Comparative Analysis of E-Cigarette Regulation in Indonesia, Thailand, and Brunei Darussallam

Analisis Perbandingan Regulasi Rokok Elektrik di Indonesia, Thailand, dan Brunei Darussallam

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Abstract : This study examines the increasing trend of e-cigarette use among students in Indonesia compared to Thailand and Brunei Darussalam. This study aims to analyse the advantages and disadvantages of e-cigarette regulation in Indonesia as a new form of addictive substance, and to compare it with regulatory frameworks in other countries in the region. Using normative juridical methods, this study explores laws and policies from Indonesia, Thailand, and Brunei Darussalam. Findings show that although Indonesia imposes relatively high excise taxes on e-cigarettes, its regulations are less comprehensive compared to other countries. Regulatory gaps in terms of advertising, age restrictions, and waste management of e-cigarettes are still evident. The journal suggests strengthening Indonesia's regulatory framework by adopting best practices from other Southeast Asian countries such as Thailand and Brunei Darussalam to ensure public health protection and environmental safety.

Keywords : E-cigaratte, Regulation, Indonesia

Abstrak *: Penelitian ini mengkaji tren peningkatan penggunaan rokok elektrik di kalangan pelajar di Indonesia dibandingkan dengan Thailand dan Brunei Darussalam. Penelitian ini bertujuan untuk menganalisis kelebihan dan kekurangan regulasi rokok elektrik di Indonesia sebagai bentuk baru dari zat adiktif, dan untuk membandingkannya dengan kerangka regulasi di negara-negara lain di kawasan ini. Dengan menggunakan metode yuridis normatif, penelitian ini mengeksplorasi undang-undang dan kebijakan dari Indonesia, Thailand, dan Brunei Darussalam. Temuan menunjukkan bahwa meskipun Indonesia memberlakukan cukai yang relatif tinggi terhadap rokok elektrik, namun peraturannya kurang komprehensif dibandingkan dengan negara lain. Kesenjangan regulasi dalam hal periklanan, pembatasan usia, dan pengelolaan limbah rokok elektrik masih terlihat jelas. Jurnal ini menyarankan untuk memperkuat kerangka regulasi Indonesia dengan mengadopsi praktik-praktik terbaik dari negara-negara Asia Tenggara lainnya seperti Thailand dan Brunei Darussalam untuk memastikan perlindungan kesehatan masyarakat dan keamanan lingkungan.*

Kata Kunci *: Rokok Elektrik, Regulasi, Indonesia*

INTRODUCTION

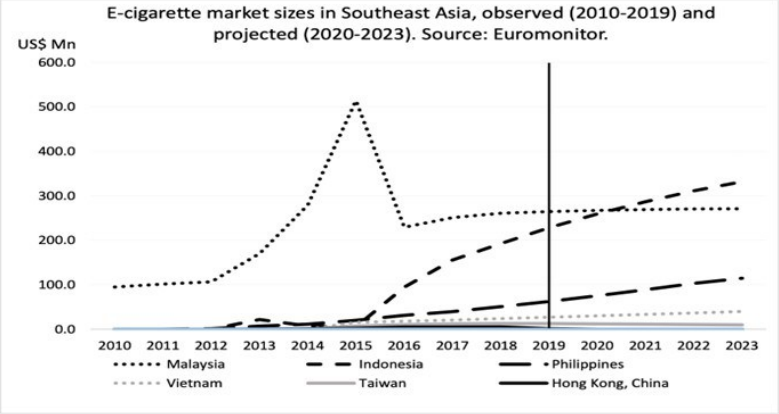
The development of conventional cigarette sales has now been seen to be successful in reaping large profits, along with the times the cigarette industry is introducing new cigarettes, namely electronic cigarettes which they advertise as a healthier product or as a tool for conventional smokers to be able to quit smoking. The content in electronic cigarettes itself is said to be healthier than conventional cigarettes but the fact is that it contains harmful chemicals as well as conventional cigarettes and many studies have shown that electronic cigarettes are healthier proves that the chemical content in electronic cigarettes

has the same level of danger as conventional cigarettes.[1] Electronic cigarettes are termed Electronic Nicotine Delivery System (ENDS) by the World Health Organization (WHO) because these electronic cigarettes are devices that convert chemical substances into vapor form and flow into the lungs powered by electrical energy.[2]

