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Evaluating the Associations between SEZ Management and Development Expectation in Singhasari SEZ

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ABSTRACT. The discussion about the influence of special economic zones on a country's economy remains interesting. Many developing countries use SEZs as a policy tool to promote industrialization and economic transformation. The main objectives of Special Economic Zone (SEZ) development are to encourage economic growth, equitable development, and increased competitiveness. This study aims to examine how economic activities, SEZ management, SEZ rights and privileges, and location influence development expectations in the economic and social fields of the Singhasari Special Economic Zone. This study used 159 respondents from the Singhasari SEZ and its surrounding areas. The data analysis method used is Structural Equation Modeling (SEM) based on Partial Least Squares (PLS). This study failed to confirm the influence of SEZ economic activities and SEZ Location in the Singhasari SEZ on the economic development expectations in Malang Regency. Nevertheless, SEZ management and SEZ right privilege have been shown to influence economic development expectations in Malang Regency. In addition, economic activities, SEZ management, and SEZ rights and privileges in the Singhasari SEZ have been shown to affect the social development expectation in Malang Regency. Lastly, the location has not been shown to affect social development expectations in Malang Regency.

1. INTRODUCTION

The discussion about the influence of special economic zones (SEZs) on a country's economy remains interesting. There have been many studies that examine Special Economic

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Zones in various countries, such as China [1]–[4], India [5]–[9], and Southeast Asia (ASEAN) [10]–[16][17]. SEZs are defined as geographic areas within a country that have more liberal economic laws and policies to encourage investment and economic growth [9]. In various countries, SEZs are a strategy for increasing economic growth and competitiveness [18]. SEZs offer a liberalized business climate and lower taxes and tariffs to encourage investment and foster a thriving business community [19]. Many developing countries use SEZs as a policy tool to promote industrialization and economic transformation [20]. As an industrial policy tool, SEZs can help address various industrial issues, such as land unavailability, inadequate industrial infrastructure, poor regulations, and a poor business environment.

The main objectives of Special Economic Zone (SEZ) development are to encourage economic growth, equitable development, and increased competitiveness. The existence of SEZs spread across Indonesia, from Sumatra to Papua, aims to equalize economic growth across all areas (Ministry of Tourism and Creative Economy). SEZs in Indonesia began to be developed in 2009 through the issuance of Indonesia Law No. 39 in 2009 about Special Economic Zones [18]. As of 2023, the Indonesian government has developed 20 Special Economic Zones (SEZs). The 20 SEZs operating have cumulatively invested IDR 167.2 trillion and created 13,038 new jobs (katadata.co.id) as of the fourth quarter of 2023. SEZs' development is becoming a preferable policy by the Indonesian government to boost economic growth in less-developed local regions [21].

One of the Special Economic Zones in East Java is Singhasari SEZ, along with Gresik SEZ. The establishment of the Singhasari Special Economic Zone is based on Government Regulation (PP) No. 68/2019 (Cabinet Secretary of the Republic of Indonesia). Singhasari SEZ is located in Malang Regency, East Java, and has a geographical orientation of the area adjacent to Juanda Surabaya International Airport and Tanjung Perak Port, and is connected to the *Pandaan-Malang* toll road [22]. This SEZ is projected to become a strategic business and investment center in East Java for tourism and the development of digital technology. Singhasari SEZ is projected for the digital economy and tourism development [23]. Singhasari Special Economic Zone has an area of 120.3 hectares [24].

Singhasari SEZ is open to all forms of technology investment, including cloud computing, smart cities, digital economy platforms, and more. In October 2022, Singhasari SEZ inaugurated the Animation and Film Factory (AFF), the largest animation and film center in Indonesia *(https://singhasari.co.id/).* In tourism, the Singhasari SEZ is located at a historical site at the foot of Mount Arjuna and serves as a supporting facility for *Bromo Tengger Semeru* Park. The area was the center of Southeast Asia's most influential kingdom in the 13th century. PT Intelegensia Grahatama is the Business Entity for the Development and Management (BUPP) of Singhasari SEZ, which is determined through Malang Regent Decree Number

188.45/305/KEP/35.07.013/2020 concerning the Business Entity for the Development and Management of Singhasari Special Economic Zone in Malang Regency. In the latest master plan, the zones in the Singhasari SEZ are divided into several sections. The first is the Creative & Innovation Hub. This zone consists of the Startup and Incubator Hub, the Edu Center, and the Digital Industry. Within the Edu Center, there is an education zone involving several universities, such as Universitas Muhammadiyah Malang, which will make a breakthrough by launching a Center for the Future of Work program in Singhasari, and Brawijaya University, which will build a Teaching Hotel in the Singhasari SEZ in 2024. The investment realization of Singhasari SEZ by 2023 amounted to 1.14 trillion rupiah, with a total workforce absorption of 476 people. The 12 companies listed in Table 1 have made investments.

Table 1. List of Companies in Singhasari SEZ

No	Company	Area
1.	PT Role Play Semesta	Digital Animation
2.	CV Skybox Digital Imagery	Digital Animation
3.	CV Heartz Agency	Digital Animation
4	PT Sekawan Media Informatika	IT programming & Coding
5.	PT Link Apisindo	IT programming & Coding
6.	PT Lokanima Kratif Nusantara	IT programming & Coding
7.	CV Hening Bekarya	IT programming & Coding
8	CV Orro Mellenia Maxima	IT programming & Coding

Sources: Website of Singhasari SEZ (2024)

This study will examine the influencing factors of SEZ development expectations in the Singhasari SEZ, East Java. SEZ management adopted from research by [14] and [15]. Although there have been several studies on SEZs in Indonesia [25]–[28], there are still a few on Singhasari SEZ. Extensive research on SEZs in Indonesia has been conducted, but no studies have examined the perceptions of SEZ performance among the surrounding community. Most of the research is also still being done on the Mandalika SEZ [26], [27], [29], [30], Batam SEZ [25], Bitung SEZ [21], [30], and Kendal SEZ [31]. Although there has been some research on the Singhasari SEZ, the research has only focused on the formulation of strategies for the SEZs [23], [24] governance [32] and community readiness [33]. This study will be particularly interesting because the Singhasari SEZ focuses not on manufacturing but on the creative economy, the digital sector, education, and tourism.

