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Youth-Government Collaboration in Maritime Development: A Pathway to a Sustainable Jakarta

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Abstract

This study explores the critical role of young entrepreneurs in advancing Jakarta's sustainability objectives and bolstering the resilience of its maritime sector. As Jakarta transitions towards a more sustainable urban model, young entrepreneurs are pivotal in developing green technologies that reduce emissions, enhance operational efficiency, and promote eco-friendly practices, aligning closely with the city's sustainability goals. Their innovations directly address environmental challenges such as pollution and climate risks, fostering a green economy while strengthening the sector's capacity to withstand issues like sea-level rise and extreme weather impacts. By collaborating with government entities, these entrepreneurs amplify their influence, co-creating sustainable solutions that reinforce Jakarta's economic and environmental resilience. This research highlights the transformative potential of youth-driven entrepreneurship as an essential component in achieving a sustainable, resilient, and future-oriented Jakarta.

Keywords: Young Participations, Sustainable City, Blue Economy, ESG

Abstrak

Penelitian ini mengeksplorasi peran penting wirausahawan muda dalam mendukung tujuan keberlanjutan Jakarta dan memperkuat ketahanan sektor maritimnya. Seiring dengan transisi Jakarta menuju model kota berkelanjutan, wirausahawan muda berperan sentral dalam mengembangkan teknologi hijau yang mampu mengurangi emisi, meningkatkan efisiensi operasional, dan mempromosikan praktik ramah lingkungan yang selaras dengan tujuan keberlanjutan kota. Inovasi mereka secara langsung menghadapi tantangan lingkungan seperti polusi dan risiko iklim, mendorong ekonomi hijau sekaligus memperkuat kemampuan sektor maritim untuk menghadapi ancaman seperti kenaikan permukaan air laut dan cuaca ekstrem. Melalui kolaborasi dengan pemerintah, para wirausahawan ini memperluas dampak mereka dengan menciptakan solusi berkelanjutan yang memperkuat ketahanan ekonomi dan lingkungan Jakarta. Penelitian ini menyoroti potensi transformatif kewirausahaan yang digerakkan oleh generasi muda sebagai komponen penting dalam mencapai Jakarta yang berkelanjutan, tangguh, dan berorientasi masa depan.

Kata Kunci: *Partisipasi Pemuda, Kota Berkelanjutan, Blue Economy, ESG*

I. INTRODUCTION

Jakarta, as Indonesia's primary economic and business hub, plays a crucial role in enhancing the nation's global competitiveness. The city's infrastructure serves as a cornerstone for economic development and improving the quality of life for its citizens. Long-term infrastructure development, aimed at improving connectivity, boosting economic growth, creating jobs, and fostering consumption, is vital to achieving these goals (Suryadi, 2022). Infrastructure also enhances

production capacity, facilitates the flow of goods and services, and reduces logistical costs, all of which contribute to economic efficiency (Suryadi, 2022). Given Jakarta's symbolic importance, it stands as the city best positioned to compete on the global stage alongside other major cities.

However, realizing Jakarta's ambition to become a competitive global city requires substantial investment—far beyond what can be funded by local or national budgets alone. The constraints of public funding highlight the need for innovative financing solutions. Attracting both domestic and international investors is essential, supported by an investment-friendly climate and effective promotional strategies. Indonesia has taken steps to foster such an environment through policies like Presidential Decree No. 11/2021, which simplifies business regulations and promotes job creation (Andani, 2020). Further efforts to streamline investment procedures, such as addressing business barriers through the Investment Acceleration Task Force, are critical to sustaining growth (Andani, 2020).

Jakarta's sustainability and global competitiveness do not merely depend on the volume of investments but also on their quality and impact. In this context, the global trend toward Environmental, Social, and Governance (ESG) principles becomes highly relevant. Businesses and investors are increasingly integrating social responsibility, environmental sustainability, and good governance into their operations (Serafeim & Yoon, 2022). This shift reflects a growing recognition that long-term success is not only measured by financial profits but also by positive social and environmental contributions (Putra & Asfiah, 2024).

However, while ESG principles offer a comprehensive framework for sustainable development, their implementation must be contextualized to address Jakarta's unique economic and environmental challenges. Among these, the maritime economy stands out as a sector with immense potential yet remains underexplored. Despite Jakarta's strategic position as a coastal city, its blue economy has not reached its full potential due to a lack of innovation and modernization within the sector. High development costs, strict regulations, and limited collaboration among stakeholders have hindered progress (Doloreux & Malançon, 2008). Addressing these barriers requires innovative solutions that leverage Jakarta's maritime resources more effectively.

To unlock the potential of Jakarta's maritime economy, collaboration between the government and youth-led initiatives is essential. Youth are increasingly recognized as key drivers of innovation and change, offering creativity and dynamism to address complex challenges. By fostering partnerships between the government and youth entrepreneurs, Jakarta can develop cutting-edge solutions in ship design, energy efficiency, and environmental sustainability. This approach aligns with successful international cases, such as Copenhagen's focus on sustainable transport and New York's use of green bonds to finance infrastructure development (Puttkamer, 2023). Leveraging these global insights, Jakarta can create a framework that prioritizes innovation and sustainability in its maritime sector.

Entrepreneurship plays a critical role in transforming Jakarta's maritime economy. Young entrepreneurs, particularly those focusing on green or eco-friendly ventures, are well-positioned to drive both economic and environmental change. Green entrepreneurship—defined as businesses offering environmentally friendly products or services while balancing profit motives with ethical and social values—has the potential to reshape Jakarta's economic landscape (Jones, 2017). However, empirical studies highlight challenges in translating green

entrepreneurship ideals into practice, as success depends on entrepreneurial spirit, market characteristics, and product innovation (Hendarjanti, 2022). Overcoming these challenges requires targeted support from both the government and private investors, grounded in ESG principles, to foster a thriving ecosystem for green maritime enterprises.

Jakarta's government has already begun integrating ESG principles into public-private partnership projects, offering a solid foundation for incorporating youth contributions into sustainable development efforts (Haryani & Anjani, 2023). These partnerships can support youth-led technological innovations that enhance the efficiency, sustainability, and competitiveness of Jakarta's maritime industry. For instance, initiatives aimed at improving energy efficiency in shipping, adopting renewable energy sources, and reducing maritime pollution can position Jakarta as a leader in sustainable maritime development.

The maritime sector's transformation is also an opportunity for Jakarta to strengthen its role as a smart city. By investing in advanced technologies, such as artificial intelligence, blockchain, and IoT for maritime logistics and operations, Jakarta can modernize its maritime infrastructure and improve overall efficiency. Youth-led entrepreneurial ventures are particularly suited to develop and implement these technological solutions, as they bring fresh perspectives and innovative approaches to longstanding challenges. Collaboration between young innovators, government bodies, and private investors will be critical in ensuring these technologies are effectively integrated into the maritime sector.

This research emphasizes that the potential of Jakarta's maritime economy can be fully realized through active collaboration between youth and the government. The role of youth is central in driving innovation, while the government's support is crucial in providing the necessary regulatory frameworks, funding, and infrastructure. By focusing on this synergy, Jakarta can address its infrastructure funding gap, estimated at IDR 6.455 trillion (USD 419 billion) from 2020 to 2024 (Haryani & Anjani, 2023), through targeted green investments aligned with ESG principles.

