion worth of commodities.

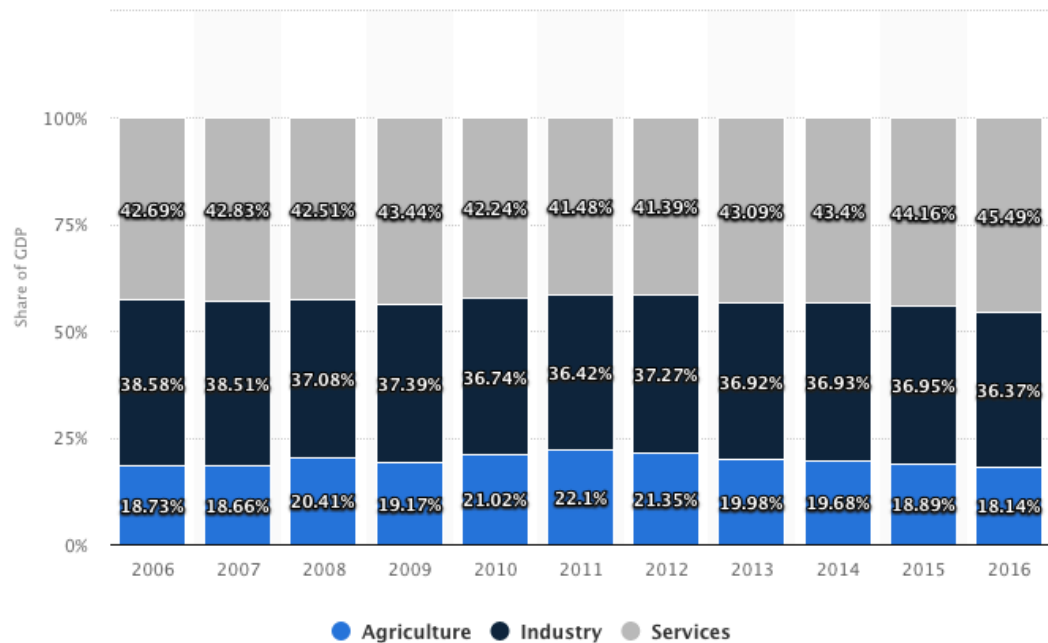


FIGURE 10. GDP distribution by economic sectors from 2006 to 2016 (Statista 2018).

Industry makes up over 33.3% of the total GDP. Meanwhile, textiles, food processing industry, furniture, plastics, and paper are Vietnam's primary industries. Power-generation sector is also significantly transformed in the last few years. Vietnam is in top 3 biggest Southeast Asian oil producer despite the fact that oil industry has been invested lately. Because of the

low labour cost in Vietnam, automobile manufacturing and assembly industries have been booming in recent years. (Export Enterprises 2017.)

Considering the economic context of Vietnam, Vietnam economy is boosted by exported (The Voice of Vietnam 2017). Due to the rapid development of e-invoicing worldwide, there is a greater need to migrate from paper invoice to electronic invoice. It is clear that synchronizing to e-invoicing system allows Vietnamese businesses to do business across border and receive export revenue in a simpler and easier way. In addition, migration to e-invoicing allows exporters of Vietnam to enhance their efficiency and competitiveness, compared to those of other countries who have no experience of e-invoicing. (Business to Business 2018.)

4.2.2 The Current Status of E-invoicing in Vietnam

E-invoice must be legislated like its predecessor – paper invoice. It is clear that the transition to e-billing does not happen in just one day. A setting timeframe for mandating e-invoicing is obligatory for the national transformation, and the process must be prepared step by step. There are four phases of the dematerializing invoicing procedure. (Koch 2014.)

Figure 12 illustrates classical evolution pattern of e-invoices in most countries.

The first phase of the evolution implies B2C supplier direct. Basically, the need to reduce the cost caused by paper invoice in large businesses is a driver for the adoption of e-invoicing. Suppliers realize the benefits of e-invoicing and then they want to migrate to e-invoicing. However, the supplier direct model soon shows several limitations. Due to the nature of the model, clients have to deal with different e-invoicing formats produced by various suppliers. Therefore, receivers have to do an extra step - converting them into their accounting system. To overcome this challenge, B2C Networks works as a single portal of bills for all suppliers. This automatically enhances the efficiency of processing digital invoice for customers. In B2B Large Corporates stage, large businesses are the influencers for E-invoicing. Through B2B trading activity with such

companies, medium-sized and small ones are apparently motivated to exchange invoices electronically. The main driver that usually leads to the maturity of e-invoice market is the participant of policymakers. Mass adoption occurs when e-invoicing mandates for local enterprises. (Koch 2014, 21-22.)

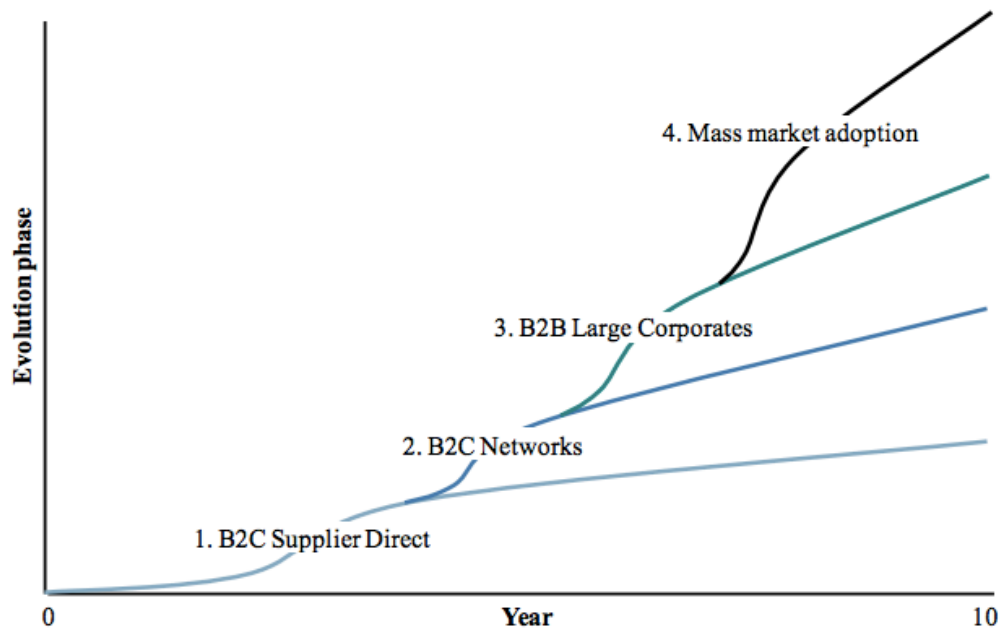


FIGURE 11. Evolution phase of e-invoicing (Koch 2014, 21)

Latin America's good practices in the implementation of e-invoicing can be a role model for the success in other countries. Vietnam's electronic invoice system is inspired by Latin American one. Based on e-invoicing development of the Latin American mentioned above, the study provides better understanding of e-invoicing status and development in Vietnam.

Under the decree 51/2010/NP-CP dated May 14, 2010, Vietnam authorities first acknowledged the presentation of an electronic invoice. After that, the Ministry of Finance by Decision 1209/ QD-CP decided to launch a pilot project with validation codes authenticated by the Tax Office for 121 businesses in Hanoi and 116 enterprises in Ho Chi Minh city. The

period of the pilot implementation lasted 1.5 years (from June 2015 to December 2016). The pilot was completed successfully according to General Department of Taxation. (E-invoicing Platform 2016.)

There is a substantial increase in the number of firms using e-invoicing from 656 companies in 2016 to 3,000 firms in 2017 (Vietnam Briefing 2018). Such large operations as Vietnam Electricity Corporation (EVN), Vietnam Posts and Telecommunications Group (VNPT), Viettel Group, Vietnam airlines and Hanoi-Sai Gon Railway Transport Company are innovators in e-invoicing market. A new circular to mandate e-invoicing for all businesses is expected to come into force on 1st July 2018. (E-invoicing Platform 2016.)

Koch (2014, 8) emphasizes that service providers are the crucial component for the transition. Service providers act as an intermediary to perform the tax compliance role as well as offer control infrastructures to process with other related value-added services. A remarkable invoice volume administered by service providers promotes the national use of electronic billing across Latin America.

On 21st October 2013, Vietnam Posts and Telecommunications Group (VNPT) - the first e-invoicing service provider made a debut. VNPT offers firms two types of e-billing, namely "Solution models" and "Package." The former requires the firm to build its own internal infrastructure and obtain necessary hardware under VNPT's instruction and supervision, while businesses chose the latter, using the already-built system provided by VNPT to issue and manage electronic invoices. The performance of VNPT's service empowers the national spread of e-billing activity. (Nhan Dan online 2013.) Currently, apart from VNPT, BKAV and Viettel are offering e-invoicing service for small and medium-sized companies (Viet Nam News 2017).