This study aims to examine the relationship between perceptions of the Singhasari SEZ's performance and expectations for economic and social development. Referring to [14], the perception of SEZ performance will be divided into four components: economic activities, location, management, and rights and privileges. In practice, the findings of this study have the potential to significantly enhance the impact of SEZs on economic and social development. This

study will evaluate the impact of the Singhasari SEZ on the surrounding community. This study is expected to contribute to the theoretical study of SEZs, a field that remains limited.

2. LITERATURE REVIEW

2.1. Special Economic Zones (SEZs)

Special Economic Zones (SEZs) are limited geographical areas located within a country to stimulate the local economy of a particular region [34] and are subject to different business rules as applicable in the national area [17]. Businesses operating in SEZs are given fiscal and non-fiscal incentives to encourage the country's competitive development [35]. SEZs usually have specific rules that are business-friendly [36]. SEZs can also be interpreted as specific territorial administrative units and focus on innovation, breakthrough technologies [37]. SEZs offer multiple labor and fiscal benefits that help enhance the region's economic development by generating quality jobs, driving export growth, attracting government investment, and facilitating technology transfer, to name a few [34]. Zones may be determined by specific legal norms, exceptions, and formal and informal practices that extend over particular territorial bounds, the specific contexts of which should be considered [38].

Special Economic Zones (SEZ) are specific territorial administrative units and initially focused on innovations, breakthrough technologies [37]. SEZs are a targeted economic policy instrument designed to foster territorial development through selective tax incentives and streamlined administrative procedures [39]. SEZs have been used by many developing countries as a policy tool to promote industrialization and economic transformation [40]. SEZ could attract investment and job creation based on local competitive commodities [21]. Previous studies has discussed about SEZs as follows:

Table 2. Research about Special Economic Zones (SEZ) based on Countries

Countries	Research
China	[1], [2], [4], [16], [40]–[44]
India	[5], [8], [9], [45]
Thailand	[11]–[16][10]
Africa	[35], [40], [46]
Indonesia	[23], [27], [28], [30], [32]
Russia	[47][48]

2.2. Hypotheses Development

Special economic zones (SEZs) are areas of a country that are subject to special business-friendly rules [36]. The purpose of SEZs is to attract direct investment, encourage exports, create jobs, facilitate the establishment of growth centers, and promote broader private-sector participation and development [35]. Therefore, the activities of SEZs aim to encourage economic development by accelerating employment and economic growth. SEZs play an important role in

the Indian contribution to the GDP [45]. The increased job opportunities and wage premiums inside SEZs for employees with high school education increase high school enrollment, while such opportunities and wages for employees with middle school education decrease enrollment (Lu et al., 2023). The study finds that the entry of SEZs increases employment and leads to a decline in income inequality at the district level [49].

H1. SEZ Economic activities significantly influence the economic development expectations in Malang Regency

H2. SEZ economic activities significantly influence the social development expectations in Malang Regency

SEZs are limited geographical areas within a country that stimulate economic activity in a region [34]. The study from [14] stated that location is a critical factor in managing SEZs, including the suitability of the location, area size, standard utilities, and master plan. SEZs with well-developed industrial infrastructure, combined with strategic locations and service provision within the zones, can attract investment [50]. Determining the location of the SEZ is crucial to its formation. Some considerations for the location of SEZs include sufficient scope and size, system infrastructure standards, and a clear SEZ master plan [14]. The special economic zone (SEZ) is an important place-based policy adopted by the Chinese government to stimulate regional and urban growth, and existing studies mainly focus on the impacts of SEZs on local economic outcomes and productivity [42]. Firms in SEZs prioritize regions with abundant labor over those with lower labor costs [51].

H3. SEZ location significantly influences the economic development expectations in Malang Regency

H4. SEZ location significantly influences the social development expectations in Malang Regency

SEZs are regulated areas that facilitate industrial activities and offer numerous incentives to enhance competitiveness and attractiveness [52]. China and other countries have demonstrated the benefits of SEZs and their economic impact on the local region [34]. SEZs can achieve the following goals: attract foreign investment, introduce advanced technologies for the production of goods and services, create new jobs for highly qualified personnel, and develop foreign trade [53]. Special economic zones (SEZs) are a popular policy tool for the promotion of economic development [50]. A study shows how SEZs can contribute to human capital development through education, vocational training, and collaboration with universities [54]. SEZs are often employed by the state as a development mechanism to attract foreign direct investment and as a key engine for rural transformation [43].

H5. SEZ management significantly influences the economic development expectations in Malang Regency

H6. SEZ management significantly influences the social development expectations in Malang Regency

SEZs are often given a flexible regulatory framework in operating, such as simplified administrative procedures and relaxed labor laws, which can enhance operational efficiency and

reduce bureaucratic hurdles [47], [55]. SEZs often provide significant tax benefits, including reduced or exempted income taxes, property taxes, and value-added taxes [48]. Tax incentives are expected to attract investors by reducing the cost of doing business. Special Economic Zones (SEZs) are designed to provide a more favorable business environment than that available elsewhere [56]. The 'special zones' have different goals but are primarily focused on attracting investment by creating favorable business conditions and providing tax benefits [47].