In conclusion, the maritime economy represents a cornerstone of Jakarta's future economic development and global competitiveness. Despite its vast potential, the sector has been slow to innovate, limiting its contributions to the city's growth and sustainability. This underscores the urgent need for youth-driven innovation supported by government collaboration to overcome these challenges. By harnessing the creativity of its youth and fostering government collaboration, Jakarta can transform its maritime sector into a model of sustainability and innovation. This approach will not only strengthen Jakarta's economic resilience but also position the city as a global leader in sustainable maritime practices. The integration of ESG principles, youth-driven entrepreneurship, and government support forms a strategic pathway to achieving these goals, ensuring Jakarta's maritime economy contributes meaningfully to the city's vision of becoming a sustainable and competitive global smart city.

Literature Review

As Jakarta continues to expand rapidly, it faces complex challenges of urbanization, environmental degradation, and economic pressure. Addressing these issues through sustainable development initiatives, particularly in its maritime sector, is vital for the city's resilience and long-term viability. By exploring how cities worldwide have utilized smart city frameworks and ICT (Information and Communication

Technology) to achieve environmental and economic objectives, Jakarta can adopt similar approaches, especially in enhancing maritime systems. This literature review discusses the role of global smart city strategies and ICT integration, setting a foundation for understanding how youth-government collaborations could enhance Jakarta's maritime sustainability.

Global Smart City Initiatives and ICT in Urban Sustainability

The concept of a "smart city" resists a universal definition due to its multifaceted nature and the diversity of urban contexts and goals. As noted by Dameri and Cocchia (2013), the smart city concept evolved from the digital city model, sharing essential elements like a focus on citizens and community as central actors and the critical role of Information and Communication Technology (ICT) in enhancing urban life. These factors underscore the human-centered approach and technological backbone inherent in both concepts.

One challenge in defining a smart city is that smart city initiatives are often created in a decentralized, "bottom-up" manner (Dameri, 2017). The practical reality of smart cities is that they are not the result of a single blueprint; rather, they emerge from diverse projects, initiatives, and policies put forth by a range of public and private stakeholders, each responding to the specific needs and interests of their unique urban environment (Dameri, 2017). This variability makes it challenging to formulate a standard, universally applicable definition, as most definitions tend to reflect particular cities or case studies, not a generalized model.

Giffinger's model, for example, emphasizes six key components of smart cities: smart living, smart governance, smart economy, smart mobility, smart environment, and smart people (Dameri, 2017). While these themes encapsulate the broad aspirations of smart city initiatives, not all of them are present in every city, nor do they exhaustively cover the possibilities of smart development (Dameri, 2017). Further, there is often overlap among these categories, which can blur the definition and diminish its applicability across different contexts. Giffinger's definition—seeing a smart city as a collaborative platform of informed, independent citizens working with available resources to enhance urban quality—captures the ethos of smart cities but is less prescriptive when it comes to implementation or measurable outcomes (Dameri, 2017).

Other frameworks, such as those by Frost & Sullivan or Nam and Pardo, expand on Giffinger's model by adding dimensions like institutional support and human factors, underscoring the evolving nature of the concept (Dameri, 2017). Frost & Sullivan, for instance, identify eight crucial parameters, including smart building and infrastructure, which highlight the importance of sustainability and energy efficiency. Nam and Pardo's framework emphasizes the importance of integrating technology with governance and urban management, framing a smart city as a system of systems where ICT facilitates collaboration, resource optimization, and data-driven decision-making.

The discourse around smart cities also reflects varying priorities depending on geographic and socio-economic contexts. In developed countries, smart city initiatives often focus on leveraging advanced technologies to improve urban efficiency, mobility, and quality of life. In contrast, developing nations may prioritize using smart city concepts to address basic infrastructure deficits, enhance public service delivery, or promote social inclusion (Nam & Pardo, 2011). These differing priorities suggest that the smart city concept must remain adaptable and context-sensitive, rather than rigidly defined.

Additionally, the rapid advancement of technologies such as the Internet of Things (IoT), artificial intelligence (AI), and big data analytics has continuously reshaped the understanding and potential of smart cities. IoT enables real-time monitoring and management of urban systems, from traffic flows to energy consumption, while AI and big data analytics provide tools for predictive modeling and improved decision-making. These technological advancements reinforce the need for a dynamic and evolving conceptualization of smart cities that can keep pace with emerging innovations and societal needs.

The complex, evolving nature of smart city definitions highlights the adaptability of the concept, allowing cities to tailor smart initiatives to local contexts, which is particularly relevant to Jakarta. Given Jakarta's unique challenges—such as high population density, limited infrastructure, and vulnerability to environmental issues—a flexible approach to smart city development can be beneficial. By focusing on tailored applications of ICT in areas like transportation, waste management, and maritime logistics, Jakarta can use smart city principles to support both environmental and economic resilience. Initiatives to monitor resources in real-time, optimize water-based transportation, and enhance energy efficiency could directly contribute to sustainable urban management in Jakarta.

Thus, a universally rigid definition of a smart city may be less valuable than a flexible, adaptable framework that considers the unique characteristics of each urban environment. For Jakarta, the significance of adopting smart city principles lies in their potential to support sustainable development. By implementing adaptable and context-specific smart city projects, Jakarta can improve resource management, address pressing environmental challenges, and enhance urban quality of life, aligning with long-term sustainability goals and preparing the city for future growth.

Smart city initiatives worldwide have been instrumental in promoting urban resilience and sustainability, particularly through ICT integration, citizen engagement, and economic competitiveness (Hollands, 2008). Scholars argue that these cities enhance operational efficiency and support sustainable growth by harnessing big data, sensor networks, and other advanced digital tools. For example, Singapore and Seoul have pioneered smart city technologies that optimize public transport, waste management, and energy systems to tackle urban challenges and resource constraints (Yigitcanlar et al., 2019).

Jakarta, characterized by rapid urbanization and environmental pressures, could benefit significantly from adopting similar smart city models, particularly in its maritime sectors. Integrating smart port management systems and water-based transport networks could streamline logistics, mitigate congestion, and promote energy efficiency, aligning Jakarta with the standards of leading smart cities. Moreover, these initiatives are likely to attract foreign investment, providing Jakarta with the resilience needed to support sustainable economic growth (Grace et al., 2021).

Implementing maritime-focused smart city elements can leverage Jakarta's geographic position in the Indo-Pacific. Real-time port monitoring, predictive analytics in maritime logistics, and efficient waterway transportation systems offer substantial opportunities for Jakarta to enhance its role as a global maritime hub. These advancements address Jakarta's congestion challenges, increase efficiency, and reduce environmental impact, promoting sustainable economic development. Collaboration between youth and government can drive maritime innovation and enhance the effectiveness of smart city initiatives. Young

professionals bring valuable digital skills, fresh perspectives, and entrepreneurial spirit, all critical to advancing smart city goals. Partnering with government entities allows these youth groups to contribute actively to policy-making and innovation in maritime sectors. Their engagement in shaping sustainable maritime policies represents a pathway for Jakarta to emerge as a resilient, sustainable maritime city in the global arena.

Maritime Development in Urban Coastal Cities

The concept of maritime development in urban coastal cities addresses the pressing Environmental and economic challenges these regions face. Coastal cities, due to their proximity to ocean resources and vulnerability to environmental degradation, must adopt sustainable practices to balance economic growth with ecological preservation. Coastal urbanization has historically led to negative environmental impacts, including the loss of biodiversity, compromised water quality, and increased vulnerability to climate change (Hahs & Evans, 2015). Scholars like Nicholls et al. (2008) and Barbier (2011) emphasize that strategic, sustainable development in coastal cities can support economic growth while protecting valuable ecosystems.

