



TECHNIUM
SOCIAL SCIENCES JOURNAL

www.techniumscience.com



Vol. 76/2025
A New Decade for Social Changes

PLUS
COMMUNICATION P



International
Communication & PR

Geo-Strategic Competition in Aesthetic Surgery: Push–Pull Dynamics Driving Indonesian Patients Abroad

Dian Ika Wati¹, Nur Wening²

^{1,2}Doctoral Management Program Study, Faculty of Economics, Universitas Teknologi Yogyakarta

dianew351@gmail.com¹, weninguty@gmail.com²

Abstract. The increasing flow of Indonesian patients seeking aesthetic surgery abroad reflects a complex interplay of geo-strategic competition among regional and global medical hubs. This study examines the push-pull dynamics influencing outbound cosmetic surgery tourism from Indonesia, focusing on destination competitiveness, patient decision-making pathways, and cross-border marketing strategies. A scoping review of peer-reviewed literature (Scopus Q1–Q3) and policy documents is combined with stakeholder interviews to explore how perceived quality, service experience, pricing transparency, and cultural affinity drive patient preferences. The findings reveal that Malaysia and Singapore leverage cultural proximity and integrated service packages, while South Korea capitalizes on global K-beauty branding and surgical specialization. The competitive landscape is further shaped by accreditation standards, digital marketing, and government facilitation policies. Policy recommendations are proposed to strengthen domestic service quality, enhance patient trust, and position Indonesia as a competitive node in the regional aesthetic surgery market.

Keywords. Medical Tourism, Aesthetic Surgery, Push-Pull Factors, Geo-Strategic Competition, Healthcare Marketing

1. Introduction

In the last two decades, cosmetic surgery has seen a significant increase in Asia, especially in East Asia and Southeast Asia. This phenomenon not only reflects a shift in public preferences towards physical appearance, but also marks the emergence of a healthcare industry that serves as a strategic instrument in geo-economic competition between countries [1]. Aesthetic surgery or cosmetic surgery is now part of the global medical tourism industry, which is worth billions of dollars annually.

Indonesia, as the fourth most populous country in the world, has a potential domestic market for aesthetic surgery services. However, despite increasing demand, many Indonesian patients choose to undergo procedures abroad, particularly in Singapore and Malaysia. This cross-border flow of patients has created a phenomenon of medical tourism that is not only related to clinical factors, but also influenced by social, cultural, and strategic factors. [2], [3]

The characteristics of medical management offer different attractions between countries. The combination of high medical quality with geographical, cultural, and religious

proximity. Cultural proximity factors make Indonesian patients feel more comfortable seeking treatment in Malaysia, especially for Muslim patients who prioritize halal services and communication without language barriers. In addition, relatively affordable prices make Malaysia a serious competitor in attracting Indonesian patients.

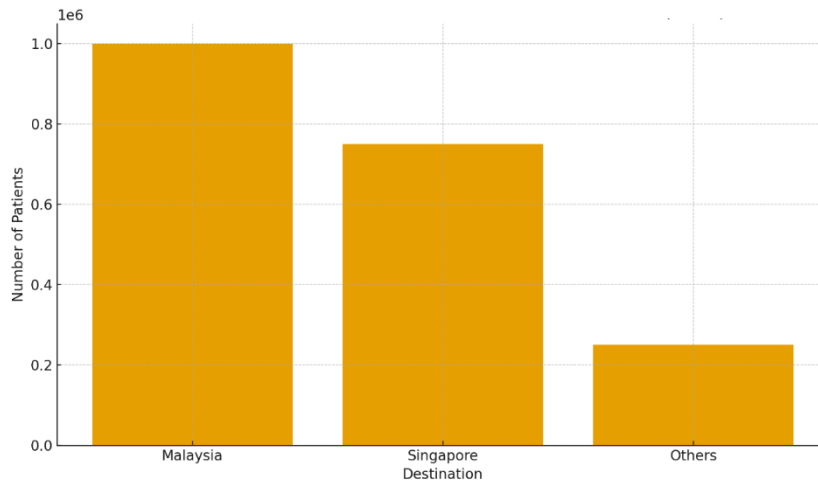


Figure 1. Indonesian Outbound Medical Tourists by Destination, (2022)

Figure 1 shows that in 2022, the majority of Indonesian patients seeking medical services abroad chose Malaysia (~1 million patients) and Singapore (~750,000 patients), while the rest (~250,000 patients) were spread across other countries such as South Korea, Japan, and the United States. This data confirms that the outflow of Indonesian patients is significant and concentrated in neighboring countries. This phenomenon not only reflects the low competitiveness of domestic medical services but also highlights the strong pull factors possessed by competing countries in the region. With visits concentrated in the two main countries, it is clear that Indonesian patients have stable and recurring preferences, thereby strengthening the position of regional competitors as leading destinations for medical tourism, including in the field of aesthetics. [4]

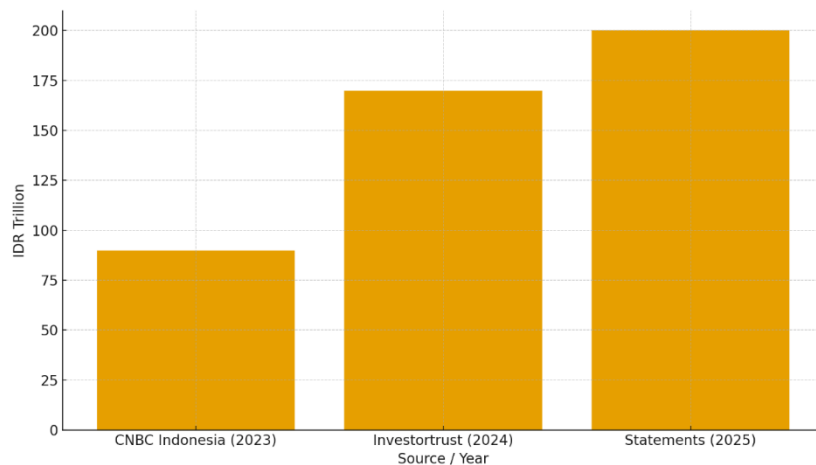


Figure 2. Estimated Annual FX Outflow Due to Overseas Treatment (IDR Trillion)

Figure 2 shows estimates of foreign exchange leakage due to Indonesian patients seeking treatment abroad, with figures ranging from IDR 90 trillion in 2023 to IDR 200 trillion in 2025 [5]. The difference in estimates reflects variations in calculation methods across sources, but consistently shows the magnitude of economic losses suffered by Indonesia. This outflow of funds not only reduces potential state revenue, but also illustrates the loss of opportunities for developing the domestic health sector, particularly in the field of cosmetic surgery, which is growing rapidly in the region. Thus, this phenomenon of capital flight has become a structural problem and a strategic urgency for Indonesia to immediately strengthen its domestic cosmetic surgery services in order to compete with popular destinations in the region.