This electronic cigarette began to develop in 2003 in China and then in 2007 began to enter the European market with well-known brands such as British American Tobacco (BAT) and Philip Morris.Globally, the market for electronic cigarettes has reached $50 million (USD) in 2005, not only that, electronic cigarettes have skyrocketed to $20 billion (USD) in 2019 and are expected to touch $34 billion (USD) by 2024.[3]

The development of electronic cigarettes in the Southeast Asia Region began in 2019, targeting 4 markets in Southeast Asia (Malaysia, Indonesia, the Philippines and Vietnam) with a total market value of $595 million. The development of the electronic cigarette market in Indonesia can be seen in the development of the active electronic cigarette user market, especially in users aged 15 years and over. According to data from Euromonitor in 2011 there were 0.3% (480 thousand) in 2011 and increased to 3.0% (6.6 million) in 2021.

In addition to ENDS, there are also other types of electronic cigarettes such as Heated Tobacco Products (HTP) are solid tobacco (tobacco sticks) that are heated and produce aerosols containing nicotine and other chemicals HTP contains nicotine which is highly addictive (contained in tobacco) and makes users addicted. However, in this journal, the electronic cigarette product that will be the center of research is Vape or nicotine liquid that is heated by an electronic device that produces vapor called the Electronic Nicotine Delivery System (ENDS).



This type of electronic cigarette was introduced as a healthier product and/or a quitting tool for conventional smokers. Based on data from the 2017 and 2019 National Socio-Economic Surveys (Susenas) and the 2018 Basic Health Research (Riskesdas), more than 95% of e-cigarette users in Indonesia are dual users (Rahmanto, 2020). However, based on research, it turns out that electronic cigarettes are actually an item used to complement conventional cigarettes so that dual users appear. The use of dual cigarettes also includes high school students, it is known through the 2019 Muhammadiyah Prof. Dr. HAMKA University Survey

[1] Expose Tobacco, *Industri Rokok dan Lingkungan* (2021), diakses dari https://exposetobacco.org/id/industri-rokok-dan-lingkungan/

[2] BPOM, *Rokok Elektronik di Indonesia* (Jakarta: Direktorat Pengawasan Narkotika, Psikotropika dan Zat Adiktif, 2017)

[3] Euromonitor, *GMIID Passport Database* (Euromonitor International, 2020)

(UHAMKA) also shows that of the 11% of high school students who consume electronic cigarettes, half are dual users. [4]

Seeing the large number of dual users smokers from among students and the constant increase in electronic cigarette users in Indonesia every year compared to other ASEAN countries, it is felt that the regulation of both conventional cigarettes is still weak and the addition of new products, namely electronic cigarettes, which specifically have not been regulated, this can threaten and become a double burden for Indonesia in the future. Seeing this phenomenon, the government must move quickly to issue regulations controlling electronic cigarettes as a new addictive substance product. Therefore, the author here will analyze studies on electronic cigarettes both from the impact and regulations that exist in Indonesia and South East Asian countries.

KEY ISSUES

1. What are the health and environmental impacts of electronic cigarettes?
2. How do e-cigarette regulations in Indonesia compare to Thailand and Brunei Darussalam?

METHODS

The type of research in this study is normative juridical, namely legal research conducted by examining library materials or secondary data.[5] The research approach in this research is a statutory approach (statue approach), namely procedures carried out by examining regulations and laws that are relevant to the legal issues being addressed.[6] The legal materials used in this research are divided into two, namely primary legal materials and secondary legal materials. Primary legal materials consist of Minister of Finance Regulation No. 193 of 2021 concerning Tobacco Product Excise, and Government Regulation Number 28 of 2024 Implementing Regulation of Law Number 17 of 2023 concerning Health, Thai Consumer Protection Board Order Number 9/2015 and Brunei Darussalam Tobacco Order 2005. While secondary legal materials in this research are Legal materials consist of books, journals, doctrines, cases, jurisprudence, and the results of recent symposia related to research issues.[7] The method of data collection in this research is by means of literature study and Internet study. The data analysis technique in this research is descriptive-qualitative, namely describing the data obtained qualitatively, then linking the data with theories and legal provisions in order to discuss each research problem.

