

THE IMPACT OF THE COMMUNITY SERVICE FIELD WORK PROGRAM (KKL-PPM) ON ENHANCING COMPETENCE AND COMMUNITY EMPOWERMENT IN PEKON MUARA DUA AND KARANG REJO, ULU BELU REGENCY

Dampak Program Kuliah Kerja Lapangan Pengabdian Pada Masyarakat (KKL-PPM) Terhadap Peningkatan Kompetensi dan Pemberdayaan Masyarakat Di Pekon Muara Dua dan Karang Rejo Kabupaten Ulu Belu

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Abstrak

Program Kuliah Kerja Lapangan Pengabdian pada Masyarakat (KKL-PPM) merupakan inisiatif akademik yang dirancang untuk mengaplikasikan pengetahuan mahasiswa melalui keterlibatan langsung dengan masyarakat. Penelitian ini bertujuan untuk menganalisis dampak program KKL-PPM dalam meningkatkan kompetensi dan pemberdayaan masyarakat di Pekon Muara Dua dan Karang Rejo, Kecamatan Ulu Belu. Penelitian ini melibatkan 385 responden dan menggunakan Smart-PLS sebagai alat analisis. Hasil penelitian menunjukkan bahwa program KKL- PPM memberikan kontribusi yang signifikan terhadap peningkatan kompetensi masyarakat dalam bidang kewirausahaan, literasi digital, dan praktik pertanian berkelanjutan. Selain itu, program ini mendorong pemberdayaan masyarakat dengan memperkuat partisipasi sosial, kemandirian, serta kolaborasi dalam pemecahan masalah antara mahasiswa dan warga setempat. pelaksanaan program KKL-PPM telah menghasilkan dampak positif dan berkelanjutan, serta mendorong pembelajaran berkelanjutan dan pembangunan lokal di desa sasaran. Temuan penelitian ini memiliki implikasi penting bagi perguruan tinggi, pemerintah daerah, dan masyarakat. Bagi perguruan tinggi, hasil ini menegaskan pentingnya pelaksanaan program pengabdian kepada masyarakat yang berbasis pemberdayaan dan transfer pengetahuan yang berkelanjutan. Model KKL-PPM perlu terus dikembangkan dengan pendekatan partisipatif, di mana mahasiswa berperan tidak hanya sebagai fasilitator tetapi juga sebagai mitra belajar bagi masyarakat. Penelitian ini memberikan kontribusi teoritis dan praktis terhadap pengembangan model pendidikan berbasis masyarakat. Secara teoritis, penelitian ini memperkaya literatur mengenai hubungan antara pendidikan tinggi, pemberdayaan sosial, dan peningkatan kompetensi masyarakat melalui pendekatan pembelajaran berbasis komunitas.

Kata Kunci: KKL-PPM, Pemberdayaan Masyarakat, Peningkatan Kompetensi, Pengembangan Masyarakat Ulu Belu.

Abstract

The Community Service Field Work Program (KKL-PPM) is an academic initiative designed to apply students' knowledge through direct engagement with the community. This study aims to analyze the impact of the KKL-PPM program on improving community competence and empowerment in Pekon Muara Dua and Karang Rejo, Ulu Belu District. The study involved 385 respondents and employed Smart-PLS as the analytical tool. The results indicate that the KKL-PPM program makes a significant contribution to improving community competence in entrepreneurship, digital literacy, and sustainable agricultural practices. In

addition, the program fosters community empowerment by strengthening social participation, independence, and collaborative problem-solving between students and local residents. Overall, the implementation of the KKL-PPM program has produced positive and sustainable impacts, promoting continuous learning and local development in the target villages. The findings of this study have important implications for higher education institutions, local governments, and communities. For universities, the results emphasize the importance of implementing community service programs based on empowerment and sustainable knowledge transfer. The KKL-PPM model should continue to be developed using a participatory approach, where students act not only as facilitators but also as learning partners for the community. This study provides both theoretical and practical contributions to the development of community-based education models. Theoretically, it enriches the literature on the relationship between higher education, social empowerment, and the improvement of community competence through a *community-based learning* approach.