The phenomenon of Indonesian patients seeking treatment abroad has complex geo-strategic implications. The outflow of patients not only causes capital flight in terms of foreign exchange, but also indicates a gap in the domestic capacity to meet the demand for high-quality aesthetic services. This presents both a challenge and an opportunity for Indonesia to develop its own medical tourism industry. [5], [6]

Indonesia's efforts to reduce its dependence on foreign medical services can be seen in the initiative to develop the Sanur Special Economic Zone (KEK) in Bali. This project is designed as a health and wellness tourism hub that can rival international facilities. By partnering with global partners such as the Mayo Clinic, the Indonesian government is seeking to create an aesthetic service ecosystem that can compete at the regional level. However, the challenges of developing the domestic aesthetic industry are not simple. Factors such as public trust in medical personnel, service transparency, and international standards remain crucial issues. Indonesian patients tend to seek assurances of safety and quality that they believe are more readily available abroad, making it a strategic priority to reverse this perception.

In addition, social and cultural dimensions also play an important role. Cosmetic surgery is often perceived as a symbol of social status. Undergoing procedures abroad, especially at prestigious clinics in Seoul or Kuala Lumpur, provides added value in the form of social prestige. This phenomenon strengthens the pull factor and weakens the competitiveness of domestic clinics, even though they may offer similar services from a technical standpoint. From a political economy perspective, regional competition in the cosmetic surgery industry represents geo-strategic competition in Asia. Countries are seeking to integrate medical tourism with national development strategies, cultural promotion, and economic diplomacy. Cross-border patients, including those from Indonesia, are both agents and indicators of the success of this strategy.

Although the literature on medical tourism in Southeast Asia is growing, studies that specifically highlight the dynamics of geo-strategic competition in aesthetic surgery services are still limited. Most previous studies have emphasized clinical aspects, patient satisfaction, or pure economic analysis, without integrating socio-cultural, political, and state strategies in attracting cross-border patients. Figure 1 shows the dominance of Malaysia and Singapore as the main destinations for Indonesian patients, but few studies have systematically examined why these preferences are so strong, particularly in the context of push-pull dynamics in the field of aesthetics.

On the other hand, Figure 2 indicates that there is a foreign exchange leak amounting to trillions of rupiah each year due to the outflow of patients abroad. Although this issue is often raised in media reports and policy statements, academic research that compiles empirical evidence across studies to explain the root causes and competitive strategies between countries

is still rare. The discrepancy between the magnitude of the phenomenon and the lack of comprehensive studies reveals a significant research gap.

Previous literature on medical tourism tends to focus on clinical aspects, patient satisfaction, or purely economic factors. However, there is still limited research that specifically examines the geo-strategic dimensions and push-pull dynamics in the context of Indonesian patients undergoing cosmetic surgery abroad. This void underscores the need for a more comprehensive study. Through a systematic literature review approach, this study aims to integrate scattered findings related to this phenomenon. The SLR approach allows for the identification of common patterns, differences in context between countries, and policy implications that Indonesia can take to strengthen the competitiveness of the domestic aesthetic sector. [7]

This study not only has academic value, but also practical relevance. The results of the research can be used as a basis for policymakers, healthcare industry players, and tourism stakeholders to formulate more effective strategies. By understanding the driving and pulling factors holistically, Indonesia can reduce foreign exchange leakage while optimizing the potential of the domestic market. Thus, research on Geo-Strategic Competition in Aesthetic Surgery: Push–Pull Dynamics Driving Indonesian Patients Abroad is important to position in both the academic and practical landscapes. This complex background shows that the phenomenon of patient travel is not only a medical issue but also a representation of competition between countries in the global healthcare market.

Thus, a Systematic Literature Review is needed that not only summarizes previous research results but also synthesizes the push and pull factors for Indonesian patients across contexts and links them to the geo-strategic dynamics of the region. This SLR is important to fill knowledge gaps, provide a more complete conceptual mapping, and offer a strong basis for formulating strategic policies to strengthen the competitiveness of the domestic aesthetic industry.

1.1 Theoretical/Conceptual Framework

Push-Pull Migration Framework Theory

In the context of medical tourism, the Push–Pull Migration Framework theory asserts that patient mobility is influenced by a combination of push factors from the country of origin and pull factors from the destination country. Research by Asa et al. (2024) shows that low public trust in the domestic health system and infrastructure limitations are significant drivers for Indonesian patients to seek services abroad [8]. Meanwhile, South Korea's global reputation and cutting-edge technology as key pull factors [9], while highlights cultural proximity and competitive prices in Malaysia [10]. Other research also confirms that service expectations and tourism attractions in Thailand reinforce patients' intentions to migrate [11]. This literature consistently demonstrates the relevance of the push–pull framework in explaining cross-border aesthetic patient decisions.

Based on the elaboration of previous research findings, the author argues that the push–pull framework not only explains functional factors such as medical quality or cost but also encompasses symbolic and geo-strategic dimensions that are increasingly prominent in the aesthetic context. Push factors such as distrust and domestic limitations serve as the structural backdrop, while pull factors such as prestige, technology, and tourism integration act as migration catalysts. The interaction between the two forms a pattern of patient migration that is more complex than simply differences in service quality. Therefore, in the conceptual framework of this study, the Push–Pull Migration Framework is positioned as the main

foundation for understanding the dynamics of Indonesian patients' decisions, as well as a point of entry for integrating the perspective of geo-strategic competition, which shows that the competition for aesthetic patients is also part of inter-state political-economic strategies.

Geo-Strategic Competition Perspective

The geo-strategic competition perspective emphasizes that healthcare services, including cosmetic surgery, are not only medical and economic activities, but also instruments of diplomacy, branding, and national soft power. South Korea utilizes K-beauty and medical technology as a global positioning strategy that increases the flow of international patients [12]. The outlines how Malaysia uses its geographical proximity, cultural similarities, and government policy support to strengthen its position as a leading destination for Indonesian patients [10]. Meanwhile, Thailand's strategy of integrating aesthetic services with medical tourism, making it a unique model of differentiation-based competition [11], [13]. This literature confirms that the competition for cross-border patients is part of the strategic dynamics between countries in the Asian region, where aesthetics is positioned as a leading sector in economic diplomacy.

Based on this elaboration, the author views that the geo-strategic competition perspective broadens the understanding of aesthetic patient migration from a mere push-pull interaction to an arena of competition between countries. Destination countries not only rely on service quality, but also build national image, expand health diplomacy networks, and integrate aesthetics with economic development strategies. In the context of Indonesia, this perspective is important because it shows that patient outflow is not merely a result of domestic weaknesses, but also a result of the success of competing countries in designing systematic geo-strategic strategies. Therefore, this study positions geo-strategic competition as a conceptual framework that complements push-pull theory to explain how competition between countries in the aesthetics sector shapes Indonesian patient migration patterns and opens up space for more proactive counter-strategies at the national level.

