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THE URGENCY OF THE INTEGRATION OF THE NATIONAL LOGISTICS SYSTEM WITH MULTIMODAL TRANSPORTATION IN THE CONTEXT OF INCREASING COMPETITIVENESS AND STRENGTHENING THE NATIONAL ECONOMY

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ABSTRACT

The logistics sector has an important role in increasing competitiveness and strengthening the national economy. However, the performance of Indonesia's logistics system still needs to be improved. To improve this performance, the integration between the national logistics system and multimodal transportation is an urgent matter. This is in view of the important role of multimodal transportation in supporting the performance of the national logistics system. Therefore, this article aims to discuss the urgency of integrating the national logistics system with multimodal transportation in order to increase competitiveness and strengthen the national economy. This study uses a qualitative approach. Data were collected through a literature review from various sources. Data were analyzed using qualitative data analysis techniques. The results show that the performance of the national logistics system that is oriented to synchronization, integration, and collaboration to improve competitiveness needs to be supported by multimodal transportation. The need for adequate maritime connectivity, infrastructure, and information and communication technology in distributing goods in Indonesia makes multimodal transportation meet its urgency to support the performance of the national logistics system. However, in its implementation, multimodal transportation still faces challenges in the form of problems in the integration of infrastructure networks, integration of service networks, as well as coaching and development of multimodal businesses.

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1. INTRODUCTION

Indonesia's challenge to become the seventh strongest country in economic development in 2030 as predicted by the McKinsey Global Institute is how to create clean and strong governance to accelerate various potential comparative and competitive advantages that Indonesia has. This aspect of competitiveness is an important and strategic thing to pay attention to and improve. Referring to the ranking carried out by the Institute for Management and Development in the World Competitiveness Ranking in 2022, Indonesia's position has slipped to 44th position from 37th position in 2021 as well as being the lowest since the last 5 years. The decline in 3 out of 4 indicators considered to be the cause, namely Indonesia's economic performance indicators (42 out of 35), government efficiency (35 out of 26), and business efficiency (31 out of 25). Indonesia's infrastructure indicator is the only indicator that has increased in ranking from the 57th position in 2021 to the 52nd position in 2022.

To improve competitiveness and strengthen the national economy, national logistics has a very important role. Indonesia's logistics competitiveness is still far behind compared to other countries, even from countries in the ASEAN region. Based on World Bank data on the 2018 Logistics Performance Index/LPI, Indonesia is at level 3.15 from a scale of 1-5 or ranked 46th, which shows that it is still far behind

other ASEAN countries. For the record, the closer to level 5, it indicates the logistics competitiveness of a country is getting better, on the contrary, the closer to 1, the worse. Indonesia's logistics competitiveness index is below Singapore (4.0), Thailand (3.41), Vietnam (3.27) and Malaysia (3.22).

Indonesia's logistics performance still shows problems in terms of costs and time for completion of the logistics process. Based on data released by the World Bank regarding the Ease of Doing Business (EoDB) in 2020, to export in Indonesia, the border compliance process takes 56 hours at a cost of USD211 and the documentary compliance process takes 61 hours at a cost of USD139. The cost and time required is higher than the Philippines where the documentary compliance process only takes 36 hours at a cost of USD53 and is far behind when compared to Malaysia, China, and Singapore where the export process can be done in less than 24 hours.

Therefore, logistics costs in Indonesia in 2020 are listed as the most expensive costs in Asia with a value reaching 24% of Gross Domestic Product. Trading Across Border which measures the number of days and hours for export-import is an indicator of EoDB assessment, where in 2019 the value achieved by Indonesia was only 67.3 and then to 69.3 in 2020, which means there is no significant increase.

The performance of the logistics system as identified above cannot be separated from its driving factors. With the stagnant performance of Indonesia's logistics system, it indicates that there are still problems in the main drivers of the national logistics system consisting of main commodities, logistics infrastructure, service actors and providers, logistics human resources, information and communication technology, and harmonization of regulations.