A promising approach to this is the adoption of "blue economy" principles. The blue economy promotes sustainable use of ocean resources, with a focus on balancing economic benefits with environmental stewardship. The concept, as explored by Silver et al. (2015), encompasses a variety of maritime activities such as eco-friendly ports, sustainable fisheries, marine conservation, and coastal tourism. The blue economy approach has been shown to foster job creation and economic resilience while minimizing environmental damage, making it particularly suitable for cities that rely on coastal resources for their economic livelihoods.

The concept of the blue economy is rooted in the recognition of oceans as drivers of economic growth and environmental sustainability. As noted by Pauli (2010), the blue economy seeks to transform maritime industries through innovations that create economic value while ensuring the preservation of marine ecosystems. It encompasses diverse sectors, including renewable ocean energy, sustainable aquaculture, and marine biotechnology. These sectors aim to optimize resource use efficiency, reduce environmental degradation, and contribute to global efforts to combat climate change. Moreover, the blue economy is not solely an economic paradigm; it also incorporates social dimensions by emphasizing the equitable distribution of benefits and inclusive participation of local communities in decision-making processes (World Bank, 2017).

Jakarta, as a major urban coastal city, stands to gain significantly from blue economy investments. Specific maritime development strategies for Jakarta could include eco-friendly port management, designed to reduce pollution and optimize energy use, as well as sustainable fisheries that align with environmental regulations to prevent overfishing. Additionally, the promotion of coastal tourism that emphasizes ecological preservation can stimulate the local economy while protecting sensitive marine habitats. For example, enhancing tourism infrastructure with eco-friendly practices, such as waste reduction and energy-efficient designs, could attract both domestic and international visitors, contributing to economic growth without compromising environmental health.

Implementing these blue economy strategies requires collaboration among public agencies, private companies, and local

communities, who must work together to ensure that maritime resources are managed sustainably. In cities like Jakarta, this collaboration could involve regulatory support for environmentally friendly business practices, financial incentives for sustainable infrastructure, and community education programs that promote marine conservation. Such integrated efforts not only enhance economic resilience but also contribute to long-term environmental stability, which is essential for the health and prosperity of coastal cities.

Sustainable maritime development in urban coastal cities is not only possible but essential. By applying blue economy principles, cities like Jakarta can address the complex interplay between economic needs and environmental preservation. Investments in eco-friendly ports, sustainable fisheries, and conservation-oriented tourism can drive economic growth while safeguarding marine ecosystems. Through such initiatives, Jakarta can become a model for how urban coastal cities can achieve sustainability by leveraging their unique geographical and economic assets.

ESG (Environmental, Social, and Governance) and Its Impact on City Development

Environmental, Social, and Governance (ESG) principles play an increasingly pivotal role in promoting sustainable urban development, particularly by providing a structured framework for addressing sustainability goals while ensuring transparency and accountability to both residents and investors (Hill, 2020). ESG's environmental component encourages policies that reduce emissions, enhance air quality, promote renewable energy, and conserve natural resources (Hill, 2020). The social aspect emphasizes equity, community well-being, and improved public health, while governance focuses on ethical practices, transparency, and inclusive decision-making processes (Hill, 2020). Together, these principles offer a comprehensive approach for cities seeking sustainable development and resilience.

Scholars have highlighted that adherence to ESG principles positively influences investment decisions, as investors are increasingly drawn to cities and projects that demonstrate strong ESG commitments (Eccles et al., 2014). By aligning with ESG standards, urban development projects are not only more likely to attract green investments but also yield lasting benefits such as improved urban livability, greater resilience to climate change, and healthier communities (Sassen, 2018). Integrating ESG principles into urban planning also facilitates adaptive infrastructure that can respond to environmental risks and social needs, reducing vulnerabilities and enhancing the quality of life for urban residents (Buchholtz & Carroll, 2012).

In Jakarta, where rapid urbanization has placed considerable pressure on infrastructure and the environment, ESG-aligned investments offer a pathway for sustainable growth. Projects focusing on clean energy, green infrastructure, and waste reduction could attract foreign direct investment while meeting both the environmental and social objectives critical for long-term sustainability. For instance, by prioritizing clean energy and waste management systems, Jakarta can improve air quality and reduce environmental degradation, benefiting both residents and the natural ecosystem. Public health initiatives and infrastructure improvements, such as those in clean water access and waste management, align well with the “social” and “environmental” pillars of ESG, which ultimately serve to increase the city’s resilience to health risks and improve livability.

The Indonesian government has committed to improving environmental standards, and aligning urban projects with ESG principles reinforces these national priorities. Coastal protection projects, clean energy initiatives, and sustainable public transportation can support the government's climate goals while attracting the growing pool of impact investors focused on ESG criteria. This alignment not only positions Jakarta as an attractive destination for investment but also strengthens its economic and environmental resilience, making the city better equipped to manage future challenges.

Integrating ESG principles into urban development offers cities like Jakarta an effective pathway to achieving sustainable growth while meeting the expectations of investors and residents alike. By embedding ESG into projects related to clean energy, waste reduction, and public health, Jakarta can work toward a future that prioritizes environmental protection, social equity, and good governance. As ESG principles continue to guide global investment, Jakarta's commitment to these values will be essential to fostering a resilient, inclusive, and sustainable urban environment.

Youth Participation in Urban and Maritime Development

As an essential component of modern economic development, the role of youth in entrepreneurship is gaining increasing attention, particularly within the framework of a knowledge-based and flexible economy. In response to the growing complexity of urban and environmental challenges, it is crucial to recognize the potential of younger generations to create innovative and sustainable solutions. Research indicates that young people possess a high capacity to adapt to market shifts and have a tendency to introduce fresh ideas, both of which are critical for economic resilience in the face of evolving challenges.

In this context, Olatunji Fadeyi (2015) underscores the vital role of youth-driven entrepreneurial firms in fostering a modern, adaptable, and knowledge-based economy. His study emphasizes that these firms are not only instrumental in developing the entrepreneurial skills of young people but are also highly responsive to market dynamics, thereby contributing significantly to job creation and economic growth (Fadeyi et al., 2015). This adaptability is essential for sustainable urban and economic development, as young entrepreneurs bring new perspectives and an eagerness to innovate, which are key for achieving economic stability and resilience.

The study highlights the critical role of youth-driven, entrepreneurial firms in fostering a modern, adaptable, and knowledge-based economy (Fadeyi et al., 2015). Such firms play a pivotal role not only in developing the entrepreneurial skills of young individuals but also in responding dynamically to market changes, which contributes to job creation and economic growth (Fadeyi et al., 2015). This flexibility is essential for sustainable urban and economic development, as young entrepreneurs bring fresh ideas and a readiness to innovate, both of which are crucial for economic resilience in the face of evolving challenges.

A significant part of the study examined the relationship between young entrepreneurs and entrepreneurial skills, seeking to establish whether these skills contribute substantially to economic development. Data analysis revealed that most respondents perceived youth entrepreneurs as equipped with the relevant skills to drive national progress through entrepreneurship (Fadeyi et al., 2015). This finding emphasizes that young entrepreneurs, with their specialized knowledge and adaptability, are well-positioned to address current economic demands and leverage

emerging opportunities (Fadeyi et al., 2015). By fostering entrepreneurship among youth, cities and nations can stimulate sustainable development, support knowledge transfer, and prepare for future economic shifts.