1.2 Operational Framework

The researchers developed a conceptual framework and formulated research questions (RQs) that can be used as guidelines for a systematic literature review (SLR) as follows.

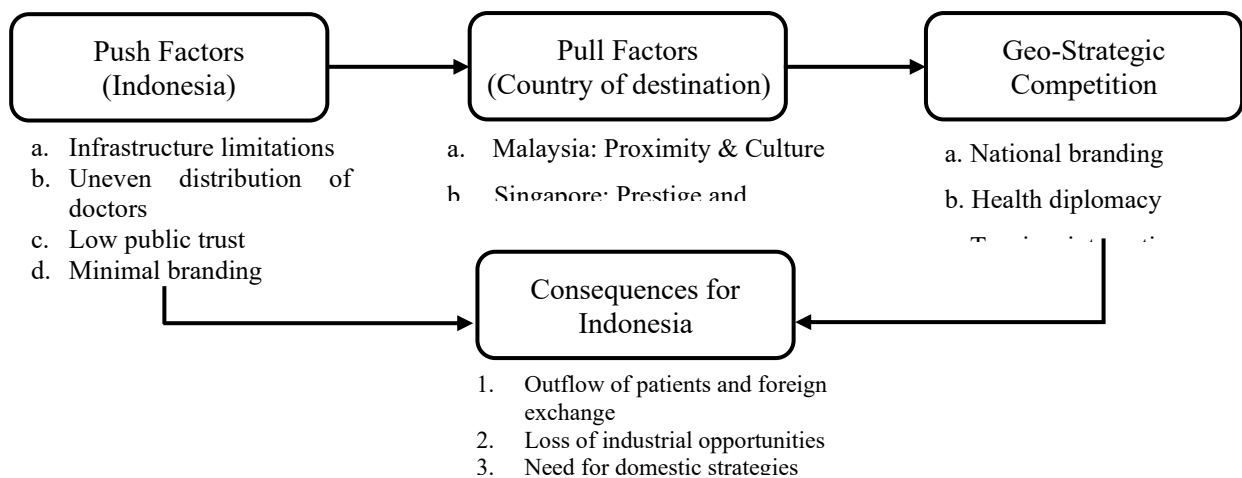


Figure 3. Conceptual Framework Push-Pull on Indonesian's Patient Decision

The conceptual framework of this study was developed to explain how push-pull dynamics influence Indonesian patients' decisions to seek cosmetic surgery abroad, as well as how this phenomenon relates to geo-strategic competition between countries. In terms of push factors, Indonesia faces challenges in the form of limited aesthetic infrastructure, uneven distribution of medical personnel, low public confidence in domestic services, and weak nation branding in the aesthetic sector. These conditions encourage patients to seek alternatives abroad. [14]

Conversely, pull factors from destination countries offer various competitive advantages. South Korea stands out with the global prestige and cultural capital of the K-beauty industry, Malaysia capitalizes on its geographical proximity, cultural similarities, and relatively affordable costs, while Thailand integrates aesthetic services with medical tourism packages. These factors reinforce the outflow of patients from Indonesia.

At a broader level, this phenomenon enters the realm of geo-strategic competition, where destination countries actively use health diplomacy, national branding, and integration with tourism to attract cross-border patients. This positions aesthetic surgery services as an instrument of soft power as well as a source of foreign exchange. The consequences for Indonesia are significant, namely an increase in patient outflow and a large amount of foreign exchange leakage, accompanied by the loss of opportunities for the development of the domestic aesthetic industry. Therefore, Indonesia needs to develop a comprehensive strategy, such as strengthening domestic health services, building special health economic zones, and increasing competitiveness through branding and strategic investment. Based on the conceptual framework above, this study formulates several research questions that will serve as guidelines in the Systematic Literature Review:

RQ1: How can the Push-Pull Migration Framework encourage Indonesian patients to seek cosmetic surgery services abroad?

RQ2: How do geo-strategic competition dynamics shape the strategies of destination countries in attracting international cosmetic surgery patients, particularly from Indonesia?

2. Methodology

This study uses a Systematic Literature Review (SLR) approach with reference to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol to ensure that the literature review process is conducted systematically, transparently, and replicably. The literature search was conducted on a number of relevant international and regional databases, namely Scopus, Web of Science, PubMed/MEDLINE, ScienceDirect, ProQuest, Google Scholar, and the ASEAN Citation Index (ACI), in order to capture scientific publications discussing aesthetic surgery, medical tourism, and geo-strategic competition. The search strategy used a combination of keywords with Boolean operators, including “aesthetic surgery” OR “cosmetic surgery” OR “plastic surgery” combined with “medical tourism” OR “health tourism”, and linked with “Indonesia” OR “Indonesian patients”, “push-pull factors” OR “determinants”, and “geo-strategic” OR ‘competition’ OR “soft power”. The search was limited to publications in English and Indonesian with a time range of 2000-2025 in Scopus Q1-Q3 literature, to capture long-term trends as well as contemporary developments.

The inclusion criteria set include articles that discuss the mobility of Indonesian patients in the context of cosmetic surgery and medical tourism, especially to major destination countries such as Malaysia and Singapore; publications available in peer-reviewed journals,

scientific proceedings, and official reports from international organizations; and studies that address the push and pull factors of patient mobility or national competition strategies. Conversely, articles that only highlight purely clinical aspects without relevance to cross-border patient mobility, opinion-based or popular media publications without academic methodology, and articles that are not available in full text were excluded from the analysis.

The literature selection process followed the four stages of PRISMA, namely identification, screening, eligibility, and inclusion [15]. In the identification stage, all initial search results were collected; screening was then carried out by removing duplicates and selecting articles based on their titles and abstracts. The eligibility stage is carried out by reading the full text to ensure compliance with the inclusion-exclusion criteria, before finally determining which articles are eligible for analysis. The selected articles are then extracted using a synthesis table that records information on the author, year of publication, research location, methods used, focus of the study, and key findings related to push-pull dynamics and geo-strategic competition. The analysis was conducted through a thematic synthesis approach, which grouped the literature findings into main themes such as push factors, pull factors, competitive strategies of countries, and implications for Indonesia. [16]

To maintain validity and reliability, the data selection and extraction process was carried out by two independent researchers. Differences in selection or interpretation results were clarified through discussion until consensus was reached, thereby minimizing the potential for subjective bias. With this methodology, it is hoped that the SLR results can provide a comprehensive picture of the geo-strategic dynamics in aesthetic medical tourism and serve as a strong foundation for formulating strategies to increase Indonesia's competitiveness.