Based on the National Logistics System Roadmap which consists of three stages, in 2012 as the beginning of the development of the National Logistics System, the government has determined an action plan or big win stage I (2011-2015) for each of the main drivers, such as the construction of regional distribution centers (main commodities). , reducing logistics costs at the port and optimizing the Cikarang Dry Port and Entikong Dry Port development, establishing International Sea Hub Ports in Kuala Tanjung and Bitung (logistics infrastructure), revitalizing state-owned Commerce and increasing the role of SOEs, developing Short Sea Shipping, and revitalizing freight transportation. and food (actors and service providers), procurement of logistics study programs in universities and professional competency standards of logistics and professional certification bodies (logistics human resources), the concept of the National e-Logistics system - INALOG (ICT), and the policy of optimizing the role of dryport (harmonization of policies and institutions). The Phase I action plan is then planned to continue its development in Phase II (2016-2020) and Phase III (2021-2025).

However, problems still occur due to the absence of clear benchmarking in determining the Port Service Tariff Structure and indications/tendency of cartel practices, inadequate port infrastructure that causes low productivity resulting in long dwelling time or time for ships to dock at ports, lack of terminal business competition. operators, and limited application of ICT.

In addition to the 6 (six) driving factors above, one other thing that should not be forgotten is multimodal transportation. Multimodal transportation is an important component of the logistics system, because freight transportation in logistics activities generally uses more than one mode of transportation [1] [2] [3]. Basically, multimodal transportation services not only offer goods delivery services from the place of origin to the destination, but also include freight forwarding, warehousing, cargo consolidation, provision of cargo space and customs management. The integration of transportation networks in Indonesia is very important to realize multimodal transportation that can support the national logistics system. For this reason, cooperation between port regulators, operators and communities is also needed so that the logistics chain process can be integrated to optimize the performance of the national logistics system.

Based on the above, this article aims to discuss the urgency of integrating the national logistics system with multimodal transportation in order to increase competitiveness and strengthen the national economy.

2. LITERATURE REVIEW

In a modern economy, the use of the concept of integrated logistics and Supply Chain Management (SCM) is one of the basic sources of sustainable competitive advantage for a country as well as the parties involved such as companies [4]. Integrated logistics methodology and SCM involve optimizing the resources used by the logistics system (supply chain). As stated by [5] states the essence of the whole SCM concept is really based on integration. With today's business developments, the level of integration of logistics activities in the supply chain continues to increase. The essence of the integrated logistics approach is to consider the overall logistics process in the supply chain to more effectively achieve business goals.

This concept reflects the current business understanding, where each company and organization is considered as part of a shared supply chain, connected directly or indirectly in one integrated process of material and information flow management for the most complete and high-quality customer satisfaction. Holistic considerations and supply chain (value chain) optimization in practice lead to better results. Integration in the supply chain contributes to a more transparent exchange of information and, as a consequence, eliminates wasteful use of resources, optimizes inventory, eliminates bottlenecks, and consistently focuses on optimizing the cost/service balance in the supply chain.

The development of logistics is characterized by significant spatial diversity on a global scale. This difference is caused by the level of economic development of countries and regions, which translates into the intensity of international exchange and the need to use advanced information technology used in logistics solutions [6]. Diversification of national and regional logistics also results from the level of development of transportation infrastructure and its adjustment to economic needs in the field of goods traffic flow for domestic needs as well as exports and imports. In addition, the growth of logistics also depends on the structure of the economy and the development of the industrial and service sectors, which affect the specificity of the supply chain.

Although phenomena such as corporate globalization and internationalization bring the region closer in terms of logistics practices and supply chain management, there are still differences in the supply and demand aspects of supply chains. The transfer of logistics knowledge at the institutional and business levels faces significant limitations despite the free movement of labor employed in logistics and transport, among others; such as the industrial and service sectors. In many cases, logistics operators functioning in an international environment continue to use solutions dedicated to customers in specific countries or regions, which underscores the impact of spatial conditions on logistics activities.

