

1. Introduction

1.1 Background

The land and islands of East Java Province must have good and complete transportation facilities and infrastructure. And the province must be supported by good, easy and integrated accessibility and connectivity.

In general, East Java Province consists of two main parts, mainland East Java and the Madura archipelago. Mainland East Java is the center of all economic and trade activities in the eastern part of Indonesia. But, unfortunately, the center of the economy and trade is still concentrated in the northern and central mainland areas of East Java Province. The northern part of the mainland East Java region comprises Tuban Regency, Lamongan Regency, Gresik Regency, Mojokerto Regency/City, Surabaya City, Pasuruan Regency/City, Probolinggo Regency/City, Bondowoso Regency, Situbondo Regency, and Banjuwangi Regency. The central mainland region includes Magetan Regency, Madiun Regency/City, Nganjuk Regency, Jombang Regency, Kediri Regency/City, Malang Raya, Lumajang Regency, and Jember Regency.

Meanwhile, the southern part of mainland East Java comprising Pacitan Regency, Ponorogo Regency, Trenggalek Regency, and Blitar Regency/City is still far behind in development. One of the reasons for this difference in economic and trade growth is the limited transportation facilities, especially sea ports and land transportation. With this uneven distribution of transportation infrastructure facilities, the potentials of the eastern part of mainland East Java cannot be realised to benefit and be exported to other areas that need it.

The potentials of the mainland area of southern East Java are numerous and can include: plantation, agriculture, fisheries, and mining and excavation. Plantation and agriculture crops consist of: cassava, soya bean, chili, cocoa, coconut, clove, mango, and banana. Fisheries comprise products from capture fisheries and aquaculture. Capture fisheries include skipjack, tuna, tuna, and shrimp. Aquaculture fishery consists of catfish, followed by carp and tilapia.

In addition to the commodity potentials above, another excellent commodity that has great potential but has not been explored yet is tourism. This commodity is spread throughout the hinterlands of Prigi Commercial Port, in Trenggalek Regency, Tulungagung Regency/City, Blitar Regency/City, Pacitan Regency, and Ponorogo Regency.

Tourism commodities include beach tourism, nature tourism, heritage tourism, cultural tourism, and culinary tourism. A well-known cultural tourism that has become one of the tourism icons of East Java is “Reog Ponorogo traditional art”.

The annual Reog Festival, which is held to commemorate the birthday of Ponorogo City, has become one of the most anticipated on the tourism calendar. Apart from that, every month Reog arts are held in every village in Ponorogo Regency. Nature, culinary

and religious tourism are also potentials that should be developed and promoted more intensively to attract more domestic and foreign tourists.

To support this tourism sub-sector, it is necessary to provide transportation facilities and infrastructure that have easy and high accessibility and connectivity and are well integrated with one another. To determine the conditions of accessibility, connectivity and integration of transportation in the hinterland area of Niaga Prigi Port, Importance and Performance Analysis (IPA) and Customer Satisfaction Index (CSI) tools are used.

1.2 Port Development Plan in East Java

The sea transportation network system plan in East Java Province consists of the main port, collection port, and feeder port. The port development plan includes plans to develop existing ports as well as new ports to serve the increased movement of passengers and/or sea freight transport. The sea port development plan includes:

1. The main port consisting of: Tanjung Perak Port in Surabaya City in one system with a port development plan in the area between Lamong Bay and Gresik Regency; Socah Port in Bangkalan Regency, and for the long term directed to Tanjung Bulupandan Port in Bangkalan Regency, and Tanjungwangi Port in Banyuwangi Regency. Collecting ports include: Gelon port in Pacitan Regency; Port of Sampang/Taddan in Sampang Regency; Sendang Biru Port in Malang Regency; Prigi Port in Trenggalek Regency; and Pasuruan Harbor in Pasuruan City.
2. Feeder ports include: Regional feeder ports in the form of Tuban Port in Tuban Regency; and local feeder ports in the form of Dungkek Port, Pagerungan Port and Nunggunung Port in Sumenep Regency.
3. Ijen I and II showers covering an area of approximately 9 hectares in Bondowoso Regency.

Port can be constructed to expand existing facilities to support local economic development, or at new locations, to pave the way for basic daily citizen transportation activities. Therefore, the construction of ports in East Java Province within the scope of the Sea Transportation Sub Sector will continue to be carried out to support the transportation of passengers, containers, general cargo and bulk goods, in commercial shipping schemes as well as pioneering shipping, local or international shipping, and cruises.

Economic development in the Prigi Niaga Port area will work well if it is supported by reliable transportation because transportation is the lifeblood of a region's economy. If transportation in a region is reliable and smooth, the economy of that region will grow and develop (Siska et al. 2015; Silondae 2016; Taufiq 2020).

Transportation is a combination of several components or objects that are interrelated and influence each other. Transportation can be defined as a system consisting of facilities – infrastructure and service systems – that enable movement

throughout the region (Almunawaroh 2014; Nugroho and Malkhamah 2018; Nadhirah 2017). Transportation facilities and infrastructure within a system must be well integrated, that is, easily, quickly and inexpensively connected to each other (Mazlan, Kiong, and Abdullah 2021; Beecroft et al. 2019).

Integration of facilities and infrastructure is needed with a view to creating cost efficiencies that arise as a result of economic activities (Zaroni 2018; Daturatte, Jinca, and Wunas 2010). Economic or trading activities can occur if there is a need from each party. For this reason, each hinterland area of Niaga Prigi Port must develop its potential to respond to demand by other regions.

