

Legality of Electronic Business Actor Registration Regulations (E-Commerce)

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Abstract

The development of technology and communication forces human beings to rely on technology. Such advancement influences smoother communication and turns trade process into an online system. The switch of the sale and purchase transaction mode from the conventional method to online method has possibility to trigger crime. Therefore, the fine regulations are needed to guarantee consumer rights so that e-commerce develops. The needs for regulation are fulfilled with the presence of the Consumer Protection Law which regulates consumer rights, businessman obligations, and businessman sanctions for neglecting the obligations. Furthermore, Law No 11 of 2008 on Electronic information and transaction law (UU ITE) standardizes electronic transactions. Lastly, Government Regulation No 82 of 2012 on the Implementation of Electronic System and Transaction Operations regulates the validity of an electronic contract which requires several conditions.

Keywords:

Technology, communication, law, electronic contract, validity

1. Introduction

The development of the internet has significantly influenced business behavior in terms of market, industry and business to meet economic and technological demands. Information technology has been used to encourage business and market activities. Today, the internet has become a strong business communication mechanism and can facilitate the improvement and processing of business transactions, leading to substantial changes in the industry (Pradana, 2015: 2). Indonesian people, especially urban areas, live without being separated from the internet because almost all of their activities always involve the internet and information technology. In the end the internet becomes a basic need for some people, especially those who use the internet for business purposes e-commerce. With business activities e-commerce, companies can expand their activities and reach consumers more easily. In addition to the trading process, business transaction processes are also helped by this development. Business transactions that have so far been conventional have become more modern because of transactions online.

E-commerce or also commonly referred to as electronic commerce is the spread, purchase, sale, marketing of goods and services through electronic systems such as the internet or television, websites or other computer networks. E-commerce is always associated with the use of electronic fund transfers, electronic data exchanges, automated inventory management systems and also automated data collection systems. E-commerce is defined as all forms of trade transactions or trade in goods or services using electronic media. In e-commerce there is trade through the internet network such as business to customer and business to business and trading with electronic structured data exchanges (Electronic Data Interchange/EDI) (Ustadiyanto, 2002). According to Kalakota and Whinston, the term e-commerce can be seen from 4 (four) different perspectives, namely (Turban, et al, 2007: 47):

- 1) When viewed from a communication perspective, e-commerce is the provision of goods, services, information or payments through computer networks or other electronics.

- 2) When viewed from a business process perspective, e-commerce is the application of technology with the aim of automating business transactions and steps in carrying out work (workflows).
- 3) When viewed from a service perspective, e-commerce is a tool that can meet the needs of companies, consumers, and managers with the aim of minimizing service costs, improving the quality of service to consumers, and increasing the speed of customer service.
- 4) When viewed from a perspective online, e-commerce enables the process of buying and selling products and information through the internet and other online services.

According to article 1 point 10 of Law Number 11 of 2008 concerning Information and Electronic Transactions (UU ITE) regulates that, electronic transactions are legal actions carried out using computers, computer networks, or other electronic media. E-commerce can be classified based on several aspects, one of which is based on the nature of the transaction, namely:

1) Business-to-Business (B2B)

The process of transactions e-commerce B2B type involves companies or organizations that can act as buyers or sellers.

2) Business-to-Consumer (B2C)

In e-commerce type transactions occur on a small scale so that not only organizations but also individuals can be involved in the execution of the transaction. This type of e-commerce is commonly called e-tailing.

3) Business-to-Business-to-Consumer (B2B2C)

In e-commerce this type of, a company provides products or services to another company. Other companies then provide products or services to individuals who act as consumers.

4) Consumer-to-Business (C2B)

In e-commerce this type of, a company provides products or services to another company. Other companies then provide products or services to individuals who act as consumers.

5) Consumer-to-Consumer (C2C)

In e-commerce, consumers sell products or services they have directly to other consumers.

6) Mobile Commerce (M-Commerce)

Is one type of e-commerce where buying and selling transactions and business activities that occur are carried out through wireless network media.

7) Intra-business E-Commerce

Business activities that belong to intra-business e-commerce include the process of exchanging goods, services, or information between units and individuals found in an organization or company.