The increased movement of goods, particularly in metropolitan urban centres, has created challenges for urban logistics that address the flow of goods while minimizing negative environmental impacts and promoting safety, security and healthy living conditions [7]. Most city logistics initiatives were initially implemented in developed countries. However, countries such as China, India, Mexico, Chile and Brazil are at an earlier stage in the development of urban logistics practices than developed countries such as France, the Netherlands and Japan.

Several countries that can be used as benchmarks for the logistics system are in the European Union, such as Germany, Italy, Spain, and Hungary. When examining these countries in the logistics system, one will find a similar concept in the form of a logistics center. The logistics center in question refers to a hub in a certain area where all activities related to the transportation, logistics and distribution of goods, nationally and internationally, are carried out by various operators and supply chain actors on a commercial basis. In order to protect and ensure fair competition, cooperation and free rule for the main operators of logistics centers, it is important for these centers to be managed by a single and neutral legal entity, usually a Public-Private Partnership. The Logistics Center must also offer appropriate public facilities and services for the effective execution of all relevant operations.

In order to identify the main roles and functions of logistics centers, the adoption of a combined structure seems to be very important. In addition, this can include not only logistics center operators, but

also their most important and value-added services. In the logistics system that is the benchmark in Germany, Italy, Spain, and Hungary, one of the things that must exist is multimodal transportation [8].

Improving the quality of transportation services is not only recognized as one of the most important and distinctive elements of a logistics center, but also as a major challenge to be able to compete significantly against a risky global environment. Furthermore, the implementation of accumulated activities generates benefits for operators and logistics center companies such as optimal utilization of available warehouses and human resources, alliances, economies of scale and scope, operational benefits from sharing resources such as modes and terminals, co-ownership, and etc.

The main task of the logistics center is the promotion and improvement of multimodal, as a combination of various modes of transportation, through the provision of suitable infrastructure to offer a more multi-dimensional transfer of goods). Increasing the available transportation options, multimodal facilitates decision makers (shippers, freight forwarders, suppliers, etc.) to select the most beneficial combination of various transportation modes to improve the quality of logistics services with the potential for simultaneous improvements to lower logistics transportation costs. In addition, all European logistics centers offer synergistic solutions of various modes of transport (multimodal) and this is why they are strategically located at hub points and at strategic geographical nodes. Apparently, it is clear that one of the main factors that distinguish logistics centers from other types of transportation and distribution centers (Warehouses, Land Ports, Distribution Centers, etc.) is the promotion of not only multimodal solutions, but also intermodal transport with the option of providing special facilities that facilitate transfers. different intermodal goods. As a result, the logistics center is the most suitable area for developing an intermodal framework that will be provided to all supply chain operators.

3. METHOD

This study uses a qualitative approach. Data were collected through literature review from various sources. Data were analyzed using qualitative data analysis techniques..

4. RELUST AND DISCUSSION

Developments and Challenges of the National Logistics System

Presidential Regulation No. 26 of 2012 concerning the Blueprint for the Development of the National Logistics System to guide the development of logistics based on synchronization, integration, and collaboration to increase competitiveness. The policy on the Blueprint for the Development of the National Logistics System requires that its development be spelled out in the Strategic Plans of Ministries/Agencies, Government Work Plans and Work Plans of Ministries/Agencies, as well as relevant Regional Governments in the 2010-2015 period, and the following periods 2016-2020, and 2021-2025 . The policy regarding the national logistics system was launched in order to achieve the 2025 Vision in the form of Locally Integrated, Globally Connected for National Competitiveness and Social Welfare. Its mission is then directed at (1) facilitating the flow of goods effectively and efficiently to ensure the fulfillment of the basic needs of the community and increasing the competitiveness of national products in domestic, regional, and global markets and (2) building national logistics nodes and connectivity starting from rural, urban areas. , between regions and between islands to International Hub Ports through collaboration between stakeholders. In this context, the government seeks to improve the competitiveness of national logistics.

