Urgency of E-Commerce Act for Consumer Protection
(Comparative Study in Indonesia, Singapore, and China)

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Abstract
This research aims to discover the problems of regulation of electronic commerce (e-commerce) in Indonesia, Singapore, and China with a focus on Indonesia. This study also intends to construct e-commerce legislation to promote the expansion of the digital economy in many nations. This study focuses on legal research. Comparative and legal approaches are utilized in the study process. The legal documents utilized are e-commerce laws in Indonesia, Singapore, and China. In pandemic era, Indonesian e-commerce transactions had climbed by 50.8% with transactions reaching IDR 401 trillion. However, fraud in online transactions is one of the most reported crimes. As many as 28.7% of cybercrimes originate from fraud. The number of fraud cases, transaction security, and weak protection of personal data consumers are still central issues. The Information and Electronic Transactions Act, as revised by Act Number 19/2016 does not explicitly regulate e-commerce. Compared to Singapore, it has a Casetrust to increase consumer confidence and is supported by the Electronic Transactions Act (ETA). Personal Data Protection Act 2012 (PDPA). E-commerce Act of the People’s Republic of China is supported by Personal Information Protection Act of the People’s Republic of China. The Act aims to give some legal certainty and predictability to online businesses.
I. Introduction

In the pandemic era, digital economic activities in Indonesia experienced rapid growth, and the volume of e-commerce purchases and transaction values indicate Fintech’s market share (Kharisma, 2020). Google, Temasek, and Bain & Company, through their report Roaring 20s: The SEA Digital Decade eConomy, stated that Indonesia's digital economy as a whole has a Gross Merchandise Value (GMV) of USD 70 billion or around IDR 994 trillion. Based on the report, all sectors of Indonesia's digital economy experienced robust growth, with e-commerce at 52%, still the main driver (Google et al., 2021).

E-commerce in Indonesia is increasingly promising. Bank Indonesia (BI) recorded the value of e-commerce reaching IDR 401 trillion with a transaction volume of 1.73 billion throughout 2021 and an increase of 50.8% compared to the achievements of e-commerce in 2020 (Bank Indonesia, 2021). In line with that, Bank Indonesia reported a 49.06% increase in electronic money transactions % to reach IDR 305.4 trillion in 2021. Meanwhile, The transactions of the digital bank in 2021 rose 45.64 percent to 39,841.14 trillion IDR (Bank Indonesia, 2021).

Figure 1. Development of E-commerce in Indonesia

Sources: (Bank of Indonesia, 2021)

The extensive Internet usage in Indonesia contributes to the accelerated growth of e-commerce in the country, which is a relatively large number and tends to increase every year. According to data from a survey of Indonesian internet users obtained from the Association of Indonesian Internet Service Providers (APJII), Indonesian internet users totalled 196.71 million in 2019-2020, from 266.91 million Indonesians, with a percentage of by 73.7%. In 2018, the rate of internet users was 64.8%, with 171.17 million people out of a national population of 264.16 million. In conclusion, there is an increase in internet user growth of 8.9% in Indonesia. That means that the prospect of e-commerce continues to grow in the future and will be more expansive because the internet has a vital role in e-commerce.
Alongside the fast growth of e-commerce, its implementation nevertheless faces obstacles, especially related to transaction security. The Ministry of Trade noted that 8,949 consumers, or 95.3%, complained about e-commerce. The number of complaints is in line with the intensification of consumer electronic transactions during the pandemic. The criticisms include refunds, purchases of goods that are not following the agreement or are damaged, goods that consumers do not receive, unilateral cancellations by business actors, the arrival time of goods is not as promised, and fraud in online transactions (Ministry of Trade, 2022).

Based on data sources from the Indonesian National Police (Polri), fraud in online transactions is one of the most reported crimes in 2020. As many as 28.7% of cybercrimes originate from fraud (Polri, 2021; Kompas, 2021). In addition, there are numerous instances of data breaches in Indonesia. Some of the issues that occurred include the hacking of 13 million Bukalapak user accounts by hackers from Pakistan. In addition, the personal data breach of 91 million user accounts of Tokopedia, which is one of the startups in Indonesia. The data is purchased, and the download link is circulated via Facebook. The same thing happened to Lazada RedMart in October 2021, 1.1 million consumers’ personal data was hacked from a database hosted by a third-party service provider. The personal data includes names, telephone numbers, email addresses, passwords, and credit card numbers (IDN Times, 2021).

