

# “Quo Vadis” The Regulation of Personal Vaporizer Policy in Indonesia

Iman Azharyadi<sup>1</sup>, Martani Huseini<sup>2</sup>

<sup>1,2</sup>Faculty of Administrative Sciences, University of Indonesia, Jakarta 10320, Indonesia

Corresponding Author: Iman Azharyadi

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## ABSTRACT

Indonesia is one of the global users of vape products, with a growing number of users driving the need for regulatory clarity regarding product legality. Previous studies have highlighted the negative health impacts of vape use; however, the vape industry has emerged as a potential driver of Indonesia's economic growth. Therefore, a multidimensional review of vape regulation in Indonesia is essential to shape policies based on various perspectives, such as the penta-helix model. This study aimed to analyze vape policies in Indonesia through a penta-helix approach. The findings indicated that vape product policies and standardization required integration among multiple stakeholders, including the Indonesian government, business actors, media, communities, and researchers. Before implementing vape-related regulations, the Indonesian government should engage stakeholders to align policies with the evolving vape industry landscape in Indonesia. Furthermore, regulatory implementation requires the support of other stakeholders to raise public awareness, ensuring compliance with the established regulations. Key areas needing public outreach include the minimum age for vape use, vape as a cessation tool for conventional cigarette users, legal marketing practices both offline and online, and penalties for non-compliance by sellers or buyers.

**Keywords:** Penta-helix, policy, regulation, stakeholder, vape

## INTRODUCTION

Electronic cigarettes are battery-powered devices that produce an aerosol inhaled by users (vape). There are two types of devices: Electronic Nicotine Delivery Systems (ENDS) and Electronic Non-Nicotine Delivery Systems (ENNDS). Based on these types, the primary e-liquid ingredient in e-cigarettes includes nicotine (ENDS type) or a blend of flavored additives and other chemicals. Electronic cigarettes are commonly referred to as vapes, although there are other forms, such as e-pipes and e-cigars. The vape or e-cigarette industry is projected to grow globally, as indicated by revenue data from 2014 to 2023 shown in Figure 1. Revenue in 2023 was three times higher than in 2014. Based on this data, revenue is expected to increase to 28.2 billion euros by 2027 (Statista, 2023).

The development of vape products has sparked debates, particularly regarding health concerns (WHO, 2021). Beyond health issues, the vape industry also faces social challenges, especially with the marketing of vape products to underage individuals. A study by Cooper et al. (2022) revealed that 2.55 million middle and high school students in the United States used electronic cigarettes, attracted by the appealing scents, particularly fruit flavours. Outside of the United States, the issue of vaping growth is also notable in the United

Kingdom, where electronic cigarette use increased by 52% in 2014 (ASH, 2014). Several factors contribute to the rise of vape use among young people, including peer influence (Liu et al., 2021; Park et al., 2019; Wagoner et al., 2021). In addition to peer influence, aggressive marketing by electronic cigarette sellers on social media platforms like Instagram (Shah et al., 2021) and the impact of influencers in both Asia and the United States (Vassey et al., 2023)

play significant roles. Social media marketing regulations remain weak, especially concerning sales to minors. Other reasons for the global growth of vaping include its resemblance to traditional cigarettes (Ministry of Health, Indonesia, 2019), promotion of vaping as a tool to aid conventional cigarette addicts in quitting, and greater societal acceptance of vaping compared to conventional smoking (Trumbo and Harper, 2013).



Figure 1. Global Revenue Growth of Electronic Cigarettes from 2014 to 2023

Source: Statista (2023).

Several countries have implemented various regulations on vaping to control its circulation. China is one of the countries with strict regulations on vape use, issuing tobacco control measures (Wang et al., 2023). Australia has even tighter regulations, declaring nicotine vape products as unapproved and illegal for distribution; however, non-nicotine vapes may still be marketed in some states. Canada, the European Union, and the United Kingdom regulate nicotine vapes by controlling ingredients, marketing with health warnings, and banning certain additives such as vitamins, caffeine, and ethylene glycol. In the United States, regulations require manufacturers to disclose nicotine content in vapes. New Zealand's approach differs, legalizing vapes solely for conventional cigarette addiction therapy as part of its Smokefree Aotearoa 2025 goal.