As a sustainable policy, efforts to improve logistics competitiveness were then continued in 2016 with the title 1st Indonesia Logistic Reform. This is a government policy in the 2016 World Bank Development Policy Loan (DPL). The goal is to improve port performance, logistics services, and trade facilitation. A year later, in 2017, the government issued the XV Economic Policy Package which provides great opportunities for shipping, ocean insurance, and national ship maintenance entrepreneurs to increase the competitiveness of logistics service providers. This is something that strengthens what the government will do in 2018 in the form of the Indonesia National Single Window which was finally ratified through Presidential Regulation no. 44 of 2018. In addition, in 2018, there was the 2nd Indonesia Logistic

Reform which is a government policy in the World Bank 2018 [9]. After that, in 2020, the National Logistic Ecosystem (NLE) was present and implemented in the period 2020 to 2024.

Regarding NLE, in 2020, the government issued Presidential Instruction No. 5 of 2020 concerning Structuring the National Logistics Ecosystem, which is oriented towards simplification of government service business processes, eliminating repetition and duplication, collaboration of government and private logistics platforms, ease of transactions and payment facilitation, and arrangement of systems and port layouts, as well as distribution channels. This reflects the condition that the Indonesian government recognizes the need for reform in the national logistics sector to be a must. These reforms are carried out to improve the performance of the logistics system, improve the investment climate, and increase economic competitiveness.

The target of NLE implementation in order to achieve its goals faces its own challenges. This is based on the realization of logistics costs and time which are still not optimal. The target of logistics costs in 2024 of 18 percent of GDP will be difficult to achieve considering that the realization of logistics costs in 2019 is 24 percent of GDP. Likewise, the logistics time target in the 2020-2024 RPJMN of 55.8 hours is likely to be difficult to achieve considering that at the end of the 2015-2019 RPJMN the logistics time is still at 111 hours.

In addition, NLE challenges have the potential to arise when NLE is applied so that the entire ecosystem related to logistics can be integrated, both from the supply side originating from logistics service providers and also the demand side originating from exporters or importers with a single system so as to reduce duplication and repetition. by online. This is one of the challenges in implementing NLE because each port, ministry and agency agencies, as well as the private sector has its own technology system. The implementation of NLE will eliminate the activity processes that previously existed to be non-existent and this will have consequences because some activity processes will be lost. The challenge in the form of simplification of regulations is also unavoidable considering that for just one imported item, there are almost 70 permits covered by various agencies. Sectoral ego must be controlled by regulation and commitment from all parties so that logistics arrangement through NLE can be achieved.

The Urgency of Multimodal Transportation in Supporting the National Logistics System

In economic activities, the distribution of goods is categorized as a downstream aspect in supply chain management (SCM) to deliver goods to the end customer [10] [11]. The smooth process will help to distribute the supply of needs, both for production and consumption goods, which will restrain the inflation rate and maintain the continuity of the company's operations. Being able to deliver goods from one city to another successfully is a tough task in Indonesia for both individuals and logistics companies. This can be rooted in the existence of three inherent factors such as maritime connectivity, infrastructure and information and communication technology.

First, related to maritime connectivity, because Indonesia is an archipelagic country with thousands of islands spread across Southeast Asia, logistics transportation becomes difficult due to the many routes and modes of transportation used. For example, if the sender wants to send goods from Jakarta to Sulawesi, the goods must go through the port of Surabaya and can only be sent to Sulawesi. Therefore, with the use of land and sea transportation for these shipments as well as loading and unloading costs at the port, the overall cost of shipping goods to other cities becomes expensive.

Logistics costs are closely related to sea transportation, which cannot be separated from the strength of the national fleet of ships. Ships are an important and vital means, especially as a means of transportation and as part of the infrastructure for the economic development of inter-regional communities. As an archipelagic country, according to data from the Ministry of Transportation, in 2019 Indonesia was recorded to have around 32,587 officially registered vessels, but most of these ships were old and needed repairs and even renovation, like other modes of transportation. In the process of repair and rejuvenation, it costs a lot of money, especially for an old fleet of ships. The older the ship, the less efficient a ship is. Apart from that, the Domestic Content Level still reaches 70%, while prices related to materials and components are 70 to 80 percent more expensive.