Fraud cases and leakage of personal data in e-commerce show that security is still weak in e-commerce. Indonesia must immediately pay special attention to issues in this sector not to hinder the digital economy development. Indonesia does not yet have a special Act related to e-commerce and a certification institution for e-commerce business actors. In other ways, concerning transaction security, the security of customer personal data in Indonesia is still weak. This fact is quite worrying, so the need for legal research.

There are several studies that examine regulations and legal issues of e-commerce.
Consumer protection and e-commerce in Oman were the subjects of research by Belwal et al. The results of his research found that Oman already has an e-commerce Act but the Act is not sufficient to answer legal problems that occur in the e-commerce sector. This is because e-commerce Act only focus on personal data security and dispute settlement processes. The Act does not yet regulate the legal provisions of e-commerce transactions and various global provisions to increase consumer confidence (Belwal et al., 2021).

Strzelecki & Rizun also studied consumer security in e-commerce in Poland and Ukraine. The results of his research found that in Ukraine, the absence of a personal data protection Act resulted in a high risk of e-commerce transactions. This condition is different from Poland, which has an e-commerce legal system and a personal data protection Act (Strzelecki & Rizun, 2020).

Research on e-commerce was also conducted by Jaradt. In his study, Jaradt examines the legal aspects of e-commerce contracts in the UAE and the United Kingdom. The results of his research show that the e-commerce contracts entered into in the UAE and the United Kingdom have become the exemplified best practices by the Organization for Economic Co-operation and Development (OECD). The rules governing e-commerce are consistent with OECD recommendations (Jaradt, 2018).

Several studies have also found that regulations regarding e-commerce are a supporting factor in the digital economy (Fletcher, 2007; Sumanjeet, 2010; Zhu et al., 2020). Legal issues in the digital economy sector are also important issues that need to be mitigated by law (Kharisma, 2020; Kharisma & Hunaifa, 2022; Muryanto et al., 2021; Sudarwanto & Kharisma, 2021). However, no research has identified the legal problems of e-commerce in Indonesia, Singapore, and China. In addition, there is no research that constructs the ideal legal framework to regulate e-commerce. In this regard, research is needed to identify problems in the regulation and analyze legal issues to construct the ideal law to increase digital economic growth. This study analyzes the e-commerce regulations in Indonesia, Singapore, and China comparatively. It is essential to investigate and assess the degree to which e-commerce provisions in each country are comparable to those implemented in Indonesia.

2. Research Method

This study is legal research. The study methodology employed is a comparative and statutory approach. Comparing the laws of one nation with the laws of one or more other nations on the same subject is how the comparative method is applied. The purpose of this method is to obtain similarities as well as differences between these laws (Marzuki, 2014). In the meantime, the statutory method involves evaluating all laws and regulations that pertain to the difficulties legal issues (Marzuki, 2014). This study will investigate the numerous rules and regulations governing e-commerce to provide legal arguments for the issues under review.
This research compares e-commerce legislation applicable in Indonesia, Singapore, and China. Singapore is a pioneer country that implements the UNCITRAL Model Law on Electronic Commerce and China is one of the nations with the largest and most rapidly expanding e-commerce sectors.

Legal materials comprising primary and secondary legal materials are used as data types. The primary legal texts examined in this study are as follows:

a) The Trade Act of Indonesia Number 7/2014 (The Trade Act);
b) The Information and Electronic Transactions of Indonesia Number 11/2008, amended in Act Number 19/2016 (The Information and Electronic Transactions Act);
c) The Consumer Protection Act of Indonesia Number 8/1999 (The Consumer Protection Act);
d) Indonesia Government Regulation Number 80/2019 on Trading Through Electronic Systems;
e) The Electronic Transaction Act of Singapore 1998;
f) E-commerce Act of the People's Republic of China 2019;
g) Personal Data Protection Act of Singapore 2012; and

The collection of legal materials is accomplished utilizing library research procedures. The library research method involves reading, analyzing, examining, and taking notes on e-commerce-related books, laws, rules, papers, and writings. Legal journals, research results, papers, and books that explore the legal elements of e-commerce are used as secondary legal resources.

3. Results and Discussion
E-commerce Problems in Indonesia

The increasing transactions of e-commerce are in line with the shift in people's lifestyles towards digital and payment systems' increasing digitalization. However, it is undeniable that along with this increase, there are still numerous issues with the practice of e-commerce in Indonesia (Endarwati, 2022). There are several crucial problems that arise in Indonesia, especially related to transaction security (Bahtiar, 2020).