4.3 Regulations Concerning E-invoicing in Vietnam

By far, Vietnamese authorities have introduced guidance and formulated several regulations in accordance with the transition to e-invoicing in Vietnam. In this section, the author will appraise the regulatory framework for the switch. As it is stated above, the decree 51/2010/NP-CP only acknowledges the issuance of electronic billing. Nevertheless, without further guidance, the new regulation quickly shows its weak enforcing control, and at the same time, it confuses multinational enterprises wanting to establish e-invoicing system.

The Ministry of Finance issues an amended decree – 04/2014 dated January 17, 2014 - with more specific guidelines related to e-invoicing. After that, Directive 26/CT-TTG of the Government's Prime Minister for the basic implementation of electronic invoices and documents in 2018 is released. Consequently, a new draft decree which comes in force from 1st January 2018 is proposed for public comments. It addresses the requirements for the Directive as followings.

- The mass adoption in 2018
- Restricting the use of pre-printed invoice
- Electronic invoice application of companies using self-printed invoice

Specifically, electronic invoice is categorized in two types, namely e-invoice with tax code and e-invoice of enterprise. Companies using the later have to transfer invoice data to tax authorities for tax compliance. According to the roadmap, companies located in industrial parks, economic zones, export processing zones, high-tech zones; Companies and banks with a contributed charter capital of VND15 billion or more are obliged to carry out electronic invoices from 1st January 2018, followed by 30% of all remaining business in 2019. In 2020, 90% of businesses are aimed to issue e-invoice. (The Paypers 2017.)

The application of e-invoice of enterprise is governed for:

- Companies which applied e-invoicing of enterprise before 2018
- Companies which are complying with tax offices through electronic tax declaration or are performing e-transaction in banking services and have a digital signature according to the provisions of Law
- Companies printing paper invoice from their computer system with a tax identification number

The enterprises listed below can use e-invoices with tax codes:

- Companies which applied e-invoicing with tax code before 2018
- Companies obtaining invoices from the tax offices before 1 Jan 2018
- Companies with a tax identification number which are issuing self-printed invoices
- Companies which have a high possibility to violate the issuance of e-invoice or tax compliance policy as prescribed by law
- Start-up companies which neither use electronic invoice of enterprise nor buy printed invoices from the tax authorities
- Small and medium companies in locales with complicated conditions.

Although the fundamental regulatory framework has been built, most enterprises inquire ministry not to urge the adoption of e-invoicing. The timeframe of the transition apparently puts enterprises in haste, especially for small and medium-sized ones. The biggest obstacle is that most companies have little time left to prepare for the transition to e-invoice as required. In addition, others prefer opting for the method of invoicing that is most suitable for them rather than being compelled to issue e-invoicing. Another reason for the delay in the migration to automated invoice is the difference in IT infrastructure of business partners. For example: while big companies want to implement e-invoicing but small or medium-sized ones are not familiar with it. However, the draft decree is in the stage of improvement, and the Vietnamese government is still seeking for feedbacks. Any amended article can be added later to support the spread of e-invoicing. (The Saigon Times 2017.)

4.4 Guidelines for E-invoicing

The electronic invoice regulation system in Vietnam has been founded, which is followed by a general guideline for enterprises to adopt the new system. Circular 32/2011/TT-BTC of March 14, 2011, guiding the creation, issuance, and use of e-invoices for goods sale and service provision consists of 3 chapters with 14 articles.

In a nutshell, chapter 1 including 6 articles underlines the general provisions of e-invoicing. The definition of the e-invoicing according to the circular has been mentioned in section 3.1. The content of an e-invoice is similar to that of a paper invoice along with a lawful e-signature of the seller. Besides, to satisfy the legal validity of e-invoice, an electronic invoice needs to integrate all the relevant information and be treated in a complete form when necessary. The essential subject in this chapter is the principles of e-invoice use shown as follows.

- The format of an e-invoice, the mode of transmission and the receipt of e-invoices must be informed to the buyer in advance.
- All the involved parties are responsible for the guarantee of integrity and privacy for e-invoices.

Circular 32/2011/TT-BTC also mentioned the requirements for e-invoice issuer. Initially, the government's intention is to guide enterprises which are using similar services such as e-banking or e-declarations of taxes. The second requirement for the self-creation of e-invoice is sufficient resources for information management and storage. Additionally, staffs in such enterprises are obliged to take part in training in issuing and billing e-invoices under the law. Thirdly, they are required to possess e-signature and appropriate infrastructure between sellers and buyers for a smooth and punctual data transfer. Last but not least, they must develop backup and restore procedure of data.

In chapter 2, the circular provides more details for the procedure of creating, billing and use of e-invoices. The Ministry of Finance allows the e-invoice creator bill and send the invoice either directly (from the seller's

system to the buyer's system) or indirectly (through intermediary e-invoice service providers).

5 CASE COMPANY

5.1 Vietnam Electricity Group

In 1994, the Government of Vietnam founded Vietnam Electricity Corporation. On June 22, 2006, the Prime Minister of the Government issued the decision No. 147/QĐ-TTg supporting the pilot scheme to transform it to Vietnam Electricity Group. After that, the mother company is officially operated as a one-member limited liability company owned by the State in 2010. (EVN 2018.)

Name:

- Full name: Vietnam Power Group
- Business name: Vietnam Electricity
- Business English name: VIETNAM ELECTRICITY
- Abbreviated name: EVN

Core business:

- Operating the production of electricity
- Transmission in the national power system
- Allocation and distribution of electric power
- Sales of electric power
- Investment in the power projects

EVN currently has three power generation companies including GENCO 1, GENCO 2, and GENCO 3. In the field of power business, five corporations, namely Northern Power Corporation (EVNNPC), Central Power Corporation (EVNCPC), Southern Power Corporation (EVNSPC), Hanoi Power Corporation (EVNHANOI) and the Ho Chi Minh City Power Corporation (EVNHCMC) belong to Vietnam Power Group.

Together with 19 dependent-accounting branches, every year EVN continues to make an effort in ensuring adequate power supply for the growth of the national economy and society. Besides, EVN is responsible

for operating the national power system safely and reliably. EVN 's vision is becoming a leading power corporation in the region and playing a pivotal role in ensuring national energy security with high responsibility to the customers and the whole community. (Vietnam electricity wall 2016.)

5.2 Guidelines on E-invoicing

Being a subject of the pilot scheme for the adoption of e-invoicing, EVN receives huge support from the government. The Official Letter 1137/TCT-DNL dated 30 March 2012 is issued to guide the implementation of electronic invoices, in terms of use principles, content, storage, voiding and destruction of e-invoices, billing and conversion to paper invoice.

Use principles

- As it is stated above, the use of electronic invoice must be informed to the buyer beforehand. The Tax authorities recommend that EVN's business partners must be aware of the new format as well as the transmission method of invoice, so they are able to cooperate efficiently.
- EVN is responsible for declaring its tax compliance. As instructed in the Official Letter, EVN credits the aggregate amount of sales of goods or services provided to its accounting system once a month.

Content of an e-invoice

- E-invoices created by EVN does not compulsorily contain the required details. In this case, the lawful e-signature of the seller and the buyer can be deducted.
- E-invoices which have been sent to customers are not necessarily to be returned to EVN

Storage, voiding, and destruction of e-invoices

- The storage procedure must follow the general guidelines mentioned in section 4.4. In addition, the storage method must

make the origin and the timing of creating and billing available for authentication

- EVN must store e-invoices for at least 10 years as regulated in the present Accounting Laws.

Billing of e-invoice

- First of all, EVN is suggested to build a database of e-invoices and transfer to its website. Therefore, users can review all the e-invoices by accessing the customer care portal.
- EVN should provide the service that customers can receive the notification of e-invoice by email.
- EVN should offer other appropriate forms of payment receipt for individual customers who pay the bills via authorized units for collection of electricity bills and via Internet.

Conversion of e-invoice to paper invoice

- The conversion only applies to enterprises who have not implemented e-invoicing system and individual customers whose bill payment is collected at home.

5.3 E-invoicing Implementation

This section explains the traditional method of paying bills of EVN's clients, which significantly influences the adoption of e-invoicing. Each month, before the issued date of the invoice, an agent of the local electricity company visits the client's area to read monthly electricity meter. The electricity bill is issued once a month based on the monthly usage of electricity. After that, another agent is in charge of visiting the client's home and collecting payment.

As it is stated above, Hanoi and Ho Chi Minh City are the first two cities where electronic invoicing project took place. In December 2012, 10,000 EVN customers located in District 1 and District 3 in Ho Chi Minh City were selected to receive electronic invoice issued by Sai Gon Power Company.

After more than six months of the transition, the power company had gained considerable achievements. According to the leaders of Ho Chi Minh City Power Corporation, 100% of clients surveyed were satisfied with the implementation of e-invoicing for electricity bill. Eventually, the enormous benefits of e-invoicing had been proven by the reality. (EVNNPT 2013.)

Following the success of Sai Gon Power Company, from July 2013, Tan Thuan Power Company and Cho Lon Company which distributed electricity in District 4, 5, 7 and 8 started to apply the new system. Clients can review their e-invoices quickly through Ho Chi Minh City Power Corporation's website. (EVNNPT 2013.)