In Southeast Asia, countries also vary in their approaches to vape industry regulation. Singapore bans all activities related to

tobacco and its derivatives, prohibiting transactions involving tobacco products from distribution to possession for sale. Malaysia's regulations differ by region, covering import licenses, advertising standards, flavor and scent usage, and setting an age limit of 21 for vape use. Thailand and Brunei have policies prohibiting the import, sale, and use of vapes in non-smoking areas (van der Eijk et al., 2022).

Indonesia is still reviewing vape circulation regulations and remains a major tobacco market, particularly for clove cigarettes (kretek) (Mbulo et al., 2019). However, electronic cigarettes have grown popular, with sales occurring online (35.3%) and in vape shops (64.7%). Instagram posts about vape products ranked second globally, with sales reaching IDR 2.1 trillion (equivalent to USD 144.5 million) in 2018, projected to increase in the future (Orlan et al., 2019). Vapes first entered Indonesia in 2014 from China, Europe, and the United States. The strong vape market in Indonesia has

supported the growth of local vape industries, which produce e-liquid from both local and imported materials. According to the Indonesian Personal Vaporizer Association (APVI), there are 947 registered members, with some regulations in place, such as a minimum age of 21 for vape users. The growing vape industry has become a competitor to the conventional cigarette industry, which is one of Indonesia's highest revenue sources from the Agro-Industry sector. This rivalry has led Indonesia to take a cautious approach to vape regulation, with collaboration within the industry deemed essential.

Currently, Indonesia's vape regulations are embedded in the Health Law of 2009 and Presidential Regulation of 2012 on tobacco product safety. Vapes are considered legal in Indonesia due to the excise tax specified in Minister of Finance Regulation Number 147 of 2017, which outlines tobacco excise rates. Indonesia is still evaluating relevant regulations for the vape industry, considering several aspects to promote industry growth under regulatory frameworks. One key consideration is a stakeholder analysis using the penta-helix concept, which involves collaboration among government, vape communities, businesses, media, and researchers to assess policy effectiveness. This study aims to analyze vape regulation design using the penta-helix model.

## **LITERATURE REVIEW**

Indonesia has diverse responses to the vape industry, ranging from support and opposition to apathy. However, the following studies provide a reference for the responses of NGOs, consumers, and domestic industries. One organization, YPKP (Yayasan Pemerhati Kesehatan Publik), has campaigned in favor of vape, particularly in terms of public health education. YPKP's studies suggest that vape is safer than conventional cigarettes, especially as it lacks smoke and tar (Krislamawaty and Rusadi, 2019). Additionally, vape is considered a lower-

risk alternative for smokers. This study involved various stakeholders, such as health experts, researchers, academics, and religious leaders. YPKP has also advocated for vape regulations through campaigns with related organizations, such as the government, vape entrepreneurs, and the public, to support the legalization and regulation of vape. However, YPKP's support also carries contradictions, especially regarding health concerns related to electronic cigarettes (Krislamawaty and Rusadi, 2019).

Consumer responses to the vape industry in major Indonesian cities (such as Greater Jakarta) indicate a shift from conventional cigarette use to vape. This industry growth is analyzed through consumer behavior, such as strong experiences during vape use (Sukwadi and Priscilla, 2020). The vape industry has developed in Indonesia partly due to business marketing strategies. Some business operators use online media for marketing. Research by Pelangi et al. (2023) shows that the use of Instagram stories and feeds for promotions, offering discounts, can increase consumer engagement and sales.

Vape users or consumers in Indonesia have also continued to increase. Among men, e-cigarette use rose by 8.2% in 2015 compared to 2011 (Fauzi & Areesantichai, 2022). Government measures to control tobacco and vape use are crucial. Policies to be formulated include enforcing smoke-free zones, providing strong packaging warnings, prohibiting tobacco advertising and sponsorship, and restricting sales to minors. Fauzi & Areesantichai (2022) found a correlation between vape sales locations and proximity to schools, while vape prices remain affordable for students. Research by Raham et al. (2020) recommends programs to deter youth and adolescents from vape consumption. Studies on vape users in their teens in Indonesia are ongoing. Over a million Indonesian children aged 13-15 use vape products. This age group is influenced by promotions from friends, store clerks, or other tobacco product events (Kusnali et al.,

2023). Policy recommendations include limiting vape distribution and controlling access for new users. Indonesia urgently needs vape regulations, as current advertising and promotion restrictions are ineffective. A study on youth smoking in Korea found a correlation between conventional cigarette intensity and vape use frequency, with various motives (Lee et al., 2017).