First, the high cases of online transaction fraud. Based on reports from the Ministry of Communication and Information (Kominfo), throughout 2021 there were reports of fraud in online transaction cases. E-commerce fraudulent purchase and sale transactions constitute the fraud category, such as selling clothes. The fraud mode is carried out by inviting buyers to make transactions outside the e-commerce (Kominfo, 2021; CNN Indonesia, 2021a). One of the issues that recently occurred in Indonesia was the Grab Toko scam which claimed up to 980 victims with a total loss of IDR 17 billion. The buyer does not receive the goods offered through Grab Toko after the transaction (CNN Indonesia, 2021b).
Second, there is no certification institution for e-commerce business actors. The number of fraud cases in e-commerce in Indonesia is attributable to the lack of a certification institution for e-commerce business actors. As mandated in Article 10 of Act Number 11/2008 on Information and Electronic Transactions, amended in Act Number 19/2016, all business actors performing electronic transactions must be certified by the certifying authority. The Information and Electronic Transactions Act also stipulates that the establishment of such institutions is further regulated in a Government Regulation.

However, until now there has been no certification institution intended to select business actors in e-commerce. In contrast to Singapore, which already has a Casetrust Institution to accredit business actors to increase consumer confidence. The existence of the certification institution will screen competent business actors, thereby minimizing the occurrence of problems in e-commerce.

Third, the high breach of consumer personal data. As mentioned above, the problem that is rife is the breach of consumer personal data. The Indonesian Consumers Foundation (YLKI) reports that from January to June 2020, 54 of the 277 instances of cybercrime involved e-commerce data breaches. (YLKI, 2020; Lokadata.id, 2020). One of the biggest was the case of data hacking at Tokopedia in 2020. The hack took 91 million accounts and 7 million merchant accounts at Tokopedia. The perpetrators’ modus operandi is to steal data in the form of user ID, email, complete name, birth date, sexuality, mobile phone number, and password information on the dark web. All of this information is then offered for $5,000, or approximately IDR 74 million. (CNN Indonesia, 2020). This data breach will lead to misuse of data which can be a big problem and harm many people. The frequency of data breaches in Indonesia demonstrates that Indonesia's cyber and personal data security are still highly inadequate (Sudarwanto & Kharisma, 2021).

**Comparison of E-commerce Regulations in Indonesia, Singapore, and China**

Initially, the e-commerce implementation in Indonesia referenced the terms of Act No. 11/2008 on Information and Electronic Transactions, which was changed by Act No. 19/2016. The Act’s purpose is to protect business participants who carry out all transactions through the electronic system. Electronic transactions are broadly described as any legal activity conducted utilizing computers, computer systems, or other electronic media. (Rahmatullah, 2017).

In tandem with the advancement of information technology, trade growth through electronic transaction systems has also accelerated, therefore the government then re-regulated e-commerce in Act Number 7/2014 concerning Trade. The Trade Act regulates only the business entities’ responsibilities utilizing electronic systems to supply accurate and comprehensive data and/or information (Article 65 Paragraph 1). In addition, related to trading through the electronic system will be further govern by a Government...
Regulation (Article 66).

The Trade Act’s e-commerce enforcement provisions are applicable on a global basis. All electronic transactions conducted by local and international business actors that make Indonesia a market must conform with the e-commerce in the Trade Act. The next step that must be taken by the Government is to synchronize with other regulations that regulate electronic transactions such as the Information and Electronic Transactions Act (Rahmatullah, 2017).

The existence of two regulations that regulate e-commerce namely the Information and Electronic Transactions Law which is under the authority of the Ministry of Communication and Information (Kominfo) and the Trade Act which is under the authority of the Ministry of Trade, there needs to be synchronization in its implementation. As it is known that in e-commerce there are two dimensions, (1) the trade dimension, where there are transactions of goods and prices, there is money in it, and (2) the electronic dimension which encompasses all actions associated with the utilization of information and electronic-based transactions (Rahmatullah, 2017).

In addition to the above laws, in Indonesia, E-commerce rules are also in Government Regulation Number 82/2012, which was changed by Government Regulation Number 71/2019 about the use of electronic systems and transactions (GR 71). GR 71 is a derivative and implements the rule of Information and Electronic Transactions Act and contains general provisions regarding (1) Electronic Systems, (2) Electronic Transactions, (3) Electronic Agents, (4) Electronic System Operators, (5) Supervisory Agencies and Regulatory Sector Related, (6) Programs, (7) Certification of Electronic System Eligibility, (8) Operator Agency. Regarding consumer protection in trading through the electronic system itself, the provisions in Act Number 8/1999 concerning Consumer Protection.


