

# Implementation of Electronic Data Interchange for Companies in Data Communication between

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**Abstract.** This paper analyzes the implementation of the Electronic Data Interchange system at PT Bisnis Teknologi in Batam-Indonesia, as well as the taxation of the implementation of the Electronic Data Interchange system in transactions between countries. The purpose of this study is to discuss the role of Electronic Data Interchange in transactions between customers and companies, but what happens at PT Bisnis Teknologi is not only customer order transactions and invoice delivery by the company but also communicating about what is requested by customers so that communication occurs. The tax that arises in the implementation of the Electronic Transaction Data Exchange System is an income tax of 0.5% of the gross and is not subject to Value Added Tax because Batam City is a Free Trade Area. There are many advantages of implementing an Electronic Data Interchange system, but not all companies can implement it due to cost constraints.

**Keywords:** Electronic Data Interchange; Taxation; Advantages and Disadvantages

## 1 Introduction

Electronic Data Interchange (EDI) is the transfer of structured data in an approved standard format from one computer system to another in electronic form. The term is generally used in the context of commerce and business, particularly electronic commerce or e-commerce [1]. It is generally used by companies to facilitate the exchange of repetitive transaction data between companies. EDI relies heavily on developing standard formats for business documents such as invoices, purchase orders, and receipts. There must be approval from the relevant business actors and recognition at the national and international levels to be able to use these standard formats and transmit data electronically. The exchange of business information at this time is generally carried out conventionally, namely using paper media. Along with the increase in business transactions of a company, of course, the use of paper will also increase. This can cause many problems such as delays in exchanging information, the need for an increase in the number of personnel which at the same time also means increasing the financial burden on the company. These facts have led to inefficiencies in the business, especially concerning the exchange of business information. Of course, we have to find a way out of the problems above so that efficiency in business transactions can be improved. The presence of the internet is an answer to overcome the various problems above. However, the

guarantee of security in transactions via the internet has caused people's concerns to transact through this virtual media. Identify the existence of Electronic Data Interchange (EDI) One solution to create adequacy in commercial transactions on the Internet and in the breath time to increase security guarantees in these transactions [2]. EDI (Electronic Data Interchange) is a system that allows business data such as purchase order documents from a company that already has an information system to be sent to another company that already has an information system. The development of information technology (IT) is growing rapidly along with advances in the field of computerization and telecommunications. The internet is a form of IT. The internet is a collection of computer networks that are related to each other without anything else to stem, the internet can provide information to everyone who needs it. The exchange of information can move quickly through the internet. As a sophisticated form of communication, the internet can provide various facilities, namely: E-mail (Electronic Mail), which is a form of news, data, and business letters conducted via the internet, or discussion groups/ mailing lists.

This facility allows people to store various computer files. In this way, we will more easily do business activities on the internet. The World Wide Web is a communication facility capable of sending information in the form of images, sounds, and animations. Usually used for promotional activities that require the appearance of images, sound, and animation. One of the internet technology revolutions that is growing rapidly in the business world is Electronic Data Interchange (EDI). In this case, the internet builds a supply chain, where the industry uses cyberspace to communicate and exchange data about orders for goods, inventory levels, sales, delivery/receiving of goods, etc., to save costs, provide good, fast, satisfying service. and wider access to retailers/suppliers [3]. This paper discusses Electronic Data Interchange (EDI) at a company engaged in information technology located in Indonesia and has connections to Singapore in carrying out various business activities. A company called PT Bisnis Teknologi is located in Indonesia as a company engaged in software development, which provides services for making various kinds of applications that have several jobs from Singapore. With the distance between countries, this can be a problem in communicating data in carrying out work for employees for the needs demanded by customers in Singapore. Based on the description above, the problems to be analyzed in this study are related to how the implementation of the EDI system at PT Bisnis Teknologi in Batam-Indonesia, what taxes that arise in the implementation of the EDI system on cross-border transactions, and the advantages and disadvantages.