H7. SEZ right privilege significantly influences the economic development expectations in Malang Regency

H8. SEZ right privilege significantly influences the social development expectations in Malang Regency

3. RESEARCH METHOD

This research employs a quantitative approach to examine the associations between influencing SEZ management and development expectations (economic and social) in Singhasari Special Economic Zones (SEZs). The research involved participants in the Singhasari SEZ area of Singosari District, Malang Regency, East Java, Indonesia. All respondents will be asked about their perceptions of SEZ performance regarding development expectations in Malang Regency. All respondents were within 5km of the Singhasari SEZ. The researchers use accidental sampling. Accidental Sampling is a technique for selecting samples by chance, and anyone who happens to meet the researcher can be included in the sample if it is determined that the person is suitable as a data source [57]. Data collection in this study employed questionnaires distributed directly to target respondents in the Singhasari SEZ. Target respondents are businesses (especially SMEs), communities, and governments in the Singhasari SEZs area. Approval for data collection procedures was obtained from the Research Ethics Committee of the State University of Malang in 2025. The measurement instruments for SEZ development expectations (both economic and social) and SEZ management (economic activities, location, management, and right privilege) were based on items from [14] and [15]. Each variable consists of five items. The instrument used a five-point Likert scale of 1= "Strongly Disagree" and 5=" Strongly Agree".

All data will be analyzed with the Structural Equation Model-based Partial Least Squares (SEM-PLS). Data will be processed using SmartPLS 4.0. SEM-PLS can explain relationships among variables and perform analyses in a single test. The purpose of SEM-PLS is to assist researchers in testing theories and determining whether latent variables are related. According to Ghozali (2008), the PLS method can describe latent variables (not directly measurable) and measure them using items from each variable. The researcher uses SEM-PLS because this study employs latent variables measured by indicators (items), enabling more precise, detailed analyses.

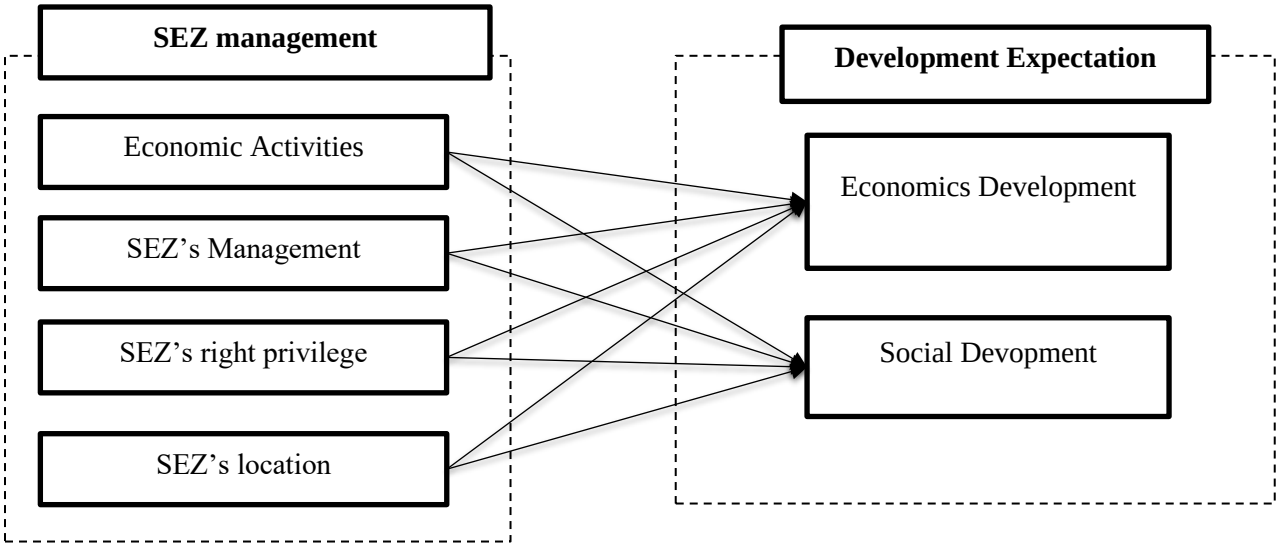

Figure 1. Research Model

Sources: Authors

4. RESULT & DISCUSSION

4.1. Respondents Profile

This study used accidental sampling. This method is a nonprobability sampling technique in which samples are selected based on availability and the researcher's ease of access. This data is distributed to business owners, employees, and people in the SEZ. This study used 159 respondents from the Singhasari Special Economic Zone and its surrounding areas. Based on gender, the respondents are 49.06% male and 50.94% female. The largest share of respondents is 30–39 years old, at approximately 29.56%. Others are 18-23 years old (about 27.04%) and more than 30 years old (about 21.38%).

4.2. Validity & Reliability Test

The processed data have been used to conduct validity and reliability tests. In the validity test, some items are invalid and must be excluded from the model because the loading factor value was less than 0.7 [58]. Based on the data, the authors exclude some items because their factor loadings are below 0.7. The items are one item from economic development expectation (ED5), one item from social development expectation (SD1), three items from SEZ economic activities (EA2, EA4, and EA5), three items from SEZ location (LC3, LC4, and LC5), and one item from SEZ Right Privilege (RP4). The reliability test results are shown in Table 3, which indicates that all variables were deemed reliable.