However, the problem of connectivity does not only occur from the scope of sea transportation. Land transportation also plays a role in this. The high cost of logistics is caused by several things, including the unbalanced volume of goods flow, inadequate infrastructure, and traffic congestion on land which is also a problem, especially for access to ports, which are one of the main obstacles in the distribution of goods in Indonesia.

In the context of land transportation, trucks are the most efficient, inexpensive and widely used means of transporting goods or logistics distribution facilities for distances of less than 400 km compared to trains or ships. Thus, the connectivity of road infrastructure is very influential on the smooth distribution of goods. Strengthening infrastructure will increase productivity by reducing logistics costs and encouraging economic activity.

The integration of transportation networks in Indonesia is very important to realize connectivity. The existence of supporting road infrastructure at a lower cost, the distribution of goods becomes smoother and has an impact on reducing logistics costs. All government programs such as merchant ships and sea tolls must be integrated. In addition, there is a need for cooperation between port regulators, operators and the community so that the 72 logistics chain processes can be integrated to reduce logistics costs.

Second, in terms of infrastructure, infrastructure in many areas in Indonesia is not yet fully developed. Thus, the risk of shipping goods safely in the middle of a broken road and a lack of ports for ships to dock is very high. Ensuring goods travel safely from places like Java to Sumatra is another concern for shippers.

In the context of logistics competitiveness through this infrastructure, the role of ports is crucial. This is shown by several benchmarks that view the important role of ports in a country's logistics competitiveness. Taking into account the existing benchmarks, the superior cities associated with the port successively put Rotterdam, Antwerp, Hong Kong, Cardiff, London, Singapore, Edinburgh, Lisbon, Montreal, and Taiwan in the top 10 [12]. The advantages of ports are assessed from research and innovation, especially in shipping, petroleum, and transportation systems. From some of these benchmarks, let's take the examples of Rotterdam, Antwerp, and Singapore to discuss.

As the largest port in Europe, the Port of Rotterdam in the Netherlands has made a breakthrough through the circular waste flow pathway with the aim of limiting global warming between 1.5° – 2°C by 2050 [13]. The steps start from (1) optimizing resources and energy use, (2) carbon storage, utilization, and capture (CCUS), and (3) developing new infrastructure throughout the port area. Environmentally friendly ideas emerge as ports shift the use of oil and gas to new renewable energy blue and green hydrogen sourced from the sun and wind. Then, the Port of Rotterdam pursued the target of becoming a carbon neutral port by bringing together stakeholders to ratify a decarbonation policy in the port logistics system.

Shifting to neighboring Belgium, in 2020, there were 13,655 visits consisting of dry bulk carriers, tankers, gas carriers, container vessels, general cargo vessels, fruit carriers, Ro-Ro vessels, and other vessels with a cargo of 393,938,187 tons. transact to the Belgian Port of Antwerp [14] . Realizing that this port is the largest economic engine of the country, the port authority has affirmed the idea of innovating to make ports more environmentally friendly, maintain their accessibility, and lead the way in the digital world towards 2030. In the business plan presented by the company on its official website, the mission of 'home port as a lever for a sustainable future' is actualized in 3 strategic priorities. First, sustainable growth is carried out in the form of optimizing available land management, diversifying activities that support the economy, and increasing port security. Second, the targeted transition that is realized in the form of supporting climate-neutral 2050, digital networks from the integrated port system will continue to improve port accessibility. Third, resilient ports which are realized by strengthening, efficient and agile organizations along with partnership opportunities outside the border, the challenges of the economic crisis, cyber-attack, and the Covid-19 pandemic.

In Asia, as well as Indonesia's neighboring country, namely Singapore, is the capital as well as a port city supported by a strategic location and superior technological research. The Maritime and Port Authority (MPA) of Singapore report showed that there was growth from the previous year, which was 6.9% at 7,500 visits for vessel arrivals, 5.4% at 50.21 million tons for cargo throughput, and 3.5 % at 4.26 million tons for bunker sales as of April 2021. Starting from Singapore's maritime vision to become a global maritime hub for connectivity, innovation, and talent, slowly this city will become a place to realize global maritime

businesses that access opportunities with innovation and clusters connected maritime sector (Maritime and Port Authority of Singapore, 2019).