**Singapore**

Singapore is making comprehensive efforts to implement its strategy to become an e-commerce center. Since 1998, Singapore has had this vision through the E-Commerce Master Plan. This vision represents the fourth stage of Singapore’s 1980 strategy to
advance information and communication technologies.

The Singaporean government issued a more comprehensive rule in 1998, notably the Electronic Commerce Master Plan. In the Master Plan, the vision of Singapore as an e-commerce hub is articulated. The goal for realization is pursued by bolstering international trade, international financial services, telecommunications infrastructure, and transportation infrastructure. The Master Plan also seeks to establish e-commerce as a service industry by promoting foreign investment in e-commerce, speeding up electronic delivery services to the public, encouraging businesses to adopt e-commerce, and integrating e-commerce-related laws and policies (Cao, 2019).

Singapore’s application of e-commerce is governed under the Electronic Transactions Act (ETA). Act E-commerce, namely the ETA, was passed on July 10, 1998. The Act aims to give some legal certainty and predictability to online businesses. It does this by giving electronic transactions and documents the same legal weight as physical transactions (conventional). For example, it defines electronic contracts and clarifies when, where, and how electronic documents or information are sent or received. This way, the Act will not only protect data sent over the network, it will also provide convenience and power in law enforcement when an e-commerce problem occurs (Sinaga, 2020).

With the entry into force of the ETA, Singapore was the first nation in the world to enact the UNCITRAL Model Law on Electronic Commerce, and it is widely regarded as the global leader in electronic commerce rules. In addition to measures for creating commercial codes for e-commerce in the ETA, includes the use of electronic applications, the limitation of Network Service Provider duties, and the establishment of a framework for Public Key Infrastructure (Mega, 2013).

Singapore Casetrust Institutions. The Casetrust accreditation scheme began operating in Singapore in 1999. The idea for this scheme was initiated by the Consumer Association of Singapore (CASE), Consumer Net Singapore, and Retail Promotion Retail. The Singapore government stated that the establishment of an accreditation scheme is part of the implementation of the TrustSg program which is very necessary to increase the degree of consumer confidence in business actors who carry out their business activities online and offline (Sjahputra, 2010).

Casetrust is used to spearhead the growth of the quality of good business activities and fair trading practices. Of course, the scheme is also believed to be able to create mutual trust between consumers and business actors. This will result in a business transaction process that is based on moral authority, takes place fairly, and is mutually beneficial.
China

China is the world's largest and fastest-growing e-commerce market. On January 1, 2019, China has just enacted a special regulation regarding e-commerce, namely the E-commerce Act of the People's Republic of China. It will have a significant effect on the Chinese e-commerce industry. Micro merchants, courier services, and other formalities are officially included in the supervision, all e-commerce must be registered, and pay taxes in accordance with the Act. In the Act, there are three prominent provisions, namely those related to tax payments, business licenses, and platform responsibilities (Yue, 2019).

In addition, China's progress in carrying out e-commerce can be seen from the existence of the Alibaba group as an e-commerce that started as a startup where at this time it is undeniable that its success can occur and grow as a pioneer in Chinese multinationals in the e-commerce. This success also continues to have an impact on the Chinese economy in the digital era which continues to increase.

Comparison of E-commerce Regulations in Indonesia, Singapore, and China

Different from Singapore and China which have special regulations related to e-commerce, Indonesia lacks an e-commerce-specific statute at now. In this regard, in supporting the implementation of e-commerce, Singapore and China have personal data protection Act. Indonesia does not have a personal data protection Act yet.

Table 1. Comparison of E-commerce Regulations in Indonesia, Singapore, and China

<table>
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<th>China</th>
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<td>Common Law</td>
<td>Civil Law</td>
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<tr>
<td>Act</td>
<td>There is no Act that specifically regulates E-commerce</td>
<td>The Electronic Transactions Act 1998 (ETA)</td>
<td>E-commerce Act of the People's Republic of China</td>
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<td>Contents of The Act</td>
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<td>General sanctions</td>
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</tbody>
</table>
Legal Construction of E-commerce Regulations in Indonesia

Creation of Act on E-commerce

Several countries in the world such as Singapore, China, and Malaysia have had special Act related to e-commerce. The Electronic Transactions Act (ETA) of 1998 made Singapore one of the first nations to legalize e-commerce which outlines the discussion of electronic contracts, digital signatures, responsibilities of network service providers, and the formation and validity of electronic contracts. (Francis, 2014). In 2019, China has also passed the E-commerce Act of the People's Republic of China (Yu, 2021). In 2006, Malaysia also passed the Electronic Commerce Act 2006 to encourage and facilitate business transactions via electronic methods. (Makhtar, 2019).