Table 3. Outer Loadings

Variable	Code	Items	Outer Loadings
Economic development expectation	ED1	In my opinion, the development of the Singhasari SEZ area should foster diverse economic activities for groups with varied interests across all fields.	0.900
	ED2	In my opinion, the development of the Singhasari SEZ area must provide a reasonable cost of living.	0.889
	ED3	In my opinion, with the development of the Singhasari SEZ area, the government must reduce the unemployment rate of the local community	0.897
	ED4	In my opinion, as the Singhasari SEZ area develops, the government must expand career opportunities for the local community.	0.713
Social development expectation	SD2	In my opinion, in developing the Singhasari SEZ, the government must widely and quickly disseminate knowledge, training, and development information to the local community.	0.818
	SD3	In my opinion, in developing the Singhasari SEZ, the government must improve public health and other public services to ensure comfort and sufficiency.	0.887
	SD4	In my opinion, during the development of the Singhasari SEZ, the government must ensure the safety of citizens' lives and property.	0.771
	SD5	In my opinion, during the development of the Singhasari SEZ, the government must address poverty in the local community.	0.867
SEZ Economics Activities	EA1	I think the special border economic zone in Singhasari can boost local industry and expand production.	0.824
	EA3	In my opinion, the special economic zone in Singhasari fosters networks and relationships for business continuity in line with the country's industrial structure.	0.872
SEZ location	LC2	In my opinion, the scope of the Singhasari special economic zone is adequate.	0.857
	LC1	In my opinion, the location of the special economic zone in Singhasari is the right area.	0.901
SEZ Management	MG1	In my opinion, the government should build and improve infrastructure, such as roads, water supply, and electricity, in the standard system in the Singhasari Special Economic Zone	0.738
	MG2	In my opinion, the government must prepare laws that are in accordance with specific areas to develop in the Singhasari Special Economic Zone	0.836
	MG3	In my opinion, the government must prepare a comprehensive plan and master plan for the Singhasari Special Economic Zone with the active participation of the community	0.840
	MG4	In my opinion, the government must form a working mechanism from various community groups to integrate the development dimension as a whole in the Singhasari Special Economic Zone	0.882
	MG5	In my opinion, the government must improve freight transportation and customs services by implementing an easy, one-stop integrated service centre in the Singhasari Special Economic Zone.	0.715
SEZ Right Privilege	RP1	In my opinion, the government should have laws that establish a system of benefits and measures to include all groups and protect people's rights fairly.	0.778
	RP2	In my opinion, the government must strengthen the agricultural and tourism industry in the Singhasari Special Economic Zone	0.758
	RP3	In my opinion, the government should develop human resources to provide education to improve the quality of life of the people around the Singhasari Special Economic Zone.	0.889
	RP5	In my opinion, the government must give priority to strengthening public networks, such as the right to collaborate in the development of the Singhasari Special Economic Zone	0.763

Sources: Data Processed by SmartPLS

In evaluating reliability, researchers use Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). The ideal value for Cronbach's α and CR is greater than 0.7, while the AVE value is acceptable when the AVE value is greater than 0.5 (AVE ≥ 0.5). Although there is a Cronbach's alpha (CA) value that is below 0.7, the value is acceptable because it is greater than AVE 0.5 [59], so that all variables are declared reliable (Table 4).

Table 4. Cronbach's alpha, Construct Reliability & AVE

	CA	CR	AVE	Decision
SEZ Economics activities	0.613	0.837	0.720	Reliable
SEZ Location	0.708	0.872	0.773	Reliable
SEZ Management	0.862	0.901	0.648	Reliable
SEZ Right Privilage	0.811	0.875	0.638	Reliable
Economic development expectation	0.872	0.914	0.728	Reliable
Social development expectation	0.821	0.875	0.586	Reliable

Sources: Data Processed by SmartPLS

Discriminant validity was evaluated using the Fornell-Larcker criterion [59]. Table 5 shows that the square root of the AVE for each construct is always greater than the highest correlation with any other construct, thereby ensuring discriminant validity of the measurement model.

Table 5. Fornell-Larcker criterion

	1	2	3	4	5	6
(1) Economic development expectation	0.853					
(2) SEZ Economics activities	0.423	0.849				
(3) SEZ Management	0.685	0.462	0.805			
(4) SEZ Right Privilege	0.743	0.457	0.694	0.799		
(5) Social development expectation	0.734	0.509	0.696	0.656	0.837	
(6) SEZ location	0.342	0.336	0.405	0.274	0.226	0.879

Sources: Data Processed by SmartPLS

4.3. Hypothesis Test

Prior to evaluating the structural model, we assessed collinearity among the constructs, as recommended by [59]. Table 6 presents the collinearity statistics (VIF) for the construct relationships in the structural model. All values are below the threshold of 5, indicating acceptability.

Table 6. Structural model VIF values

	(1)	(2)	(3)	(4)	(5)	(6)
(1) Economic development expectation						
(2) SEZ Economics activities					1.382	
(3) SEZ Management	2.133				2.191	
(4) SEZ Right Privilege	1.928				2.025	
(5) Social development expectation						
(6) SEZ location	1.196				1.241	

Sources: Data Processed by SmartPLS

R Square (R^2), or the coefficient of determination, reflects the proportion of the variation in the dependent variable that the independent variables in the model explain. R-squared values range between 0 and 1. The R^2 values for SEZ, the economic and social development expectation, are shown in Table 7.

Table 7. R Squared and Q Squared

	R2	*Q2predict*
Economic development expectation	0.613	0.580
Social development expectation	0.578	0.546

Sources: Data Processed by SmartPLS

Q-Square Predictive Relevance (Q^2) measures the extent to which observations can be used to generate results for the research model. Q^2 values range from 0 to 1. The closer we get to lift 1, the better the research model will be. According to [60], the criterion is divided into three categories: the strong research model ($Q^2 = 0.35$), the moderate research model (Q2 = 0.15), and the weak research model ($Q^2 = 0.02$). Based on the Q^2 values in Table 7, the values are 0.580 and 0.546, respectively, which are classified as strong.

The next stage in evaluating the structural model (inner model) is to test the effect size (f^2). The effect size test (f^2) is a measure used to assess the relative impact of predictor constructs on endogenous constructs (Hair et al., 2023). The value criteria for f^2 are that, when f^2 is 0.02, 0.15, or 0.35, the predictor of the latent variable has small, medium, and large effects, respectively.

Table 8. The Effect Size Test (f^2)

	f-square	Decision
SEZ Economics Activities → Economic development expectation	0.003	Low
SEZ location → Economic development expectation	0.011	Low
SEZ Management → Economic development expectation	0.103	Medium
SEZ Right Privilege → Economic development expectation	0.319	Large
SEZ Economics Activities → Social development expectation	0.067	Medium
SEZ Location → Social development expectation	0.019	Low
SEZ Management → Social development expectation	0.224	High
SEZ Right Privilage → Social development expectation	0.086	Medium

Sources: Data Processed by SmartPLS

Based on the results shown in the table, the influence of SEZ economic activities in the Singhasari SEZ on the economic development expectation in Malang Regency was not statistically significant ($\beta = 0.040$, t-value = 0.501, $p > 0.05$), so hypothesis H1 is not supported. Likewise, the SEZ location had no significant influence on economic development expectations ($\beta = 0.072$, t-value = 1.101, $p > 0.05$), indicating that H3 is not supported. On the other hand, SEZ management had a significant positive effect on economic development expectation ($\beta = 0.293$, $t = 3.760$, $p < 0.001$), supporting hypothesis H5. The SEZ Right Privilege also had a significant positive effect on economic development expectation ($\beta = 0.501$, $t = 6.655$, $p < 0.001$), supporting hypothesis H7.