DISCUSSION

A. Impact of Electronic Cigarettes for Human Body and Environment

1. Health Impact

Electronic cigarettes have a significant impact not only on the body but also on the environment. First, discussing the impact of electronic cigarettes on health, there have been many studies related to this. This electronic cigarette can have health impacts

[4] Mouhamad Bigwanto, Mochammad Iqbal Nurmansyah, Elizabeth Orlan, Yoli Farradika, dan Tri Bayu Purnama, "Determinants of E-Cigarette Use among a Sample of High School Students in Jakarta, Indonesia," *International Journal of Adolescent Medicine and Health* 34, no. 3 (2019): 4–5

[5] Soerjono Soekanto dan Sri Mamuji, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat* (Jakarta: Raja Grafindo Persada, 2013), hlm. 13.

[6] Peter Mahmud Marzuki, *Penelitian Hukum* (Jakarta: Kencana Prenada Media Group, 2013), hlm. 133.

[7] hony Ibrahim, *Teori dan Penelitian Hukum Normatif* (Malang: Bayumedia Publishing, 2006), hlm. 295.

such as respiratory diseases, namely increasing the risk of asthma, cancer, pneumothorax, increasing the incidence of diffuse alveolar hemorrhage, inhibiting fetal development in the womb, attacking the brain, especially in young people, and the tools for burning these cigarettes can be at risk of explosion during use.[8]

Above is the general impact of electronic cigarettes on the health of the body. In addition to the above impacts there are also dangers in the content of these electronic cigarettes. The first content is Nicotine. Nicotine by various studies is believed to be a potential nerve poison and is also used in various types of insecticides.[9] Nicotine also has a bad role for the brain development of adolescents and young adults with a vulnerable age of 20s. As well as dangerous for pregnant women and fetal growth and development in the womb.

The second ingredient that is feared to be harmful in electronic cigarettes is the Flavor and Extract Manufacture Association (FEMA), a flavoring chemical compound that is generally safe to use when applied in food products. However, it is known that these chemicals are harmful when applied to something that becomes aerosolized or inhaled (Barrington-Trimis, 2021).[10] One example is saccharides used to make sweet e-liquid flavors that can appeal to teenagers and children, it is known that when the compound is heated it can degrade and produce furans and aldehydes where these aldehydes can cause irritation to the respiratory tract.[11]

2. **Environmental Impact**

In addition to having an impact on the human body, according to a research journal from Krause and Townsend, electronic cigarettes have too many toxins to be categorized as hazardous toxic waste (B3). Parts of electronic cigarettes that fall into the category of toxic hazardous materials include refill cartridges which leave nicotine content, batteries and electronic circuits that can pollute water and soil. [12]

The batteries commonly used in electronic cigarettes contain cadmium and manganese, which can pollute the soil and be absorbed by plants, which can have a negative impact on the environment. Then, the vapor produced by electronic cigarettes is a potential source of environmental air pollution, especially the content of aldehydes and carbon monoxide.[13] The types of metals in electronic cigarettes consist of many forms such as aluminum, barium, cadmium, chromium, iron copper, lead, nickel, silver, tin, and zinc.

These metal components are declared as hazardous and toxic materials in electronic cigarettes due to the degradation process of electrical components with liquid so that they contaminate metals both directly and indirectly. The research journal from Krause and Townsend found that the components of electronic cigarettes that have been

[8] T. Gemma, *Change in Mental Health After Smoking Cessation: Systematic Review and Meta-Analysis*, *The BMJ* 348 (2014): 1–22, https://doi.org/10.1136/bmj.g1151

[9] A. Amri, "Isolasi Nikotin dari Puntung Rokok sebagai Insektisida," *Jurnal Teknologi Kimia Unimal* (2015): 100.

[10] Barrington-Trimis, *A Toxic Plastic Problem*, *Truth Initiative* (2021): 3.