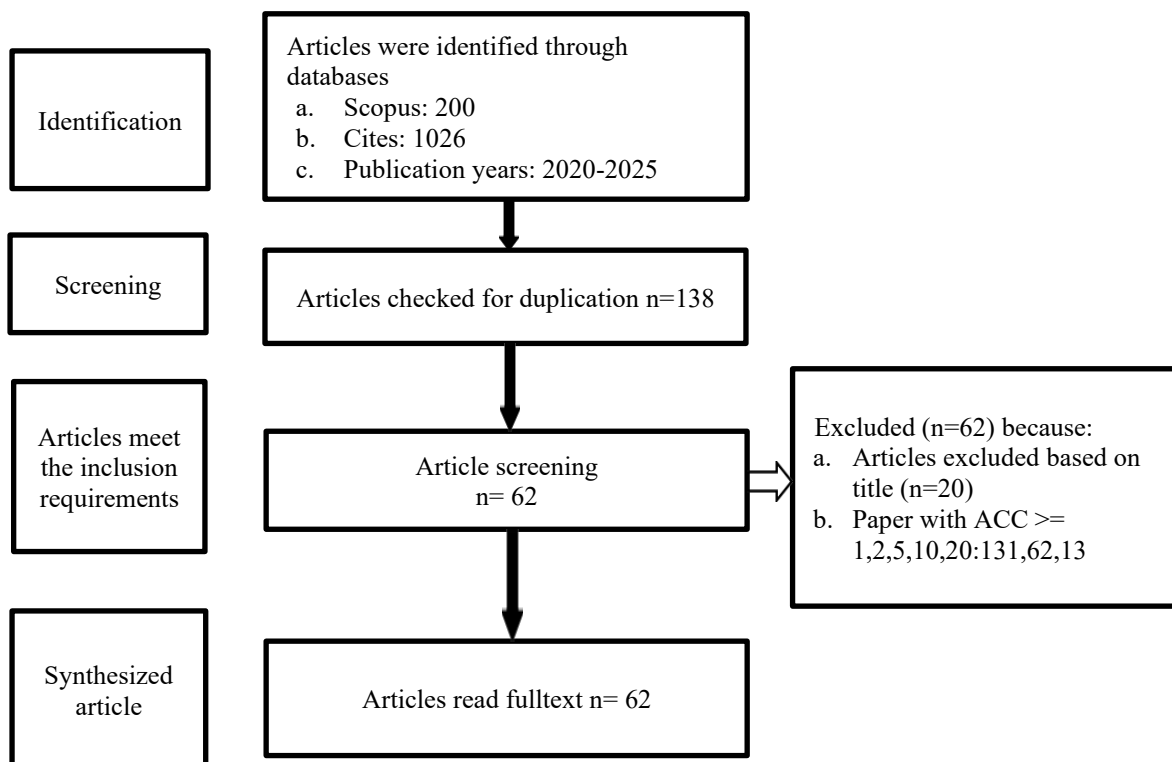


Figure 4. PRISMA Diagram of the Article Selection Process

The literature search and selection process followed the PRISMA steps, which consisted of identification, screening, eligibility, and inclusion. In the identification stage, a search of six international and regional databases yielded approximately 200 articles. Next, screening was conducted by removing duplicate articles (approximately 138), leaving 62 articles to be further reviewed through their titles and abstracts.

The next stage was eligibility, where 20 articles were selected to be read in full text. Of these, 42 articles were excluded because they did not meet the inclusion-exclusion criteria, such as only discussing clinical aspects without relevance to patient mobility or not being available in full text. Ultimately, the inclusion stage resulted in 20 articles that were eligible for in-depth analysis. These articles were then synthesized thematically to answer the research question regarding the push-pull dynamics and geo-strategic competition in aesthetic surgery, with a focus on patients from Indonesia.

3. Results and Discussion

Result

The network visualization in Figure 5 shows that Indonesian patients' decisions are shaped by four main clusters of variables that interact with each other: push factors, pull factors, geo-strategic competition, and national consequences. The interrelationship between colors and nodes in the network map clarifies that the phenomenon of patient mobility cannot be explained by a single dimension, but rather through the simultaneous interaction between domestic conditions, the attractiveness of the destination country, geopolitical strategies, and the macro impact on Indonesia.

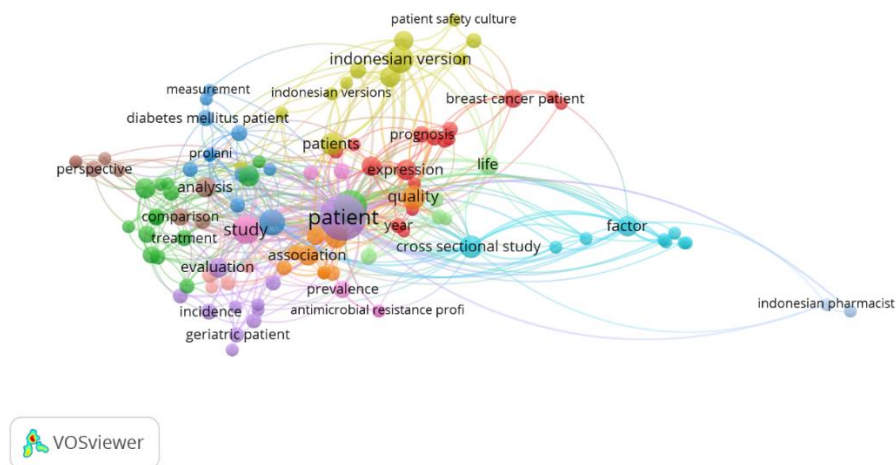


Figure 5. View Results Explore Section Network Visualization Theme Indonesian Patient Decision Factors

The results of the analysis in Figure 5 show that Indonesian patients' decisions to undergo cosmetic surgery abroad are influenced by the complex interconnection between push, pull, and geo-strategic factors. Push factors, such as low confidence in domestic services, infrastructure limitations, and uneven distribution of medical personnel, are closely linked to pull factors such as service quality, modern technology, and the cultural appeal and branding of

the destination country. This network of interconnections illustrates how patients' perceptions are formed multidimensionally: internal conditions drive patients abroad, while external promotion reinforces the attractiveness of the destination. For example, a study by Asa et al. (2024) confirms that Indonesian patients are driven abroad by low confidence in the local system and are more attracted to the quality and technology of neighboring countries. Meanwhile, South Korea excels in health technology and K-beauty branding, which strengthens the country's position as a major pull factor center. [9]

Furthermore, the interconnectedness of variables in network visualization also indicates the existence of geo-strategic influences through the policies of destination countries, including health diplomacy, international accreditation, and cross-border marketing networks. Strengthening international networks and branding strategies significantly increase patient flow [12]. This aligns with the findings of Meng et al. (2023), which demonstrate that service expectations and destination attractiveness strongly contribute to patients' intentions to seek treatment abroad [11]. Thus, the network visualization results confirm that Indonesian patients' decisions are not the result of a single factor, but rather the simultaneous interaction between domestic limitations (push), external attractions (pull), and regional geo-strategic competition. The relationship between these variables also reveals strategic challenges for Indonesia in reducing capital flight and building the competitiveness of domestic aesthetic services amid increasingly intense international competition. In line with this, this study examines the dynamics of geo-strategic competition and push-pull factors that influence aesthetic surgery medical tourism in the Asian region, with a focus on the flow of patients from Indonesia.