Initial health complaints from first-time vape users include upper respiratory tract irritation and positive cotinine urine tests (Lestari et al., 2018). Sellers and stakeholders should educate first-time vape users on usage instructions and health side effects. Research by Miech et al. (2017) shows that adolescents are not always exposed to nicotine but can be exposed to the vaporizer itself. Thus, regulations on vaporizer exposure are needed over marketed substances. This finding aligns with Nădășan et al. (2017), emphasizing the need to educate adolescents on vape use, focusing on the vaporizer itself. Educating on ingredients and vaporizers provides awareness of potential health risks. O'Leary (2018) found that vape products can aid conventional smokers in quitting, and not all vape products contain nicotine, making the risks to vape users still questionable. Based on this, regulating vape use as an alternative for conventional smokers seeking to quit is essential. Most vape users are tobacco or derivative product consumers, highlighting the importance of vape usage education in public spaces, especially for non-vape users (Schelar & Liu, 2008).

The vape market is growing among teenagers and young adults due to vape industry marketing and advertising. Health services must support adolescents addicted to vape products in leading smoke-free lifestyles (Walley et al., 2019). Close relationships also play a significant role in vaping decisions. Wang et al. (2018) found that close friends influence vape use more than family. This meta-analysis found a positive and significant relationship between family and friends in adolescent vape use.

This finding is supported by research on Indonesian adolescents by Zahratul et al. (2021), which found that peer influence plays a significant role, especially in perceiving vape as less harmful than conventional cigarettes.

The penta-helix concept is widely used for policy and development frameworks, especially in the creative economy sector. Rachmawati et al. (2022) analyzed the penta-helix model for creative economic development at the village level. The model revealed the role of academics in providing business management training, government support, media's role in publication and market penetration, and the local community's business development efforts. This study underscores the importance of policy formulation with an understanding of stakeholder roles and functions within the penta-helix model. The model applies to policies at both macro and micro levels, including village-level development. Yunas (2019) analyzed the penta-helix model in rural potential development. This analysis revealed that the penta-helix model could support rural economic empowerment through innovation and community participation in development decisions. It also showed the need for youth involvement, stakeholder collaboration within the penta-helix model, and local leadership to drive rural innovation and development policies. This study aligns with Alamanda et al. (2020), which examined policies for addressing waste issues. The findings suggest that stakeholder elements can guide complex problem policies, emphasizing government roles in building infrastructure and policies for fostering community participation. The penta-helix policy model provides a collaborative, cross-sector approach to addressing micro-level issues.

The penta-helix concept has also been analyzed at the macro level in some studies. This model demonstrates the importance of cross-sector collaboration in policy planning (Sukarno et al., 2023). The penta-helix model allows for multiple perspectives in

policy decision-making and implementation, useful for analyzing policies at the macro level, addressing issues like lack of stakeholder coordination, commitment, and global environmental threats (Muhyi et al., 2017). Calzada (2020) noted limited studies on the penta-helix model, particularly its strategic policy preferences. The penta-helix model's complex interactions require analysis for social innovation, such as policy or regulation. Identifying the roles and collaboration within the penta-helix model in policy can analyze potential risks in regulation or policy implementation. Amrial et al. (2017) studied penta-helix implementation in Indonesia's development, revealing deficiencies in analyzing externalities. However, this study also emphasized the importance of coordination and harmonization within the penta-helix model, guided by shared goals. Furthermore, all stakeholders can support a sustainable industry by considering environmental and social aspects, optimizing Indonesia's development. Penta-helix collaboration outcomes emphasize key aspects: direct dialogue among stakeholders, trust-building, commitment and collaboration, mutual understanding, and intermediate outcomes of penta-helix collaboration. This research highlights each actor's role within the penta-helix model, including academia for research and knowledge development, business actors as product creators and investors, creative communities as networking hubs, the government as policy makers ensuring continuity, and media as information channels for policy roadmaps (Rozikin, 2019). Wahyuningsih (2021) emphasized that the penta-helix model is vital for regional policy development, even at the village level. Communities act as accelerators in penta-helix collaboration, with youth playing a crucial role in connecting government, private sector, academia, and media. The industry's role is to create product value and social responsibility, academia's role as knowledge sources and innovators, and

media's role in communication and publicizing vape policies (Wahyuningsih, 2021). The study concluded that policy formulation and regulation using the penta-helix model are crucial for vape regulation for industry, government, and society.