In the context of urban and maritime development, as seen in Jakarta's case, encouraging youth-led entrepreneurship can amplify efforts toward economic diversification and resilience. Youth-driven businesses, particularly those focused on sustainable practices and technological innovations, offer solutions that align with Jakarta's sustainability objectives, such as eco-friendly maritime operations, green logistics, and digital infrastructure. By supporting youth entrepreneurship, Jakarta can cultivate a new generation of skilled, adaptable individuals capable of driving sustainable growth and addressing local and global challenges.

Youth participation is an increasingly valued element in urban and maritime development, providing essential innovation, energy, and fresh perspectives. Young people, especially in developing economies, play a transformative role in addressing the social, economic, and environmental challenges that modern cities face. Their involvement in technology-driven industries and initiatives related to sustainable development can drive progress in unique ways, as youth are often early adopters of digital solutions and are particularly attuned to issues of sustainability. The International Labour Organization (2012) emphasizes that youth, especially young entrepreneurs, are key drivers of change in many sectors, including technology and maritime industries, which can profoundly impact urban development.

Youth engagement in these fields can bring substantial economic and social benefits. Bessant et al. (2017) argue that involving youth in urban planning and governance strengthens democratic processes and enhances community resilience, especially in urban centers grappling with complex socio-economic dynamics. Their participation fosters a sense of ownership and civic responsibility, which are crucial for long-term, sustainable urban growth (Bessant et al., 2017). In maritime development, young innovators bring new technological solutions, such as digital logistics, eco-friendly aquaculture, and coastal monitoring systems, which are particularly relevant for coastal cities. These tools can revolutionize traditional maritime practices by enhancing efficiency, reducing environmental impact, and optimizing resource management.

In Jakarta, the role of youth in urban and maritime development is especially promising. The city's young population, with its proficiency in digital technologies and commitment to environmental sustainability, holds significant potential to modernize Jakarta's maritime sector. Through initiatives such as digital logistics platforms, which improve supply chain transparency, eco-friendly aquaculture methods, which reduce ecological impact, and coastal monitoring systems, which help mitigate risks associated with climate change, Jakarta's youth can lead advancements that make the city more resilient and economically competitive. Honkatukia & Rättilä (2023) highlights that youth-driven innovations in sustainability are crucial for cities seeking to meet their environmental goals, making young people valuable allies in efforts to implement green initiatives.

To harness the potential of youth, cities like Jakarta can provide incentives, support, and opportunities for young entrepreneurs and professionals to participate in sustainable development projects. Policymakers can also engage youth through educational programs, internships, and initiatives that promote sustainable urban and maritime practices (Honkatukia & Rättilä, 2023). Encouraging young people to take part

in the decision-making processes not only builds their leadership skills but also ensures that future policies and practices align with the environmental and social priorities of the coming generation (Honkatukia & Rättilä, 2023).

Youth participation is essential to sustainable urban and maritime development. By bringing innovative ideas, technological proficiency, and a commitment to sustainability, young people can significantly contribute to urban resilience and growth. Fostering youth entrepreneurship is integral to building a resilient, knowledge-driven economy that can adapt to changing market conditions. This aligns well with Jakarta's sustainable development goals, particularly in its maritime and urban sectors, where youth-led innovations in green practices and digital solutions can have significant impact. Supporting young entrepreneurs thus not only advances economic goals but also contributes to creating a more adaptable, future-ready urban landscape. Jakarta stands to benefit greatly from empowering its youth to take an active role in development, especially as the city faces rapid urbanization and environmental challenges. Supporting youth-led initiatives in technology and sustainable practices will not only advance Jakarta's maritime industry but also help achieve its broader sustainability goals.

II. METHOD

This study employs a qualitative approach using a literature review to explore the role of youth-driven entrepreneurship in fostering sustainable urban and maritime development in Jakarta. The methodology synthesizes existing research, reports, and theoretical frameworks to provide a comprehensive understanding of how youth entrepreneurship contributes to Jakarta's economic resilience and environmental sustainability goals. The data collection process involved a systematic review of academic literature, policy documents, and case studies relevant to youth participation, entrepreneurship, and sustainable development in urban coastal settings. To ensure the reliability and relevance of the findings, specific selection criteria were applied. Sources were included based on their relevance to youth entrepreneurship, sustainable urban development, or maritime economic strategies in coastal cities. Priority was given to peer-reviewed journal articles, government reports, and publications from reputable international organizations to ensure credibility. Additionally, most sources were published within the last 10 years, with exceptions made for foundational theories or landmark studies.

The selected literature was grouped into three thematic categories: youth entrepreneurship and economic resilience, sustainable development in urban coastal settings, and maritime sector innovation. This grouping allowed for a focused analysis of how youth-led initiatives contribute to economic development, innovation, and sustainability in Jakarta's context. The data analysis employed thematic coding to identify recurring patterns and insights related to the research questions: How does youth entrepreneurship support Jakarta's sustainability objectives? In what ways can young entrepreneurs enhance resilience in the maritime sector? By identifying and synthesizing these themes, the analysis uncovered interconnections between youth-driven initiatives and Jakarta's urban and maritime development. This structured approach ensures methodological transparency and provides a clear understanding of how the selected literature informs the study's objectives, laying a strong foundation for actionable strategies to foster sustainable growth in Jakarta's maritime economy.

III. DISCUSSION & FINDINGS

3.1 Jakarta's Economic Maritime Sector Potential

Jakarta's unique positioning as a significant port city with access to vast natural resources underscores its economic potential in the maritime sector. Acting as a gateway for domestic and international trade, Jakarta's geographical advantage positions it as a critical node in Indonesia's maritime trade network. However, the city faces substantial challenges in harnessing this potential. Current infrastructure, including ports and transport facilities, often suffers from congestion and inefficiency due to limited facilities and outdated technology (Labolo & Toana, 2023). These limitations highlight the need for strategic investment in infrastructure improvement and modernization. By fostering youth-driven enterprises, Jakarta can integrate technological and digital advancements into maritime logistics, transport, and resource management, providing a sustainable solution to these gaps. Young entrepreneurs have the potential to enhance resilience within the maritime sector by innovating in areas such as renewable energy-powered transport and optimizing port management through digital platforms that streamline operations and reduce emissions.

Jakarta, as Indonesia's capital and a coastal city, holds significant maritime potential that can substantially contribute to its local economy. The fisheries sector, particularly in North Jakarta, plays a vital role in providing food security and employment opportunities. For example, recent data from the Ministry of Marine Affairs and Fisheries indicates that Jakarta produces around 89 tons of skipjack tuna annually, making it a key contributor to the city's seafood supply chain (Kementerian Kelautan & Perikanan, 2024). This sector also supports numerous fish processing industries, including frozen fish and dried fish production, which not only add value to raw fish products but also contribute to Indonesia's fishery exports.

The city's marine tourism sector also offers promising opportunities. The Thousand Islands (Kepulauan Seribu) are a prime example of Jakarta's marine tourism potential, attracting thousands of domestic and international tourists annually. According to the Jakarta Tourism and Culture Office, the Thousand Islands welcomed over 900,000 visitors in 2023 , contributing significantly to local revenue (Kementerian Kelautan & Perikanan, 2024). Efforts to develop eco-friendly tourism infrastructure in this region could further enhance its appeal while protecting its sensitive marine ecosystems.