Keywords : KKL-PPM, Community Empowerment, Competency Improvement, Ulu Belu Community Development

Introduction

Higher education institutions play a strategic role in national development through the implementation of the *Tri Dharma of Higher Education*, which encompasses education, research, and community service. One concrete form of community service is the *Field Work Study Community Empowerment Learning Program (KKL-PPM)*. This program serves not only as a platform for students to apply the knowledge and skills they have acquired during their studies but also as a means to make a tangible contribution to society, particularly in areas that continue to face various limitations (Tong et al., 2024).

Rural communities generally possess abundant natural and social resources; however, these resources are often underutilized due to limitations in education, access to information, technology, and resource management. This situation is also evident in Pekon Muara Dua and Karang Rejo, Ulu Belu Subdistrict. The region has significant potential in agriculture, plantations, and human resources. Nevertheless, local communities still face challenges such as low technical skills, limited access to entrepreneurial knowledge, and insufficient capacity to manage local potential sustainably. In this context, the presence of the KKL-PPM program becomes essential. Through this program, students act as agents of change who bring new knowledge, appropriate technology, and empowerment approaches that can enhance community competencies.

The direct interaction between students and the community enables the transfer of knowledge that is not merely theoretical but also practical and aligned with the community's real needs. The enhancement of community competence through KKL-PPM may encompass various aspects, such as improved knowledge,

technical skills, business management capabilities, and the strengthening of soft skills like leadership, teamwork, and communication. Furthermore, the program aims to foster community empowerment enabling the community to play an active role in developing its potential, achieving self-reliance, and improving living standards sustainably (Brotosusilo et al., 2022a; Petriello et al., 2021; Rissel et al., 2023).

Theoretically, numerous studies have discussed the importance of community empowerment as a strategy for sustainable development. Empowerment theory emphasizes that the success of development is not only measured by economic growth but also by the extent to which the community possesses the capacity, participation, and autonomy to manage its own life. The concepts of *capacity building* and *community empowerment* serve as the theoretical foundation of this perspective (To & Liu, 2021). However, there remains a scarcity of theoretical studies that specifically connect the concept of community empowerment with KKL-PPM as a form of student-based community service. Most existing studies focus on the general theoretical aspects of empowerment, without addressing how student-based programs can truly contribute to enhancing community competence in rural areas. In other words, there exists a theoretical gap in explaining the role of KKL-PPM as an instrument of community empowerment within the framework of higher education (Brotosusilo et al., 2022b).

Empirically, many studies on KKN (Community Service Programs) or KKL primarily emphasize short-term outputs, such as the number of activities conducted, the number of training participants, or community satisfaction levels. However, what is more crucial is understanding how such programs affect the improvement of community competence in the medium and long term (Kruahong et al., 2023a). Moreover, empirical research on KKL-PPM remains limited, particularly in regions with unique socio-economic characteristics such as Pekon Muara Dua and Karang Rejo, Ulu Belu Subdistrict. This area faces distinct challenges, including limited access to education, scarce economic infrastructure, and inadequate community skills in utilizing local potential. Therefore, research conducted in this region is of great importance, as it can provide real insights into the effectiveness of KKL-PPM in addressing specific issues faced by rural communities (Surya et al., 2021a; Thomsen et al., 2022).

In summary, the central theme of this research can be described as follows: KKL-PPM represents a tangible implementation of the *Tri Dharma of Higher*

Education that not only benefits students but also contributes significantly to the community. Through KKL-PPM activities, a process of knowledge, technology, and skill transfer occurs from students to the community. This process leads to the enhancement of community competencies, which in turn strengthens empowerment in managing local potential, fostering self-reliance, and improving quality of life (Dushkova & Ivlieva, 2024; Herdiansyah, 2023). Thus, this study asserts that KKL-PPM is not merely a routine student activity but a strategic instrument in rural community development. By conducting research in Pekon Muara Dua and Karang Rejo, this study aims to provide empirical evidence of the program's effectiveness while also developing a community empowerment model that can be replicated in other regions with similar characteristics.