## **2 Literature Review**

### **2.1 Electronic Data Interchange (EDI)**

Electronic Data Interchange (EDI) definition is a method of electronically exchanging business data or transactions over computer networks and the Internet. [1]. Electronic Data Interchange (EDI) is a system that provides business data, such as sales order documents, from one company that already has an information system to another company that already has the system. The development of information technology (IT) is growing rapidly along with advances in the field of computerization and telecommunications. Internet is one form of IT. The internet is a collection of computer networks that are related to each other without anything else to stem, the internet can provide information to everyone who needs it. The exchange of information can move quickly through the internet. As a sophisticated form of

communication, the internet can provide various facilities, namely: E-mail (Electronic Mail), which is a form of news, data, and business letters conducted via the internet, or discussion groups/ mailing lists. This facility allows people to store various computer files. In this way, we will more easily do business activities on the internet. The World Wide Web is a communication facility capable of sending information in the form of images, sounds, and animations. Usually used for promotional activities that require the appearance of images, sound, and animation. One of the internet technology revolutions that is growing rapidly in the business world is Electronic Data Interchange (EDI). In this case, the internet builds a supply chain, where the industry uses cyberspace to communicate and exchange data about orders for goods, inventory levels, sales, delivery/receiving of goods, etc., to save costs, provide good, fast, satisfying service. and wider access to retailers/suppliers [4].

## **2.2 Corporate Tax**

### **2.2.1 Final Income Tax Government Regulation Number 23 of 2018**

Compared to personal income tax, corporate income tax is more complex because there are many types of transactions and each has different tax provisions. Starting from the amount of the tariff, the method of calculation to the tax reporting, which has far different requirements than individual taxpayers. One thing is certain, corporate income tax is always closely related to business financial statements. If the financial statements of an entity or company are not precise and accurate, this can have an impact on reporting the Annual Corporate Income Tax Return (SPT). [5]. Government Regulation 23 of 2018 is effective as of July 1, 2018. The enactment of this Government Regulation simultaneously revokes Government Regulation Number 46 of 2013. The main points of changes are as follows:

- a) The final income tax rate is 1% to 0.5% of turnover, which must be paid monthly.
- b) Taxpayers can choose to follow the tariff with the final 0.5% scheme, or use the normal scheme which refers to Article 17 of Law Number 36 of 2008 concerning Income Tax.

Set the period for imposition of 0.5% Final income tax rate as follows:

- a) For Individual Taxpayers, that is for 7 years.
- b) For Corporate Taxpayers in the form of Cooperatives, Limited Partnerships, or Firms for 4 years.
- c) For Corporate Taxpayers in the form of a Limited Liability Company for 3 years.

### **2.2.2 Value Added Tax**

Value added tax is levied on the delivery of taxable goods within the customs area by an entrepreneur:

- a) Import of taxable goods.
- b) Provision of taxable services within the Customs zone, carried out by Entrepreneurs.
- c) Use of intangible taxable goods from outside the customs zone within the customs zone.
- d) Export of Tangible taxable goods by Taxable Entrepreneurs.

In particular, Value Added Tax is also imposed on:

Self-development activities are not carried out as part of a business or commercial activity by individuals or organizations, the results of which are used by themselves or used by other parties. Delivery of taxable goods in the form of assets not sold by taxable employers according to the original intent, business activities, and motor vehicles such as sedans, jeeps,

station wagons, automobiles, and motors, except for the distribution of assets that have no direct relationship with the acquisition of taxable goods or the acquisition of taxable services. [6].

Value Added Tax rate:

- a) The value Added Tax rate is 10%
- b) The government has been given the right to change the value-added tax rate to a minimum of 5% and a maximum of 15% by issuing a government decree.

Value Added Tax payable is calculated by multiplying the Value Added Tax rate with the Tax Base which includes:

- a) Selling Price  
Value in cash, including all costs, required or required by the seller in connection with the delivery of taxable goods, excluding value added tax and deductions included in the tax invoice.
- b) Replacement  
Value in cash, including all costs, required or required by the entrepreneur in connection with the provision of taxable services, the export of taxable services, or the export of intangible taxable goods.
- c) Import Value  
Value in the form of money which is the basis for calculating import duty plus customs and excise levies for taxable goods imports, excluding Value Added Tax.
- d) Export Value  
i.e. the value in money, including all costs requested or should have been requested by the exporter [7].