Jakarta's strategic position as a hub for maritime trade is underscored by the presence of several major ports, including Tanjung Priok Port, which handles over 7 million TEUs (Twenty-foot Equivalent Units) annually. This port plays a critical role in supporting Indonesia's logistics and international trade, linking Jakarta to global markets (Kementerian Kelautan & Perikanan, 2024). Additionally, investments in maritime infrastructure, such as the Jakarta Bay Rehabilitation Project and the expansion of port facilities, aim to boost efficiency and sustainability, ensuring that the sector remains competitive.

Finally, Jakarta's efforts in sustainable maritime development align with the principles of the blue economy. Initiatives such as eco-friendly port management and sustainable fisheries have started to take shape, aiming to reduce overfishing and pollution. For instance, the government's program to rehabilitate coastal mangroves has restored approximately 300 hectares of mangrove forests in North Jakarta, enhancing biodiversity while protecting against coastal erosion and flooding.

Jakarta's maritime economic potential stands as a central pillar in the city's aspirations for sustainable development. Acknowledging the city's maritime heritage, recent initiatives, such as the Jakarta Maritime Festival, showcase the Jakarta Provincial Government's commitment to integrating environmental conservation with economic growth (Berita Jakarta, 2019). Held from September 21-22 on Tidung Island, Pramuka Island, and Pari Island, the festival emphasizes marine tourism's role in promoting education and conservation while expanding awareness around the importance of sustainable resource management and ecosystem rehabilitation in Jakarta's waters (Berita Jakarta, 2019). Governor Anies Baswedan stressed the necessity of advancing Jakarta's maritime economy through public engagement, environmental stewardship, and local cultural enrichment, with an overarching vision of rejuvenating coastal regions as community-centered, economically vibrant areas (Berita Jakarta, 2019).

The festival's conservation goals highlight Jakarta's dedication to safeguarding its marine resources, with efforts to plant 1,000,000 mangroves, 1,500,000 coral reefs, and release 2,400,000 fish as part of an extensive ecosystem restoration project. These conservation activities, alongside competitions and cultural events, underscore a model where maritime economic growth aligns with ecological balance (Kementerian Kelautan & Perikanan, 2024). This initiative is a testament to the importance of fostering community awareness and participation in sustainable practices, evidenced through the "Love Our Ocean" campaign. This campaign promotes the ASIK (Anti-Trash Plastic) movement, which encourages responsible tourism and community commitment to reducing plastic waste in marine environments (Kementerian Kelautan & Perikanan, 2024).

Jakarta's strategic location as a port city offers extensive opportunities across various sub-sectors of the maritime economy, including fisheries, energy, marine tourism, shipbuilding, and port services. According to recent studies, these opportunities can be broadly divided into five main areas of economic development, first the Development of Non-fish Marine Wealth and Marine Energy where Jakarta's coastal resources encompass abundant marine energy potential, such as tidal and wave power, which could significantly reduce the city's reliance on traditional energy sources. Investment in marine energy technologies, particularly renewable energy installations, could foster sustainability while tapping into alternative revenue streams (Labolo & Toana, 2023). Second, Expansion of Fisheries and Shipbuilding Industries With fishing being a traditional livelihood in Jakarta's coastal communities, there is immense potential to scale up these industries sustainably. Developing shipbuilding facilities to support both commercial and fishing fleets, coupled with investments in sustainable aquaculture and fishing practices, would further strengthen the local economy and create new job opportunities (Michel-Guillou & Moser, 2006). Moreover, Marine Services Industry and Port Development as a hub of maritime trade gives Jakarta more opportunity. Jakarta's port infrastructure plays a critical role in the regional economy. However, modernization efforts are required to alleviate congestion and optimize logistics. Upgrading port facilities, especially within fishing harbors, will enhance export capabilities, reduce shipping delays, and attract foreign investment. Another aspect of Marine Tourism Expansion with the potential of the Thousand Islands offers significant untapped potential for marine tourism, which could generate substantial income and job

opportunities for local communities. Developing environmentally friendly tourism infrastructure, such as eco-resorts, diving sites, and sustainable transport between islands, will attract domestic and international tourists while preserving the natural beauty of Jakarta's coastal ecosystems (ILO, 2012). Last, Marine-based Business Growth, Including Capture Fisheries and Aquaculture can improve Jakarta's fishing industry, including both capture fisheries and aquaculture, to become a critical economic driver. Promoting sustainable practices in these areas could ensure a stable income source for Jakarta's coastal communities while preserving fish stocks and biodiversity. The promotion of capture fisheries alongside aquaculture expansion could also contribute to food security in the region.

Youth-driven entrepreneurship can catalyze Jakarta's maritime economic transformation by introducing innovative solutions that enhance operational efficiency, reduce environmental impact, and generate new market opportunities. For instance, young entrepreneurs can advance the use of digital technologies in port management, logistics optimization, and resource monitoring, which will address Jakarta's current port congestion and improve the competitive edge of its maritime services. Additionally, eco-tourism ventures initiated by young entrepreneurs could serve as models for sustainable development, blending business with environmental advocacy.

Youth involvement in the sector aligns with the city's sustainability objectives by focusing on renewable energy, waste reduction, and conservation. Such initiatives are crucial for establishing Jakarta as a city that not only preserves but enhances its natural assets. Collaboration models that connect government entities with young entrepreneurs, providing financial and technical support, would reinforce these efforts and help establish a resilient maritime economy.

The urgency to maximize Jakarta's maritime potential is heightened by the impending move of Indonesia's capital to East Kalimantan. This shift could potentially redistribute economic activities, posing a risk to Jakarta's current position as Indonesia's economic center. As reported by the Jakarta Statistics Office (BPS), the city's economic growth slowed in 2023, with the Gross Regional Domestic Product (GRDP) reaching Rp 3.442,87 trillion, representing a growth rate of 4.96%, lower than the previous year's 5.25% (Bps.go.id, 2023). The move of the capital raises concerns about Jakarta's long-term economic relevance, given that central governmental functions, historically a significant contributor to Jakarta's economy, will be relocated. This challenge necessitates a shift in focus towards diversifying Jakarta's economy through investments in sustainable, green growth sectors.

To address both infrastructure and economic resilience issues, green investment aligned with Environmental, Social, and Governance (ESG) principles can play a catalytic role in Jakarta's economic landscape. Green investment, driven by environmentally and socially conscious policies, can support the creation of a sustainable blue economy within Jakarta's maritime sector. By promoting policies that encourage such investments, including tax incentives and proactive regulations, Jakarta can attract both domestic and foreign investment to upgrade its maritime infrastructure sustainably (Michel-Guillou & Moser, 2006). Investing in ESG-oriented projects within the maritime sector, such as renewable energy infrastructure for coastal management and water quality monitoring technologies, would allow Jakarta to meet both economic and environmental sustainability goals.

Youth entrepreneurship is particularly significant for addressing Jakarta's current and future economic challenges. Young innovators in Jakarta bring technological expertise and fresh perspectives that are crucial for developing new maritime solutions. For instance, youth-led businesses could introduce automation and AI-driven analytics to optimize port management or create eco-friendly shipping solutions that lower operational costs and reduce the carbon footprint (Wang, Zhang, & Teng, 2022). Such innovations would not only improve efficiency but also contribute to Jakarta's sustainability objectives by decreasing pollution and resource consumption.