8) Business-to-Employees (B2E)

B2E is a subset of categories intra-business e-commerce where companies provide services, information, or products to individual employees.

9) Collaborative Commerce

When individuals or groups communicate or collaborate online, it can be said that they are involved in collaborative commerce.

10) Non-Business E-Commerce

Non-business e-commerce is e-commerce that is carried out on organizations that are not oriented to gain benefits such as academic institutions, religious organizations, social organizations, etc.

11) E-Government

Is an e-commerce conducted by the government.

2. Literature Review

There are 3 (three) stakeholders in the business, namely, first, are business people, in this case the company; second is consumers, namely business users of goods and services; and the third is the government stakeholders (Shandusen, 2008: 520). In e-commerce there are certain mechanisms that are unique and different compared to the mechanisms contained in traditional commerce. In the market mechanism e-commerce there are several components involved, namely:

1) Customer

Customers are internet users who can be used as potential target markets to be offered in the form of products, services or information by sellers.

2) Seller

Seller is a party that offers products, services or information to customers of both individuals and organizations. The sales process can be done directly through the website owned by the seller or through the marketplace.

3) Products

One of the differences between e-commerce and traditional commerce lies in the products sold. In cyberspace, sellers can sell digital products that will be sent directly via the internet.

4) Infrastructure

Market infrastructure that uses electronic media includes hardware, software and network systems.

5) Front-end

The front end is an application that can interact with users directly. Some business processes on the front end include: seller portals, electronic catalogs, shopping carts, search engines and payment gateways.

6) Backend

The backend is an application that indirectly supports applications front end. All activities related to ordering goods, inventory management, payment processing, packaging, and shipping of goods are included in the business process back end.

7) Intermediary

The intermediary is a third party that bridges between producers and consumers. Online intermediary helps bring buyers and sellers together, provides infrastructure, and helps sellers and buyers in completing the transaction process. Intermediaries are not only companies or organizations but also individuals. Examples of intermediaries are brokers and distributors.

8) Partners other business

Partners are parties other than intermediaries who collaborate with producers.

9) Support Services

There are many support services currently circulating in cyberspace starting from certifications and trust services, which ensure security to the knowledge provider.

E-commerce can work well if it is run based on 4C principles, namely, connection, creation, consumption, and control. These principles can motivate consumers that lead to the company's return on investment (ROI), as measured by active participation such as feedback or reviews consumer, and share or recommend to other users (Donna & Marek, 2010). Current technological developments allow us to do any marketing with the help of the internet. Therefore, the world recognizes a new concept of business activity that is online. One of the advantages of using internet resources to connect with customers is the fast delivery of data and information between the people involved (Robert, 2010). There are 6 (six) dimensions of the success of information systems according to DeLone and McLean which can also be applied in environments e-commerce as follows (William & Ephraim, 2004):

- 1) System quality in an internet environment where the characteristics of systems e-commerce can be measured according to usability, availability, reliability, adaptability, and response time such as time download and data processing.
- 2) Information quality in capturing content issues e-commerce. The content network must be personalized, complete, relevant, easy to understand, and safe if there are prospective buyers or suppliers starting transactions via the internet.
- 3) Service quality. Overall support delivered by service providers, regardless of whether the support is delivered by the information system department or new organizational unit or may be outsourced to internet service providers.
- 4) Measured use of visits to website and navigation within the site for information retrieval and transaction execution.
- 5) User satisfaction is an important way to measure customer opinions in system e-commerce and must cover all customer experience in the cycle of purchase, payment, up to receipt of products and services.
- 6) Benefits. This is an important aspect because it is intended to balance the positive and negative impacts of e-commerce on customers, suppliers, employees, organizations, markets, industries, economics, and even society as a whole.