### **2.3 Interchange Advantages and Disadvantages of Electronic Data Interchange**

The use of Electronic Data Interchange (EDI) in Indonesia does not seem to have experienced significant growth and development. It is still very rare to use this system as a component of information technology. The definition of Electronic Data Interchange (EDI) itself is the electronic exchange of data between companies using standard data formats that have been mutually agreed upon (Mohamed S. Kamara Masudin, 2017). Electronic data exchange (EDI) makes it easier for companies to share information with internal and external stakeholders. Here are some of the benefits to organizations of receiving EDI. [9] :

- a) Cost savings: These savings are due to the absence of electronic data transfer costs, paper document storage costs, and paper document submission costs.
- b) Speed: This speed is due to the fact that due to electronic data exchange, document submission time is less than 1 min.
- c) Accuracy: Electronic Data Interchange (EDI) can provide high accuracy as there is no re-entry. In addition, the EDI system is equipped with ECC (Error Correction Control), which allows you to quickly identify errors and correct them immediately.
- d) Security: The use of document encryption makes documents almost impossible to falsify.
- e) Integration: Integration between systems can be done through Electronic Data Interchange (EDI) intermediaries. Each unit within the organization will be integrated with the Electronic Data Interchange (EDI) in it so that the process becomes more efficient.

### **3 Methodology**

This article is a descriptive study with a qualitative approach. The qualitative descriptive method is a research method based on the philosophy of postpositivism, used to study the state of a natural object (as opposed to experiments), where the researcher is a fundamental tool. Qualitative research highlights the over-generalization of meaning. Qualitative descriptive research aims to describe, explain and answer in greater detail the problems to be studied by examining as many people, groups or events as possible. In qualitative research, people are the research instruments, and the results are recorded in words or statements that correspond to the real situation [10].

#### **3.1 Research Time and Location**

This paper was conducted in March 2021 at PT Bisnis Teknologi, which is located in Batam City, Indonesia.

#### **3.2 Research Subject**

The subject of this paper is PT Bisnis Teknologi, which is engaged in software development and some of its customers are from Singapore. This paper discusses how the implementation of the EDI system at PT Bisnis Teknologi in Batam, Indonesia, what taxes arise in the implementation of the EDI system for cross-border transactions, and the EDI infrastructure as well as the advantages and disadvantages.

#### **3.3 Procedures and Data Collection**

In qualitative research, the quality of research is highly dependent on the quality and completeness of the data produced. Questions that are always considered in data collection: what, who, where, when, and how. Qualitative research is based on the triangulation of data obtained by three methods: interview, participant observation, and review of organizational records. In qualitative research, data is usually collected using observational, documentary, and survey methods. The use of non-human sources of information such as documents and existing records is also not excluded. [11].

#### **3.4 Data Analysis**

The data analysis in this paper is as follows:

- a) Interview employees and users involved in company activities.
- b) Make observations related to the problems studied.
- c) Documentation of the data required and permitted by the company under study.
- d) Conducting analysis related to the applicable tax rules by the transactions that occur.

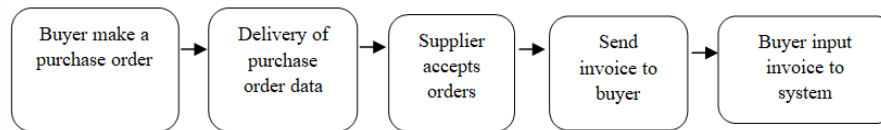
### **4 Result and Discussion**

#### **4.1 Implementation of the EDI (Electronic Data Interchange) system at PT Bisnis Teknologi in Batam-Indonesia**

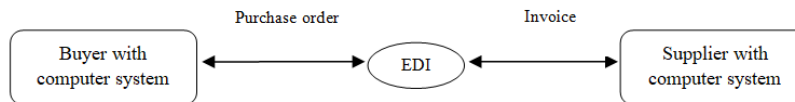
The findings on the implementation of the EDI (Electronic Data Interchange) system at PT Bisnis Teknologi as a company engaged in software development, of course, many things are requested by consumers such as application design, application feature requirements, required data capacity, and so on, of course, need support from a company. System to be able to communicate remotely and fulfill customer requests. For customers outside Batam such as in Singapore, data transfer can be done by developing standard formats for business documents such as invoices, purchase orders, and receipts. Some of the components in Electronic Data Interchange include:

- a) Hub (Party who gave the order)
- b) Spoke (Party receiving orders)
- c) Electronic hardware
- d) Electronic software

The following can describe the role of Electronic Data Interchange in PT Bisnis Teknologi:



**Fig. 1.** Order Process Without EDI



**Fig. 2.** Order Process With EDI

From Figures 1 and 2 above, it can be seen the role of Electronic Data Interchange in transactions between customers and the company, but what happened to PT Bisnis Teknologi was not just a customer order transaction and invoice delivery by the company, but communicated about what was requested by the customer so that communication occurred with various media, e-commerce, e-mail.