**Table 1. Geo-Strategic and Push-Pull Factors Influencing Patient Decisions
in The Asian Region**

No	Penulis dan Judul (Tahun)	Metode	Hasil Utama	Critical Review
1.	Asa et al., <i>Medical tourism among Indonesians: a scoping review</i> (2024)	This research method is qualitative with a scoping review technique to identify the driving and pulling factors for Indonesian patients seeking medical tourism.	Push factors: low confidence in domestic products, proximity; pull factors: quality and technology of neighboring countries. Recommendations for system improvements in Indonesia.	Highly relevant to the Indonesian context; less specific on aesthetics needs to be linked to cosmetic surgery.
2.	Al Aufa et al., <i>Multi-Level Approach to Medical Tourism in Indonesia</i> (2024)	This research method is qualitative with multi-level policy analysis to map the obstacles and opportunities for medical tourism development in Indonesia.	Challenges: accreditation, central-regional coordination; opportunities: branding, hospital partnerships.	Strong for policy recommendations; not specific to aesthetics but easily applied to sub-sectors.
3.	Kim H. (2023), <i>South Korea's</i>	This research method is quantitative with service	Korea excels in price and technology (PET-	Provides a basis for Korea's appeal (K-

	<i>Medical Tourism Competitiveness</i> (Iranian J. Public Health)	indicator analysis to measure the competitiveness of South Korea's medical tourism.	CT, robotic). The trend of foreign patients is increasing after the pandemic.	beauty + technology); does not sufficiently address the risk of complications.
4.	Kim & Hyun, <i>IJERPH</i> (2022)	This research method is qualitative with a policy case study to evaluate Korea's international network and medical tourism branding.	Strengthening inter-country networks increases patient flow; branding + service quality have an impact.	Describing Korea's geo-strategy; the cosmetic context needs to be explicitly linked.
5.	Meng et al., <i>Heliyon</i> (2023)	This research method is quantitative, using a patient survey to measure the effect of destination attraction and services on the intention to travel for medical treatment.	Destination attractions and service expectations influence patients' visit/spending intentions.	Providing measurable variables for push-pull & marketing models.
6.	Gilardi et al., <i>JPRAS</i> (2023)	This research method is qualitative with a systematic review to identify complications of infection in cosmetic surgery tourism.	Cross-border post-cosmetic surgery infection map; trends in surgical tourism origins and destinations.	Strong clinical evidence of risk; not focused on Indonesia but important for patient safety.
7.	Zapata-Sirvent et al., <i>PRS Global Open</i> (2022)	This research method is descriptive with a series of patient cases to report cosmetic surgery complications during the pandemic.	Complications following cosmetic surgery tourism increased during the pandemic, placing a burden on patients' home hospitals.	Concrete microdata; generalizations should be made with caution.
8.	Marallo et al., <i>PRS Global Open</i> (2023)	This research method is descriptive with a series of BBL procedures to identify post-operative risks abroad.	Low birth weight (DR/Mexico) → seroma/infection; uninsured patients burden the system.	High-risk specific procedures; suitable for highlighting safety aspects.
9.	Hery et al., <i>Aesthetic Surgery Journal Open Forum</i> (2023/2024)	This research method is qualitative, using literature reviews and case reports to measure the morbidity of cosmetic surgery tourism.	Tourism aesthetics: costly morbidity & burdening hospitals.	Economic + clinical evidence; strong for social cost arguments.
10.	Chin et al., <i>Aesthetic Surgery Journal</i> (2024)	This research method is quantitative with a cohort study to compare complications in	Significant complications in both international and domestic travel;	Compare “international vs. domestic tourism”—connecting

		domestic and international patients.	comparison of risk levels.	to patient education policy design.
11.	Roberts et al., <i>The Surgeon</i> (2024)	This research method is quantitative with cost analysis to calculate the financial burden of aesthetic tourism complications in NHS Scotland.	Average cost >£9k/patient to treat complications from cosmetic surgery tourism.	Adds weight to macroeconomic burdens.
12.	Hummel et al., <i>Swiss Medical Weekly</i> (2023)	This research method is observational with analysis of patient medical records to map complications of cosmetic surgery tourism.	Pain/aesthetic dissatisfaction, infection, and dehiscence are predominant in patients who undergo surgery abroad.	Evidence from Western Europe; reinforces the cross-country risk narrative.
13.	Álvarez et al., <i>Perioperative Care & OR Management</i> (2024)	Perioperative narrative review	Aesthetic procedures dominate medical tourism; the need for team and facility standards.	Perioperative safety perspective; relevant to accreditation standards.
14.	Farhan et al., <i>ASJ Open Forum</i> (2024)	This research method is qualitative with a narrative review to analyze the perioperative safety of aesthetic medical tourism.	Complications from cosmetic tourism → significant financial burden on the healthcare system.	Bay context; regional generalizations in Southeast Asia require caution.
15.	Hassell et al., <i>Aesthetic Surgery Journal Open Forum</i> (2024)	This research method is quantitative with a public survey to analyze perceptions of the risks of cosmetic surgery tourism.	Motivation and perception of complications among prospective cosmetic surgery patients.	Provide insight into patient decision pathways (material for risk communication intervention design).
16.	Godlewska et al., <i>BMC Public Health</i> (2023)	This research method is quantitative, using patient surveys to identify push–pull motives for health tourism.	Internal motives (push) and destination attributes (pull) explain tourists' choice of healthcare services.	Not purely cosmetic, but the push–pull framework is highly applicable.
17.	Raoofti et al., <i>Comparative study on MT provision</i> (2024)	The research method used was qualitative with a comparative study to map key service components for international patients.	Key service components for international patients in developing countries.	Mapping service elements that can be adopted by Indonesia.

