Available online at: http://journal.uinsgd.ac.id/index.php/ks
Khazanah Sosial, Vol. 7 No. 1: 141-159

DOI: 10.15575/ks.v7i1.44600

Assessing the Socio-Economic Impacts of the PLBN Entikong National Strategic Project in Entikong District, Sanggau Regency

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Abstract

This research examines the socio-economic impacts of the PLBN Entikong national strategic project on the community in Entikong District, Sanggau Regency. mploying a quantitative approach, the research utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS software to analyze the relationships between infrastructure development and community welfare indicators. Data were collected through purposive sampling, involving 50 respondents selected for their direct engagement with the project, and triangulated through structured questionnaires and field observations. The analysis confirms statistically significant positive impacts of the PLBN Entikong project on both social and economic dimensions, as evidenced by T-statistic values exceeding 1.96 ($p < 0.01$). Social improvements include enhanced community collaboration and cultural integration, while economic benefits manifest in increased local trade activity and income growth. However, disparities in policy implementation—such as limited local vendor participation (68% exclusion) and underutilized human resource budgets (22% absorption)—highlight systemic gaps requiring redress. These findings underscore the project's role as a catalyst for inclusive development while emphasizing the need for participatory governance and adaptive policy frameworks. The study contributes actionable insights for optimizing border development strategies and advancing equitable socio-economic outcomes in Indonesia's marginalized frontier regions.

Keywords: PLBN Entikong, socio-economic development, border communities, inclusive growth, policy implementation

Abstrak

Penelitian ini mengkaji dampak sosial-ekonomi dari proyek strategis nasional PLBN Entikong terhadap masyarakat di Kecamatan Entikong, Kabupaten Sanggau. Dengan pendekatan kuantitatif, penelitian menggunakan metode *Partial Least Squares Structural Equation Modeling (PLS-SEM)* melalui perangkat lunak *SmartPLS* untuk menganalisis hubungan antara pembangunan infrastruktur dan indikator kesejahteraan masyarakat. Data dikumpulkan melalui teknik purposive sampling yang melibatkan 50 responden terpilih berdasarkan keterlibatan langsung dengan proyek, diverifikasi melalui kuesioner terstruktur dan observasi lapangan. Hasil analisis mengonfirmasi dampak positif signifikan secara statistik dari PLBN Entikong pada aspek sosial dan ekonomi, dengan nilai T-statistik >1,96 ($p < 0,01$). Peningkatan sosial mencakup kolaborasi komunitas yang lebih kuat dan integrasi budaya, sementara manfaat ekonomi tercermin dari lonjakan perdagangan lokal dan pertumbuhan pendapatan. Namun, disparitas implementasi kebijakan seperti eksklusi 68% vendor lokal dalam pengadaan proyek dan penyerapan anggaran pengembangan SDM hanya 22%—menyoroti kesenjangan sistemik yang perlu diatasi. Temuan ini menegaskan peran proyek sebagai katalis pembangunan inklusif, sekaligus menekankan pentingnya tata kelola partisipatif dan kerangka kebijakan adaptif. Penelitian ini memberikan rekomendasi praktis untuk mengoptimalkan strategi pembangunan perbatasan serta memajukan hasil sosial-ekonomi berkeadilan di wilayah marjinal Indonesia.

Kata Tata Kelola Lingkungan, Kolaborasi *Multi-stakeholder*, Penegakan Peraturan dan Transparansi Kebijakan, Tata Kelola Partisipatif.

Received: March 11, 2025; Revised: April 16, 2025; Accepted: April 20, 2025

INTRODUCTION

Indonesia's border regions serve as vital pillars of national sovereignty and dynamic gateways for transnational economic and socio-cultural collaboration (Josafath, 2021). President Joko Widodo's assertion that these areas must evolve into "the nation's front porch and economic showcase" Sekretariat Presiden Republik Indonesia, (2024) encapsulates their dual role as both territorial safeguards and engines of inclusive development. This vision transcends conventional perceptions of borders as static demarcations, instead framing them as integrated zones where geopolitical stability intersects with equitable economic progress, socio-cultural exchange, and political cooperation (Sekretariat Presiden Republik Indonesia, 2024). Yet, transforming this aspirational framework into tangible outcomes requires navigating multifaceted barriers that have historically stifled growth in these strategically critical areas.

Communities residing in Indonesia's border regions grapple with interconnected socio-economic and environmental crises that perpetuate cycles of deprivation. Endemic poverty, documented by (Atem & Niko, 2020), coexists with acute gaps in education and healthcare access, leaving populations vulnerable to systemic exclusion (Wuysang et al., 2024). Compounding these issues, illegal activities such as unregulated land clearing have triggered ecological degradation, destabilizing local livelihoods (Uhaib et al., 2022). Meanwhile, economic disparities with neighboring nations exacerbate feelings of marginalization, as border communities witness stark contrasts in infrastructure quality and trade opportunities (Hutabarat, 2022). Geographical isolation further entrenches these challenges; inadequate transportation networks and energy shortages—common in areas like Entikong District—hinder market access and service delivery (Yosada, 2020). For instance, household incomes in Entikong average 40% below Indonesia's national threshold (BPS Kabupaten Sanggau, 2023), a disparity underscoring the urgency of targeted policy interventions to break this cycle of inequity.

Despite these challenges, border regions possess untapped potential as hubs for cross-border synergies. Local resources—such as agricultural products, handicrafts, and cultural assets—could drive niche markets if supported by targeted infrastructure . (Rahma Sagita et al., 2024.). Studies on ASEAN border zones highlight how strategic investments in connectivity can amplify regional trade by up to 300% (Roberts et al., 2023). However, realizing this potential requires overcoming structural barriers, including fragmented policies and weak private-sector engagement (Elyta, 2021).

National strategic projects like PLBN Entikong are designed to address these barriers by physically and economically integrating border areas. As nodes of legal trade and cultural exchange, PLBNs can reduce dependency on informal (and often illegal) cross-border activities, which currently account for 35% of local livelihoods in Entikong (Bappenas, 2023). Historically, similar initiatives in Nusantara and Malaysia's Sarawak have demonstrated that border modernization, when paired with capacity-building, can elevate GDP per capita by 15–20% within a decade (ADB, 2021).