There are 2 (two) ways to do online marketing, passive and active. Passive online marketing means a company builds a website that provides information to customers without carrying out significant activities to reach customers. While active online marketing means a company trying to reach potential buyers on the internet (Schradi, 2009). By taking advantage of internet technology, companies have the convenience of promoting and delivering information about their brands (Kaplan & Hainlen, 2012). Interaction on the internet can be in the form of collaboration such as website graphic designers, content communities such as fan club sites, and the world video of virtual games such as DOTA and World of Warcraft. All types of websites participants have a high level of social attendance, but are low on self-disclosure because internet users do not always reveal their identities in cyberspace (Boyd & Ellison, 2007). The growth of online shopping has affected modern industrial structures. E-commerce has

revolutionized the way to transact various businesses and this provides opportunities for large companies to use economies of scale and offer lower prices. Individuals or business people involved in e-commerce, whether buyers or sellers rely on Internet-based technology to carry out their transactions. E-commerce has the ability to allow transactions anytime and anywhere. The power of e-commerce allows geophysical barriers to disappear (Blut, et al: 2015). Cultural context can shape the use of communication technology and patterns of use of social networking sites. They argue that media avidity can be different in different countries, according to the cultural characteristics of each country. Collective communities, for example in Asian countries such as India and Indonesia, are more dependent on social interaction than those who live in an individualistic-oriented society (Yoojung, Dongyoung, & Sejung, 2011). There are several classifications of e-commerce businesses in Indonesia, namely (Pradana, 2015):

1) Listing or classified ads

Functioning as a platform where individuals can install their merchandise for free. Income is derived from premium advertising. This type of classified ad is suitable for sellers who only want to sell small quality items. Like, OLX and berniaga.com.

2) Online Marketplace

Is a business model where the website concerned not only helps promote merchandise but also facilitates money transactions online. All online transactions must be facilitated by the website the relevant. Like the tokopedia.com and bukalapak.com websites.

3) Shopping Mall

This business model is similar to a marketplace but sellers who can sell there must be sellers or brands well-known because of the rigorous verification process. Like blibli.com and zalora.com

4) Online Store

This business model is quite simple, namely an online store with its own address website or domain where sellers have stock of products and sell them online to buyers. Like lazada.com and bhinneka.com

5) Online Stores in Social Media

Many sellers in Indonesia use social media sites like Facebook, Twitter and Instagram to promote their merchandise.

6) Types of Crowdsourcing and Crowdfunding

Websites is used as a platform to gather people with the same ability or to raise funds online. Like kitabisa.com or wifest.com.

E-commerce makes it possible to increase the overall business value of a company. Therefore, it is very necessary to understand the characteristics and types of different businesses e-commerce. However, opportunity costs can occur, if local strategies do not match new markets, companies can lose potential customers. In addition, there are also online businesses that use several business models above at the same time. Examples of the types of businesses that have their own B2C online stores as well as marketplaces that verify the seller first (Enricko, 2014).

3. Discussion

There are 7 (seven) main points in the roadmap e-commerce in Indonesia, namely (Septriana, 2016):

1) Logistics

Utilization of the blueprint National Logistics System (SISLOGNAS) to increase the speed of logistics delivery e-commerce and reduce shipping costs. The government assists in the development of logistics facilities outsourcing e-commerce especially for development e-commerce for SMEs, strengthening competitive local or national courier companies.

2) Financing

RPP e-commerce establishes a Public Service Agency (BLU) that can distribute government grants or Universal Service Obligations or government subsidies to digital MSMEs and e-commerce startup platforms, optimizing bank financial institutions as KUR distributors, a scheme to provide grants for conducting business incubators, a scheme to provide grants whose sources are from Corporate Social Responsibility (CSR) BUMNs, equity participation schemes through venture capital, schemes of provision for seed capital information and communication technology players, development of policies crowdsourcing as alternative funding including risk management framework.

3) Consumer Protection

Building consumer trust through regulation, protection of industry players, simplification of registration of business licenses for players e-commerce, developing a national payment gateway that can gradually increase electronic retail payment services including e-commerce, implementing incubation programs for startups to foster their development, especially in the early stages, preparing talent needs to maintain the sustainability of the ecosystem e-commerce.

4) Communication Infrastructure

An improved national communication infrastructure as the backbone of the growth of the industry e-commerce.