[11] Takahiro Kamada, Yosuke Yamashita, dan Hiromi Tomioka, "Acute Eosinophilic Pneumonia Following Heat Not Burn," *National Library of Medicine* 4, no. 6 (2016): 3, https://doi.org/10.1002/rcr2.190.

[12] Hendlin, "Alert: Public Health Implications of Electronic Cigarette Waste," *American Journal of Public Health* 108, no. 11 (2018): 1490, https://doi.org/10.2105/AJPH.2018.304699.

[13] Beutel, "A Review of Environmental Pollution from the Use and Disposal of Cigarettes and Electronic Cigarettes: Contaminants, Sources, and Impacts," *Sustainability (Switzerland)* 39 (2021): 23, https://doi.org/10.3390/su132312994

discarded have heavy metal contamination that results in up to ten times the threshold of hazardous and toxic materials determined by the United States government.[14]

B. The Development of Electronic Cigarette Regulation in Indonesia, Thailand and Brunei Darussalam

Aspect	Indonesia	Thailand	Brunei Darussalam
Legality Status	Legal (restricted, regulated as an alternative tobacco product)	Illegal – Strictly prohibited (use and possession)	Illegal – Fully prohibited
Main Regulations	- Permenkeu No. 193/PMK.010/2021 - PP No. 109/2012 jo. PP No. 109/2023	Consumer Protection Board Order No. 9 tahun 2015.	- Tobacco Order, 2005 - Tobacco Control Regulation, 2017
Uses in Public Areas	Restricted, subject to smoke-free zones	Completely banned – including for tourists	Fully prohibited
Vape Sales	Permitted with distribution license and excise duty	Prohibited – includes import and promotion	Totally banned
Legal Sanctions	Excise fines, confiscation, administrative penalties	Fines up to 30,000 Baht and/or imprisonment up to 10 years	Fines up to B$10,000 and/or imprisonment up to 6 months
Import & Export	Allowed with customs clearance and official license	Prohibited	Prohibited
Anti-Vape Campaigns	Limited by Ministry of Health and BPOM	Highly active and strictly enforced	Strict and consistently enforced

The regulation of electronic cigarettes in Indonesia is contained in the rules regarding its trading which are contained in Law of the Republic of Indonesia Number 7 of 2021 concerning Harmonization of Tax Regulations and strengthened by the Minister of Finance Regulation (PMK) Number193/PMK.010 of 2021 concerning Excise Tariffs on Tobacco Products in the Form of Electronic Cigarettes and Management Results Other Tobacco and in Government Regulation No. 28 of 2024 concerning Regulations for the Implementation of Law No. 17 of 2023 concerning Health. This regulation seems to give permission for the circulation of electronic cigarettes in Indonesia, but this regulation subtly provides restrictions by imposing fantastic excise tax rates and various provisions for the circulation of electronic cigarettes in Indonesia. It is hoped that the public will think again if they want to buy electronic cigarettes and liquid which is the main ingredient of electronic cigarettes.[15]

[14] M. J. Krause dan T. Townsend, "Hazardous Waste Status of Discarded Electronic Cigarettes," *Waste Management* 39 (2015): 60, https://doi.org/10.1016/j.wasman.2015.02.005.

[15] K. D. Bagiastra, "Studi Perbandingan Legalitas Pengaturan E-Cigarettes di Indonesia," *Jurnal Magister Hukum Udayana* 10, no. 1 (2021): 125–137, https://doi.org/10.24843/JMHU.2021.v10.i01.p10.

The regulation of electronic cigarettes in Indonesia is not only limited to the above regulations. There is also a regulation on the import of electronic cigarettes that also regulates excise customs as stipulated in the Minister of Trade Regulation No. 86 of 2017 concerning the provisions on the Import of Electronic Cigarettes, but on January 31, 2020 the regulation was revoked.