18.	Asa et al., <i>Medical tourism among Indonesians: a scoping review</i> (2024)	This research method is qualitative with a scoping review technique to identify the driving and pulling factors for Indonesian patients seeking medical tourism.	Push factors: low confidence in domestic products, proximity; pull factors: quality and technology of neighboring countries. Recommendations for system improvements in Indonesia.	Highly relevant to the Indonesian context; less specific in terms of aesthetics—needs to be linked to cosmetic surgery.
19.	Al Aufa et al., <i>Multi-Level Approach to Medical Tourism in Indonesia</i> (2024)	This research method is qualitative with multi-level policy analysis to map the obstacles and opportunities for medical tourism development in Indonesia.	Challenges: accreditation, central-regional coordination; opportunities: branding, hospital partnerships.	Strong for policy recommendations; not specific to aesthetics but easily applied to sub-sectors.
20.	Kim H. (2023), <i>South Korea's Medical Tourism Competitiveness</i> (Iranian J. Public Health)	This research method is quantitative with service indicator analysis to measure the competitiveness of South Korea's medical tourism.	Korea excels in price and technology (PET-CT, robotic). The trend of foreign patients is increasing after the pandemic.	Provides a basis for Korea's appeal (K-beauty + technology); does not sufficiently address the risk of complications.

Medical tourism for cosmetic surgery in Asia is highly competitive among destinations, with Indonesian patients mainly traveling to Malaysia, Singapore, and South Korea. Recent literature shows a consistent push-pull pattern: on the push side, patients are driven by limited domestic services, perceptions of quality/trust, and needs for technology and aftercare that patients consider uneven; on the pull side, patients are attracted to the reputation of experts, cutting-edge technology, speed of service, patient assistance packages, and cultural or communication proximity in the destination country.

multidimensional approach, in line with the increasing complexity of the phenomenon at the regional and global levels.

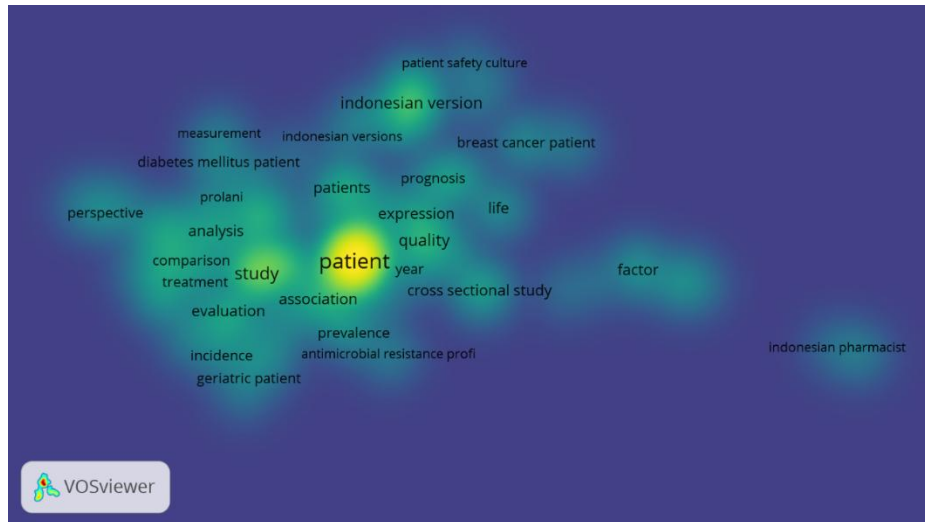


Figure 7. View Results Explore Section Density Visualization Theme Indonesian Patient Decision Factors

Figure 7 (Density Visualization) shows the density of relationships between variables that form Indonesian patients' decision factors in choosing cosmetic surgery services abroad. Areas with light colors (yellow–orange) indicate a high concentration of research and strong variable connectivity, while areas with dark colors (green–blue) indicate low density or relatively rarely researched themes.

The highest density appears in variables related to pull factors, particularly service quality, advanced technology, and the prestige image of the destination country. This is consistent findings on South Korea's technological superiority and K-beauty branding [9], and reinforced who emphasize the influence of destination attraction and service expectations in shaping patient intent [11]. The bright colors in this cluster indicate that the pull dimension remains a dominant theme in the current literature. On the other hand, medium density is seen in push factors, such as domestic infrastructure limitations and low public trust in Indonesian medical services. The study confirms the relevance of this factor, although its visualization area is not as bright as pull factors, indicating that the literature highlights external attractions more than internal weaknesses. [8]

Furthermore, areas with fairly high density are also evident in geo-strategic competition, particularly in relation to national branding, health diplomacy, and tourism integration. The bright colors in this section indicate increased academic attention to the strategies of destination countries in competing for the international aesthetic market [10], [12]. Meanwhile, variables related to consequences for Indonesia, such as capital flight, loss of domestic industrial opportunities, and the need for national strategies, appear with lower density. This shows that although important in terms of policy, issues of macroeconomic impact and domestic strategy have not received much in-depth attention in academic literature, thus opening up space for further research. Thus, the density visualization in Figure 7 confirms that international research is more concentrated on the pull factors and geo-strategic strategies of the destination countries, while the push factors and consequences for Indonesia are still

relatively unexplored. This reinforces the argument that there is a research gap that needs to be bridged through systematic and integrated studies.

Discussion

The push-pull migration framework can encourage Indonesian patients to seek aesthetic surgery services abroad.

The Push-Pull Migration Framework offers a powerful analytical lens for understanding the phenomenon of increasing numbers of Indonesian patients seeking aesthetic surgery services abroad. Bibliometric analysis shows that push factors originating from domestic conditions act as the initial driver, while pull factors from the destination country reinforce the intention to migrate for health reasons. Theoretically, this framework positions patient migration as the result of a two-way interaction: on the one hand, dissatisfaction and limitations of services in Indonesia drive patients out; on the other hand, the promotion of quality and image of the destination country attracts patients in. These findings are consistent with the classic international migration model, but in the context of aesthetics, there are additional nuances in the form of socio-cultural and symbolic factors, such as prestige and lifestyle identity.

Bibliometric data shows that early publications (2020–2022) largely emphasized push factors as the main drivers. Studies during this period highlighted the limitations of aesthetic infrastructure in Indonesia, the uneven distribution of specialist doctors, and the low level of public trust in domestic service [8]. This is demonstrated in network visualization, where nodes related to “trust” and ‘infrastructure’ have significant connections with patient decision variables. In other words, early literature mostly describes “push factors” resulting from structural weaknesses in Indonesia's healthcare system, confirming that the state's inability to provide quality aesthetic services is a fundamental factor in patient migration.

As publications developed (2022–2023), the focus of research shifted to pull factors that explain why certain countries became the main destinations for Indonesian patients. South Korea, for example, offers a global reputation and cutting-edge technology in aesthetic surgery, supported by K-beauty as cultural capital that strengthens its appeal [19]. Malaysia stands out for its geographical proximity, religious similarities, and competitive prices, while Thailand integrates aesthetics with attractive medical tourism packages [20]. Bibliometric overlay visualization confirms the dominance of this theme with high color density on the variables of “prestige,” “technology,” and “tourism integration,” indicating that patients are not only driven out by domestic weaknesses but also attracted by external competitiveness.