Currently, the residents in Ho Chi Minh city are more adapted to the switch after a few years of deployment. The deputy secretary of Ho Chi Minh City Power Corporation asserts that 57% of clients are making payment electronically. The result is the incentive for putting a stop to home collection service and expanding the use of electronic invoices. (Talk Vietnam 2016.)

On the other hand, Electricity of Hanoi put an effort in the transition to paperless invoice. In late 2013, the company collected positive outcomes from the pilot implementation in Hoan Kiem and Cau Giay District. At the end of 2014, around 1.4 million customers used electronic billing service. The success also promoted the mass transition to electronic invoice for the remaining districts in the area in March 2015. This means that the digitalization of invoice had been accepted by 100% of customers of Hanoi Power Corporation. (Hoang 2015.)

In conclusion, the pilot scheme provokes attention and support from the public. Cost reduction, time saving, productivity enhancement and other benefits resulting from the pilot have been tested to be beneficial for the company. Not only the company itself but also customers take advantage of the transition. The implementation in the two cities are the role models for the transition in the remaining provinces or cities in Vietnam even

though there are still barriers in the digitalization. Before the mass adoption of e-invoice in 2018, the company is obliged to robustly upgrade its infrastructure and resources to be able to handle a massive volume of invoices in the future.

5.4 Danang Power Company

Danang Power Company is an EVN's subsidiary, which is listed among the top 500 largest Vietnamese enterprises of Vietnam (EVN 2017). The successful deployment of e-invoicing in Ha Noi and Ho Chi Minh City are good practices for Danang Power Company to adopt e-invoicing.

Currently, Danang Power Company is serving 271,000 clients, 19,000 of them are businesses regardless of size.

Considering these figures and the benefits of e-invoicing, from January 2014, the company began to implement e-invoicing. However, the transition is still slow and not so many companies intent to be involved in the new system. Specifically, around 500 enterprises are reported to use e-invoicing. To aid the spread of e-invoicing among the business clients of the company, the author chooses Danang Power Company to be the object for primary data collection.

6 EMPIRICAL RESEARCH AND DATA ANALYSIS

Understanding the concept of e-invoicing and the barriers to the enforcement is a foundation for further examination about the case study and proposing satisfactory recommendations for the research questions.

A briefing of the theoretical background will be demonstrated in Figure 12 for the reader to go through the next sections of this thesis effortlessly.

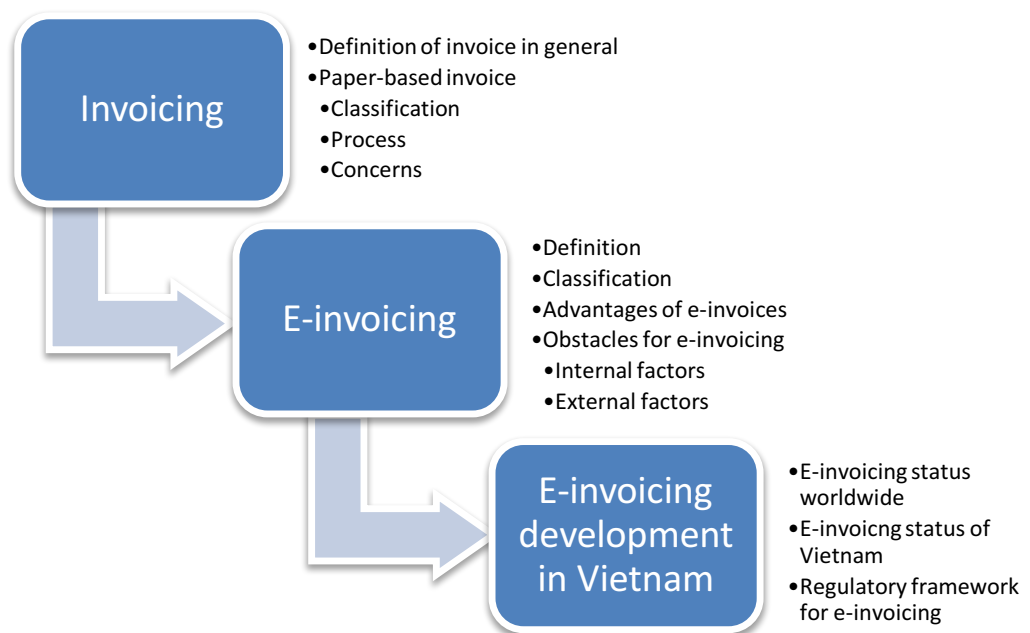


FIGURE 12. A brief of theoretical framework

This chapter describes the empirical study consisting of two parts: data collection and data analysis. Data collection refers the method of collecting primary data for the study, including the interview and the survey. The following part is allocated to explain the data collection and analysis procedure. Finally, the findings derived from the research is reported and used as a foundation for the formulation of the development plan.

6.1 Research Design

A good empirical research requires a professionally-planned research design to produce as objective as possible results. In addition, good research lowers the risk of inadequate resources such as time, skills and money. Subsequently, data generated based on a solid research is reliable and accurate and helps making better decisions later. (Sachdeva 2008.)

The purpose of the data collection is to answer the research questions. Internal factors and external factors that prevent the adoption of e-invoicing is necessarily examined in the empirical research separately. The research plan is described in Table 2.

TABLE 2. Mixed method plan

	Internal factors	External factors	Customer satisfaction's e-invoicing service
Data collection technique	Structured interview with The Director of Danang Power Company (qualitative method)	Interview with The Head of Customer-service Department (qualitative method)	Online platform questionnaires (quantitative method)

Specifically, the data collection techniques used in the thesis were structured interviews and a questionnaire. A structured interview uses a set of questions which has been predefined before the interview. The author chose to adopt two interviews as a mean to identify the challenges

that the case company is facing. The deductive approach was applied, therefore the author used interviews to test the theory mentioned above. (Saunders et al. 2012, 373-377.)

In contract, a questionnaire was exploited to collect data from a targeted group – customers of the case company. Conducting the questionnaire allowed the author to collect data in a practical and efficient way. Without a questionnaire, it was impossible to collect data from a large number of participants. Moreover, the author could address all relevant questions of concern in the questionnaire and send them to the surveyed through an online platform. As a result, the questionnaire created a flexibility to answer and ensured the anonymity of the respondents. (Defranzo 2012.)

The author is entirely responsible for the design of the interview and the survey as well as gathering data for the later analysis. As the subject under research is Danang Power Company and its business clients, the interviews and the questionnaire were in Vietnamese to ensure that the respondents are aware of the questions as well as the answers. Once the data collection completed, the author had the responsibility to translate the data into English for analyzing. The interviews and the questionnaire can be found in the appendices.

The two set of questions were made to satisfy the purpose of these interviews. In the first part of the research, the author interviewed The Director of Danang Power Company to analyze the challenges of e-invoicing that the company is facing. Meanwhile, from the interview with The Head of Customer-service Department, the external barriers to the adoption of e-invoicing were revealed. In addition, the author also investigated the solutions considered by the company to address the internal issues and promote the use of e-invoicing among its clients. The interviews were audio- recorded and lasted for 10 – 15 minutes.

The aim of the questionnaire was to discover the customers' satisfaction of the e-invoicing service provided by Danang Power Company. The questionnaire was done through online platform with the help of the case

company. It were sent to 300 business partners' email, and included eight questions and took about five minutes to answer.

6.2 Data Collection Plan

The timeline of the thesis procedure is recapped in Figure 13. The primary data collection lasted around two months from January to February.

Secondary data was gathered from books, newspapers, magazines, journals, online portals, etc. beforehand, which plays an important role in research validity and reliability.

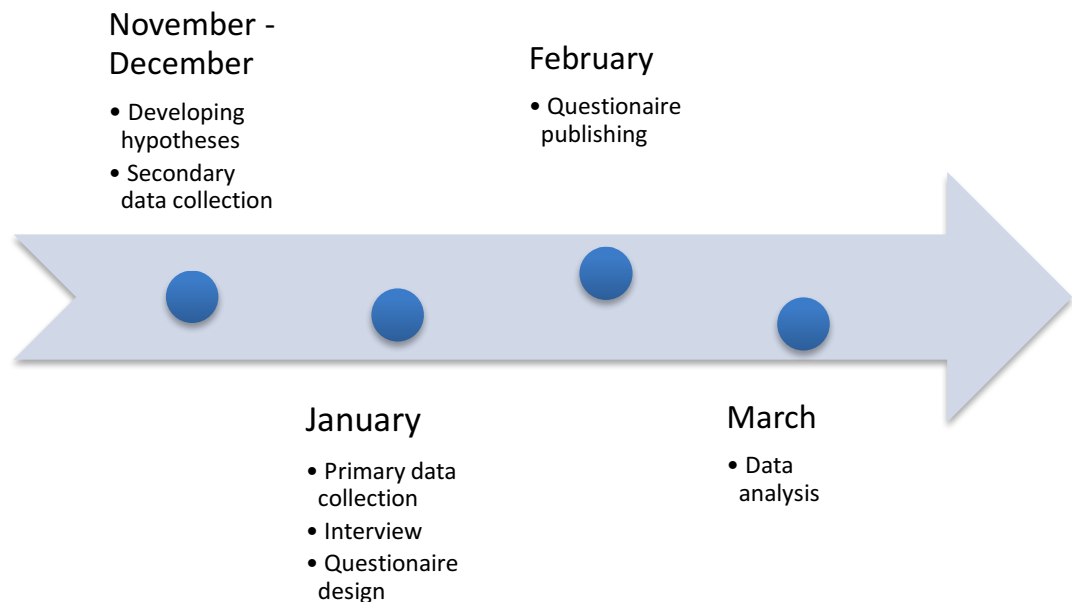


FIGURE 13. The timeframe of the thesis procedure

The interviews with the representatives of the company were recorded at the end of January 2017. The author planned the questions for the survey. It was essential to publish the survey for a sufficient period to collect as many responses as possible. The survey was opened for three weeks and received 122 respondents. The response rate is 40,67 %, which is eligible for further analysis.