#### **4.2 Taxes that arise in the implementation of the Electronic Data Interchange System for Cross-Country Transactions**

Several taxes usually have to be levied in the event of a transaction on the sale of goods or services. The taxes that are usually imposed on transactions are as follows:

- a) Final Income Tax Government Regulation Number 23 of 2018 which is 0.5% of the gross turnover generated by the company below 4.8 billion rupiahs. This applies to PT Bisnis Teknologi as a business entity that has a gross turnover of fewer than 4.8 billion rupiahs. This is reported and paid until 2020 but starting in 2021 the normal rate of Article 25 Income Tax will apply.
- b) Value Added Tax is a tax imposed on goods or services in circulation from producers to consumers. Activities carried out by PT Bisnis Teknologi should be subject to Value Added Tax but this does not apply in Batam City because it is a special area. Batam is a Free Trade Zone (FTZ) where Indonesia was adapted into a Free Trade Zone and Free

Port (KPBPB). The government has formulated the definition of KPBPB and also regulated it in Law Number 36 of 2000 concerning Perppu Ordinance Number 1/2000 concerning KPBPB. Referring to Paragraph 1 Article 1 of Perppu No. 1/2000, KPBPB is the legal territory of the Unitary State of the Republic of Indonesia, which is separated from the customs territory so that it is exempt from levying import duties. VAT, sales tax on luxury goods and consumption tax.

### **4.3 Advantages and Disadvantages of Electronic Data Interchange**

Electronic Data Interchange (EDI) has become one of the most effective ways to help business people with the many advantages it offers. However, in addition to the advantages, there are also disadvantages of this Electronic Data Interchange EDI system. Following are the advantages and disadvantages of Electronic Data Interchange EDI. Advantages of Electronic Data Interchange (EDI):

- a) Able to save costs, the company does not require paper costs, document storage costs, and document delivery costs.
- b) Improved performance, document delivery lead time is less than 1 minute.
- c) More accurate, fully automated EDI technology makes the system more accurate. In addition, EDI is equipped with ECC (Error Correction Control) which is capable of producing a high level of accuracy where the feature can identify errors quickly so that they can be corrected immediately.
- d) The security guarantee provided, the use of EDI will be able to encrypt documents to make documents almost impossible to forge.
- e) Integrated, every unit within the industry or organization will be integrated so that the transaction or business process becomes more efficient.

Disadvantages of Electronic Data Interchange:

- a) Cost constraints are quite expensive for the procurement of computer equipment, especially for MSME businessmen.
- b) Does not yet have a legal umbrella that regulates the use of the EDI system.

By using the Electronic Data Interchange (EDI) that was built, it will be able to carry out the recording process of all transactions that occur. Can provide information quickly about the transaction process to the owner without having to go directly to the company's branch office or other warehouses. Electronic Data Interchange (EDI) can be a solution to make online business transactions more efficient and at the same time ensure transaction security.

## **5 Conclusion**

The role of Electronic Data Interchange is transactions between customers and companies, but what happens at PT Bisnis Teknologi is not just customer ordering transactions and sending invoices by the right company but communicating about what is requested by customers so that communication occurs. Taxes that arise in the implementation of the Electronic Data Interchange System on Transactions are income tax of 0.5% of gross income because the company's income is below 4.8 billion according to Government Regulation Number 23 of 2018 and is not subject to Value Added Tax because Batam City is a Free Trade Zone (FTZ). There are many advantages over the implementation of the Electronic Data Interchange (EDI) system such as saving costs, Improved performance, More accurate, the security guarantee provided, Integrated. but not all companies can implement it due to cost

constraints so small companies rarely use it, the majority only use internet media that they can access.

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