Network visualization results (Figures 5–7) reveal that patient decisions cannot be explained by a single factor but are the result of complex interactions between push and pull factors. For example, low public trust in domestic services (push) interacts with the promotion of medical safety guarantees in the destination country (pull), creating a double push for migration. Similarly, domestic infrastructure limitations reinforce the appeal of advanced technology in South Korea or international facilities in Singapore. This relationship reflects the logic of complementarity, where weaknesses on one side increase the appeal of the other [21]. Density analysis also shows that pull factors are more often the focus of research, but they are always closely related to push factors as the structural background that reinforces patient migration.

Bibliometric synthesis shows that the Push-Pull Migration Framework is capable of explaining the complexity of the phenomenon of Indonesian aesthetic patient migration. However, this framework also reveals an imbalance in academic attention: the literature

emphasizes pull factors and destination country strategies more than push factors and domestic weaknesses. This indicates a research gap in the in-depth understanding of Indonesia's internal factors that needs to be addressed to reduce capital flight and dependence on neighboring countries. Thus, this framework not only answers research questions but also opens up space for further study on how Indonesia can close its structural gaps while building domestic counter-pull through branding, investment, and increasing public trust in national aesthetic services.

The dynamics of geo-strategic competition shape the strategies of destination countries in attracting international aesthetic patients, especially from Indonesia.

Bibliometric analysis shows that geo-strategic competition is a central theme in recent literature on aesthetic medical tourism. Destination countries such as South Korea, Malaysia, and Thailand not only position aesthetic services as medical products, but also as instruments of soft power in global competition. Network visualization (Figures 5 and 6) places the nodes “branding,” “diplomacy,” and “international accreditation” at the center of connectivity, indicating that the competitive strategies of destination countries are shaped by a combination of medical, economic, and political dimensions. These findings confirm that cross-country competition is not merely a matter of clinical quality, but part of a broader geopolitical strategy to compete for the international patient market, including from Indonesia.

The bibliometric overlay shows that recent publications highlight South Korea's dominance in geo-strategic competition. This country integrates cutting-edge medical technology with the power of K-beauty pop culture, making it a major pull factor for international patients. South Korea has successfully combined its medical image with cultural branding, so that patients are not only buying healthcare services but also symbols of social prestige [22], [23]. Nodes with high density in “prestige” and “technology” in the density visualization (Figure 7) support this argument. For Indonesian patients, South Korea is perceived as a destination that offers a combination of quality, lifestyle, and global status, a strategy that is difficult for neighboring countries to match.

Apart from South Korea, Malaysia occupies an important position in attracting Indonesian patients through strategies based on geographical proximity, cultural similarities, and competitive prices. The bibliometric network shows nodes of “proximity” and “cultural similarity” that are closely connected to literature related to Malaysia [24]. This strategy is more pragmatic, namely utilizing geographical advantage to reduce travel costs and increase patient comfort. In geo-strategic competition, Malaysia does not rely on global soft power like South Korea, but rather builds effective regional strength in attracting the Indonesian market. This is reflected in the flow of more than one million Indonesian patients per year seeking treatment in Malaysia, as shown in the latest outbound medical tourism data. [25], [26]

The literature also shows that Thailand uses a unique geo-strategic strategy, namely integrating aesthetic services with the tourism industry. Service expectations and destination attractions shape international patient preferences, with the nodes “tourism integration” and “hospitality” clearly visible in the network visualization [27], [28]. This strategy allows patients to purchase not only medical services, but also recreational experiences that support post-operative recovery. In the context of geo-strategic competition, Thailand's approach confirms that service differentiation through a combination of medicine and tourism can create a unique competitive advantage. For Indonesian patients, this appeal is reinforced by geographical proximity and relatively affordable costs.

Overall, the bibliometric analysis reveals that geo-strategic competition shapes destination country strategies through three dominant models: global prestige based on culture

and technology (South Korea), geographical proximity and cultural similarities (Malaysia), and medical tourism integration (Thailand). These three strategies compete with each other for the international patient market, but they share similarities in their use of political, economic, and cultural instruments to strengthen their appeal. For Indonesia, this phenomenon underscores the urgency of developing a national strategy to stem the outflow of patients, reduce foreign exchange leakage, and strengthen domestic capacity. Without an adequate geo-strategic response, Indonesia risks remaining passive in regional competition, while neighboring countries increasingly consolidate their positions as global aesthetic hubs.

4. Conclusions

This study concludes that the Push–Pull Migration Framework, when combined with a geo-strategic competition perspective, provides a new understanding that Indonesian patients' decisions to seek aesthetic surgery services abroad are not only driven by domestic limitations such as infrastructure and public trust, but also reinforced by the destination countries' strategies that actively use aesthetics as instruments of soft power and economic diplomacy. The novelty of this study lies in the integration of bibliometric analysis with a geopolitical approach, which shows how personal, structural, and strategic factors interact to shape patient migration flows. These findings open up space for the development of interdisciplinary analysis models in the future and emphasize the urgency for Indonesia to build a domestic health tourism hub, strengthen nation branding, and develop long-term health diplomacy in order to reduce capital flight and transform itself into a competitive actor in the global aesthetic landscape.

References

- [1] S. Yadav, G. Rawal, and M. Jeyaraman, “Decision Fatigue in Emergency Medicine: An Exploration of Its Validity,” *Cureus*, vol. 15, no. 2022, 2023, doi: 10.7759/cureus.51267.
- [2] D. Ary, L. C. Jacobs, C. Sorensen, and A. Razavieh, *Introduction to Research in Education*, vol. 11, no. 1. Canada: Nelson Education, 2019.
- [3] D. P. A. Pratama, W. T. Subroto, and N. C. Sakti, “Soft Skills and Entrepreneurial Spirit: Integration of Skills through Continuing Education for Indonesian Students in the Era of Globalization 21st Century,” *Int. J. Res. Sci. Innov.*, vol. XI, no. August, pp. 733–744, 2024, doi: 10.51244/IJRSI.
- [4] N. E. Hassell, V. P. Bustos, N. Elmer, C. D. Comer, S. M. Manstein, and S. J. Lin, “Costs Versus Complications: Public Perspectives on International Cosmetic Surgery Tourism,” *Plast. Surg.*, vol. 32, no. 3, pp. 468–475, 2024, doi: 10.1177/22925503221134817.
- [5] S. Y. Wang and O. Groene, “The effectiveness of behavioral economics-informed interventions on physician behavioral change: A systematic literature review,” *PLoS One*, vol. 15, no. 6, pp. 1–20, 2020, doi: 10.1371/journal.pone.0234149.
- [6] D. P. A. Pratama and P. Utomo, “Tren Transformasi Pendidikan Ekonomi Terhadap Investasi Pendidikan Berkelanjutan Sebagai Penguatan Sumber Daya Manusia Tahun 2016-2025,” *Dharma Ekon.*, vol. 31, no. 1, pp. 187–207, 2024, doi: 10.59725/de.v31i1.217.
- [7] A. S. Dwianto, “Social Entrepreneur Ship: Inovasi Dan Tantangannya Di Era Persaingan Bebas,” *Maj. Ilm. Bijak*, vol. 15, no. 1, pp. 68–76, 2018, doi: 10.31334/bijak.v15i1.133.