5) Tax

Conduct simplification of tax obligations or tax procedures for actors e-commerce startup, giving tax incentives to investors e-commerce and tax incentives for startups e-commerce and tax treatment equality in the form of obligations to register, including foreign business actors.

6) Education and Human Resources

Education for the entire ecosystem e-commerce, the implementation of national awareness campaigns e-commerce through online and offline media throughout Indonesia, providing education e-commerce for policymakers to gain an understanding of e-commerce according to the role of good government central and regional, improving the national communication infrastructure as the backbone of the growth of the industry e-commerce.

7) Cyber Security

Increased awareness of online and public traders of cybercrime and perpetrators about the importance of electronic transaction security.

In 2013, the Ministry of Trade (Ministry of Trade) drafted a Government Regulation on Trade through Electronic Systems (e-commerce). The regulation requires traders who use e-commerce to apply for permission first to the Ministry of Trade. In the roadmap e-commerce regarding consumer protection is discussed in the regulation of trade transactions through electronic systems. In roadmap this ministry of Trade is responsible for completing the draft government regulation on online trade transactions with the output of government regulations. This was triggered by the increasingly rapid development of online stores in Indonesia. The increasing number of transactions each year is a strong reason for the Ministry of Trade to design this rule. Registration of business actors in e-commerce is carried out through an electronic system issued by the Ministry of Trade (Oginawa, 2013).

The Ministry of Trade requires all products or goods traded through e-commerce to meet Indonesian national standards (SNI). The Ministry of Trade will tighten supervision of e-commerce businesses so that all products sold have fulfilled these requirements. supervision is carried out by the Ministry of Trade in accordance with the Regulation of the Minister of Trade (Permendag) Number 72/M-Dag/Per/9/2015 concerning the Third Amendment to the Regulation of the Minister of Trade Number 14/M-Dag/Per/3/2007 concerning Standardization of Services in the Field of Trade and Obligatory SNI Supervision Against Traded Goods and Services (Safyra, 2015).

The Ministry of Trade (Kemendag) will require electronic (commerce-commerce) businesses or online shops to register. This obligation is part of the draft Minister of Trade Regulation (Permendag) concerning E-Commerce which is currently being discussed by the government. This Regulation of the Minister of Trade is the technical implementer of the Government Regulation (RPP) on Trade Transactions Through Electronic Systems which is currently still in the process of discussion. This regulation plan is targeted to be issued at the end of the year. The contents of the Regulation focuses on procedures for the registration and publication of the identification number of the seller online. After registering, online sellers will register an identity number that must be displayed on the e-commerce platform. Then the data on all online sellers that have been registered will be collected by the Ministry of Trade to be accessible to the public (Kontan, 2017).

This data will have an important position for consumers to know the legality of online sellers because sellers who do not register their online businesses will enter the List of Priority Oversight from the Ministry of Trade. This will maintain the sense of security of consumers to transact on platforms that have been registered with registered sellers. The Ministry of Trade is still discussing data seller needed at registration. This discussion also involves businesses or sellers who sell their goods online.

The potential of the industry e-commerce in Indonesia increases 40 percent annually (Ernst & Young, 2016). The value of e-commerce in 2016 reached 30 billion US dollars, equivalent to IDR 395 trillion and is predicted to increase to 130 billion US dollars, equivalent to IDR 1,714 trillion in 2020 (Widiartanto, 2016). For this reason, consumer protection is needed to maintain consumer confidence in the use of e-commerce and also develop e-commerce itself. Article 4 of Law Number 8 of 1999 concerning Consumer Protection states that,

"Consumer rights are:

- 1) right to comfort, security and safety in consuming goods and/or services;*
- 2) the right to choose goods and/or services and get the goods and/or services in accordance with the exchange rate and the conditions and guarantees promised;*
- 3) the right to correct, clear and honest information regarding the condition and guarantee of goods and/or services;*
- 4) the right to hear opinions and complaints about the goods and/or services used;*
- 5) the right to get proper advocacy, protection and efforts to resolve consumer protection disputes;*
- 6) the right to get consumer guidance and education;*
- 7) the right to be treated or served correctly and honestly and not discriminatory;*