Third, regarding information and communication technology, many companies in the logistics industry work using traditional methods such as telephone calls, excel spreadsheets, and physical documentation to communicate and store information. This is due to the lack of reliable network coverage that allows these companies to upgrade their technology to be more effective and efficient.

The program to digitize shipping and port operations using information technology is currently being intensively carried out by the government to strengthen speed, regional coverage, transparency, and anti-monopoly with the ministry through the development of IT-based applications such as Inaportnet, IMRK, DO Online, Vessel Monitoring & Management System (tracking). position, cargo & passanger), as well as those owned by logistics supply chain startups and other applications such as Gosend, Paxel, Iruna, and Ritase.

From 2010, efforts for ICT services to support the increase in LPI have been actively carried out, whose value has increased throughout the 2010-2018 period. All stakeholder components in ports and hinterlands are competing to open themselves by utilizing ICT as social responsibility in the form of openness and accountability to service users and the latest digital information technology is the main key to effectiveness and efficiency in the midst of high trade between countries.

Logistics digitization is important because it can increase service levels, increase cashflow, reduce costs, and maximize asset use. Digital evolution in the logistics sector is not in terms of goods but in terms of business processes. Indonesia requires the development of technology and business processes based on 4.0 for port and logistics services. Industry 4.0 applications plus business process innovation in many international and domestic cases factually provide commercial and operational benefits efficiently both in time, resources and costs. In its application internally, port organizations and logistics services need to make changes, adjustments and sacrifices including investment in implementing new service processes based on industry 4.0, especially applying more innovative, real-time, collaborative and pro patterns in a number of segmentations.

The Challenge of Combining National Logistics System with Multimodal Transportation

Multimodal transportation is a necessity that must be followed if we do not want to be left behind in trade and logistics. Moreover, considering that Indonesia's LPI is still very low. Multimodal transportation is an important component of the logistics system, because the transportation of goods in logistics activities generally uses more than one mode of transportation. Basically, multimodal transportation services do not only offer services for delivery of goods from the place of origin to the destination, but also include freight forwarding, warehousing, cargo consolidation, provision of cargo space and customs management.

In terms of quantity, the provisions governing multimodal transportation in Indonesia are quite numerous and complete, covering several different levels of legislation, ranging from Government Regulations, Presidential Regulations, to Ministerial Regulations, but are not specifically regulated in a Law (UU). If viewed in terms of the hierarchy of laws and regulations, the regulation of multimodal transportation in Indonesia is in the form of a Government Regulation which is the executor of the four laws in the field of transportation that have been born, namely Law no. 23 of 2007 concerning Railways (Article 47), Law no. 17/2008 on Shipping (Article 55), Law no. 1 of 2009 concerning Aviation (Article 191), and Law no. 22 of 2009 concerning Highway Traffic and Transportation (Article 165). The Government Regulation is Government Regulation No. 8 of 2011 concerning Multimodal Transportation. Interestingly, the Government Regulation was issued one year after a more technical regulation in the form of the Minister of Transportation Regulation No. KM 15 of 2010 concerning the Blueprint for Intermodal/Multimoda Transport for 2010-2030.

Nonetheless, the spirit of NLE is very relevant to multimodal transport as compared to unimoda. This can be seen from several reasons [15]. The first reason is because in unimoda transportation, each stage of activity is regulated in a separate document or contract making it difficult for exporters (consignors) in each line of activity stages, while in multi-modal transportation, a series of activity stages with different modes only uses 1 (one) contract documents. The second reason is because there are separate bills for each contract, but in multimodal, there is only 1 (one) billing. The third reason is that

there are different terms and levels of responsibility (liability) that are different in each line of activity stages so that the consignor must face different people in charge of transportation. Fourth, in terms of cost (economical), transportation costs are high and insurance premiums are expensive if they are unimoda-based.