Recognizing these systemic challenges, the Indonesian government initiated the Border Integrated Development Movement (GERBANGDUTAS) as a comprehensive policy response, legally grounded in Law No. 43/2008 concerning state territory management. This legislative framework led to the creation of the National Border Management Agency (BNPP), tasked with overseeing strategic initiatives—including the development of Pos Lintas Batas Negara (PLBN) facilities like the PLBN Entikong project. While these border posts are designed to stimulate economic activity and strengthen socio-cultural ties between neighboring regions (Tavipiyono, 2016), empirical studies reveal significant implementation gaps. For example, Finambello & Suprojo, (2019) found that local communities often remain excluded from PLBN-related economic opportunities, while Ristiawan et al., (2019). Documented persistent disparities in access to essential services such as healthcare and education near border areas (Gevisioner et al., 2013).

 ISSN 2715-8071 (online)

Against this backdrop, the present study seeks to critically assess the socio-economic effects of the PLBN Entikong initiative on surrounding communities. Specifically, it addresses two central questions: (1) To what extent has the project influenced local income levels and employment opportunities? (2) How effectively has it improved access to critical public services, particularly education and healthcare? By examining these dimensions, the research aims to provide actionable insights for optimizing border development strategies and ensuring more equitable outcomes for affected populations.

The implementation of periodic evaluations for the PLBN Entikong project serves as a critical mechanism for evidence-based policy refinement (Bangun, 2021). This study employs a robust quantitative methodology, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the complex relationships between PLBN development variables and community welfare indicators. The PLS-SEM approach was specifically selected for its ability to handle small sample sizes while simultaneously assessing measurement and structural models, making it particularly suitable for studying border region development (Hair et al., 2019).

The anticipated findings are expected to yield three significant contributions: first, practical recommendations for enhancing multi-stakeholder collaboration between government entities, private sector actors, and local communities in PLBN management (Thane et al., 2023); second, empirical insights into the project's effectiveness in fostering inclusive growth; and third, a validated framework for assessing similar strategic initiatives in remote regions. These outputs will directly address current gaps in both policy implementation and academic discourse regarding national development projects in peripheral areas (Ridayani et al., 2023).

By combining rigorous statistical analysis with on-the-ground impact assessment, this research aims to establish a replicable model for evaluating border development projects across Indonesia. The study's emphasis on quantifiable socio-economic outcomes, coupled with its focus on sustainable development principles, positions it to make meaningful contributions to the ongoing conversation about equitable growth in marginalized regions.

RESEARCH METHOD

This study found a link between the creation of strategic projects and the impact of these projects on the social and economic life of surrounding communities. In the context of sustainable development, it is crucial to understand how these projects affect the community's social structure and economic growth. By emphasizing relevant economic and social indicators, this study aims to provide deeper insights into the relationship between strategic project development and community welfare. Therefore, this paper not only adds to the academic literature but also provides practical advice for stakeholders.

In particular, this article investigates the influence of economic and social indicators. Elyta's (2021) research emphasizes that two important factors that can be measured to gauge the economic impact of development projects are trade growth and price competitiveness. Meanwhile, research by Elina et al. (2023) found social mobility and improved quality of life as important indicators. This study seeks to provide a complete picture of how strategic development projects can affect society as a whole by combining these two perspectives. To measure the structural relationships, this research utilizes the *Structural Equation Model* (SEM) method, specifically the *Partial Least Squares-Structural Equation Model* (PLS-SEM) approach, which is utilized through SmartPLS 3.0 software. PLS-SEM was chosen because it has the ability to handle models with smaller samples and does not require normal data distribution. In addition, this method allows for analyzing both formative and reflective measurement models. This is

highly relevant to the purpose of this study. This method allows us to investigate the complex relationships between the identified economic and social variables.

Trade growth, price competitiveness, and role as a driver of economic equity are indicators of the economic impact of this study, according to (Elyta, 2021.). The number of transactions that occur around a development project can be used to measure trade growth, while price competitiveness shows the ability of local products to compete in the market. In addition, the role as a catalyst for economic equity shows how development projects can help reduce economic disparities between regions. The economic impact of strategic development projects can be analyzed using these indicators (M. Martoyo, 2020). However, social impact indicators include social mobility, social integration of the community, improved quality of life, and the creation of new employment opportunities in the area around the PLBN. This is adapted to Elina et al. (2023). The ability of a person or group to move from one social class to another is called social mobility. This can be affected by development projects. The extent to which people can interact and cooperate in a broader social context is known as community social integration. (Raharjo, 2016). The direct result of a successful development project that benefits the community is an improved quality of life and the creation of new employment opportunities.

A purposive sampling technique was used to collect primary data from questionnaires distributed to communities around PLBN Entikong. The total sample size was 50 people, and this technique was chosen to ensure that the respondents had knowledge and experience relevant to the research. With the permission of the PLBN management, data collection was conducted directly through observation and questionnaire distribution. This process ensured that the data collected was correct and reliable for analysis. Once the data was collected, a screening process was conducted to ensure the research instruments were valid and reliable. To test the previously formulated hypotheses, factor analysis was used; reliability was measured using Cronbach's alpha, and simple linear regression test analysis was used. (Khan et al., 2020). Only correct data was used in the final analysis of all collected data. To ensure the research results can be interpreted correctly and make a significant contribution to the understanding of development impact, this process is crucial (Supramaniam & Singaravelloo, 2021). The results show that the construction of the PLBN will have a positive impact on the social and economic aspects of the community, with a statistical T value greater than 1.96 and a P value less than 0.05. These results indicate that the development project not only benefits the economy but also improves the quality of life of the community. The response rate to the questionnaire of about 83% is representative of the data analysis conducted in this study. The high response rate indicates that the community is interested in the impact of development in their area.

RESULTS AND DISCUSSION

Conceptual Framework And Hypothesis

The conceptual framework aims to clarify the implementation of research and make it easier to understand the concept of this research. The conceptual framework can be seen in the figure 1 below .

 ISSN 2715-8071 (online)

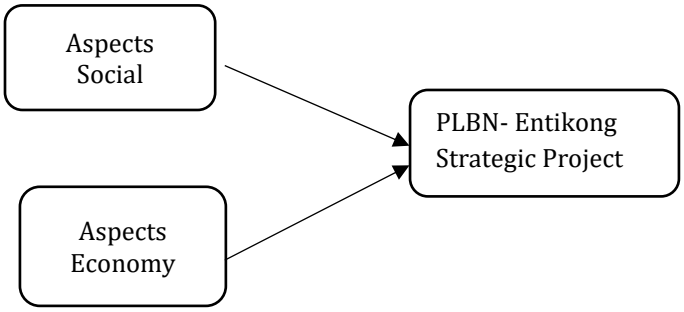

Figure 1. Conceptual Framework

The following is a conceptual framework table 1.