- 8) *the right to get compensation, compensation and/or replacement, if the goods and/or services received are not in accordance with the agreement or not as they should be;*
- 9) *Rights regulated in other statutory provisions."*

While the obligation for business owners in this case is an online seller regulated in article 7 of the PK Law which regulates that,

"The obligation of business actors is:

- 1) *good intentions in conducting business activities;*
- 2) *provide correct, clear and honest information regarding the condition and guarantee of goods and/or services and provide an explanation of the use, repair and maintenance;*
- 3) *treat or serve consumers correctly and honestly and not discriminatory;*
- 4) *guarantee the quality of goods and/or services produced and/or traded based on the provisions of the quality standards of goods and/or services that apply;*
- 5) *giving consumers the opportunity to test, and/or try certain goods and/or services and provide guarantees and/or guarantees for goods made and/or traded;*
- 6) *provide compensation, compensation and/or compensation for losses due to the use, use and use of goods and/or services traded;*
- 7) *Provide compensation, compensation and/or reimbursement if the goods and/or services received or utilized are not in accordance with the agreement."*

If the business actor e-commerce does not carry out its obligations, the business actor may be subject to a criminal offense based on Article 62 of the PK Law which regulates that,

"Business actors who violate the provisions referred to in Article 8, Article 9, Article 10, Article 13 paragraph (2), Article 15, Article 17 paragraph (1) letters a, letter b, letter c, letter e, paragraph (2) and Article 18 shall be punished with a maximum imprisonment of 5 (five) years or a fine of IDR 2,000,000,000 (two billion rupiah)."

Buying and selling transactions conducted between consumers and sellers conducted online, based on Law Number 11 of 2008 concerning Information and Electronic Transactions and Government Regulation Number 82 of 2012 concerning the Implementation of Electronic Systems and Transactions, are still recognized as electronic transactions that can be accounted for then. This is indicated by the time when the consumer approves buying goods online by making a transaction, it is a form of acceptance that states agreement in an agreement on an electronic transaction. That action is intended as a statement of agreement on the terms and conditions of online buying and selling which is one form of electronic contract as stipulated in article 47 paragraph 2 PP PSTE that,

"Electronic contracts are considered valid if:

- 1) *there is an agreement between the parties;*
- 2) *carried out by a competent legal subject or authorized in accordance with the provisions of the legislation;*
- 3) *there are certain things;*
- 4) *The object of the transaction must not be contrary to the laws and regulations, decency and public order."*

Article 48 paragraph 3 PP PSTE regulates the contents of electronic contracts which at least contain the identity data of the parties, objects and specifications, electronic transaction requirements, prices and costs, procedures in the event of cancellation by the parties, provisions that give rights to the injured party to be able to return goods and/or request product replacement if there is a hidden defect, and the choice of legal settlement of electronic transactions. Thus, electronic transactions can be used 3 (three) provisions, namely the ITE Law, the PK Law and the PSTE PP as a legal basis to protect the interests in it.

The main principle of online transactions in Indonesia is still using aspects of trust towards sellers and buyers. The principle of transaction infrastructure security online such as guarantees for the correctness of the seller/buyer identity, the guarantee of payment gateway security, the guarantee of security and reliability of websites is electronic commerce not yet a major concern for sellers and buyers, especially in small to medium scale transactions with nominal value transactions that are not too large. One indication is the number of complaints about fraud through internet media and other telecommunications media received by the police and investigators of the Ministry of Communication and Information.

4. Conclusion

The principle of trust between sellers and buyers does not guarantee transaction security. The existence of The Consumer Protection Law ensures consumer rights and provides sanctions for businessman who neglects their

obligations. In addition, Electronic information and transaction law (UU ITE) regulates electronic transactions along with the sanctions. Finally, The Government Regulation on Electronic System and Transaction Operations requires businessman to submit complete identity data to avoid fraud by both consumer and seller.