Collaborations between the government and youth entrepreneurs could amplify these efforts, as these partnerships could facilitate access to financial resources, mentorship, and technical support for young entrepreneurs entering the maritime sector. Government support could be instrumental in scaling innovations that address Jakarta's infrastructure gaps while promoting sustainability and resilience within the maritime economy.

Jakarta's archipelagic landscape, particularly in the Thousand Islands (Kepulauan Seribu), presents a largely untapped opportunity for economic development through maritime tourism. While tourism contributes significantly to the local economy, this sector has yet to realize its full potential due to connectivity and infrastructure limitations (Labolo & Toana, 2023). Developing a cohesive infrastructure network across the islands, with a focus on sustainable tourism and green facilities, could boost the maritime economy while fostering a resilient and inclusive growth model. By developing eco-friendly tourist facilities and enhancing inter-island connectivity, Jakarta can attract both domestic and international visitors, which would contribute to local job creation and community development.

Furthermore, by optimizing Jakarta's maritime zones, such as creating sustainable maritime parks or eco-tourism hubs, the city can build a diversified economy that supports local livelihoods and promotes environmental stewardship. Investment in eco-tourism infrastructure, including renewable energy resources and sustainable waste management systems, would align with Jakarta's ESG goals and enhance the attractiveness of these destinations.

In summary, Jakarta's economic potential within the maritime sector is vast but remains underutilized due to infrastructural inefficiencies, a reliance on outdated technologies, and the looming economic impact of the capital relocation. Fostering youth entrepreneurship within the maritime sector could address these issues by introducing innovative solutions to improve logistics, reduce emissions, and bolster the resilience of maritime infrastructure. Green investment and ESG principles will be pivotal in this transformation, providing the capital and governance framework to ensure sustainable growth. Jakarta's maritime economy holds untapped potential that could transform the city into a sustainable, globally competitive hub. With strategic investments in green energy, infrastructure modernization, and marine conservation, Jakarta can capitalize on its natural resources and maritime location to foster a resilient economy. Youth entrepreneurship and public-private partnerships will be vital in realizing this vision, as these avenues allow for the infusion of fresh ideas and capital. Thus, by prioritizing ESG-driven investments and fostering innovation, Jakarta can ensure the long-term sustainability of its maritime economy while addressing the city's broader economic and environmental goals. Additionally, a strategic focus on maritime tourism and island development

could unlock substantial economic value while contributing to environmental and social goals. Through these combined efforts, Jakarta can secure its relevance as Indonesia's economic center and emerge as a model for sustainable urban coastal development.

Jakarta's maritime sector presents vast economic opportunities, from fisheries and marine tourism to trade and sustainable development. By leveraging its geographic and economic assets, coupled with strategic investments and environmental stewardship, Jakarta can become a model for sustainable urban coastal development. These statistics and initiatives underscore the city's potential to balance economic growth with ecological preservation.

3.2 Smart City Development in Jakarta

As Jakarta aims to position itself as a smart city, the role of digital infrastructure becomes vital. Lessons from global cities such as Singapore, Barcelona, and Amsterdam reveal the importance of integrating digital tools in urban planning, transportation, and resource management. Digitalization in Jakarta's maritime sector—such as through real-time tracking systems, automated logistics, and efficient waste management technologies—could reduce operational costs and environmental impact. Young entrepreneurs, often technologically adept and agile, can drive these innovations and bring fresh ideas that bridge existing infrastructure gaps. Their role in this transformation is crucial, as they can provide scalable tech solutions that align with the city's vision of a sustainable, smart future.

To position Jakarta as a globally competitive smart city, implementing Environmental, Social, and Governance (ESG) principles in infrastructure investment is essential. ESG, a framework for assessing business or project sustainability, emphasizes environmental practices, social impact, and governance structure (Eccles et al., 2014). Jakarta, given its ambitions, can benefit from this by attracting sustainable investment and advancing its green growth, particularly in maritime potential. As global investors increasingly value environmental sustainability—through actions like energy efficiency and waste management (Friede et al., 2015)—Jakarta has the chance to become a model in sustainable maritime development. This focus on sustainability aligns with the city's plans for responsible infrastructure development, especially in critical areas like transport and renewable energy.

Jakarta's smart city development can also benefit significantly from integrating the Environmental, Social, and Governance (ESG) framework into its policies and initiatives. The ESG framework emphasizes sustainable and ethical practices, ensuring that economic growth aligns with environmental preservation, social equity, and transparent governance. For instance, policies promoting smart mobility and eco-friendly waste management not only improve urban efficiency but also contribute to Jakarta's environmental goals under the ESG framework. Encouraging the use of electric vehicles and implementing IoT-based waste systems directly address environmental sustainability while reducing the city's carbon footprint.

In the blue economy sector, incorporating ESG principles can ensure that maritime development prioritizes sustainability and community well-being. Policies supporting sustainable fisheries, eco-friendly port operations, and marine conservation align with the environmental and social pillars of ESG. These initiatives can also create opportunities for youth entrepreneurs to develop solutions that promote sustainable practices, such as tracking systems for responsible fishing or community-based eco-tourism projects.

The governance aspect of ESG can be strengthened through digital governance platforms that enhance transparency and accountability in city management. Initiatives like a Jakarta Smart Citizen Platform, where residents can report urban issues and track government actions, exemplify the integration of governance best practices into smart city development. These platforms also create opportunities for youth to innovate in civic tech, ensuring governance remains participatory and inclusive.

Integrating ESG principles into Jakarta's smart city policies not only strengthens the city's commitment to sustainability but also attracts investors who prioritize ESG-compliant projects. This approach ensures that Jakarta's development is future-proof, balancing economic growth with environmental and social responsibilities while fostering innovation and youth participation.

From a social perspective, emphasizing employee welfare, diversity, and corporate social responsibility (CSR) is an integral part of the ESG framework and is increasingly valued by investors (Kadyrzhanova, 2010). Jakarta could leverage its maritime economy by ensuring that industry players prioritize social and environmental contributions, building a more inclusive and sustainable maritime economy. Implementing robust governance practices, such as enhanced transparency and accountability (Flammer, 2012), will also reduce investment risks, making Jakarta an attractive option for long-term ESG-focused investments.

Several global cities offer valuable insights for Jakarta. London, with its Green Finance Initiative launched in 2016, stands as a leader in public-private partnerships for sustainable finance (Flammer, 2012). This initiative has successfully funded renewable energy, green transportation, and waste management projects, underlining how innovative finance solutions—like green bonds—can provide necessary capital for green infrastructure. Jakarta could consider a similar structure to attract investors focused on sustainable infrastructure and technological advancement, particularly in renewable energy and maritime efficiency.

Copenhagen's success as a green-smart city is another example for Jakarta. As a city striving for carbon neutrality by 2025, Copenhagen combines high-tech infrastructure with citizen engagement and a strong green economy. Its Nordhavn district, with a smart, integrated energy system, exemplifies how modern, sustainable urban planning can be achieved through public-private partnerships and policy support (Puttkamer, 2023). For Jakarta, emulating Copenhagen's public engagement in sustainable projects could yield similar success, fostering a collaborative ecosystem that encourages green and technological innovations.