6.3 Data Analysis

In this section, the answers generated from the data collection process is analyzed and reported. The interview with The Director of Danang Power Company is analyzed, followed by the interview with The Head of Customer-service Department. Finally, the analysis of the questionnaire is described.

Regarding two interviews, the author transcribed two audio tapes in text and then translated to English. This allowed the author to better understand the responses and made it easier to organize and prepare data. Besides, the researcher took notes of significant results. After that, answers were sorted into two different categories, namely internal and external challenges. Finally, the author interpreted the data – listing important findings from two interviews.

On the other hand, the author had a first impression on the data files by reviewing summaries of each survey questions. Similarly, the questions and answers were translated into English for the later analysis. As the survey used an online platform, the responses were transferred into a spreadsheet. The author calculated the responses and then displayed the results by tables or charts. Generating the main findings based on the responses was the final step.

6.3.1 Analysis of Interview 1: the Director of Danang Power Company

The interview includes ten questions, targeting to get a deeper understanding about the internal obstacles that the company is handling. Firstly, the Director of Danang Power Company stated that the adoption of e-invoicing was delegated by the Ministry of Finance. Although the company understood the benefits of electronic invoicing, the company was not ready to the digitalization of invoice. It is undeniable that applying automated invoices definitely takes time to prepare for the mass adoption

in the future. Additionally, the use of electronic invoices is necessary but it is difficult to enforce 100% of businesses to use it.

The successful practices of Hanoi Power Company and Ho Chi Minh City Power Company had been applied in the preparation stage for e-invoicing. Considering the current situation, the company enhanced its internal system by reviewing the system's capacity, including the tax system and the sharing system of value-added service for tax compliance. Besides, an online portal of invoices was built. Thus, customers could review the previous invoices or transactions and print them by themselves.

However, the company needs to ensure the system is large enough to store the data of more than 500 million customers for transmission and authentication. The transmission line to remote areas is necessary for better data transferring. Last but not least, a backup system will be built to avoid business disruption. Concisely, setting up an adequate system to support the mass adoption of e-invoicing requires a lot of time, money as well as efforts.

In order to make good use of e-invoicing technology, the company is required to organize a training for its accountants with knowledge of electronic invoices, electronic invoicing software, and technology of transmission lines. Presently, the company is cooperating with an e-invoice service provider to ensure the quality of issued invoices and prevent the risks that may occur. Therefore, possessing sufficient IT infrastructure and qualified staffs is the first challenge.

The Director also clarified another challenge for the adoption of e-invoicing is expenses incurred for e-invoices when the company invested in infrastructure, software, and training. These costs are apparently over the budget of the company. For a long term, the investment of e-invoicing is considered to be worthy and value-added but in the first phases, the expenses seemingly outweigh the benefits. Furthermore, the company has to pay the authentication fee of 300 dong per e-invoice. The fee is

considered as an extra cost which lowers the numbers of e-invoices issued.

Information loss and fake invoices are the threats to the confidentiality and security when Danang Power Company implements electronic invoicing. The e-invoice database can be the target for hackers to create and sell illegal invoices for profit. To fix the database vulnerabilities, the company has a duty to enhance its data privacy and protection.

Large businesses are willing to use e-invoices but small and medium sized ones are hesitant to changes. The Director regarded the inconsistent acceptance level as the biggest concern for the company. At the moment, the company is deploying an unstandardized e-invoicing procedure, which means the company provides different formats of invoice. As a consequence, the difference slows the consolidation of e-invoice data for accounting purposes.

Last of all, the Director pointed out the intricacy of e-invoicing process as a challenge. In order to comply with the Guideline instructed by the Government, Danang Power Company is obliged to follow multiple disciplines in different stages from issuance to voiding and destruction of an invoice.

6.3.2 Analysis of Interview 2: The Head of Customer-service Department interview

In this section, the author prepared nine questions for an interview with The Head of Customer-service Department. The main tasks of the Department are receiving feedback from customers and proposing corrective measures; supporting and advising e-invoicing plan to customers and developing solutions and programs for effective customer care.

Due to the function of the Department, the author believes the Head of Department is able to provide relevant explanations for the clients' ignorance of e-invoicing. The Head of Department named the reluctance

to transition as the most decisive challenge to the customers' adoption of e-invoicing. In particular, there are three elements that directly influence the favor of e-invoicing.

Firstly, companies, especially small ones are not aware of e-invoice and its benefits. The most common questions that the employees from the Customer service Department receive are "What is an e-invoice?", "Why does our company have to use e-invoicing?" and "What are the benefits of e-invoicing?". There is no trial for companies to compare the benefits of e-invoicing and paper-based invoicing. Once companies decide to digitalize its billing process, they no longer have any chance to use paper-based invoicing one more time. Hence, the lack of knowledge and practice discourages the migration to paperless invoice.

The second element that affects the decision to accept e-invoicing is the validity of e-invoice. In fact, there is no specific guideline to educate companies about the validity of e-invoice. As a consequence, confusion about the tax declaration of e-invoices arises among customers. Apparently, enterprises suppose that electronic tax compliance is more complicated and problematical. This concern eventually drives enterprises to continue using paper invoice.

The interviewee asserted that appropriate infrastructure and well-trained personnel for e-invoicing was a reason for the abandonment of e-invoicing. Similarly, not only the issuer of e-invoices but also its clients have to possess the sufficient resources such as time, money and staffs. In terms of big enterprises, building a system for e-invoicing can be value-added and time-saving. However, medium and small-sized companies perceive the new system a cost rather than reducing cost.

Another concern that delays the transition is associated with safety and security of customers information. Nowadays, spywares and malwares are increasingly widespread on the Internet. Sharing sensitive financial information between the company and its buyers for e-invoicing purpose can put the customers in confidentiality risks. In addition, in the event of

the downtime of the online portal that provides e-invoices review, customers' accounting procedure can be affected.

6.3.3 Analysis of Online Platform Questionnaire

In this section, data collected from the questionnaire is presented and analyzed through two sections.

Part 1: Background of the participants

The author used the first four questions to investigate the background of those who participated in the survey according to industry, size, habit of e-invoicing. Figure 14 shows a significant variation of industries in which Danang Power Company's customers were running. The majority of customers using e-invoicing are manufacturing companies.

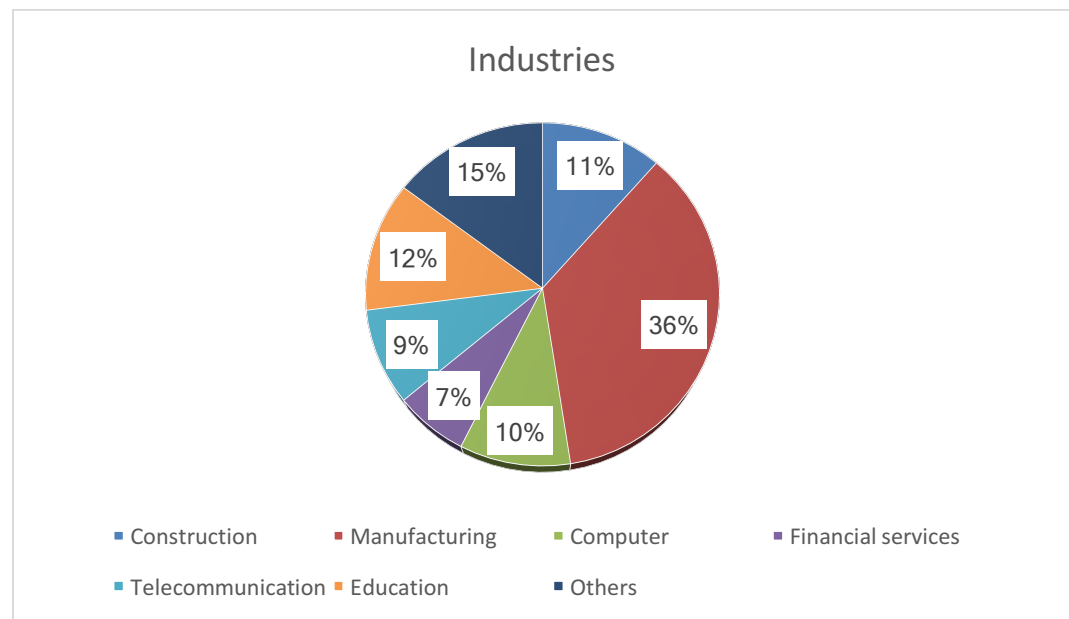


FIGURE 14. Industries of the respondents

As mentioned above, the questionnaire was carried out for Danang Power Company's enterprise clients. The sample includes firms which are

implementing e-invoicing and no longer use any paper invoices. The respondents are familiar with e-invoicing and e-invoicing service provided by the case company. Therefore, the responses are eligible for achieving reliable conclusions.