In addition, the influence of SEZ economic activities in Singhasari SEZ on social development expectations in Malang Regency was found to be significantly positive (β = 0.200, t-value = 2.852, p < 0.01), supporting H2. However, SEZ Location has a non-significant negative effect on social development expectations (β = -0.100, t = 1.710, p > 0.05), so hypothesis H4 is not supported. SEZ Management had a significant positive influence on social development expectation (β = 0.455, t-value = 5.480, p < 0.001), supporting H6. Likewise, the influence of SEZ Right Privilege on Social Development was significant (β = 0.274, t-value = 3.279, p < 0.01), supporting hypothesis H8.

Table 9. Hypotheses Test

Paths	Coef.	t-value	Decision
H1: SEZ Economics Activities → Economic development expectation	0.040	0.501	No
H2: SEZ Economics Activities → Social development expectation	0.200	2.852***	Yes
H3: SEZ location → Economic development expectation	0.072	1.101	No
H4: SEZ Location → Social development expectation	-0.100	1.710	No
H5: SEZ Management → Economic development expectation	0.293	3.760***	Yes
H6: SEZ Management → Social development expectation	0.455	5.480***	Yes
H7: SEZ Right Privilage → Economic development expectation	0.501	6.655***	Yes
H8: SEZ Right Privilage → Social development expectation	0.274	3.279***	Yes

Sources: Data Processed by SmartPLS; Note: *p < 0.10. **p < 0.05. *** p < 0.01.

4.2. Discussion

After making a sharp jump in 2022 after COVID-19, SEZs made a significant contribution again in 2023. Investment realisation in 20 SEZs across Indonesia reached IDR 177.5 trillion by the end of 2023. Of this amount, 85% (IDR150.9 trillion) is realised by business actors. At the same time, the remaining 15% (IDR 26.6 trillion) is the realisation of non-State Budget Business Entities. Throughout 2023, 117,492 workers were absorbed across various regions, with the number of business actors reaching 331. Like other SEZs in Indonesia, Singhasari SEZ must navigate significant global economic headwinds that have affected Indonesia since the onset of the COVID-19 pandemic. This condition encourages Singhasari SEZ to shift its focus from tourism development to the digital and creative industries.

This study failed to demonstrate a relationship between economic activities within the Singhasari SEZ and expectations for economic development in Malang Regency. In addition, economic activities in the Singhasari SEZ significantly influenced expectations for social development in Malang Regency. The researcher found that businesses in the digital and creative sectors of the Singhasari SEZ are quite flexible in their working arrangements. They can collaborate from various locations (e.g., remote work) to complete projects efficiently. This condition differs from that in the tourism sector, which can encourage rapid economic growth in

the surrounding community and optimally absorb labor. The digital sector in the Singhasari SEZ is gradually creating new business opportunities for the surrounding community.

In terms of location, researchers did not find that the Location of Singhasari SEZ has no effect on both economic and social development expectations in Malang Regency. The presence of the *Pandaan-Malang* Toll Road has reduced traffic density in Singosari District, which is home to the Singhasari SEZ. Most tourists prefer to use toll roads that bypass the *Singosari* District (Figure 2). The location of the Singhasari SEZ is also relatively distant from the centre of population in both Malang Regency and Malang City. However, Teangsompong (2016) stated that location is a critical factor in managing SEZ, including the border of a suitable location, the area size, standard utility, and master plan. Explanations of SEZ success or failure often concern the quality of the infrastructure, location, and zone size [46].

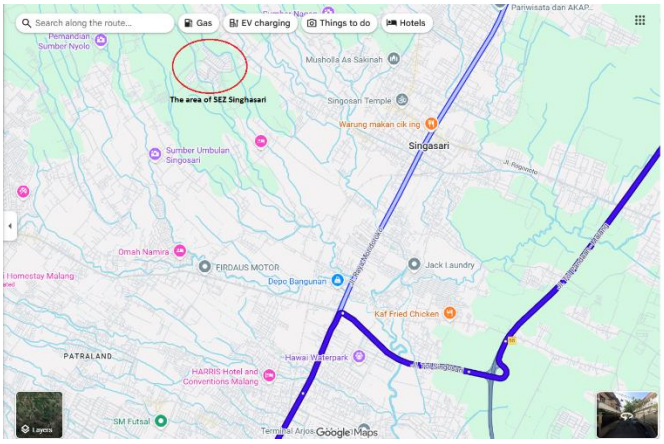

Figure 2. Malang City Access via Toll Road

SEZ management in the Singhasari SEZ has been shown to influence expectations regarding economic and social development in Malang Regency. The activities of various companies in the Singhasari SEZ have been clearly evident, particularly in the digital and creative industries. IT programming and coding companies have undertaken various international projects. From the technology zone (Lokatekno) to the coding factory, companies have undertaken projects abroad. Most of these businesses are creative industry businesses (startups) incorporated in Singhasari Animation Factory and Content Garage. This area provides flexibility for all companies (IT or digital creative) to collaborate and drive innovation in one place. Sharing production factors can accelerate the flow of knowledge and promote innovation [3]. SEZs have a single management or administration, offer benefits to investors physically located within the zone, and have a separate customs area (duty-free benefits) and streamlined procedures [46].