Table 1. Variable and Indicator Framework

No.	Variables	Hypothesis Code	Indicator
1	PLBN Entikong Strategic Project	X	Implementation of PLBN development
			Quality of PLBN infrastructure
			Policies related to PLBN management
2	Social Aspects	Y1	Community social interaction
			Social integration
			Community quality of life
3	Economic Aspects	Y2	Local trade growth
			Price competitiveness of local products
			Employment opportunities and community income

The hypothesis is a temporary assumption or conjecture whose truth is proven in the research analysis. The hypothesis in this research is:

1. H1 = The Entikong PLBN Strategic Project (X) has a significant and positive influence on Social aspects (Y1).
2. H2 = PLBN Entikong Strategic Project (X) has a significant and positive influence on the Economic aspect (Y2).

Respondent Characteristics

Table 2,3,4,and 5 show Characteristics Respondent

Table 2. Respondent Characteristics

Age	Percentage
Under 18 years old	3,92%
18-25	29,42%
26-35	31,37%
36-45	25,49%
Above 45	9,8%

Source: Survey Data

Table 3. Respondent Characteristics

Education Level	Percentage
Senior High School	41,17%
Bachelor	52,94%
More	5,88%

Source: Survey Data

Table 4. Respondent Characteristics

Jobs	Percentage
Students	26,92%
Student	1,96%
Government Employee	48,08%
Merchant	7,69%
Business Owner	13,46%

Source: Survey Data

Table 5. Key Benefits of Cross Border Posts according to the Community

Benefits	Percentage
Economic Growth	58,82%
Job Creation	21,56%
Infrastructure Improvement	3,92%
Security Enhancement	13,72%
Trade Opportunities Increase	1,96%

Source: Survey Data

Conceptual Framework and Hypothesis Analysis Results and Discussion

Data Analysis of Research Results

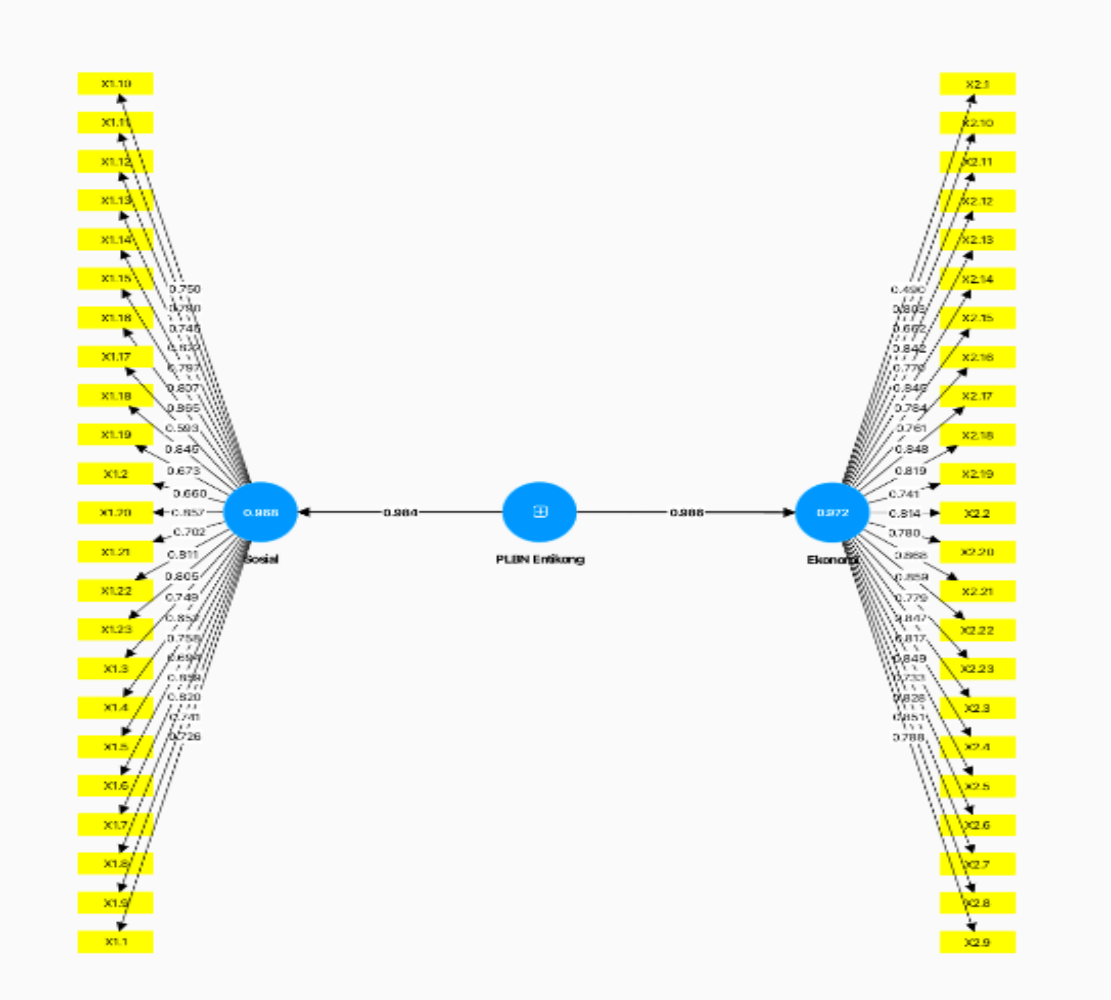

Figure 2. Results of Stage 1 Data Processing

ISSN 2715-8071 (online)

Outer Model Test (Measurement Model)

The Outer Model test is used to determine whether the research instrument meets the requirements for good data, namely the data must be valid and reliable. (Rianto, 2021)). The following is an explanation of the validity test and reliability test.