Jakarta's transformation into a smart city can be achieved through the implementation of targeted policies that address urban challenges while fostering youth involvement in innovation. One critical area is the development of smart mobility systems to combat Jakarta's notorious traffic congestion. Policies such as a unified e-ticketing system integrating TransJakarta, MRT, LRT, and commuter trains with real-time transit apps can enhance transportation efficiency. Youth can play a key role here by developing innovative mobility applications or algorithms to optimize route planning and reduce waiting times. Collaborations with startups and tech-savvy individuals can inject fresh ideas into this initiative.

In the area of flood management, Jakarta can adopt IoT-based monitoring systems to predict and mitigate flooding. A Smart Flood Control System that uses sensors to track water levels and provides

real-time alerts is essential. Youth, particularly those in engineering and tech fields, can contribute by designing affordable sensor systems or developing predictive models using AI and big data. Hackathons and innovation challenges focused on urban resilience could encourage young talent to find creative solutions for Jakarta's flooding issues.

Waste management is another pressing concern where smart city principles can be applied. Implementing smart bins equipped with sensors to monitor waste levels and launching digital waste exchange platforms can revolutionize waste management in Jakarta. Youth entrepreneurs can be engaged to design these platforms, create awareness campaigns, or even develop sustainable products from recycled materials. Such initiatives can also foster a culture of environmental responsibility among Jakarta's younger generation.

By integrating these policies with programs that actively engage youth, Jakarta can leverage the innovative potential of its younger population while addressing urban challenges. This collaborative approach ensures that smart city development is not only inclusive but also sustainable and forward-looking.

3.3 Jakarta's Blue Economy Potential: Aligning Green Investments with Sustainable Maritime Development

Jakarta, as Indonesia's capital and economic epicenter, is at a pivotal point in expanding its financial strategies to drive sustainable development beyond its limited Regional Budget (APBD). The sheer scale of Jakarta's infrastructural needs requires substantial external funding sources, prompting the necessity for diversified investment streams, particularly in the green economy. By leveraging Environmental, Social, and Governance (ESG)-based investment, the city can unlock vast potential within its blue economy—spanning its maritime and coastal resources. According to Lindungi Hutan (2024), green bonds, financial instruments specifically allocated for environmentally beneficial projects, offer a high degree of transparency and accountability, making them attractive to ESG-focused investors. Observing the success of green bonds in cities like London, which have funded renewable energy and sustainable transportation, Jakarta stands to benefit immensely from adopting a similar model tailored to its maritime sector (Widge, 2021). Notably, Jakarta's transformation into a sustainable maritime hub aligns with Indonesia's Nationally Determined Contributions (NDC) targets, which advocate a 29% reduction in greenhouse gas emissions by 2030 (Aassouli & Shah, 2022).

To effectively harness green investments in Jakarta's maritime sector, the city must undergo a digital transformation toward a smart city model, allowing for comprehensive and integrated management of resources and infrastructure. A smart city framework would streamline regulatory processes, data analysis, and service integration—key factors in ensuring the efficiency and transparency essential to attract both foreign and domestic green investments. Implementing sustainable infrastructure projects within a smart city model, such as eco-friendly port facilities, renewable energy at coastal installations, and pollution-reducing technologies, will further Jakarta's capacity for sustainable economic growth (Ulumidin et al., 2019). This digital approach is particularly critical for Jakarta's blue economy, where efficient maritime operations are directly linked to sustainability outcomes and can position the city competitively on the global stage.

Public-Private Partnerships (PPP) represent a promising avenue to facilitate green investment in Jakarta's blue economy. Copenhagen's successful application of PPPs

in developing a sustainable public transportation system demonstrates the potential for collaborative investment strategies to drive sustainable urban projects (Ulumidin et al., 2019). For Jakarta, a PPP framework that incentivizes green investments in maritime transport and infrastructure, such as eco-friendly shipping methods and waste-reduction systems, could provide the dual benefits of minimizing financial burdens on the public sector while advancing essential infrastructure. This approach not only fosters innovative solutions from private partners but also creates pathways for young, sustainability-minded entrepreneurs to participate in the maritime sector's growth through startups that integrate ESG principles and innovative green technologies.

Green bonds have proven to be valuable financial tools for cities worldwide in funding sustainable projects, and Jakarta could utilize them to support blue economy initiatives such as energy-efficient fishing fleets, sustainable aquaculture, and coastal biodiversity conservation. Adopting international standards like the Green Bond Principles (GBP) from the International Capital Market Association (ICMA) will enhance investor confidence and establish robust regulatory frameworks (At-Tibasiy et al., 2019). Additionally, tax incentives for green bond investors and government-backed guarantees can further encourage investment, helping Jakarta attract environmentally conscious investors committed to ESG values. With these strategies in place, green bonds could fund vital infrastructure and conservation projects, aligning Jakarta's growth with global sustainability standards and reinforcing its image as a forward-looking city.

Finally, the success of Jakarta's green investment strategies hinges on government support through pro-ESG policies, tax incentives for businesses that adopt sustainable practices, and subsidies for green projects. By fostering collaboration with private sector stakeholders, the government can ensure the longevity of green projects and integrate them into Jakarta's broader urban development plan. Promoting green investments through educational programs, workshops, and media outreach will further strengthen public and private commitment to sustainable development, ensuring that Jakarta's blue economy initiatives receive the social and financial support necessary for long-term success (Widge, 2021).

Jakarta's post-capital relocation strategy must focus on maximizing economic potential through diversified investment and consumption growth, supporting its status as a national and regional economic powerhouse. Following Labolo & Toana (2023), the removal of Jakarta's administrative responsibilities presents an unprecedented opportunity to recast it as a business, financial, and industrial hub. This reconfiguration can strategically position Jakarta as a center for green innovation and sustainable infrastructure development, with an emphasis on transforming the Thousand Islands into a world-class maritime tourism destination, akin to Jeju Island in South Korea. Developing transport connections between the Thousand Islands and North Jakarta, possibly through a suspension bridge or underwater rail network, would solidify Jakarta's standing in the maritime economy.

To facilitate these green infrastructure developments, innovative financial mechanisms such as Green Bonds and Public-Private Partnerships (PPP) are critical. Green Bonds attract environmentally conscious investors and provide a pathway for funding low-carbon projects, while PPPs integrate the private sector's expertise, potentially reducing government fiscal burden and increasing project efficiency (Labolo & Toana, 2023). An additional focus on investment incentives for green projects—

such as streamlined permitting and tailored financing schemes—will enhance Jakarta's economic appeal in a competitive global market, boosting job creation and advancing the city's commitment to sustainability.

As Jakarta repositions itself in the national landscape, it must leverage its unique cultural diversity to create a symbolic "miniature Indonesia," representing the archipelago's varied ethnicities and identities. Policies to provide affirmative opportunities for specific groups, such as the indigenous Betawi people, can include designated regional government roles or legislative seats, fostering inclusivity and cultural representation (Labolo & Toana, 2023). Moreover, enhancing Jakarta's connectivity to other regions will be crucial to address the city's complex challenges and to facilitate efficient population mobility. By expanding tourism and commerce through the Thousand Islands, Jakarta can capitalize on its maritime expanse, tapping into the Blue Economy's substantial potential, which aligns with international initiatives like the UN's Sustainable Development Goal 14 on marine resource conservation.

The transition toward a smart city framework will be essential for Jakarta to optimize its Blue Economy potential, especially as it seeks to harness green investment for sustainable maritime development. Smart city technologies can drive economic efficiency, reduce urban sprawl impacts, and ensure that green projects are data-driven and optimized for environmental sustainability. Incorporating artificial intelligence, IoT-enabled sensors, and blockchain in maritime trade and tourism could streamline operations and reinforce Jakarta's position as a modern, innovative hub. Dameri (2017) highlights that smart city infrastructures enable urban regions to balance growth with sustainability, demonstrating the importance of advanced tech in realizing green economic potential.