Understanding of the clients' company size facilitated the author to generate relevant findings later. Figure 15 describes the firm capacity of respondents. Almost three-fourths (71%) of those surveyed have more than 100 workers, while 18% of firms employ below 19 employees. Perhaps not surprisingly, the result confirmed the opinion of The Director of Danang Power Company. While large and medium-sized firms are in favour of adopting e-invoicing, small sized ones are still uncertain about the transition.

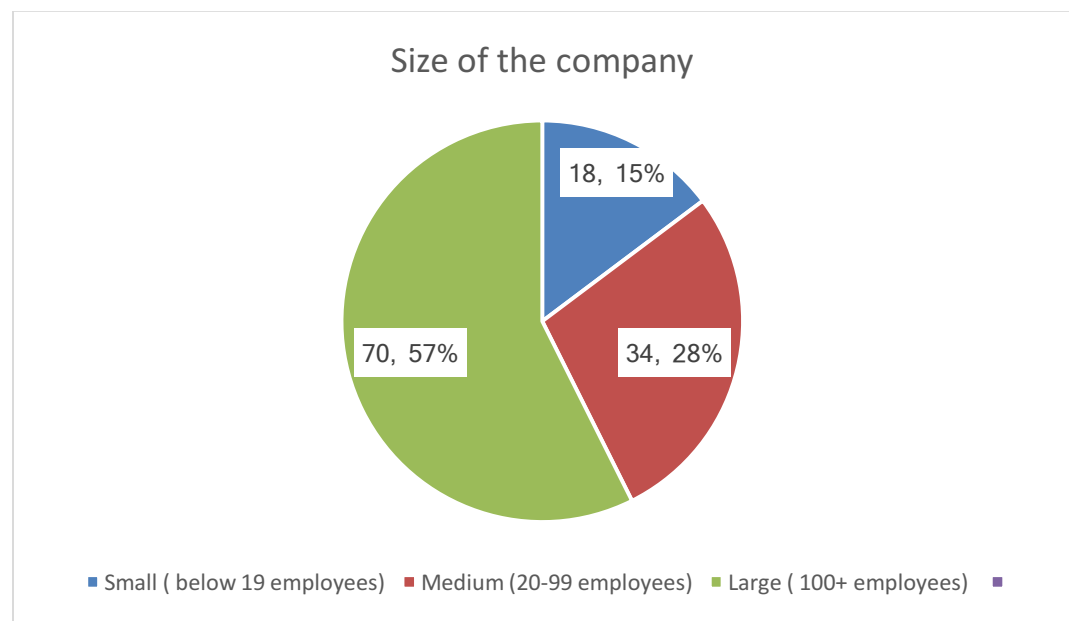


FIGURE 15. Firm size of the respondent

The main focus of the interview is customer's satisfaction of e-invoicing system. It is essential to understand the habit of e-invoicing of the participants, including the readiness to e-invoicing as well as the method

of receiving bills.

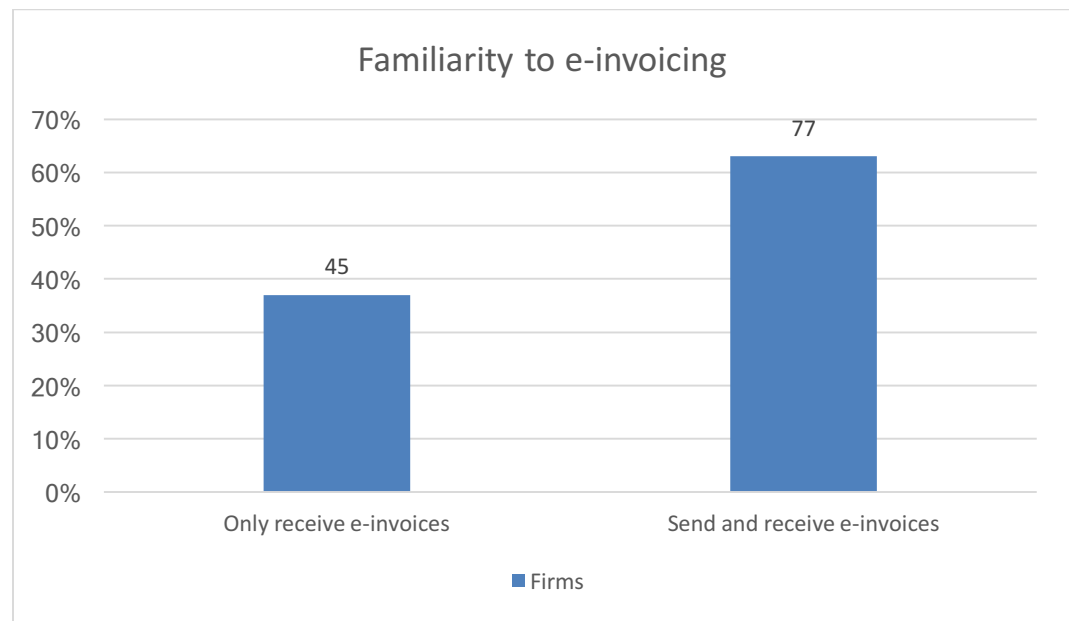


FIGURE 16. Readiness to e-invoicing

Figure 16 illustrates the readiness to e-invoicing among respondents. According to the given bar chart, 45 companies said that they only receive e-invoices, which means they partially established e-invoicing system. In contrast, the majority of firms (63%) are ready to issue and receive e-invoices. Their e-invoicing system of those firms are fully set up.

The last question in this part was devoted to discovering the method of billing of the case company for electronic invoice, and the result is captured in Figure 17. The most popular method of e-billing is direct email as 65% of firms use it. Consolidated e-billing software serves 28% of those surveyed while a few participants prefer receiving bills through a service provider.

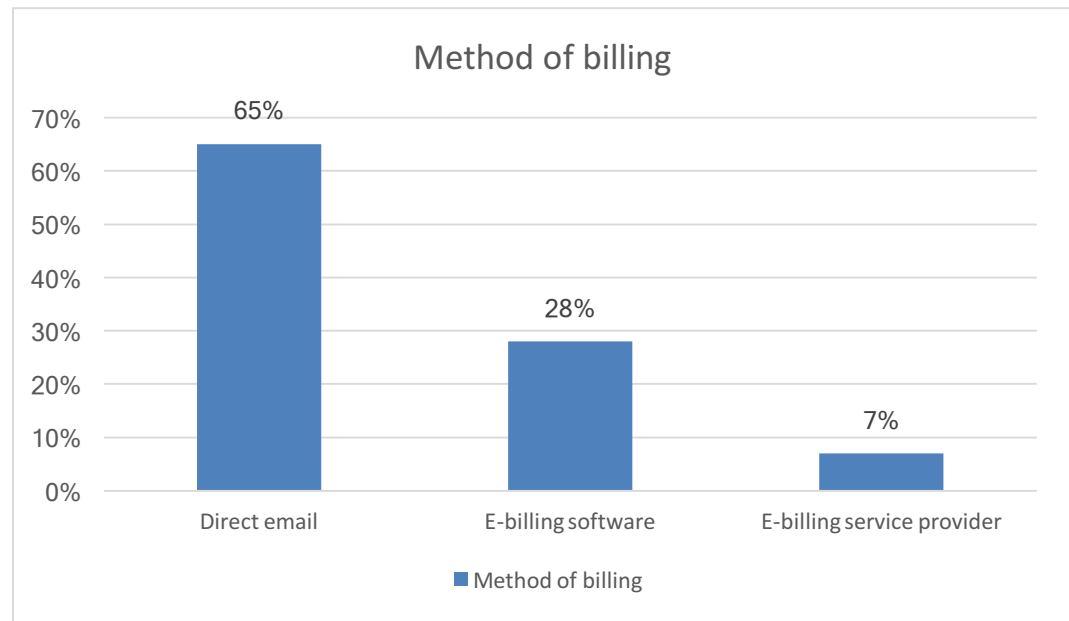


FIGURE 17. Methods of billing

Part 2: Customers' satisfaction of e-invoicing service

It is essential to measure customer satisfaction of e-invoicing service to create a comprehensive recommendation plan. This part consisted of four questions in terms of user-friendliness, reliability, responding, and overall service. The respondents were asked how satisfied or dissatisfied they felt. Figure 18 presented the level of satisfaction for the user-friendliness of e-invoicing.

As can be seen from the figure, respondents were more satisfied with the guideline for reviewing and printing e-invoices and the information provided in e-invoices (71% and 74% satisfied or totally satisfied respectively) compared to the respondents on the access to previous transactions (49% satisfied or totally satisfied). The dissatisfaction level of the previous transactions retrieval was highest (33% dissatisfied and totally dissatisfied). Remarkably, none of the participants stated that e-invoices didn't provide sufficient and related information.