The right privilege of the Singhasari SEZ in this study is also shown to influence both economic and social development expectations in Malang Regency. Various fiscal and non-fiscal

incentives for SEZs in Indonesia are provided to attract investment and encourage economic growth. Many SEZs offer a liberalized business climate and lower taxes and tariffs [19]. In the fiscal sector, SEZs receive exemption facilities for the delivery of Taxable Goods (BKP) and/or Taxable Services (JKP) from Other Places Within the Customs Area (TLDDP), free zones, and bonded stockpiles to Business Entities and/or Business Actors in SEZs (kek.go.id). SEZs also get exemption or suspension of import duties and no collection of PDRI on imports of capital goods for the construction or development of SEZs, as well as other customs and excise facilities for business actors who have completed the construction or development stage. This facility is based on Government Regulation No. 40 of 2021 concerning the Implementation of Special Economic Zones.

The development of the Singhasari SEZ requires strong collaboration with multiple stakeholders. SEZs' purpose is to attract foreign investment and facilitate corporate export business, investment, economic growth, and job creation [61]. The government should build supported facilities and infrastructure. Zeng (2015) define key factors that contribute in SEZ (with a focus on China & Africa): (a) strong commitment & support of the government to pilot market-oriented economic reforms, (b) land reforms, (c) investment incentive and institutional autonomy, (d) foreign direct investment and Chinese diaspora, (e) Technology learning, innovation, upgrading, and strong links with the domestic economy, (f Innovative culture, (g) clear objective, benchmarks, & competition, and (h) location advantage.

5. CONCLUSION

This study failed to confirm the influence of SEZ economic activities and SEZ Location in the Singhasari SEZ on the economic development expectations in Malang Regency. Nevertheless, SEZ management and SEZ right privilege have been shown to influence economic development expectations in Malang Regency. In addition, economic activities, SEZ management, and SEZ rights and privileges in the Singhasari SEZ have been shown to affect the social development expectation in Malang Regency. Lastly, the location has not been shown to affect expectations for social development in Malang Regency. Singhasari SEZ has shifted from the tourism sector to the digital and creative industries. From the technology zone (*Lokatekno*) to the coding factory, companies have undertaken projects abroad. This research recommends increasing infrastructure and facilities to support the location of the Singhasari SEZ, as key determinants of SEZ success. The development of the Singhasari SEZ requires strong collaboration with multiple stakeholders. The purpose of SEZs is to attract foreign investment and facilitate corporate export business, economic growth, and job creation.

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Data Availability Statement: The data supporting the findings of this study are available upon reasonable request from the corresponding author. The data are not publicly available due to information that could compromise the privacy of research participants

Conflicts of Interest: The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

[1] C.D. Stoltenberg, China's Special Economic Zones: Their Development and Prospects, Asian Surv. 24 (1984), 637-654. https://doi.org/10.2307/2644396.

[2] J. Wang, The Economic Impact of Special Economic Zones: Evidence from Chinese Municipalities, J. Dev. Econ. 101 (2013), 133-147. https://doi.org/10.1016/j.jdeveco.2012.10.009.

[3] M. Wu, C. Liu, J. Huang, The Special Economic Zones and Innovation: Evidence from China, China Econ. Q. Int. 1 (2021), 319-330. https://doi.org/10.1016/j.ceqi.2021.11.004.

[4] Z. Liang, Foreign Investment, Economic Growth, and Temporary Migration: The Case of Shenzhen Special Economic Zone, China, Dev. Soc. 28 (1999), 115–137. http://www.jstor.org/stable/deveandsoci.28.1.115.

[5] M.A. Anwar, P. Carmody, Bringing Globalization to the Countryside: Special Economic Zones in India, Singap. J. Trop. Geogr. 37 (2016), 121-138. https://doi.org/10.1111/sjtg.12146.

[6] R. Jenkins, L. Kennedy, P. Mukhopadhyay, K.C. Pradhan, Special Economic Zones in India, Environ. Urban. ASIA 6 (2015), 1-17. https://doi.org/10.1177/0975425315585426.

[7] M. Levien, The Land Question: Special Economic Zones and the Political Economy of Dispossession in India, J. Peasant Stud. 39 (2012), 933-969. https://doi.org/10.1080/03066150.2012.656268.

[8] M. Levien, Special Economic Zones and Accumulation by Dispossession in India, J. Agrar. Change 11 (2011), 454-483. https://doi.org/10.1111/j.1471-0366.2011.00329.x.

[9] D. Shah, Special Economic Zones in India: a Review of Investment, Trade, Employment Generation and Impact Assessment, Indian J. Agric. Econ. 64 (2009), 431-441.

[10] A.R. Anuar, A. Harun, Malaysia-Thailand Cross Border Trade and Cross Border Special Economic Zone Potential: a Case Study of Rantau Panjang-Sungai Kolok Cross Border Town, J. Int. Stud. 14 (2018), 119–139.

[11] W. Durongkaveroj, The Economic Impact of Special Economic Zones: Evidence from Thailand, Kasetsart J. Soc. Sci. 44 (2023), 377–386.

[12] C. Kaewkanta, Y. Suma, P. Kiattisaksiri, N. Eaktasang, Municipal Solid Waste Management in Special Economic Zone (SEZ) in North Thailand, Multicult. Educ. 8 (2022), 93-101.

[13] A. Romyen, The Development of Special Economic Zone and the Cluster Approaches: The Case in