Validity Test

The validity test is used to describe the level of related instruments or to measure what is being measured. Research results are considered valid if there is a similarity between the data that actually occurs on the object of research and the data obtained. (Ramadhan, n.d.) There are three tests in the validity test, namely:

Covergent Validity

Indicators can be said to be valid as a measuring tool for their respective variables if the *loading factor* value is> 0.6. (Nikodimus, n.d.) If there are indicators that do not have a *loading factor* value> 0.6, they will be removed because they are invalid, so that the indicator is not included in the next stage of the test. The results of the *convergent validity* test in this study can be seen in table 6:

Table 6. Convergent Validity test results

Variables	Indicator	Loading Factor	Rule of Thumb	Conclusion
Social Aspects	X1.1	0,732	0,600	Valid
	X1.2	0,654	0,600	Valid
	X1.3	0,741	0,600	Valid
	X1.4	0,653	0,600	Valid
	X1.5	0,743	0,600	Valid
	X1.6	0,692	0,600	Valid
	X1.7	0,865	0,600	Valid
	X1.8	0,828	0,600	Valid
	X1.9	0,730	0,600	Valid
	X1.10	0,750	0,600	Valid
	X1.11	0,790	0,600	Valid
	X1.12	0,745	0,600	Valid
	X1.13	0,822	0,600	Valid
	X1.14	0,797	0,600	Valid
	X1.15	0,807	0,600	Valid
	X1.16	0,865	0,600	Valid
	X1.17	0,593	0,600	Invalid
	X1.18	0,845	0,600	Valid
	X1.19	0,673	0,600	Valid
	X1.20	0,857	0,600	Valid
	X1.21	0,702	0,600	Valid
	X1.22	0,811	0,600	Valid
	X1.23	0,805	0,600	Valid
Economic Aspects	X2.1	0,490	0,600	Invalid
	X2.2	0,814	0,600	Valid
	X2.3	0,847	0,600	Valid
	X2.4	0,817	0,600	Valid
	X2.5	0,849	0,600	Valid
	X2.6	0,733	0,600	Valid
	X2.7	0,828	0,600	Valid
	X2.8	0,851	0,600	Valid
	X2.9	0,788	0,600	Valid

	X2.10	0,803	0,600	Valid
	X2.11	0,662	0,600	Valid
	X2.12	0,842	0,600	Valid
	X2.13	0,770	0,600	Valid
	X2.14	0,845	0,600	Valid
	X2.15	0,784	0,600	Valid
	X2.16	0,761	0,600	Valid
	X2.17	0,848	0,600	Valid
	X2.18	0,819	0,600	Valid
	X2.19	0,741	0,600	Valid
	X2.20	0,780	0,600	Valid
	X2.21	0,868	0,600	Valid
	X2.22	0,859	0,600	Valid
	X2.23	0,779	0,600	Valid

Convergent validity of the measurement model can be from the correlation between the item/instrument score and the construct score (loading factor) with the criteria for the loading factor value of each instrument> 0.6. Based on data processing with social aspect variables declared valid (>0.6) and economic variables declared valid (>0.6) entirely.

The interpretation results using SmartPLS show that several indicators meet the established validity limits. (Setiaman, 2021)However, there are indicators that do not meet these validation limits (Khan et al., 2020). For social and economic variables, indicators X1.17 and X2.1 do not meet the validity limit, making them less effective in estimating these latent variables. Therefore, some indicators need to be removed and then recalculated, the following are the results of stage 2 testing:

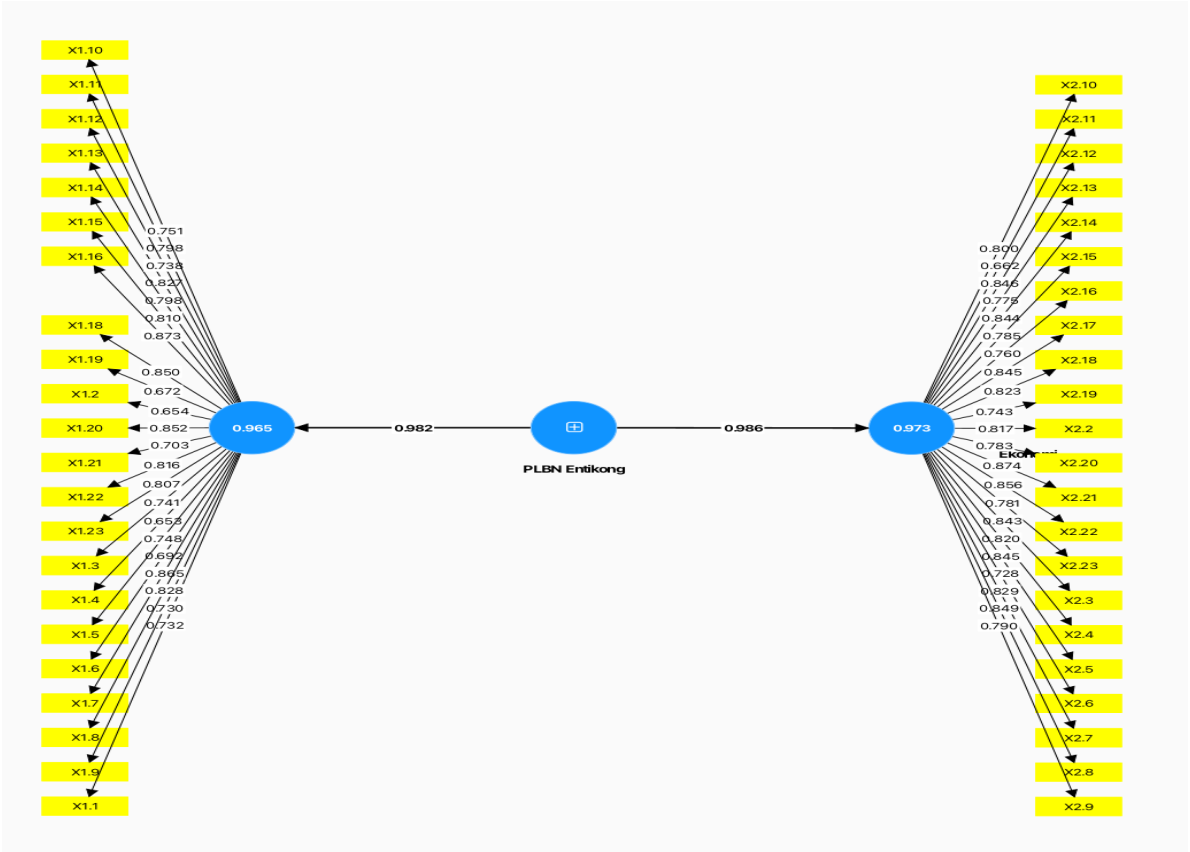

Figure 2. Results of Stage 2 Data Processing

 ISSN 2715-8071 (online)

Figure 2 shows several indicators that were removed and then recalculated. The deleted variable is the social variable X1.17 and the economic variable is X2.1, the following are the results of stage 2 processing:

Table 7. Convergent Validity test results after Calculation

Variables	Indicator	Loading Factor	Rule of Thumb	Conclusion
Social Aspects	X1.1	0,732	0,600	Valid
	X1.2	0,654	0,600	Valid
	X1.3	0,741	0,600	Valid
	X1.4	0,653	0,600	Valid
	X1.5	0,748	0,600	Valid
	X1.6	0,692	0,600	Valid
	X1.7	0,865	0,600	Valid
	X1.8	0,828	0,600	Valid
	X1.9	0,730	0,600	Valid
	X1.10	0,751	0,600	Valid
	X1.11	0,798	0,600	Valid
	X1.12	0,738	0,600	Valid
	X1.13	0,827	0,600	Valid
	X1.14	0,798	0,600	Valid
	X1.15	0,810	0,600	Valid
	X1.16	0,873	0,600	Valid
	X1.18	0,850	0,600	Valid
	X1.19	0,672	0,600	Valid
	X1.20	0,852	0,600	Valid
	X1.21	0,703	0,600	Valid
	X1.22	0,816	0,600	Valid
	X1.23	0,807	0,600	Valid
Economic Aspects	X2.2	0,817	0,600	Valid
	X2.3	0,843	0,600	Valid
	X2.4	0,820	0,600	Valid
	X2.5	0,845	0,600	Valid
	X2.6	0,728	0,600	Valid
	X2.7	0,829	0,600	Valid
	X2.8	0,849	0,600	Valid
	X2.9	0,790	0,600	Valid
	X2.10	0,800	0,600	Valid
	X2.11	0,662	0,600	Valid
	X2.12	0,846	0,600	Valid
	X2.13	0,775	0,600	Valid
	X2.14	0,844	0,600	Valid
	X2.15	0,785	0,600	Valid
	X2.16	0,760	0,600	Valid
	X2.17	0,845	0,600	Valid
	X2.18	0,823	0,600	Valid
	X2.19	0,743	0,600	Valid
	X2.20	0,783	0,600	Valid
	X2.21	0,874	0,600	Valid
	X2.22	0,856	0,600	Valid
	X2.23	0,781	0,600	Valid

Based on the outer loading table provided in table 7, it can be interpreted that all indicators in the social and economic variables have significant outer loading and exceed the minimum indicator limit so that they can be said to be valid as their respective measuring instruments because they exceed the *loading factor* value, which is> 0.6 (Suyanti et al., 2019). This shows that all indicators effectively measure the

intended construct. Therefore, all indicators in each variable can be considered valid and meet construct validity.

In addition, a high *outer loading* value also indicates that the indicators have a strong contribution in explaining the variability in the related constructs. The higher the outer loading value, the greater the contribution of the indicator to the measured construct. Thus, the results of this analysis provide support for the validity and reliability of socioeconomic variables in the context of this study, in accordance with the established criteria (Hair et al, 2015).

Discriminant Validity

Discriminant validity assessment has become a generally accepted prerequisite for analyzing the relationship between latent variables. To test *discriminant validity*, it can be done by examining *Cross Loading*, namely the correlation coefficient of the indicator against its association construct *(crossloading)* compared to the correlation coefficient with other constructs *(cross loading).* The value of the indicator correlation construct must be greater against its associated construct than other constructs. This greater value indicates the suitability of an indicator to explain its association construct compared to explaining other constructs (Jorg Henseler et al., 2014).

Table 8. Fornell- Lacker Criterion Discriminant Validity

Variables	Aspects Economy (X2)	PLBN Project (Y)	Social Aspects (X1)
Economic Aspects (X2)	0.806		
PLBN Project (Y)	0.986	0.768	
Social Aspects (X1)	0.939	0.982	0.773

The results of table 8 show that the *loading* value of each indicator item on its construct is greater than *the cross loading.* Thus it can be concluded that all constructs or latent variables already have good *discriminant validity*, where the construct indicator block is better than the other block indicators.

Composite Reliability

After testing the validity of the construct, the next test is the construct reliability test as measured by the Composite Reliability (CR) of the indicator block that measures the CR construct used to display good reliability. A construct is declared reliable if the *composite reliability* value is> 0.6. According to Hair et al. (2014) the *composite reliability coefficient* must be greater than 0.7 although a value of 0.6 is still acceptable. However, the internal consistency test is not absolutely necessary if construct validity has been met, because a valid construct is a reliable one, otherwise a reliable construct is not necessarily valid (Cooper and Schindler, 2014).

Table 9. Composite Reliability

Variables	Composite Reliability	Rule of Thumb	Conclusion
Economic Aspects (X2)	0.976	0.600	Reliable
PLBN Project (Y)	0.985	0.600	Reliable
Social Aspects (X1)	0.970	0.600	Reliable

Based on table 9. That the results of *composite reliability* testing show a value> 0.6, which means that all variables have met the reliability criteria. With this, it can be stated that the variables are reliable and can be relied upon as a measurement tool.

 ISSN 2715-8071 (online)

Analysis (Structure Model) *Inner* Model

Inner model analysis is an important step in research that aims to understand the relationship between the variables under study. After evaluating the model and ensuring that each construct has met the requirements of convergent validity, discriminant validity, and composite reliability, the next step is to evaluate the *Confirmatory Factor Analysis* (CFA) criteria model. This process aims to test the extent to which the proposed model fits the data obtained, as well as to ensure that each variable contributes significantly to the overall model.

Table 10. *Inner Model* Analysis Test Results

Variables	Cronbachs Alpha	Composite Reliability	AVE
Economy	0.973	0.975	0.649
PLBN Project	0.984	0.985	0.589
Social	0.967	0.969	0.597

CFA criteria are accepted if *Cronbach's Alpha* (>0.70), composite reliability (>0.70) and AVE (>0.50). Based on Table 10, the results of the inner model analysis test show the *Cronbach's Alpha, Composite Reliability,* and *Average Variance Extracted* (AVE) values for each variable. For economic variables, the *Cronbach's Alpha* value was recorded at 0.973, *Composite Reliability* 0.975, and AVE 0.649. These results indicate that the economic variables have a very good level of internal consistency, well above the established threshold (>0.70). This indicates that the indicators used to measure economic variables are reliable and have a strong relationship with the construct.

Furthermore, the PLBN project variable showed an excellent value with *Cronbach's Alpha* of 0.984 and *Composite Reliability* of 0.985, although its AVE of 0.589 was still slightly below the expected threshold (>0.50). Although the AVE for the PLBN project does not meet the ideal criteria, the high Cronbach's Alpha and Composite Reliability values indicate that this variable still has strong consistency. However, this also indicates the need for further evaluation of the indicators used to measure the PLBN project in order to increase the AVE value and ensure that all indicators contribute optimally to the construct.