- [8] G. A. Asa, N. K. Fauk, C. McLean, and P. R. Ward, "Medical tourism among Indonesians: a scoping review," *BMC Health Serv. Res.*, vol. 24, no. 1, pp. 1–11, 2024, doi: 10.1186/s12913-023-10528-1.
- [9] H. Kim and Y. Lee, "South Korea's Medical Tourism Competitiveness and Future Strategy: Focused on Cancer Treatment: A Review," *Iran. J. Public Health*, vol. 52, no. 12, pp. 2484–2495, 2023, doi: 10.18502/ijph.v52i12.14310.
- [10] Supriadi, B. Al Aufa, A. Nurfikri, and I. I. Koire, "Exploring the Potential of a Multi-Level Approach to Advance the Development of the Medical Tourism Industry in Indonesia," *Heal. Serv. Insights*, vol. 17, 2024, doi: 10.1177/11786329241245231.
- [11] C. K. Meng, S. K. Piaralal, M. A. Islam, M. F. Bin Yusof, and R. S. Chowdhury, "International medical Tourists' expectations and behavioral intention towards health resorts in Malaysia," *Heliyon*, vol. 9, no. 9, p. e19721, 2023, doi: 10.1016/j.heliyon.2023.e19721.
- [12] H. L. Kim and S. S. Hyun, "The Future of Medical Tourism for Individuals' Health and Well-Being: A Case Study of the Relationship Improvement between the UAE (United Arab Emirates) and South Korea," *Int. J. Environ. Res. Public Health*, vol. 19, no. 9, 2022, doi: 10.3390/ijerph19095735.
- [13] T. Noor, Sutarno, and M. K. Huda, "Health Omnibus Law: Perspective of Legal Sociology," *Tech. Soc. Sci. J.*, vol. 73, pp. 263–271, 2025.
- [14] Y. Gu, D. Liang, and C. Zhao, "Practice Teaching Reformation of 'Four Segments Integration' of Marketing Based on OBE Theory," *Des. Eng.*, vol. 1, pp. 20–37, 2021, doi: 10.17762/de.vi.967.
- [15] S. Arifin, D. P. A. Pratama, and P. Utomo, *Pengantar Statistika: Teori dan Metode Ekonomi Terapan*. Surabaya: CV. Pena Jaya Pers, 2023.
- [16] P. Du and Y. Ni, "Higher hierarchical growth through country's blue economy strategies," *Ocean Coast. Manag.*, vol. 233, no. December 2022, 2023, doi: 10.1016/j.ocecoaman.2022.106467.
- [17] R. Gilardi, L. Galassi, M. Del Bene, G. Firmani, and P. Parisi, "Infective complications of cosmetic tourism: A systematic literature review," *J. Plast. Reconstr. Aesthetic Surg.*, vol. 84, pp. 9–29, Sep. 2023, doi: 10.1016/j.bjps.2023.05.021.
- [18] Z. Wagner *et al.*, "Peer Comparison or Guideline-Based Feedback and Postsurgery Opioid Prescriptions: A Randomized Clinical Trial," *JAMA Heal. Forum*, vol. 5, no. 3, pp. 1–14, 2024, doi: 10.1001/jamahealthforum.2024.0077.
- [19] M. Marallo, A. Staudinger-Knoll, and J. P. Rubin, "Medical Tourism and Budget Brazilian Butt Lifts: A High Cost to US Healthcare Systems and a Danger to Patients," *Plast. Reconstr. Surg. - Glob. Open*, vol. 11, no. 4, p. E4913, 2023, doi: 10.1097/GOX.00000000000004913.
- [20] D. Hery, B. Schwarte, K. Patel, J. O. Elliott, and S. Vasko, "Plastic Surgery Tourism: Complications, Costs, and Unnecessary Spending?," *Aesthetic Surg. J. Open Forum*, vol. 6, no. 1, pp. 1–7, 2024, doi: 10.1093/asjof/ojad113.
- [21] P. Utomo and D. P. A. Pratama, "Penta Helix Model Approach Strategy Towards the Effectiveness of Stunting Reduction Programs in Surabaya City," *Int. J. Entrep. Bus. Dev.*, vol. 07, no. 05, pp. 978–989, 2024.
- [22] M. C. Yuniar and Y. Augustine, "The Influence of Social Influence, Relative Advantage, User Satisfaction on Cloud-Based E-Learning with Behavioral Intention as a Mediating Variable," *Tech. Soc. Sci. J.*, vol. 56, no. 4, pp. 36–50, 2024.

- [23] S. Sunarsih and Y. Augustine, "The Effect of ESG Disclosure, Manager Qualification and Workplace Safety on Firm Value with Firm Size and Financial Leverage as Control Variables In Manufacturing Companies Listed on the Indonesia Stock Exchange year 2020-2022," *Tech. Sustain.*, vol. 5, pp. 61–74, 2024, doi: 10.47577/sustainability.v5i.10783.
- [24] A. Farhan, M. AlMahmeed, and A. Fakhro, "Unveiling the True Price: Assessing the Economic Impact of Cosmetic Surgery Tourism on a Single Tertiary Center in Bahrain," *Aesthetic Surg. J. Open Forum*, vol. 6, no. 1, pp. 1–7, 2024, doi: 10.1093/asjof/ojae099.
- [25] Nuryadi and D. P. A. Pratama, "Strategi pemberdayaan masyarakat melalui pemahaman tantangan dan peluang geolokal-geoekonomi," *SELAPARANG J. Pengabd. Masy. Berkemajuan*, vol. 9, no. 2, pp. 669–679, 2025, doi: <https://doi.org/10.31764/jpmb.v9i2.29623>.
- [26] A. Godlewska, A. Mazurek-Kusiak, and A. Soroka, "Push and pull factors influencing the choice of a health resort by Polish treatment-seekers," *BMC Public Health*, vol. 23, no. 1, pp. 1–12, 2023, doi: 10.1186/s12889-023-17086-5.
- [27] C. E. Hummel, H. J. Klein, P. Giovanoli, and N. Lindenblatt, "Complications arising from aesthetic surgery procedures in foreign countries and Switzerland," *Swiss Med. Wkly.*, vol. 153, no. 4, pp. 1–10, 2023, doi: 10.57187/smw.2023.40077.
- [28] M. A. Jaafar and A. M. M. Al-Daamy, "Impact of Strategic Audit on Enhancing the Efficiency of the Internal Control System: A Study of Industrial Companies in Iraq," *Tech. Soc. Sci. J.*, vol. 56, no. 4, pp. 1–13, 2024.