Multimodal transport will benefit the success of NLE. This is because it can (1) reduce time lost at transhipment points, (2) transport faster, reduce distance losses, reduce capital, (3) reduce documentation, formality and bureaucracy burdens, (4) save costs because of flat rates. Average and insurance costs are reduced, (5) only dealing with 1 agent in charge, (6) lowering the price of goods, and in the end (7) increasing the competitiveness of exported goods in the global market. These benefits can be realized because by implementing effective multimodal transportation, various logistics activities can be integrated starting from factories/warehousing, transportation to transshipment points, goods to transshipment points (stations, ports, airports), transportation (main haul) by land. , ships, trains or airplanes, transshipment points (stations, ports, airports), transportation from transshipment points, to retailers/consumers.

Understanding the importance of multimodal transportation, the NLE action plan as a support for the national logistics ecosystem on land, rail and air modes, has been prepared. For the land mode, which concerns the logistics of goods transport between the industrial area and the port area. Involvement in the strategic plan of logistics arrangements for freight transport between the industrial area and the port area is in the form of efficient truck movement and optimization of freight trains, relocation of garages and depots, container consolidation, licensing in industrial areas, and dryports to be connected to the railway. As for the support of the Railways to the NLE, it is on the logistics line to support the distribution of goods, namely the existence of logistics transportation connectivity as a transportation node and strategic area. Meanwhile, the Air Transport NLE action plan, namely collaborating with ministries and agencies systems related to manifest submission, arrival notification, and air carrier departure notification, with a timeline for Air Transportation Business Process Map in December 2021, Implementation of Single Submission System Piloting (SSm) Air Freight in December 2022, and Implementation of the National Air Freight SSm System in March 2023.

However, in its implementation, in preparing Indonesia's logistics vision in 2025, multimodal transportation currently has its own challenges. First, the problem of the integration of the infrastructure network. Second, problems in the integration of the service network. Third, the problem of fostering and developing multimodal businesses.

First, related to the integration of infrastructure networks. The development of transportation infrastructure networks at the regional level is handled by several ministries and local governments so that organizational units are needed to coordinate the planning and construction of infrastructure networks so that there is no excess capacity in each mode. The undeveloped logistics center facilities make it difficult for service users and operators to get information on cargo and transportation. The integration between nodes is currently not optimally connected. Then, the construction of terminal nodes still often pays less attention to the provision of transshipment infrastructure.

Second, related to the integration of the freight and passenger transportation service network. The handling of service network integration or intermodal/multimodal transport is less than optimal. Documents used for freight transport are still individual modes. Compatibility between facilities and supporting facilities is still not optimal. In addition, the development of information systems in the field of intermodal/multimodal transportation has been running but is still partial, such as tracking and tracing systems.

Third, related to business coaching and development. Logistics service providers have not been able to compete internationally. Human resource competencies in the field of multimodal transportation still need to be improved. A professional certification body in the field of multimodal transportation has not yet been established. Institutions or work units related to the implementation of intermodal/multimodal transportation consist of several institutions, so coordination is needed.

5. CONLUSION

Indonesia has an orientation in implementing a logistics system based on synchronization, integration, and collaboration to increase competitiveness. Various steps have been taken. In fact, technological adaptation in the current era of digital transformation as a form of structuring the national logistics ecosystem is carried out so that it is oriented towards simplification of government service business processes, eliminating repetition and duplication, collaboration of government and private logistics platforms, ease of transactions and payment facilitation, and system and spatial planning. ports and distribution channels. This was carried out as a form of reform in the national logistics sector in order to improve the performance of the logistics system, improve the investment climate, and increase economic competitiveness.

Given Indonesia's geographical conditions, the performance of the national logistics system needs to be supported by multimodal transportation. The need for adequate maritime connectivity, infrastructure and information and communication technology makes multimodal transportation meet its urgency to support the performance of the national logistics system. However, in its implementation, multimodal transportation still faces challenges in the form of problems in the integration of infrastructure networks, integration of service networks, and coaching and development of multimodal businesses.

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