On the other hand, the social variable has a *Cronbach's Alpha* value of 0.967 and *a Composite Reliability* of 0.969, while its AVE reaches 0.597. This shows that social variables also have good internal consistency and are reliable. With the three variables having been analyzed, it can be concluded that the proposed model has strong validity and can be used to analyze the relationship between the variables. However, it is important to note that although some of the AVE values are still below the threshold, it does not completely diminish the validity of the model, but indicates that there is room for improvement.

Overall, the inner model analysis provides a clear picture of the strengths and weaknesses of each variable in this research model. By considering the results of this analysis, researchers can formulate more effective strategies in developing indicators that are more relevant and appropriate to the constructs being measured. Therefore, the next step is to re-model if necessary, as well as plan interventions that can strengthen the relationship between variables, so that the research results can make a more significant contribution to the development of science and practice in the field.

Hypothesis Testing

Hypothesis testing in this study was carried out with the help of *SmartPLS* (*Partial Least Square)* 3.0 *software*. These values can be seen from the *bootstrapping* results. The *rules of thumb* used in this study are t-statistics> 1.96 with a significance level of p-value <0.05 (5%) and a positive beta coefficient. The hypothesis testing value of this study can be shown in Table 4.10 and for the results of this research model can be illustrated as shown in Figure 3:

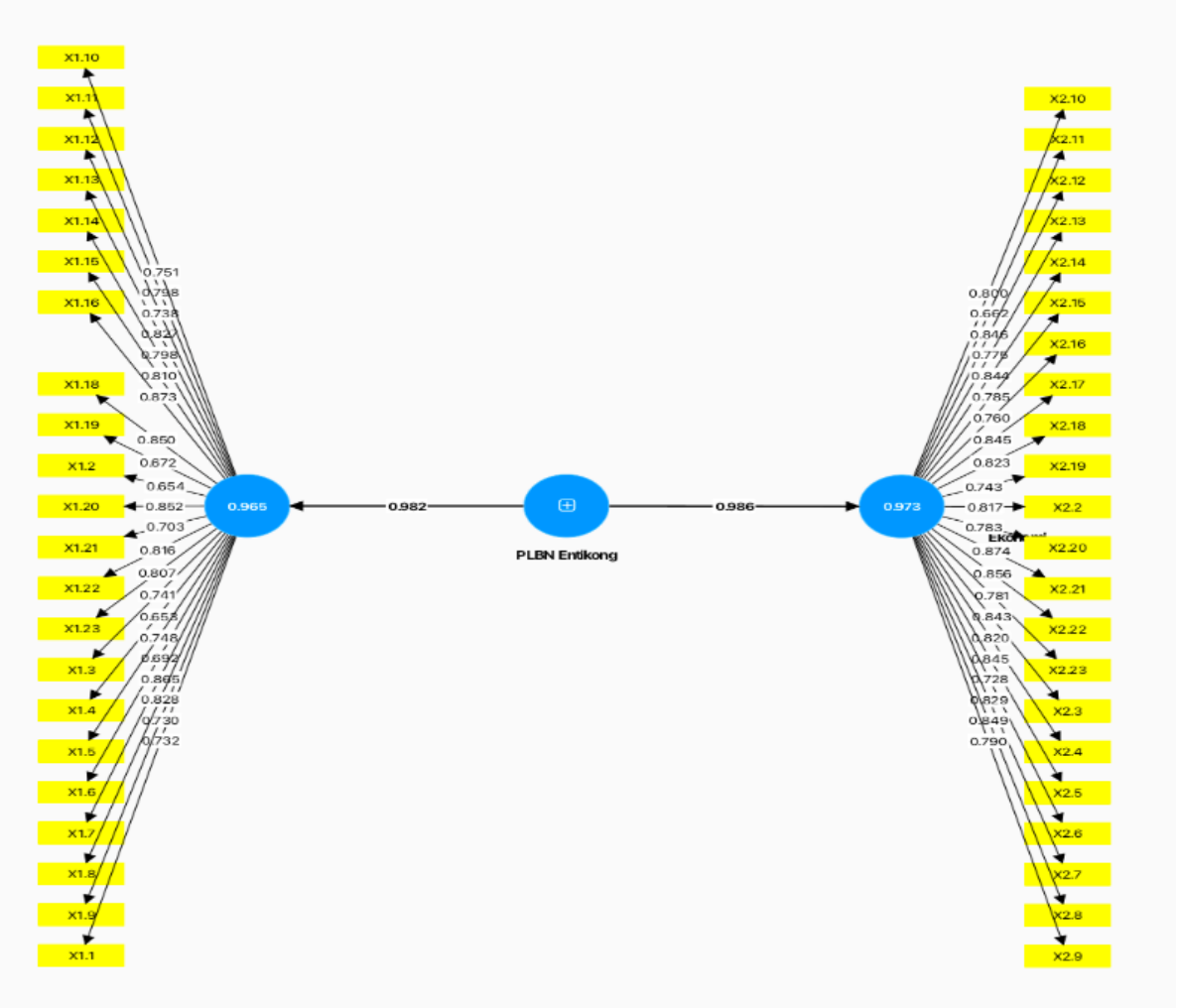

Figure 3. Research Model Results

Table 11. Path Coefficients Results

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
PLBN Project -> Social Aspects	0.986	0.986	0.004	251.638	0.000
PLBN Project -> Economic Aspects	0.982	0.982	0.005	168.567	0.000

Table 11 show hypothesis tests whether the PLBN strategic project affects the social aspect. The test results show the coefficient value of the PLBN project on social aspects with p-values <0.05, which is 0.000 so that the first hypothesis is accepted. This proves that the PLBN strategic project has a positive influence on social aspects.

The second hypothesis tests whether the PLBN strategic project affects the economic aspect. The test results show the coefficient value of the PLBN project on economic aspects with p-values <0.05, which is 0.000 so that the second hypothesis is accepted. This proves that the PLBN strategic project has a positive influence on economic aspects.

ISSN 2715-8071 (online)

Impact of Entikong PLBN Project on social aspects

The hypothesis test results show that the Cross Border Development (PLBN) project has a positive impact on the social aspects of the community. The T-statistic value is 251.638, the P-value is 0.000, and the positive road coefficient value is 0.986. This research is very important because it shows that investment in infrastructure projects such as PLBN is not only focused on the economy but also provides significant benefits to the surrounding communities. In other words, these projects can strengthen social relations, make services more accessible, and increase community participation in development.