Regulations around electronic and liquid cigarettes are necessary because they can determine the security process of making them, who is allowed to buy these goods, how they can market their products, and whether or not these goods are allowed to circulate in Indonesia. This is evident from research conducted by IYCTC in Malang city where there are only 10 electronic cigarette shops that officially have business licenses. Interestingly, one of the shops in Malang City mentioned that in addition to applying for a permit at the RT and RW, he had also applied for a permit at the Department of Industry and Trade (Disperindag) but was not accepted because the department still could not categorize electronic cigarettes into what trade (IYCTC (Indonesia Youth Council For Tobacco Control), 2022). IYCTC also interviewed 12 e-cigarette shops that are known to have many customers and were willing to be interviewed. They stated that every day there are at least 5 customers who visit and buy their products. Meanwhile, e-cigarette shops in Malang, Madiun, and Kulon Progo can reach more than 50 customers/purchasers every day. All cigarette shops The electronic cigarette retailers we met stated that they do not serve customers under 18 years of age. In fact, in the 24 e-cigarette consumers we interviewed, 11 were children (under 18 years old) who could still buy e-cigarettes..

Regulations regarding electronic cigarettes in other countries in the Southeast Asian region are much more advanced than in Indonesia, such countries as Thailand, and Brunei Darussalam. Thailand through its Tobacco Products Act, namely Consumer Protection Board Order No. 9 of 2015. This rule confirms the ban on the sale and service of electronic cigarettes, hookahs, electronic hookahs, and liquids.

Hookah in Consumer Protection Board Order Number 9/2015 Thailand is described as "Hookah" shall mean a water-pipe of Arabic or similar design or construction, is used for inhalation of smoke drawn through water, and where that smoke is produced by the burning or heating of vegetable matter, fruit, preserved vegetable matter, preserved fruit, chemical element, chemical compound, or other material, whether or not tobacco is an ingredient" "Hookah" means a water pipe of Arabic or similar design or construction, such device or equipment being used for inhalation of smoke drawn through water, and where that smoke is produced by the burning or heating of vegetable matter, fruit, preserved vegetable matter, preserved fruit, chemical element, chemical compound, or other material, whether or not tobacco is an ingredient, or commonly known in Indonesia as Shish.

The rules in Consumer Protection Board Order Number 9/2015 regulate the advertising of electronic cigarettes, which is regulated and prohibited on TV, the promotion of electronic cigarettes is regulated by being prohibited through various platforms except by using inverted images, as well as setting age limits for buyers to be able to buy electronic cigarettes, which are prohibited from being sold to someone under the age of 20 years.

Brunei Darussalam regulates electronic cigarettes in the Tobacco Act and Hazardous Substances Regulation, in these regulations the content of advertisements containing electronic cigarettes is prohibited, where the Tobacco Order Chapter 6 (1) states that no one shall bring in, sell or offer for sale, any confectionery or other food product, or any toy or other item, which is designed to resemble a tobacco product or which is sold in a package designed to resemble a package commonly associated with tobacco products.

Therefore, the importation and sale of e-cigarettes or vapes in the State of Brunei Darussalam is an offense and may be subject to a fine not exceeding of $5,000 for the first offense and a fine not exceeding $10,000 for the second and subsequent offenses.

The use of electronic cigarettes as a sponsor according to the provisions of Article 8 Part II is prohibited, forms of such sponsorship include sponsorship, gifts, rewards, scholarships, or similar benefits intended for others. Prohibition of electronic cigarette advertisements from any media such as print, or digital containing advertisements for these products (Article 17 Part IV), The age limit for buyers to be able to buy electronic cigarettes is above 18 years.

Excise is regulated in Minister of Finance Regulation no 193 of 2021 concerning Excise on Tobacco Products which states that it regulates an advalorum excise rate of 57% for all types of HPTL. PMK 193/2-21 regulates specific excise tariffs according to the type of e-cigarette.

The sale of electronic cigarettes is regulated in Article 434 of Government Regulation Number 28 Year 2024 on the Implementation of Law Number 17 Year 2023 on Health, which states that electronic cigarettes may not be sold to the following persons:

1. to any person under the age of 21 (twenty-one) years and pregnant women;
   Regulations regarding the requirements for every person who wants to produce, import, and/or distribute electronic cigarettes in Indonesia are regulated in article 431 of Government Regulation No. 28 of 2024 on the Implementation of Law No. 17 of 2023 concerning Health. The requirements that must be met include:
1. have a business license in accordance with the provisions of laws and regulations;
2. comply with the maximum nicotine and tar limits;
3. Product nicotine and tar content testing for each variant produced and/or imported; and
4. report the results of testing nicotine and tar levels as referred to in letter c to the non-ministerial government agency that organizes government affairs in the field of drug and food control.