Research on community importance to products, especially environmentally impactful policies, is ongoing. Ramdhani (2023) analyzed the role and function of the Indonesian Personal Vaporizer Association (APVI) in developing the vape industry, particularly regarding legality, local industry support, and government cooperation. Findings indicated APVI's influence on the vape business supply chain, public policy, and product standardization. The study emphasized that effective legality and regulation can protect the public from illegal vape products, address excise tax regulations, respond to tariff hikes, and promote sustainable business practices (Ramdhani, 2023).

The media can play a supportive role in Indonesia's vape policies and regulations. Jancey et al. (2024) discussed the complexity of media, particularly social media, in raising awareness among the public and vape industry, exposing both positive and negative content. Active individual roles, international content coordination, and cross-border regulations on vape promotion, especially on social media, are crucial. The study recommends that digital literacy and community resources are essential for managing social media content across different demographics (Jancey et al., 2024).

## **MATERIALS & METHODS**

This study conducted interviews in various locations, including Jakarta and via Zoom for New Zealand, focusing on vape industry regulations and policies in Indonesia using a penta-helix model approach. A non-probability, purposive sampling method was used, with an expert-based approach drawing on specialists' knowledge concerning the issues in vape policy and regulation design in Indonesia through the

penta-helix model. Interviews were chosen as they represent a complex social and organizational phenomenon, offering alternative insights for interview practices (Qu and Dumay, 2011). Data were collected through in-depth interviews with experts aligned with the penta-helix model, including representatives from the government (experts from the Ministry of Industry), vape business organizations, media representatives knowledgeable about Indonesia's vape industry, academics familiar with national policy design, and vape community representatives in Indonesia.

Descriptive analysis was employed to examine the status of human groups, objects, conditions, thoughts, or future events (Nugroho, 2012). Additionally, action research was applied to outline future decision-making designs. This study will present the findings from the in-depth interviews, which will be analyzed based on interview content related to implementable vape industry regulations for both users and businesses. The study's outcome will be recommendations for the necessary regulations to legally establish the vape industry in Indonesia, ensuring enforceable guidelines for business operations, users, and government oversight.

## **RESULT**

The Indonesian government has issued various regulations regarding the circulation of vape products in Indonesia to ensure that the vape industry can grow in line with established standards and guidelines. Key regulations include Government Regulation No. 28 of 2024 on health, Minister of Finance Regulation No. 26 of 2022 on international trade for vape products, and Law No. 17 of 2023 on health. Additionally, specific standards for vape products and ingredients must be met, including SNI 8946:2021 on heated tobacco product standards and SNI 9070:2022 on vape ingredient standards. Government Regulation No. 28 of 2024 mandates that online or offline vape marketing must

include age verification to comply with legal age requirements. This regulation aims to reduce underage vape use, especially concerning the long-term health impacts on adolescents. The regulation also clarifies the vape product identity allowed for sale in Indonesia according to existing policies. By implementing these rules, Indonesia aims to enhance the competitiveness of its vape industry domestically and globally, as clear regulations on product marketing strengthen market stability. Vape businesses are expected to produce and market products according to applicable standards.

The Ministry of Finance Regulation No. 26 of 2022, supporting Government Regulation No. 28, sets import duty tariffs on vape products in Indonesia. This regulation serves as a foundation for the legal circulation of vape products in Indonesia. Indonesian government revenue from vape excise taxes reached IDR 629 billion, with projections of up to IDR 1 trillion in the future. This outcome indicates that the vape industry could be a significant contributor to Indonesia's economic growth. Consequently, product legality regulations must be clear, and manufacturers must ensure the ingredients used are safe, transparent, and accountable.

Before the government introduced standardized regulations for vape marketing, the vape community had already implemented certain rules on marketing and product use. This self-regulation reflects the vape industry's intent to grow responsibly within Indonesian norms. For instance, the community enforced age restrictions by prohibiting sales to individuals under 18, the legal age for purchasing vape products. However, these rules are challenging to enforce strictly as the vape community lacks the authority for regulatory enforcement. Therefore, standardization and regulations need government coordination to ensure the legal circulation of vape products in Indonesia, supported by government policies. Excise taxes imposed on importers affirm the legality of vape in Indonesia. However, the current regulations on sales

procedures, as well as producer and consumer protections, remain weak, as they mostly focus on health and youth protection. Stronger protections for producers and consumers are essential to support the export potential of Indonesian-made vape products.