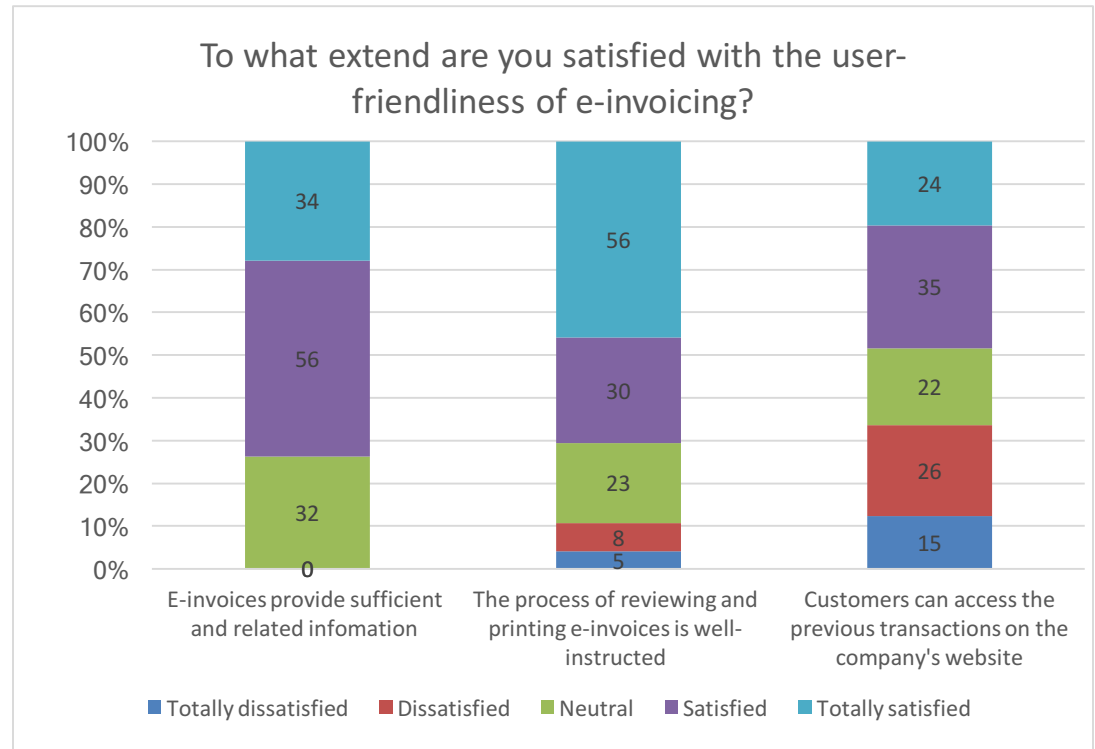


FIGURE 18. The ease of use of e-invoicing service

Thereafter the respondents were asked the reliability of e-invoicing. As shown in Figure 19, over seven in ten respondents (73%) felt totally satisfied or satisfied with the accuracy of the invoice, while the timeliness of billing process met 57 respondents' satisfaction. The dissatisfaction level of the former (16% totally dissatisfied and dissatisfied) was significantly lower than that of the later (29% totally dissatisfied and dissatisfied). Thirty percent of respondents had neutral satisfaction for the billing time.

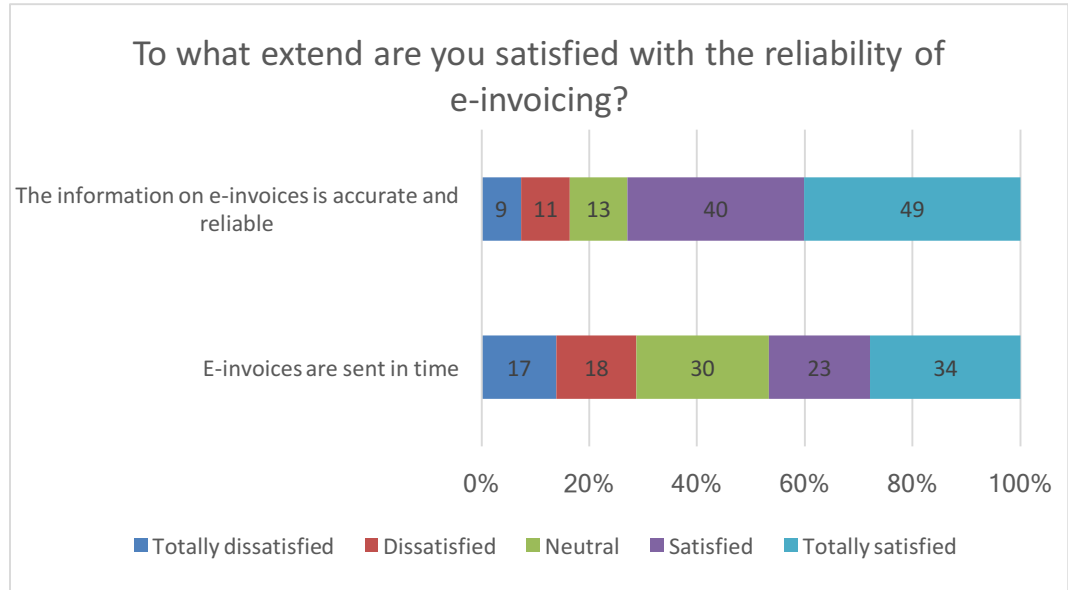


FIGURE 19. The reliability of e-invoicing service

In the next question, the author examined the customer service response, and the result was summarised in Figure 20.

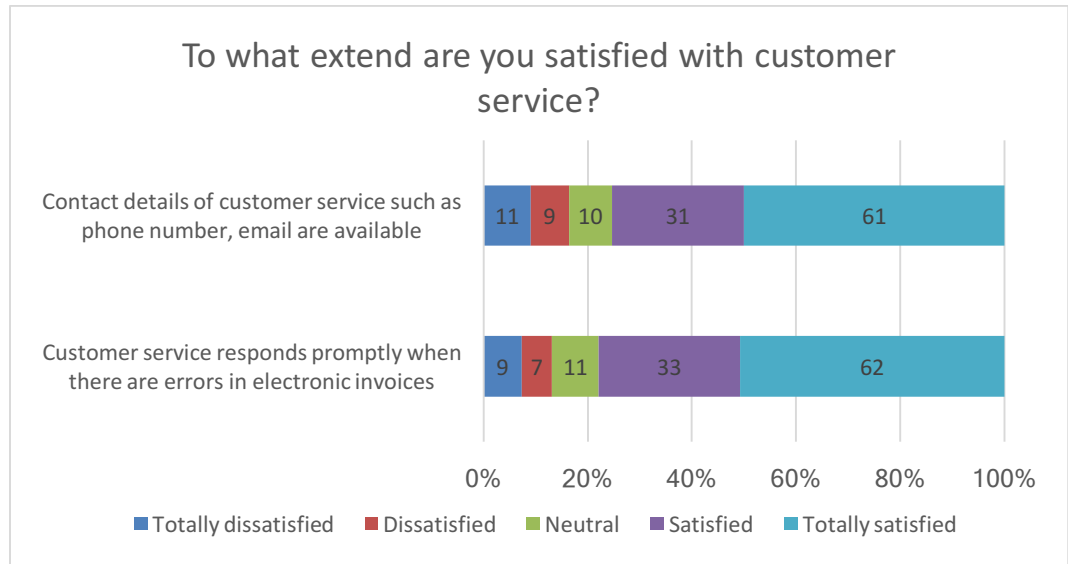


FIGURE 20. Customer service

It was clear that Danang Power Company had a dedicated customer service which received a high level of satisfaction from the respondents. Almost eight in ten respondents felt totally satisfied or satisfied with the fast response and the availability of contact details. In contrast, the response speed dissatisfied 14 customers and the invisibility of contact details disappointed 14 customers. Less than one in ten (8%) who stated they were neither satisfied nor dissatisfied with customer service's operation. It could be concluded that the Customer Service Department had successfully provided quick and satisfactory response to customers.

Figure 21 displayed the overall satisfaction of the respondents for e-invoicing service of Danang Power Company.