The planned location of the port in Trenggalek Regency is in Prigi Bay, which is located on the south coast of Java Island, and facing the Indian Ocean, precisely in Watulimo District, about 48 km to the south of Trenggalek City, Trenggalek Regency. This area has a lot of potential, especially in fisheries and tourism. Prigi Bay is in proximity to three villages in the Watulimo District: Prigi, Tasikmadu and Karanggandu Villages. This plan is in line with the Trenggalek Regency Spatial Plan for 2012-2032, in which the sea transportation network system plan in the form of a collection port development will be carried out in Watulimo District, as one of the strategic areas in the fields of tourism, agriculture, fisheries and environmental carrying capacity.

The port development plan in Prigi Bay, Trenggalek Regency, has been supported by a policy for the construction of the southern route (JLS). Directions for the development of JLS, which will connect with service centers in each region. The JLS route in Trenggalek Regency is in the form of the Pacitan-Pelgul-Craken-Munjungan-Prigi-Karanggongso-Tulungagung Boundary section. In addition, Prigi Harbor can also be accessed via the existing collector road between Durenan-Watulimo-Prigi which is a national road.

In addition to the land road infrastructure that must be prepared, which commodity products will be loaded and unloaded at the Prigi Commercial Port must also be taken into account. Current commodity products ready for loading and unloading are corn from NTB, roof tiles from Trenggalek, marble from Tulungagung, and eggs from Blitar. In general, there are three commodities around Prigi Commercial Port, namely agricultural, forestry and fishery products.

1.3 Transport Measurement

Accessibility is a measure of comfort or convenience regarding how locations or land uses interact with each other and the “easy” or “difficult” locations are reached through a transportation network system (Black, 1981) in Ofyar Z. Tamin, 2000.

In transportation theory, high accessibility means that it is easy for goods, services or people to move from one place to another, and vice versa. This has implications for efficiency, namely travel time and costs. Useful values of goods or services, such as time utility, place utility, and product utility, will then emerge.

Factors that determine the level of accessibility (level of ease of achieving goals) are influenced by travel time and costs, intensity (density) of land use, and the income of people who travel.

Connectivity is a form of connectedness and evidence of good connectivity is indicated by the existence of a path/path that connects the two places, for example, a road network, shipping routes, or flight routes (Indriastiwi 2014; Kuswati and Herawati 2017). Important elements in transportation connectivity are the point of origin/end of the connection, the path as a connection medium, the capacity of the connection line, the availability of the lane, the condition of the mode of transportation, the regulation of modes on certain lines/trajectories, considerations of connectivity effectiveness, and considerations of connectivity efficiency.

Transportation connectivity can apply to networks within the region (intra-islands) as well as for connections with areas outside the region (inter-islands). Connectivity is important as a keyword and development between regions in Indonesia, which has thousands of islands/islands and regions spread throughout the archipelago.

Once good quality accessibility and connectivity are developed, the next stage is to integrate existing modes of transportation. Integration in general means assimilation or cohesiveness to become a complete or unified whole, and mode is the form/type of transportation. East Java on the site <https://www.suarasurabaya.net/kelanakota/2022/pakar-sebut-data-jumlah-pulau-di-jawa-timur-belum-sinkron/> is an archipelagic province of 504-596 islands, so it is inevitable that there will be varied modes of transportation in a trip, both for passengers and goods from the place of origin to the destination (Maiyozzi Chairi, Yossyafra, Elsa Eka Putri, 2017).

Transportation integration is the most rational solution to overcome transportation problems between regions (Tamin, 2000; Miro, 2012). Transportation integration is also the main target of Sistranas to create an optimal transportation system (Transmedia, 2012). Transportation integration influences people's attitudes and behavior, but an optimal public transportation system can only be achieved through proper understanding of people's travel patterns (travel behavior) as well as people's needs and expectations (preferences) of public transportation services.

Accessibility, connectivity and transportation integration will be realized if supported by adequate facilities and infrastructure. Means of transportation are tools to achieve a purpose or goal, while infrastructure is everything that supported the implementation of a business process, development, or project.

Land transportation means are cars, trucks, buses, motorbikes and others, while sea and river means include ships, motor boats, rafts, and others. Air transport means are airplanes.

Infrastructure means traffic space (roads, sea and water lanes, air routes), terminals and equipment for roads, lanes, tracks, which include markings, signs, traffic signaling devices, navigation, beach radio, user control and safety devices roads, road monitoring and security devices, as well as other supporting facilities.

1.4 Important Performance Analysis (IPA) and Customer Satisfaction Index (CSI)

In this second book, the level of accessibility using qualitative primary data (respondents' perceptions) is analyzed using important performance analysis (IPA). The level of connectivity uses two types of data: primary quantitative data and qualitative primary data (respondents' perceptions). Quantitative primary data were

analyzed by connectivity index analysis, and qualitative primary data were analyzed by IPA.

Importance Analysis determines perceptions about the level of importance of an attribute that encourages respondents to use a product. In this research questionnaire, importance analysis will be carried out on the question of how important the factors considered by consumers are in deciding whether to choose a product or not. To measure this level of importance, a Likert Scale is used.

Performance Analysis determines the level of customer satisfaction with the attributes or factors of a product. In this research questionnaire, performance analysis will be applied to questions regarding how satisfied consumers are with the attributes or factors of products and services provided by service providers.

The Customer Satisfaction Index (CSI) is a type of measurement that is used to determine the level of overall customer satisfaction by considering the level of expectation of the factors being measured. The CSI calculation results can be interpreted as shown in Table 1.

Table 1: Interpretation of CSI Calculation Results

Index Numbers	Interpretation
60 %	Very Poor
65 %	Poor
70 %	Cause For Concern
75 %	Border Line
80 %	Good
85 %	Very Good
90 %	Excellent

Source: Nigel Hill et al.