Indonesian vape business operators have also highlighted the importance of regulatory measures for vape distribution in Indonesia, as it enables a sustainable business environment both nationally and globally. Although regulations for conventional cigarettes are well-established, vape-specific regulations remain minimal. Indonesia has the potential to become a global vape producer, primarily due to the availability of raw materials derived from tobacco. Some traditional tobacco businesses have already expanded into the vape market with new product lines. Initially, vape products were intended as a therapeutic tool for conventional smokers, with studies indicating that they are over 90% healthier than conventional cigarettes. However, the current uncertain regulatory environment affects the growth of the vape industry in Indonesia. According to business operators, the government, as the regulator, needs to consider aspects such as industry management for vape businesses in Indonesia. The government continues to view vape products as equally hazardous as conventional cigarettes, even though the two products differ significantly, particularly in terms of tar content. As a result, separate regulations are needed rather than classifying vape as a tobacco product. The vape business contributes economically, not just in terms of excise revenue. Its value chain, from raw materials supplied by tobacco farmers to distribution, processing, and consumer sales, involves many stakeholders. The lack of integrated government policies for vape businesses makes it challenging for operators to develop policy strategies, drive innovation, and establish marketing approaches. Clear government regulations would help direct industry innovation, including standards for

legal and non-legal vape ingredients. Additionally, the weak regulatory framework in Indonesia allows for business violations that contradict global standards, such as selling used vape devices, which are prohibited internationally and within the community. Such regulations are essential for discouraging non-compliant behavior and promoting a competitive, well-regulated vape market in Indonesia. Hence, government regulations should address not only health impacts but also support business competitiveness on a global scale. Media serves as a channel for both positive and negative information about vape products in Indonesia. Many media outlets highlight the negative aspects of vaping, particularly health issues and underage use. This focus fuels debate over whether the vape industry benefits or harms Indonesia, often overlooking diverse perspectives. Vape could grow similarly to the conventional cigarette market in Indonesia as a healthier alternative, but this poses a challenge for vape business operators, given health studies suggesting potential negative impacts, especially for adolescents and non-smokers. This situation undermines the vape's initial purpose as a smoking cessation tool and introduces new issues. These dynamics underscore the media's role in providing clear information on vape, including regulations and guidelines set by the government or the vape community in Indonesia. The media should act as a platform for the government, businesses, community, and researchers to inform consumers and the public on regulatory and policy aspects affecting vape users, manufacturers, and distributors. Currently, various media outlets serve as references for public education on vape products. The growth of information media facilitates easy access to information, particularly for adolescents, through social platforms like Instagram, TikTok, and X. Public opinions from different groups can be analyzed through these platforms, which can also serve as a platform for policy implementation, particularly in enforcing

age restrictions for vape use (18+). Thus, the media has a vital role in delivering clear and accurate information on vape products. Researchers play an essential role in providing insights into vape developments for stakeholders, such as the government, the community, and vape businesses. Several studies have highlighted vape's negative impacts on users, especially with additional ingredients like synthetic flavors or other components. The increase in teenage vape use also poses long-term health effects, which has been a focus in previous research. However, some studies indicate that vape serves as a cessation tool for conventional cigarette users. Research and focus group discussions (FGDs) have shown that vape can help treat conventional cigarette addiction. However, the current trend shows more adolescents and non-smokers using vape, shifting away from its original therapeutic purpose. Clear government regulations are therefore essential, alongside outreach by businesses and communities to enforce existing rules and impose sanctions on those acting illegally. Current conventional cigarette regulations remain weak, as many retailers still sell cigarettes to minors, and this issue should be a consideration in vape regulation. Weak enforcement remains a primary issue, not only concerning ingredient standards but also effective marketing strategies. No clear sanctions are in place for violators, indicating a need to learn from other countries with established vape regulations. Vape business considerations focus on economic growth potential and job creation. Vape also represents a substitute product for traditional cigarettes, intensifying competition and requiring both industries to grow in compliance with existing regulations.

## **DISCUSSION**

One of the government's efforts to enhance Indonesia's vape market competitiveness globally is through the implementation of the Indonesian National Standard (SNI),

regulating vape devices and raw materials. However, applying the SNI and related regulations requires comprehensive assessments involving multiple stakeholders, including business players, communities, researchers, and media, to harmonize necessary policies that require broader socialization to both the public and business sectors. The vape industry in Indonesia faces complex issues, especially in terms of regulations that impact the envisioned business system. Although vape products are legally distributed due to excise taxes, the government has yet to provide operational or industrial support, with current regulations appearing restrictive without offering clear business development guidance for Indonesia's vape industry. Several aspects need alignment with the penta-helix model to provide a clear direction for the vape business in Indonesia through established regulations.