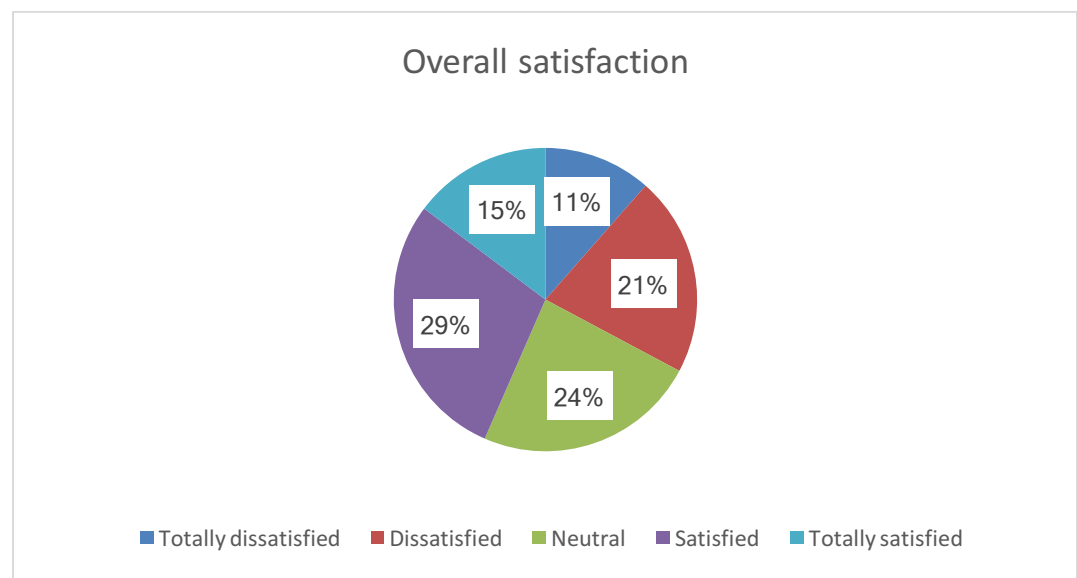


FIGURE 21. Overall satisfaction of the respondents

Finally, the last question's objective was to investigate the overall satisfaction of e-invoicing service. Forty-four percent of the participants were satisfied with e-invoicing service, whereas 33% of those surveyed felt dissatisfied. Twenty-nine over one hundred and twenty-two clients reported that they did not express their opinion toward the satisfaction.

7 RECOMMENDATIONS

This thesis introduced a theoretical framework regarding e-invoicing and discussed barriers affecting the implementation of e-invoicing.

Furthermore, the thesis presented an empirical study and data analysis. It is time to present the results and propose recommendations for the transition to paperless invoices in Danang Power Company. The recommendations are based on the case company situation, customers' opinions and the author's perspective. In addition, the aim of this chapter is to answer the research questions – “What could the case company do to improve its e-invoicing system?” and “What could be done to encourage business customers to use the electronic invoicing?”. The first chapter reflects the solutions to overcome internal challenges whereas the second one suggests the strategy to promote e-invoicing adoption among clients.

7.1 Internal Challenges

In this section, the author proposes five practical solutions to tackle current challenges related to e-invoicing of the case company based on the findings from the research.

The first solution for the company is strategic contingency approach. Strategic contingency approach means allocating the greater resources and power for departments that are crucial for achieving organizational goals (Daft 2012, 539). E-invoicing conversion requires time and resources to accomplish. However, the case company is addressing multiple issues at the same time, which puts serious constraints on its implementation. In this case, the author suggests the case company begins with an effective IT infrastructure as it brings an efficient and consistent service to the company's customers. Furthermore, staff cannot be trained before the system is fully operational. Having an error-free and optimized system is a foundation for any future requirements.

As mentioned above, authentication fee – an added expense - hinders the company's ability to create as many invoices as possible. The author

recommends the company to use consolidated invoicing to solve this issue. A single consolidated invoice replaces multiple invoices over a period time. For example, the case company can send an electronic invoice by quarter instead of by month. Therefore, consolidated invoicing reduces sufficiently the total amount of authentication fee and saves time in processing a separate monthly invoice.

Regarding the overall satisfaction of e-invoicing service, only 44% of the respondents were satisfied with the service despite the high level of satisfaction in customer service. This might tell that e-invoicing should be the matter of the whole company, not only accounting department or customer service department. For example, payment teams or IT teams should be responsible for the low satisfaction level in previous transactions review of those surveyed (33%). E-invoicing should be considered as a joint incentive for all departments to improve their daily processes. Therefore, a paperless conversion is possible to be spread by multiple departments such as finance, commercial, IT and so on.

A prospect for rapid expansion of e-invoicing cannot be opened without the cooperation between the company and e-invoicing service providers. Dealing with high sensitive information of the customers is sometimes a burden. Sharing the responsibility to assure confidentiality and security of data with e-invoicing service providers is essential. As a result, shifting duties allows the company to focus on the quality of e-invoices rather than guaranteeing data security. By doing so, the company can eliminate the risk of leaked or stolen sensitive financial information and gain trust from its customers at the same time. Customers are no longer concerned about data safety issue, which apparently makes them opened to adopt the new system.

The last recommendation is that the company should make e-invoicing simple and convenient. Considering the complexity of e-invoicing process caused by a wide range of e-invoice formats and tax compliance, it is essential for the company to standardize e-invoices and simplify the data transfer process. Creating unnecessary complexities in billing process not

only demands more time and efforts but also reduces the productivity of automated billing. The company can provide a technology platform to support billing and payment from initiation to completion instead. For example, upon an agreement between the company and its clients, e-invoices are available for automatic payments. The automated process allows the company to receive payments promptly. In general, since the purpose of e-invoicing is to facilitate faster process and payment, an easy-to-use and accessible billing solution must be taken into account.

7.2 External Challenges

It is obvious that the company cannot force their customers regardless of sizes to switch to digital invoice. Understanding what difficulties customers are facing is an important factor for the author to suggest suitable solutions for each issue. Based on the answers from the interview and the survey, the author outlines potential actions to increase the acceptance rate of e-invoicing.

The second interview indicates another challenge is the lack of knowledge. Understanding why customers should adopt e-invoicing facilitates the faster execution of the conversion. This is a true statement - when clients are aware of benefits of e-invoicing, they become voluntarily involved in the process. The author suggests two ways to educate clients about e-invoicing. Firstly, the authorities and the company should seize the opportunity to co-operate to educate companies, especially small-sized enterprise, about e-invoicing. The cooperation not only reduces the constraint for the case company but also offers a better understanding of e-invoicing for the customers. Obviously, the enforcement is regulated by the authorities, and it is the government who is responsible for preparing knowledge for innovation.

On the other hand, another way to deliver knowledge to clients is through campaigns and daily routine. There are no shortcuts to change paper-based invoicing habit that many companies have been running for years. This behaviour change definitely needs support from Danang Power

Company. The author suggests the company to run campaigns centred on its clients' benefits. The case company can make a strategic solution to focus on the target group instead of only one solution for all companies. Thus, the company discovers the billing routine of the group and then launches the proper campaign to promote e-invoicing. Consequently, the collaborative approach results in higher adoption rate.

Improving the ongoing service for customers might be worth considering. First, it is crucial for the company to deliver good invoices. The adoption rate relies on the quality of e-invoicing. According to the survey, 16% of the respondents were dissatisfied with the quality of the invoice and a higher level of dissatisfaction for the billing time of e-invoicing. Therefore, the case company is obliged to send electronic billings faultlessly and on time to its customers. Besides, providing ongoing support for clients is essential for achieving a successful adoption. In particular, being responsive to customers' issues is necessary. The author suggests that as soon as the company solves the difficulties quickly, the deployment of efficient e-invoicing runs smoothly.

Dealing with resistance to change is another concern. The case company can offer incentives to their clients to help them overcome the natural aversion to change. Finance savings are probably a great incentive. Apart from the significant cost saving nature of e-invoicing, the case company can also introduce early payment discount for the reluctant customers. This apparently makes the switch more appealing and beneficial. In addition, the case company can honour and give an award for the client who has the best performance in e-invoicing. In this way, competing for the award is an incentive for the rollout of the new technology.

As the internal challenges can be applied to every enterprise itself, sharing the solutions suggested in section 7.1 is valuable and supportive.

Customers themselves have the similar internal problems when switch to e-invoicing. Sharing experience during e-invoicing development process is a practical model to support the e-invoicing implementation in other firms.

8 CONCLUSION

This chapter presents a conclusion for the thesis based on the information gathered through the research. The first subchapter presents answers to the research questions. This is followed by a subchapter that discusses the validity and reliability of the study. The chapter finishes with suggestions for future research.

8.1 Answers to Research Questions

The research focuses on the e-invoicing and how the case company spreads the use of e-invoicing. The author answers the sub-questions first. After that, findings for the main questions are addressed. Below are presented the answers to the following questions.

Sub-questions:

What is electronic invoicing?

An electronic invoice (also called e-invoice) is a digitalized version of paper invoice. E-invoice has the same function as that of paper invoice, which means it is a commercial document issued by a seller to the buyer. An e-invoice records the sales of goods or service in electronic format. To be completely called an e-invoice, the billing process eliminates the existence of paper in every step. Therefore, data collected from an e-invoice is sent, received and stored electronically.

What are the challenges to the implementation of e-invoicing of the case company?

The challenges are divided into two categories, namely internal factors and external factors. The former includes barriers that arise in a company when a company adopts e-invoicing, while challenges caused by customers are considered as external factors. Regarding internal factors, the lack of sufficient IT infrastructure and qualified staff discourages the transformation of paper invoice. Besides, financial issues such as

constrained budget and hidden cost are another concern for the company. Dealing with the complexity of e-invoicing puts the stress on e-invoicing development for the case company. It is worth mentioning the fear of privacy leaks and fake invoices. Finally, the factor that considerably influences the adoption of e-invoicing is the routine of paper-billing. On the other hand, there are four deficiencies in e-invoicing that deter customers from switching to paperless invoice. Customers perceive the transition as a cost rather than cost savings. The investment on IT infrastructure and labor is considered to be expensive. Meanwhile, the security and confidentiality of clients can be easily exposed by spywares and malwares once the implementation is completed. In addition, clients are also worried about the validity of e-invoice, which lowers the acceptance rate of automated billing.