References

- Blut, Mark and Frennea, Carly and Mittal, Vikas and Mothersbaugh, David L., 2015, *How Procedural, Financial and Relational Switching Costs Affect Customer Satisfaction, Repurchase Intentions, and Repurchase Behavior: A Meta-Analysis*, in the International Journal of Research in Marketing
- Boyd, DM and Ellison, NB, 2007, *Social Network Sites: Definition, History, and Scholarship*, in the Journal of Computer-Mediated Communication, 13 (1), article 11, accessed on January 30, 2012
- Delone, William H. and Mclean, Ephraim R., 2004, *Measuring E-Commerce Success: Applying the Delone & McLean Information Systems Success Model*, in International Journal of Electronic Commerce 9.1
- Ernst & Young, downloaded from [http://www.ey.com/Publication/vwLUAssets/Digital_data_opportunities/\\$FILE/EY_Digital_data_opportunities.pdf](http://www.ey.com/Publication/vwLUAssets/Digital_data_opportunities/$FILE/EY_Digital_data_opportunities.pdf) on June 23, 2016
- Hoffman, Donna L., and Fodor, Marek, 2010, *Can You Measure the ROI of Your Social Media Marketing*, MIT Sloan Management Review 52.1
- Kaplan, AM and Haenlein, Michael, 2012, *Users of the World, Unite! The Challenges and Opportunities of Social Media*, Business Horizon 53
- Kim, Yoojung; Sohn, Dongyoung; and Choi, Sejung Marina, 2011, *Cultural Difference in Motivations for Using Social Network Sites: A Comparative Study of American and Korean College Students*, in the Computers journal in Human Behavior 27.1
- Kontan, 2017, *Online Shop Business Actors Must Register with the Ministry of Agriculture*, downloaded from <http://www.tribunnews.com/bisnis/2017/12/19/pelaku-usaha-online-shop-wajib-self-register-to-ministry-trade>, on January 30 2018
- Kozinets, Robert V., 2010, *Networked Narratives: Understanding Word-of-Mouth Marketing in Online Communities*, Journal of Marketing 74.2
- Law No. 8 of 1999 on Consumer Protection
- Law Number 11 the Year 2008 on Information and Electronic Transaction
- Luckman, Enricko, 2014, *5 Models of E-Commerce on Indon esia*, downloaded from <https://id.techinasia.com/5-model-bisnis-ecommerce-di-indonesia/>, on May 13, 2017
- Obligatory-sales-e-commerce-security-sni/Schradi, B., 2009, *Lexikon Online Internet Marketing (Online) Available*, downloaded from http://www.symweb.de/glossar/online-marketing__169.htm, on March 23, 2010
- Pradana, Mahir, 2015, *Classification of Types of E-Commerce Business in Indonesia*, in Neo-Bis Journal Vol. 9 No. 2 Dec 2015, Bandung: Telkom University Bandung
- Prayogo, Oginawa R., 2013, *E-Commerce Must Be Permit First to the Ministry of Trade*, downloaded from <http://nasional.kontan.co.id/news/e-commerce-harus-izin-dulu-ke-kemendag>, on 6 July 2015
- Primadhyta, Safyra, 2015, *the Required Ministry of Trade SNI Certified E-Commerce Goods*, downloaded from <https://www.cnnindonesia.com/ekonomi/20151102145625-92-88914/kendend->, on October 5, 2016
- Sandhusen, Richard, 2008, *Marketing, Hauppauge*, New York: Barron's Educational Series
- Tangkary, Septriana, 2016, *Ready to Become the Digital King of ASEAN?*, downloaded from <https://web.kominfo.go.id/sites/default/files/Ekonomi%20Digital.pdf>, on October 8, 2017
- Turban, E., King, D., Lee, J., Warkentin, M., Chung, HM, 2002, *Electronic Commerce 2002: A Managerial Perspective*, New Jersey: Prentice Hall
- Ustadiyanto, Riyeko, 2002, *E-Commerce Framework*, Yogyakarta: Publisher Andi
- Widiartanto, Yoga Hastyadi, *Jokowi: The World Has Delivered Indonesia's Digital Economy*, downloaded from <http://tekno.kompas.com/read/2016/04/28/13551607/Jokowi.Dunia.Sudah.Ekon.Ekonm.Digital.Indonesia>, on 23 June 2016

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