Southern Thailand, Kasetsart J. Soc. Sci. 42 (2021), 463–472.
[14] T. Teangsompong, Regional Public Management for the Special Border Economic Zones: a Case Study of the Kanchanaburi Province, Thesis, Mahidol University, 2016.
[15] T. Teangsompong, S. Sirisunhirun, Multi-Level Structural Equation Modeling for City Development Based on the Expectations of the Local Population in a Special Border Economic Zone in Western Thailand, Kasetsart J. Soc. Sci. 39 (2018), 534-541. https://doi.org/10.1016/j.kjss.2017.08.002.
[16] S. Wahyuni, E.S. Astuti, K.M. Utari, Critical Outlook at Special Economic Zone in Asia: a Comparison between Indonesia, Malaysia, Thailand and China, J. Indones. Econ. Bus. 28 (2013), 336–346.
[17] S. Hardaker, Embedded Enclaves? Initial Implications of Development of Special Economic Zones in Myanmar, Eur. J. Dev. Res. 32 (2020), 404-430. https://doi.org/10.1057/s41287-020-00271-2.
[18] A. Fauzi, M. Huseini, A.Y.S. Rahayu, Designing Strategies to Improve the Competitiveness of Special Economic Zones, Technium Soc. Sci. J. 31 (2022), 22-43. https://doi.org/10.47577/tssj.v31i1.6358.
[19] L. Moberg, The Political Economy of Special Economic Zones, J. Inst. Econ. 11 (2014), 167-190. https://doi.org/10.1017/S1744137414000241.
[20] D.Z. Zeng, The Past, Present, and Future of Special Economic Zones and Their Impact, J. Int. Econ. Law 24 (2021), 259-275. https://doi.org/10.1093/jiel/jgab014.
[21] A.O. Moeis, A.A. Gita, A.R. Destyanto, I. Rahman, A. Hidayatno, et al., Policy Analysis of Coastal-Based Special Economic Zone Development Using System Dynamics, Int. J. Technol. 15 (2024), 195. https://doi.org/10.14716/ijtech.v15i1.5498.
[22] N.J. Lailatul Fitria, Kawasan Ekonomi Khusus Singosari Sebagai Pembangunan Berkelanjutan Dengan Tema Heritage and Historical Tourism Berbasis Teknologi, Indones. J. Public Adm. 8 (2022), 5396. https://doi.org/10.52447/ijpa.v8i1.5396.
[23] S.F. Durrety, Collaborative Governance in the Development of Singhasari Special Economic Zone, J. Transform. Gov. Soc. Justice 2 (2024), 42–54.
[24] B.K. Ardiansyah, K. Sadhana, D.S. Adi, Singhasari Special Economic Zone Development Strategy in Malang Regency, Int. J. Res. Soc. Sci. Humanit. 05 (2024), 51-62. https://doi.org/10.47505/IJRSS.2024.1.5.
[25] A.F. Aritenang, A.N. Chandramidi, The Impact of Special Economic Zones and Government Intervention on Firm Productivity: The Case of Batam, Indonesia, Bull. Indones. Econ. Stud. 56 (2020), 225-249. https://doi.org/10.1080/00074918.2019.1643005.
[26] R.H. Sayuti, M. Taqiuddin, Hayati, A. Evendi, S.A. Hidayati, et al., Socio-Economic Mapping for Community Empowerment in Mandalika Special Economic Zone, Lombok, Indonesia, IOP Conf. Ser. Earth Environ. Sci. 1253 (2023), 012067. https://doi.org/10.1088/1755-1315/1253/1/012067.
[27] L. Suryade, A. Fauzi, N.A. Achsani, E. Anggraini, Towards Sustainable Development of the Mandalika Special Economic Zone, Central Lombok, Indonesia: Analysis of Actors, J. Environ. Manag. Tour. 12 (2021), 1729-1740. https://doi.org/10.14505//jemt.v12.6(54).28.
[28] N.H. Sa'dia, A. Fitrady, Evaluation of Special Economic Zone (SEZ) Impact on Economic Growth: Evidence of Simalungun Regency, North Sumatera, Indonesia, Int. Rev. Spat. Plan. Sustain. Dev. 11 (2023), 113-130. https://doi.org/10.14246/irspsd.11.4_113.
[29] L. Adam, Promoting the Indonesian Special Economic Zones for Tourism: Lessons from Mandalika

and Tanjung Kelayang, Econ. Finance Indones. 65 (2019), 33. https://doi.org/10.47291/efi.v65i1.609.

[30] E.S. Rustidja, A. Purnamawati, R. Setiawati, Investment Promotion for Community Economic Development of Special Economic Zone: Study of SEZ Mandalika and Bitung in Indonesia, Eur. J. Econ. Bus. Stud. 3 (2017), 138–147.

[31] I.W. Wardhana, I. Riesfandiari, E. Jamal, V.W. Hanifah, P. Pihri, et al., Does a Special Economic Zone Impact the Surrounding Economy? The Case Study of Kendal, Indonesia, Humanit. Soc. Sci. Commun. 12 (2025), 225. https://doi.org/10.1057/s41599-025-04448-0.

[32] D. Cahyandari, E. Susilo, S. Hadiyantina, N.D. Prasetyo, A.P. Supriyadi, et al., Integrating Good Governance and Digitalisation: A New Breakthrough in the Special Economic Zone of Singhasari, Al-Daulah J. Huk. Perundangan Islam 12 (2022), 238-268. https://doi.org/10.15642/ad.2022.12.2.238-268.

[33] L. Amiruddin, G.M. Rozalinna, P. Yunita, The Vague Awareness of Communities in the Singhasari Special Economic Zone Development during the COVID-19 Pandemic, Society 9 (2021), 490–503.

[34] N.M. Cid García, N. Alvarez Jarquin, M.L. Ruvalcaba Sánchez, J.G. Correa Medina, Delineation of Special Economic Zones Using Integer Linear Programming, DYNA 86 (2019), 141-150. https://doi.org/10.15446/dyna.v86n209.74839.

[35] L. Mukorera, H. Zvoushe, D.E. Uwizeyimana, A Review of the Operationalisation of Special Economic Zones in Zimbabwe, Afr. Renaiss. 18 (2021), 227–252.

[36] A. Dörre, Special Economic Zones as a Motor of Development? Reviewing the Claims and Reality in Tajikistan, Geogr. Rundsch. 73 (2021), 10–15.

[37] T.O. Dyukina, S.G. Gorbushina, Special Economic Zones as Condition of Development of the Territory: Russian Experience, in: Proceedings of the 29th International Business Information Management Association Conference - Education Excellence and Innovation Management through Vision 2020: From Regional Development Sustainability to Global Economic Growth, pp. 2571–2581, 2017.

[38] J. Doucette, S. Lee, Experimental Territoriality: Assembling the Kaesong Industrial Complex in North Korea, Polit. Geogr. 47 (2015), 53-63. https://doi.org/10.1016/j.polgeo.2015.04.001.