Packaging of electronic cigarettes and liquids according to the provisions in Article 437 of Government Regulation Number 28 Year 2024 on the Implementation of Law Number 17 Year 2023 on Health must include health warnings on the packaging.

Advertising restrictions for electronic cigarettes in Indonesia are only regulated by prohibitions on advertising through social media which are listed in Article 446 and provisions for advertising through Cerak and / or Television for electronic cigarette products are contained in Article 451 of the Government Regulation. The provisions related to electronic cigarettes as sponsors are regulated in Article 454 of Government Regulation No. 28 of 2024 on the Implementation of Law No. 17 of 2023 Concerning Health and the provisions related to electronic cigarettes as sponsors are regulated in Article 454 of Government Regulation No. 28 of 2024 on the Implementation of Law No. 17 of 2023 Concerning Health which confirms that electronic cigarettes can be sponsored provided that they do not use the trademark name and logo of tobacco products and electronic cigarettes including the brand image of tobacco products and electronic cigarettes and do not aim to promote tobacco products and electronic cigarettes.

CONCLUSION

RESULT

The development of e-cigarettes in the Southeast Asia region began in 2019, with Indonesia being the largest market. The number of active users in Indonesia increased from 0.3% (480 thousand) in 2011 to 3.0% (6.6 million) in 2021. Given the large market share, it is important to know the impact of e-cigarettes on the human body and the environment as a basis for developing appropriate regulations.

Electronic cigarettes negatively impact both human health and the environment. First, the nicotine content harms adolescent brain development and is dangerous for pregnant women and fetal growth. Second, according to research by Krause and Townsend, e-cigarettes contain many toxins and are classified as hazardous waste. Refill cartridges, batteries, and electronic circuits can pollute soil and water, with batteries containing harmful substances like cadmium and manganese. The vapor also contributes to air pollution through chemicals like aldehydes and carbon monoxide. Third, the metal components—such as aluminum, lead, and nickel—can degrade and release hazardous substances. Research found that discarded e-cigarette parts contain heavy metals exceeding the U.S. safety threshold by up to ten times.

Therefore, regulation is needed to control electronic cigarettes. In Indonesia, e-cigarette regulations have both strengths and weaknesses compared to Thailand and Brunei Darussalam. One advantage is the relatively high excise tax rate, which serves as an effective initial measure to control their circulation. One key weakness in Indonesia's e-cigarette regulation is the allowance of sponsorship without permitting product marketing or display. Since sponsorship aims to build brand awareness and image, this partial regulation limits its effectiveness. As a result, it hinders both economic and health development—companies gain little benefit, while harmful e-cigarette exposure remains possible, especially among children.

SUGGESTION

The regulation of electronic cigarettes in Indonesia presents both advantages and disadvantages compared to other Southeast Asian countries. One of its key strengths is the imposition of relatively high excise tax rates, which exceed those of many neighboring countries. These elevated tax rates serve as an effective initial measure to control the circulation of electronic cigarettes within the country.

However, there are several notable regulatory shortcomings. First, the regulation on e-cigarette sponsorship and advertising allows e-cigarettes to act as event sponsors, yet prohibits them from marketing or displaying their products. This partial regulation limits the effectiveness of sponsorship as a communication tool and may hinder both public health goals and the intended commercial benefits.

Second, Article 446 of Government Regulation No. 28 of 2024 concerning the Implementation of Law No. 17 of 2023 on Health only restricts e-cigarette advertising through social media, leaving other potential advertising channels unregulated. This regulatory gap may allow harmful content to reach vulnerable groups, including minors.

Third, while Government Regulation No. 28 of 2024 addresses several aspects of electronic cigarette use, it lacks specific provisions for managing e-cigarette waste. Given that e-cigarettes contain hazardous materials such as aluminum, barium, cadmium, chromium, iron, copper, lead, nickel, silver, tin, and zinc—which can become toxic due to the degradation of

electrical components—comprehensive waste management regulations are essential to prevent environmental contamination

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