SNI 8946:2021 and SNI 9070:2022 serve as benchmarks for stakeholders in the vape industry, addressing heated tobacco products and vape raw materials. These standards aim to protect users by enforcing regulatory compliance, with vape businesses needing to ensure their products meet these standards. The SNI implementation represents both a challenge and an opportunity for businesses, as national standards set the parameters for product quality. The primary challenge involves adjusting products to comply with standards, incorporating innovative technologies, and ensuring appropriate raw material availability. This process introduces competition between local and global players in product marketing. Nevertheless, implementing the SNI can enhance the competitiveness of Indonesia's vape businesses, acting as a licensing form that bolsters national competitiveness and reduces illegal product circulation due to regulatory enforcement. However, stakeholder collaboration remains essential for effective SNI implementation. Vape communities could help monitor compliance, while researchers are needed to



evaluate SNI effectiveness and contribute research updates. The media also plays a crucial role in disseminating information on SNI both nationally and globally, as well as providing policy evaluation based on SNI implementation outcomes. Thus, the integration of each stakeholder's role and function is crucial for effective SNI application.

The government has already prohibited vape sales to minors, yet effective communication of this regulation to all stakeholders is essential to achieve its intended outcomes. Vape communities have made efforts to prevent sales to minors, mirroring conventional cigarette sales restrictions, though enforcement remains challenging, leading to underage access to these products. Some government policies for conventional cigarettes, like warning labels, have proven ineffective due to insufficient enforcement of criminal or civil penalties and lack of public awareness regarding sanctions. This inadequacy could similarly affect vape sales restrictions for those under 18. Stakeholder collaboration is needed to enforce this regulation, but government firmness in policy enforcement is crucial. Clear regulations supported by the penta-helix model can help achieve regulatory goals, with community roles critical to implementation. Communities can impose sanctions on non-compliant businesses, supporting government enforcement actions. Business actors must also play a role, with binding regulations from the government preventing sales to minors. Educated business actors can act as information agents, fostering regulatory governance within the vape market. Researchers also play a vital role in examining the short- and long-term effects of vape use among minors, providing evidence on both positive and negative effects to inform policy. Media can serve as a monitoring platform, spreading information on compliance and violations among businesses and consumers. Involving influencers in campaigns against underage smoking has proven effective, making

government collaboration with social media creators essential for this effort. In addition to regulating businesses, the government should educate teenagers and minors about avoiding vape purchases, offering rewards and punishments to deter violations among youth.

Indonesia is still reviewing its vape policy as of 2024. Policy evaluations are essential, particularly regarding the economic, social, and health impacts. A fiscal policy assessment is needed to analyze the current government measures, examining their positive and negative effects. Fiscal policy support should promote both local and global vape industry development, with economic, social, and health benefits for the country. A thorough review of the vape industry's role is needed, especially regarding its potential as a conventional smoking cessation tool or as a socially accepted new product. This is necessary to prevent "black campaigns" against the industry as it develops. A comprehensive, multi-perspective analysis can be outlined using the penta-helix model to inform policy direction. Additionally, synchronizing the tobacco, vape, and conventional cigarette industries is essential for shared industrial growth.

## **CONCLUSION**

The analysis from this study highlights that implementing vape policies through the penta-helix model allows for more effective policy integration. The government should conduct policy reviews on vape products involving stakeholders from the penta-helix model. Indonesia has established an SNI for vape devices and a restriction on sales to minors, yet the policy dissemination has not reached the public or consumers effectively. Each stakeholder within the penta-helix model must have an integrated role and function in the 2024 policy and regulatory implementation. However, further examination is needed, especially regarding the fiscal and non-fiscal impacts on the vape business and consumers. Certain policies require synchronization between vape and

conventional cigarette regulations to foster healthy business competition. Policy dissemination can reach the public through social media, especially to enforce the under-18 vape restriction, supported by influencers. Strict regulations on vape business and consumption regarding underage sales should clearly outline sanctions for sellers and buyers. Separate regulations are recommended for new vape users and those using vape as a treatment for traditional cigarette addiction. Finally, there should be regulation for the domestic vape industry supply chain to enhance global competitiveness.

### **Declaration by Authors**

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