Main questions:

What could the case company do to improve its e-invoicing system?

Based on the results of empirical research, the company should take five actions into consideration. In order to implement e-invoicing successfully, Danang Power Company needs to follow a strategic contingency approach. Consolidated invoicing is a practical way to reduce the expense for authentication fee. It is clear that making e-invoicing process simple and convenient removes the barriers to the deployment of digital invoices. Moreover, delegating the protection of customer confidential data to e-invoicing service providers is essential. All in all, e-invoicing implementation should be the same goal for relative departments.

What could be done to encourage business customers to use the electronic invoicing?

Clients play an important role in shifting towards paperless billing. Educating clients about e-invoicing and its benefits is the only way for the clients to adopt e-invoicing voluntarily. Even though most companies are used to running their business in a certain way, offering incentives can be a real game changer. Besides, improving quality of e-invoice and response

service is an effective solution. Sharing experiences is also a practical solution to promote the use of e-invoices.

8.2 Validity and Reliability

Reliability tests the ability that a research can produce the same results from the same data research methodology when it is repeated by other researchers or on another occasion. Another characteristic to ensure the quality of the research is validity. Validity reflects the extent to which a research measures exactly what the researcher wants to measure. (Shuttleworth 2008.)

The secondary data demonstrated in the research was collected from qualified and reliable sources related to the research question such as published books, academic journals, reports and government documents. Besides, in order to ensure the thesis is up to date, the research used information published recently. The primary data was gathered from two interviews and a survey which the author was fully responsible for the design and the implementation. The interviewees had sufficient knowledge about e-invoicing and provided informative answers. The survey received responses from the target respondents. Based on the empirical results, the findings truly answered the research questioned that were mentioned in introduction chapter. In other words, the research was considered to be valid.

The author mentions the methodology research and how to collect data detailingly and comprehensively. The research is done with the case company and its clients, thus bring a consistency to the results of the research. The answers to the research questions are reflected from both the interviews and the survey. There are no right or wrong answers for interviewees, which reduces the risk of bias or subjection. In addition, the survey is supported by an online platform, which makes the participants feel comfortable and opened in their responses. If the research is reproduced in a different occasion, it still yields to the same findings. This ensures the research has a high degree of reliability.

8.3 Suggestions for Future Research

E-invoicing adoption in Vietnam is still in its roll out phase, and there is still room for plenty of topics to develop upon. The findings offer recommendations for the e-invoicing adoption of the case company, but the author does not examine the degree of effectiveness and applicability of these solutions. Thus, further research can focus on a comprehensive development plan for e-invoicing to tackle the struggles of implementing e-invoicing system or measure the helpfulness and appropriateness of the mentioned strategies.

Due to the shortage of time and resources, the research only covers how to promote business-to-business (B2B) e-invoicing. There is a need to conduct research on e-invoicing behaviour of business-to-customer (B2C) segment. Shifting to another segment creates a more in-depth and broader study and proposes more useful information for the case company. This topic could be interesting as the recommendations can target both groups businesses and customers. As a result, the case company obtains a mixed development plan for e-invoicing to apply for its clients.

9 SUMMARY

The objective of the research was to enrich the knowledge of electronic invoice as well as its numerous benefits. The final goal is to identify the difficulties that the case company is tackling and propose appropriate solutions to them. In particular, the thesis provides the solutions to implement e-invoicing system successfully and spread the use of e-invoicing among clients.

At the beginning of the thesis, the research introduced the background, goals, and structure of the thesis. In the following chapters including chapter two, three and four, the author presented the theoretical framework for the research. The second chapter was devoted to illustrating the definition of paper invoice while the third one provides a deeper understanding of definition, benefits and regulatory framework of e-invoicing. As the aim was to propose suggestions for the case company, it was crucial to address the current status of e-invoicing development in Vietnam and regulatory framework for the adoption.

Chapter 5 focused on e-invoicing status of the case company and the guidelines for the adoption. This was followed by the empirical part of this thesis. The researcher conducted two interviews to understand the challenges to the deployment of e-invoicing. The survey was sent to businesses to examine the customer satisfaction of e-invoicing service. Chapter seven conveyed the results of the study to author's recommendations to help the case company to adopt e-invoicing successfully.

The thesis finished with the conclusion of the findings and the answers to research questions, together with the validity and reliability of the research. Finally, suggestions for future research were discussed.

The findings of the study highlight that in order to implement e-invoicing successfully, the case company has to overcome internal issues related to infrastructure, personnel, finance, and privacy. All in all, as the case

company cannot force its clients to switch to e-invoices, the firm needs to make them voluntarily migrate to paperless invoice.

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APPENDICES

APPENDICE 1: Interview with the personnel of the case company.

Part 1: Internal obstacles

1. What are the major advantages that your company would receive from the implementation of e-invoicing?
2. What do you think are the major reasons that companies are using paper invoice?
3. I have read some studies and research, and often, the adoption of e-invoice was implemented to follow the Decree, not from the fact that the company sees the benefits of e-invoice. Is it true?
4. What are your opinions about the practises of Hanoi Power Company and Ho Chi Minh City Power Company?
5. What can your company learn from these practises?
6. What did your company do to prepare for the adoption?
7. Many companies perceive the new system a cost rather than reducing cost. What do you think?
8. What are the main obstacle for the adoption of e-invoicing in your company?
9. The decree will be adopted in 2018, which means the technology infrastructure of the tax authorities can be overloaded when Vietnamese enterprises deploy e-billing at the same time. What is your point of view on this issue?
10. In your opinion, what could be done to solve the internal difficulties in the adoption of e-invoice?

Part 2: External factors

1. What are the technical requirements for your business clients to receive e-invoicing?
2. Is it possible to change from e-invoicing service back to paper invoice?

3. Several business customers are afraid that there might be difficulties in tax declaration for e-invoice. Is it true?
4. Is the validity of the invoice a concern for your business customers?
5. Does your company offer the same format or different format of e-invoice to each business partner?
6. Is interoperability between your company and clients a barrier to e-invoice?
7. Are your customers worried about the confidentiality of e-invoicing?
8. What are the most common complaints about e-invoicing service of your company?
9. What could be done to improve customer's satisfaction of e-invoicing service?

Bảng khảo sát về dịch vụ hoá đơn điện tử và mức độ hài lòng của khách hàng của Công ty Điện lực Đà Nẵng (DNPC)

* Required

Thông tin cơ bản về công ty

1. Công ty của Anh/Chị đang kinh doanh trong lĩnh vực gì *

- Xây dựng
- Sản xuất, chế biến
- Công nghệ thông tin
- Ngân hàng và các dịch vụ tài chính
- Bưu chính viễn thông
- Giáo dục
- Các ngành khác

2. Quy mô của công ty Anh/Chị *

- Doanh nghiệp nhỏ (< 19 người)
- Doanh nghiệp vừa (20-99 người)
- Doanh nghiệp lớn (trên 100 người)

3. Mức độ quen thuộc của công ty Anh/Chị với dịch vụ hoá đơn điện tử *

- Công ty của Anh/Chị chỉ nhận hoá đơn điện tử
- Công ty của Anh/Chị đang sử dụng hoá đơn điện tử cho toàn bộ hoá đơn

4. Công ty Anh/Chị thường nhận hoá đơn điện tử như thế nào? *

- Email
- Hệ thống kế toán tích hợp
- Trang web của công ty Điện lực Đà Nẵng
- Khác

Đánh giá chất lượng của dịch vụ hoá đơn điện tử

Dưới đây là các ý kiến đánh giá chất lượng của việc sử dụng hoá đơn điện tử với 5 mức độ:

- 1: Hoàn toàn không đồng ý
- 2: Không đồng ý
- 3: Bình thường
- 4: Đồng ý
- 5: Hoàn toàn đồng ý

5. Dễ sử dụng *

	1	2	3	4	5
Email cung cấp thông tin về hoá đơn điện tử từ DNPĐ rất rõ ràng, dễ tra cứu thông tin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tra cứu, tải và in hoá đơn được hướng dẫn cụ thể trên trang web của DNPĐ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anh/chị dễ dàng xem lịch sử thanh toán trên trang web của DNPĐ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Độ tin cậy *

	1	2	3	4	5
Hoá đơn điện tử được gửi đến email của Anh/Chị đúng thời hạn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thông tin về hoá đơn điện tử hoàn toàn chính xác	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Sự phản hồi *

	1	2	3	4	5
Dịch vụ hỗ trợ khách hàng đáp ứng kịp thời khi có sai sót về hoá đơn điện tử	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trang web và email có thông tin liên hệ đầy đủ và chính xác	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Sự hài lòng của khách hàng *

	1	2	3	4	5
Tôi hài lòng với chất lượng dịch vụ hoá đơn điện tử.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>