[39] R. Geraci, Tax Profiles and Functioning of Special Economic Zones (SEZs) in Sicily, Federalismi.it 2025 (2025), 132–147.

[40] D.Z. Zeng, Global Experiences with Special Economic Zones: Focus on China and Africa, Policy Research Working Paper No. 7240. World Bank, 2015. https://doi.org/10.1596/1813-9450-7240.

[41] F. Lu, W. Sun, J. Wu, Special Economic Zones and Human Capital Investment: 30 Years of Evidence from China, Am. Econ. J. Econ. Policy 15 (2023), 35-64. https://doi.org/10.1257/pol.20200492.

[42] D. Huang, Y. Wang, L. Zheng, Is the Special Economic Zone an Effective Policy Tool for Promoting Polycentricity? Evidence from China, J. Geogr. Sci. 34 (2024), 2166-2192. https://doi.org/10.1007/s11442-024-2288-x.

[43] P. Laungaramsri, S. Sengchanh, Negotiating Post-resettlement Livelihoods: the Chinese Special Economic Zone and Its Impact in Northwestern Laos, Can. J. Dev. Stud. 40 (2018), 482-498. https://doi.org/10.1080/02255189.2019.1524748.

[44] K. Wong, China's Special Economic Zone Experiment: An Appraisal, Geogr. Ann., Ser. B, Hum. Geogr. 69 (1987), 27-40. https://doi.org/10.1080/04353684.1987.11879532.

[45] R. Sarojadevi, J. Sudarvel, A Systematic Analysis and Statistical Modeling of Wideband SEZs, in: 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), IEEE, 2021, pp. 1706-1710. https://doi.org/10.1109/ICACCS51430.2021.9442050.

[46] T. Farole, Special Economic Zones in Africa: Comparing Performance and Learning from Global Experience, World Bank, 2011. http://documents.worldbank.org/curated/en/996871468008466349.

[47] N.N. Boyko, R.M. Usmanova, State Regulation of Special Economic Zones in Russia, J. Adv. Res. Law Econ. 9 (2018), 48-57. https://doi.org/10.14505//jarle.v9.1(31).07.

[48] E. Anatolevna, N. Vladislavovna, Retrospective Analysis of Development of Special Economical Zones in the Russian Federation, Mediterr. J. Soc. Sci. (2015), 319–328. https://doi.org/10.5901/mjss.2015.v6n3s3p319.

[49] M. Brussevich, The Socioeconomic Impact of Special Economic Zones: Evidence from Cambodia, World Econ. 47 (2023), 362-387. https://doi.org/10.1111/twec.13526.

[50] S.A. Frick, A. Rodríguez-Pose, What Draws Investment to Special Economic Zones? Lessons from Developing Countries, Reg. Stud. 57 (2023), 2136-2147. https://doi.org/10.1080/00343404.2023.2185218.

[51] P. Ciżkowicz, M. Ciżkowicz-Pękała, P. Pękała, A. Rzońca, Why Do Some Special Economic Zones Attract More Firms than Others? Panel Data Analysis of Polish Special Economic Zones, Prag. Econ. Pap. 30 (2021), 61-89. https://doi.org/10.18267/j.pep.763.

[52] D.S. Pellicanò, M.R. Trecozzi, Methodologies for Sustainable Development of TEN-T/RFC Corridors and Core Ports: Public Incentives for Industrial Activities Location in Port Related Areas, in: O. Gervasi, et al. (eds) Computational Science and Its Applications – ICCSA 2023 Workshops, Lecture Notes in Computer Science, Vol 14110, Springer, Cham, (2023).

[53] T.N. Selentyeva, M.V. Ivanov, V.V. Talov, N.U. Azarenko, Development of Proposals to Increase Efficiency of Use of Provided Funds at the Organization of Special Economic Zones in Russian Federation, in: Proceedings of the 32nd International Business Information Management Association Conference, IBIMA 2018 - Vision 2020: Sustainable Economic Development and Application of Innovation Management from Regional Expansion to Global Growth, pp. 8266–8273, 2018.

[54] Y. Alibay, M. Onuchko, M. Zhakyp, T. Morozova, M. Ponomarenko, SEZ «Qyzyljar» as a Platform for Human Capital and Educational Development in the Border Region of Kazakhstan, J. Educ. Soc. Res. 15 (2025), 50-64. https://doi.org/10.36941/jesr-2025-0199.

[55] P. Delimatsis, Financial Services Trade in Special Economic Zones, J. Int. Econ. Law 24 (2021), 277-297. https://doi.org/10.1093/jiel/jgab023.

[56] T. Dorożyński, J. Świerkocki, W. Urbaniak, The FDI Inflow to Special Economic Zones in Poland, in: Contemporary Studies in Economic and Financial Analysis, Emerald Group Publishing Limited, 2016: pp. 135-159. https://doi.org/10.1108/S1569-375920160000098009.

[57] Sugiyono, Metode Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif, dan R&D), Alfabeta, Bandung, 2014.

[58] J. Hair, A. Alamer, Partial Least Squares Structural Equation Modeling (PLS-SEM) in Second Language and Education Research: Guidelines Using an Applied Example, Res. Methods Appl. Linguist. 1 (2022), 100027. https://doi.org/10.1016/j.rmal.2022.100027.

[59] J.F. Hair, M. Sarstedt, L. Hopkins, V.G. Kuppelwieser, Partial Least Squares Structural Equation Modeling (PLS-SEM), Eur. Bus. Rev. 26 (2014), 106-121. https://doi.org/10.1108/EBR-10-2013-0128.

[60] I. Ghozali, H. Latan, Partial Least Squares Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 3.0, Badan Penerbit Universitas Diponegoro, Semarang, 2015.

[61] C. Buonocore, F. Carlucci, L. Ciciarelli, A. Papola, F. Tinessa, et al., Accessibility Analysis in Spatial Planning: a Case of Special Economic Zones (SEZs) in Campania, Southern Italy, Land Use Policy 132 (2023), 106763. https://doi.org/10.1016/j.landusepol.2023.106763.