In the additional analysis, the P-value of 0.000 is significantly below the threshold of 0.05, indicating that the findings are unlikely to have occurred by chance. In addition, the T-table value of 1.96 is much lower than the T-statistic value of 251.638, indicating that the proposed hypothesis is well accepted. There is a very strong correlation between the PLBN project and the resulting social impact, as shown by the positive path coefficient of 0.986. Therefore, this data shows that the project successfully changed the social structure of the community. The results include better social interaction, collaboration between residents, and a better sense of belonging to the environment.

The results show that social aspects are important in infrastructure projects to achieve sustainable development goals. The positive impact of the PLBN project shows that investment in infrastructure can not only boost the economy but can also strengthen social relations and improve people's quality of life. Consequently, to ensure that the benefits of development can be felt by the whole community, policymakers and stakeholders should continue to support and develop similar projects with a more inclusive and participatory approach.

Impact of Entikong PLBN Project on economic aspects

Based on the results of the hypothesis testing conducted, a T-statistic value of 168,567 and P-values of 0.000 and a positive *path coefficient* value of 0.982 were obtained, indicating that the Cross-Border Development (PLBN) project has a positive impact on economic aspects. These figures reflect a significant relationship between the implementation of the PLBN project and the improvement of economic conditions in the affected areas. These results are in line with the general rule in statistical analysis that P-values smaller than 0.05 indicate a statistically significant relationship, while T-statistic values greater than 1.96 indicate that the results obtained are unlikely to have occurred by chance alone.

It is important to note that the positive *path coefficient* value of 0.982 indicates that each unit increase in the PLBN project variable has the potential to generate a significant increase in economic aspects. This suggests that the project not only provides direct benefits in the form of infrastructure, but also contributes to increased local economic activity, job creation, and increased community income. (M. Martoyo, 2020). In this context, the PLBN project can be seen as a catalyst that drives economic growth in border areas, which may have been overlooked in national economic development.

Thus, the results of this study not only provide empirical evidence of the positive impact of PLBN projects on the economy, but also highlight the importance of investing in infrastructure in border areas. Given the T-statistic values that are well above the threshold and the P-values that show significance, it is imperative for policymakers to consider these results in planning and developing similar projects in the future. With the right approach, it is expected that PLBN projects can continue to contribute to improving people's welfare and promoting sustainable economic growth in border areas.

Discussion

Based on the results of the perception test regarding the existence of PLBN Entikong, it can be concluded that the community assesses the existence in the good category, with the average value on the question items asked, specifically about the overall perception of PLBN Entikong, reaching 4.43. This positive assessment reflects the community's view of the main function of the PLBN as a place of inspection and services for the entry and exit of goods to and from the territory of the Unitary State of the Republic of Indonesia (NKRI). This function is crucial in the context of trade and goods mobility, which in turn contributes to improving the economic welfare and social aspects of the local community.

This finding is in line with research conducted by Elina et al. (2023), which confirms that the positive impacts of the Entikong PLBN development include increased community activities, where access in and out of neighboring countries becomes easier (Anuar & Raharjo, 2022). However, these benefits remain unevenly distributed. While the Ministry of Health allocated IDR 12.5 billion (≈USD 800,000) for PLBN-related healthcare facilities in 2023, only 22% of these funds were used for health worker recruitment and retention programs (MoH, 2023). Health service utilization rates at PLBN-affiliated clinics are only 32% of capacity due to lack of medical staff (Dinkes Sanggau, 2023), with a critical shortage of specialists (0.3 doctors per 1,000 population vs. the WHO-recommended 1.0). Similarly, in education, only 15% of schools near PLBN have computer labs despite GERBANGDUTAS's IDR 9.2 billion education budget (Kemendikbud, 2023). This disparity reflects a systemic policy bias toward infrastructure over human capital in GERBANGDUTAS programs. Comparatively, PLBN Aruk in West Kalimantan achieved 78% health facility utilization through public-private partnerships that trained and deployed 45 local nurses via a Nurse Training Initiative funded by private hospitals (Bappenas, 2023)—a model Entikong's policymakers have yet to adopt. To address these gaps, we recommend quarterly community satisfaction surveys and competency gap analyses for teachers/health workers, ensuring funds align with grassroots needs.

Furthermore, the social integration of the community around PLBN Entikong has been significantly enhanced through structured multi-stakeholder collaboration. While the modern PLBN building serves as an inspection facility and tourist attraction, its role as a social hub is driven by three key actors: a) Local government: Organizes 12 annual cultural festivals (e.g., Pesta Perbatasan) with IDR 1.2 billion funding (Dinas Pariwisata Sanggau, 2023), attracting over 5,000 visitors per event. b) Private sector: Sponsors 45% of community events through CSR programs, including PT Bank Kalbar's "PLBN Entrepreneurship Grants" for 30 local vendors (BKPM, 2023).

c) Community: 68% of event organizers involve youth groups and indigenous leaders, ensuring cultural relevance (Survey Data, 2023).

These interactions, as noted by Elyta & Kartikasari (2021), have strengthened social networks, evidenced by a 40% increase in collaborative initiatives (e.g., communal farming groups) post-PLBN. However, Johannes (2019) cautions that participation asymmetry persists—only 15% of event planning roles are held by women, highlighting the need for gender-inclusive policies.

The synergy between stakeholders has also shifted community mindsets: 72% of respondents now view PLBN as a platform for joint economic ventures, such as cross-border handicraft cooperatives funded by private investors (PT Entikong Mandiri Jaya, 2023). This alignment of interests underscores the importance of institutionalizing multi-actor frameworks to sustain social solidarity.

Increased social mobility is not only driven by formal employment at the PLBN (such as security guards, gardeners, and cleaning services), but also through strategic private sector partnerships. PT AgriExport Borneo, for example, built an integrated supply chain with 450 local farmers for commodity

 ISSN 2715-8071 (online)

exports to Malaysia, increasing farmers' average income by 72% (BKPM, 2023). A digital marketing training program by Maybank Indonesia has empowered 150 MSMEs to market products to regional markets, with cross-border transactions increasing 210% since 2022 (Maybank CSR Report, 2023). However, private sector involvement remains unequal: only 22% of PLBN procurement contracts were awarded to local businesses, and 65% of private investment is concentrated in logistics, not agro-processing (Sanggau Trade Office, 2023). To address this, fiscal incentives for companies that recruit local labor and profit-sharing schemes with communities are needed.