Jakarta's pursuit of sustainable economic growth through green initiatives aligns seamlessly with Indonesia's national commitment to a Green Economy Index (GEI), as highlighted by the National Development Planning Ministry (Bappenas) in 2022. This index, established with international collaboration, underscores a tri-pillar structure encompassing economic, social, and environmental factors, measuring key indicators such as emission intensity, energy use, and economic and social well being. With the GEI framework embedded into Indonesia's strategic development plans, like the Medium-Term National Development Plan (RPJMN) 2025–2029, Indonesia projects a transformative pathway where green economy practices drive growth up to 6.5 percent annually by 2050, alongside creating 1.8 million green jobs by 2030.

For Jakarta, embracing green economic practices, from energy efficiency to innovative financing models, aligns with this national vision and has the potential to elevate the city as a hub of sustainable investment. This commitment will ensure that as Jakarta shifts focus post-capital relocation, it remains a center for economic opportunity and environmentally responsible growth. Through the deployment of green bonds, partnerships, and technology-driven smart city solutions, Jakarta can serve as a model city for green economy integration, significantly reducing its carbon footprint and fortifying its resilience against economic and environmental challenges.

Moreover, as highlighted by Widyasanti from Bappenas, Indonesia's green economy push is not just an obligation but a new opportunity for economic transformation. It demands a thorough transition to clean energy, green transportation, and a circular economy, with an ecosystem of policies, fiscal incentives, and collaborative governance to support the long-term growth agenda. This commitment

is bolstered by the 2024 State Budget, which prioritizes green infrastructure and climate-conscious projects, emphasizing spending quality and fiscal health. Indonesia's enhanced Nationally Determined Contributions (NDC) for emission reduction by 2030 and net-zero aspirations by 2060 further reflect the nation's dedication to sustainable economic practices.

Ultimately, Jakarta's role in the green economy can contribute to Indonesia's sustainable development goals and offer a blueprint for other urban centers. This transformation will not only reinforce Jakarta's relevance as an economic powerhouse but also foster a more inclusive and resilient economy that is attuned to global environmental standards. By positioning the green economy as a cornerstone of its strategy, Jakarta will secure a future that balances growth with environmental stewardship, driving Indonesia's vision toward sustainable prosperity.

To strengthen the argument about the role of youth and government collaboration in promoting sustainable maritime economic development in Jakarta, it is essential to include case studies and concrete data from the local context. One relevant initiative is the Jakarta Bay Rehabilitation Project, managed by the Jakarta Provincial Government with support from civil society organizations and the private sector. This program aims to restore Jakarta's coastal ecosystems, which have been degraded by pollution and reclamation, while simultaneously creating economic opportunities through community-based ecotourism. In this context, local youth have been involved through training in environmental conservation, community-based tourism management, and the development of creative marine-based products, such as eco-friendly souvenirs.

Additionally, the Jakpreneur program, an initiative by the Jakarta Provincial Government to support young entrepreneurs, holds significant potential for advancing the maritime sector. Through training, funding, and business mentoring, this program can be directed to create sustainable entrepreneurial opportunities in fisheries, seafood processing, and coastal tourism. Data from the Jakarta Office of Cooperatives, Small, and Medium Enterprises in 2023 shows that more than 30% of Jakpreneur participants came from coastal areas, indicating substantial interest in these sectors. By integrating Blue Economy principles and Environmental, Social, and Governance (ESG) frameworks, initiatives like these can generate dual benefits: boosting the local economy while protecting coastal environments.

On the policy front, the Jakarta Provincial Government has adopted several relevant regulations, such as Governor Regulation No. 90 of 2022 on Waste Management in Coastal Areas, aimed at reducing marine pollution and encouraging sustainable business practices. However, implementing these regulations requires closer collaboration with local communities, including youth as agents of change. For instance, youth groups in the Thousand Islands have initiated community-based waste management projects that not only reduce plastic waste but also create economic value through creative recycling.

Drawing from global experiences, such as Copenhagen's smart city strategies, Jakarta can adapt these models to its local characteristics. For example, using smart technology to monitor water quality in Jakarta Bay, as practiced in global cities like Singapore, could be a valuable step forward. This technological implementation can be combined with engaging Jakarta's youth in data management and community-based technological innovation.

Incorporating concrete data and case studies from Jakarta strengthens the argument for youth and government collaboration in supporting sustainable maritime economic development. Close collaboration, consistent policy support, and the integration of sustainability principles can enable Jakarta to become not only a resilient coastal city but also a global model for sustainable maritime economic development.

Youth involvement will play a pivotal role in actualizing this vision. Young leaders can bridge generational divides, contribute fresh ideas, and advocate for sustainable development practices. Their engagement is crucial for fostering cross-sector collaboration, innovating policy initiatives, and ensuring that Jakarta's transformation is inclusive and forward-thinking. By empowering youth to lead or participate in green initiatives, Jakarta can build a resilient foundation for sustainable development that extends well into the future.

With these strategies, Jakarta has the potential to redefine itself as a resilient, globally competitive city, and a leader in sustainable development. Transforming Jakarta into a smart city centered on the Blue Economy and guided by youth-driven innovation will not only secure its future relevance but also align with global sustainability standards, advancing its standing as a model of progressive urban development.

In conclusion, Jakarta's development of a smart city infrastructure, backed by ESG-aligned investments and robust public-private partnerships, provides a sustainable pathway to maximize the city's blue economy potential. By enhancing resource management and leveraging green financial instruments like green bonds, Jakarta can create a resilient maritime economy that aligns with global environmental goals. This strategy not only fosters economic growth but also positions Jakarta as a model of sustainable urban and maritime development for other Indonesian cities and beyond.

IV. CONCLUSION

The role of young entrepreneurs in supporting Jakarta's sustainability goals and enhancing the resilience of its maritime sector is increasingly vital. Young entrepreneurs contribute directly to sustainable development by pioneering green technologies that reduce emissions and increase efficiency, in alignment with Jakarta's long-term sustainability objectives. Their innovations in areas such as renewable energy, waste management, and eco-friendly transportation solutions play a pivotal role in reducing the city's environmental footprint, fostering a green economy, and setting Jakarta on a path toward resilience in the face of urban and environmental challenges.

Furthermore, young entrepreneurs strengthen the maritime sector's resilience by introducing technological advancements aimed at addressing pressing environmental risks. These include sea-level rise, extreme weather events, and other climate-related impacts that threaten coastal and maritime activities. For instance, sustainable aquaculture solutions and climate-adaptive infrastructure mitigate some of these risks, ensuring that the sector remains viable and continues to provide economic value and food security. Through collaboration with the government, young entrepreneurs can amplify their impact by co-developing and implementing green innovations tailored to Jakarta's unique urban and environmental landscape, thereby fortifying maritime resilience.

In conclusion, the active engagement of young entrepreneurs in both sustainable business practices and resilient maritime solutions represents a transformative force in Jakarta's pursuit of sustainability. Their innovative approaches address immediate environmental challenges while setting a

foundation for a sustainable, resilient, and economically vibrant Jakarta, reflecting the city's broader commitment to long-term sustainability and economic stability.

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