Indonesia has yet to enact any e-commerce-specific rules in the form of an Act. The Information and Electronic Transactions Act which was revised in Act Number 19/2016 does not specifically regulate e-commerce (Kharisma, 2020). There are several provisions governing the implementation of e-commerce in Indonesia, but they are not comprehensive and are still scattered. Moreover, the scope is still very broad. Therefore, these provisions are not sufficient to overcome the rise of online transaction fraud, hacking of personal data, and other e-commerce problems. The importance of emphasizing the importance of making special Act related to e-commerce that provide
protection and a strong legal framework so that it will encourage the growth of Indonesia's digital economy.

The E-commerce Act draft that the Indonesian government creates must be comprehensive and integrated, using lessons from Singapore, China, and other nations that currently have a complete E-commerce Act. General provisions, the scope of application, definitions, interpretation, contractual variation, legal acknowledgements of data messages, integration by reference, writing, signature, original, permissibility, and evidentiary weight of data, messages, retention, and communication, formation, and validity of contracts, party recognition of data messages, attribution of data messages, acknowledgment of data messages, and similar matters must all be governed by the Act (UNCITRAL, 1996).

Wang (2014) argues that in making e-commerce, it is expected to always be responsive to eight ongoing challenges to legal certainty for electronic transactions, include:

a) Determination of the effectiveness of the offer and acceptance as well as the incorporation of valid terms and conditions in electronic contracts;

b) Legal barriers to electronic communication errors and form problems;

c) Recognition of the effectiveness of electronic signatures, authentication, and foreign certificates;

d) Legal requirements and appropriate technical measures for the security of personal data privacy rights in electronic transaction activities;

e) Establishment of a balance of rights between different rights holders and equality with the obligations of internet service providers;

f) Determination of jurisdiction and applicable Act regarding internet-related disputes;

g) Confirmation of the legality of the agreement for online dispute resolution and online implementation of the agreement; Establishment of e-commerce platform infrastructure integrated with appropriate tools, technical and legal measures.

**Establishment of a Certification Institutions for E-commerce Business Actors**

The Information and Electronic Transactions Act stipulates that a Certification Institution must certify all business entities conducting electronic transactions. The Certification Institution, in this case, is an autonomous institution formed by the government authority to audit and provide certifications of credibility for electronic transactions. For example, Singapore has a Casetrust institution. The goal is to create fair and ethical trade among businesses so that consumers can shop with confidence. Casetrust’s accreditation scheme is tailored to the problems and needs faced by each industry. When businesses are accredited by Casetrust, they are committed to fair trade and good business practices and will earn the trust of consumers as a leading company.
One of the most important functions of the Casetrust institution is to provide certification for online merchant sites (web certification).

E-commerce Business Actor Certification Institution is mandated to fulfill a sense of security, trust, and convenience in transacting through electronic media while also meeting the protection aspect of e-commerce (Tesalonica, 2021).

### 4. Conclusion

E-commerce regulations or legal e-commerce policies in Indonesia have been regulated in Indonesia. Still, these arrangements have not been able to overcome e-commerce problems such as fraud, transaction security, and weak personal data protection. Regulations in Indonesia are not comprehensive enough when compared to Singapore. Implementation of e-commerce in Singapore is considered more advanced and can provide legal protection for e-commerce through ETA and the Casetrust, building consumer trust. In addition, Singapore also has a PDPA to support the implementation of e-commerce. Meanwhile, China also has special regulations related to e-commerce, namely the E-commerce Act of the People’s Republic of China, supported by the Personal Information Protection Act of the People’s Republic of China.

To overcome these problems, Indonesia needs to draft an E-commerce Act as a legal framework for e-commerce. In this regard, it is hoped that Indonesia will soon realize the establishment of a Certification Institution for E-commerce Business Actors as an effort to build consumer trust. In addition, there is a need for special attention to the protection of personal data by establishing a rule that can protect e-commerce actors.

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