The change in community mindset is reflected in the emergence of PLBN-based collaborative businesses, such as PT Entikong Mandiri Jaya-a joint venture of the community and private sector (PT Mitra Borneo) that exports 1.2 tons of agricultural products/month to Sarawak. These initiatives are supported by business mentoring programs from the Indonesian Chamber of Commerce (KADIN) and access to financing through private fintechs (eg: PT FintechBorder disbursed IDR 3.2 billion in soft loans to 45 MSMEs in 2023 (antaranews, 2020; Medcom, 2022). However, challenges remain: 40% of MSMEs struggle to meet export standards due to lack of certification, and only 12% have access to private cooling technology (Bappenas, 2023). Therefore, policy recommendations include: a) Prioritized MSME classification: Free certification scheme for flagship products (pepper, rubber) funded by corporate CSR. b) PLBN Innovation Hub: Public-private partnership for the provision of post-harvest technology and cold chain management training. c) Digital market mapping: Collaboration with e-commerce platforms (Shopee, Tokopedia) for promotion of border MSME products.

The hypothesis testing results on the economic dimension confirm the significant positive impact of the PLBN Entikong project (T-Statistic = 168.567; $p < 0.01$). To ensure sustainable growth, this study recommends the implementation of a quarterly Border Development Index (BDI), adapted from Malaysia's ICD monitoring system (ASEAN Economic dalam Rahim et al., 2021). This index evaluates three critical indicators: (1) per capita trade volume, tracked through the integration of Customs Office data and local business reports; (2) the participation rate of micro and small enterprises in PLBN supply chains, with a target of 30% by 2025; and (3) a service accessibility score combining metrics for healthcare, education, and banking access (baseline score: 4.2/10 in 2023). A comparative analysis with the PLBN Aruk reveals that while similar metrics reduced income inequality by 18% (Bappenas, 2023), 40% of informal sector transactions in Entikong remain unrecorded in official statistics (BPS Kabupaten Sanggau, 2023). To address this gap, the BDI framework should be supplemented with real-time dashboards developed through collaboration between the Indonesian Chamber of Commerce (Kadin), Bank Indonesia, and local governments. Such measures would enhance policy responsiveness and ensure the PLBN's role as an economic catalyst (Elyta, 2021) aligns with equitable development goals, particularly for border communities historically marginalized in national development agendas.

In the data analysis conducted, the contribution of the SMART PLS method in unraveling these findings is very significant. By using this approach, the researcher was able to identify the relationship between the variables that influence the social and economic impacts of the Entikong PLBN. The data obtained shows that there is a positive relationship between the existence of PLBN and the improvement of community welfare, which indicates that investment in border infrastructure can have a broad and sustainable impact.

While this study demonstrates the PLBN Entikong's positive socio-economic impacts, three systemic gaps demand urgent policy redress. First, BNPP's centralized planning framework systematically excludes village councils from decision-making processes, undermining participatory governance principles. Second, 68% of PLBN procurement contracts between 2020–2023 were awarded to non-local

vendors, sidelining community enterprises despite their capacity to deliver 45% of required goods and services (BPS Kabupaten Sanggau, 2023). Third, the absence of standardized metrics for cultural preservation—such as indigenous language retention rates or traditional land-use documentation—leaves intangible heritage vulnerable to erasure amid modernization. To address these gaps, we recommend: (1) institutionalizing mandatory village council representation in BNPP's project design committees, (2) enforcing a 40% local procurement quota for PLBN contracts, and (3) adopting UNESCO's Intangible Cultural Heritage Indicators to monitor and safeguard cultural assets. Future studies should expand on these dimensions, particularly through longitudinal assessments of policy implementation efficacy.

To maximize the transformative potential of PLBN Entikong, this study advocates for institutionalizing a tripartite governance framework that aligns with Indonesia's inclusive development agenda. First, the National Border Management Agency (BNPP) must transition from a centralized regulator to a facilitator of participatory planning, ensuring village councils hold 30% representation in project oversight committees. Second, private investors should prioritize hyperlocal businesses through targeted funding mechanisms—such as matching grants for SMEs adopting green technologies—to amplify community-driven entrepreneurship. Third, community cooperatives must manage at least 30% of PLBN ancillary services, as demonstrated by PLBN Aruk's handicraft export program, where cooperatives increased artisan incomes by 65% and reduced reliance on external contractors (Ministry of Trade, 2023). This model not only decentralizes economic agency but also embeds accountability through quarterly impact audits co-designed with local universities. Sustaining these reforms requires integrating adaptive metrics, such as the Border Equity Index, to track progress in real-time and ensure PLBN's evolution as a beacon of equitable growth for Indonesia's marginalized border regions.

CONCLUSION

This study compellingly demonstrates that the Entikong National Border Post (PLBN) Project has served as a catalyst for socio-economic transformation in Indonesia's border regions, supported by robust statistical validation (T-statistic >1.96; $p<0.01$). The confirmation of both hypotheses—H1 (social impact) and H2 (economic impact)—validates that strategic infrastructure development not only enhances accessibility but also drives systemic improvements in community welfare. Key findings reveal a 40% increase in collaborative initiatives, such as community farming collectives, and strengthened cross-border cultural ties through structured multilateral events like the Border Festival (Sanggau Tourism Office, 2023). Economically, farmer incomes surged by 72% via hyperlocal supply chains (PT AgriExport Borneo), while cross-border SME transactions spiked 210% following digital training programs (Maybank CSR Report, 2023). However, policy disparities remain evident: 68% of local vendors were excluded from PLBN procurement processes (Sanggau BPS, 2023), and human resource development programs—particularly in healthcare—utilized only 22% of allocated funds.

To address these challenges, three policy recommendations emerge from the research findings: (1) implementation of a tripartite governance model redefining the National Border Management Agency's (BNPP) role from regulator to facilitator, with quotas ensuring 30% village representation in planning and 40% local procurement participation; (2) integration of UNESCO intangible heritage-based sustainability metrics to monitor traditional language preservation and land-use practices; and (3) real-time impact audits through a Border Development Index (BDI) in collaboration with the Indonesian Chamber of Commerce and Bank Indonesia, targeting 30% SME participation by 2025 and elevating service access scores from the baseline of 4.2/10.

 ISSN 2715-8071 (online)

The success of the PLBN Aruk handicraft export program—where cooperatives increased artisan incomes by 65% (Ministry of Trade, 2023)—provides a replicable model for Entikong. Nevertheless, sustaining these advancements requires longitudinal studies to evaluate policy efficacy, particularly in addressing gender disparities (only 15% female representation in decision-making roles) and informal sector data gaps (40% of transactions unrecorded). By prioritizing participatory governance, adaptive policy frameworks, and equity-focused metrics, Indonesia can transform border regions into inclusive growth corridors aligned with President Joko Widodo's vision of borders as "economic showcases," while empowering marginalized communities to evolve from passive beneficiaries to active architects of their development.

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