Literature Review

The *Field Work Study – Community Empowerment Learning Program (KKL-PPM)* represents a tangible implementation of the *Tri Dharma of Higher Education*, particularly in the aspect of community service. According to Law No. 12 of 2012 on Higher Education, universities are obligated to conduct community service activities as part of their contribution to national development. KKL-PPM is designed to enable students to engage directly with communities, understand real-world problems, and contribute through the transfer of relevant knowledge, technology, and skills (Hu et al., 2022a). The KKL-PPM program is not merely a routine student activity but also serves as a medium for community empowerment through mentoring and the application of appropriate technology. In this program, students are positioned as *agents of change* who bring innovation and new approaches to develop the local potential of rural communities.

Competence can be defined as a set of knowledge, skills, and attitudes possessed by an individual to perform specific tasks or activities (Azwar et al., 2023). In the context of communities, competence encompasses the ability to manage resources, utilize technology, and develop creativity and innovation that support daily life. Community competence enhancement can be divided into three main aspects (Bull & Dale, 2021):

1. Cognitive: Improvement of community knowledge, insight, and literacy.
2. Affective: Development of positive attitudes, motivation, and awareness of the importance of participation in development.
3. Psychomotor: Acquisition of applicable technical skills, such as agricultural

product processing, entrepreneurship, or the use of appropriate technology.

In the context of KKL-PPM, community competence enhancement can be observed through the outcomes of training, mentoring, and hands-on activities conducted by students together with local residents. In other words, KKL-PPM functions as an instrument for strengthening community capacity to face development challenges.

Community empowerment is a key concept in sustainable development. Kempa et al. (2023a) define empowerment as a process of increasing community capacity, participation, and self-reliance so that individuals are able to take control of their own lives. According to Adi (2018), empowerment involves not only enhancing individual capabilities but also strengthening institutions and social networks at the community level. The main principles of community empowerment include:

1. Capacity Building: Equipping communities with the skills and knowledge needed to manage local potential.
2. Participation: Actively involving the community in every stage of the program.
3. Sustainability: Ensuring that program outcomes can continue even after the KKL-PPM program has ended.

Through empowerment, communities do not merely act as objects of development but become subjects capable of making decisions and acting independently.

Several previous studies have demonstrated that student programs, such as *KKN* or *KKL PPM*, can have a positive impact on rural communities. Liu and Wang (2021a) found that *KKN* programs improve managerial and technical skills among rural MSME actors. Liu and Wang (2021b) further emphasized that *KKL* programs enhance digital literacy in rural communities, particularly in the use of technology for local product marketing. Moreover, research by Salvador Costa et al. (2022) revealed that student based programs can strengthen local farmers' participation and self-reliance through empowerment approaches. These findings reinforce the argument that higher education-based programs are not only oriented toward student learning outcomes but also deliver tangible benefits to society.

Therefore, it can be understood that KKL PPM functions as a higher education based social intervention with two main dimensions:

1. Competence Enhancement Dimension, in which communities acquire new knowledge, skills, and attitudes that make them more adaptive to

contemporary developments.

2. Empowerment Dimension, in which communities are able to use those competencies to develop local potential, increase self-reliance, and improve their quality of life sustainably.

H₁ : The KKL PPM Program Has a Positive and Significant Impact on Community Competence Improvement

The first hypothesis is based on the assumption that community involvement in the KKL-PPM program provides direct learning experiences through training, mentoring, and the practical application of knowledge facilitated by students. Through these activities, community members acquire knowledge (*cognitive*), positive attitudes and motivation (*affective*), as well as technical skills (*psychomotor*), all of which enhance their capacity to manage local potential.

Theoretically, this relationship can be explained through the concept of *transfer of knowledge and skills* (Hu et al., 2022a) and *experiential learning theory* (BrotoSusilo et al., 2022b), which emphasize that educational interactions between students and communities lead to the improvement of both individual and collective competence.

H₂ : The KKL-PPM Program Has a Positive and Significant Impact on Community Empowerment

The second hypothesis focuses on the dimension of *empowerment* as a strategic outcome of the KKL-PPM program. Through activities such as training, entrepreneurial mentoring, and the application of appropriate technology, communities not only gain knowledge but also become empowered to make decisions, manage local resources, and increase self-reliance. This relationship is supported by the *Community Empowerment Theory* (Azwar et al., 2023), which emphasizes that empowerment emerges when communities are actively involved, have access to resources, and receive capacity enhancement support from external agents (in this case, students and higher education institutions).

H₃ : Community Empowerment Has a Positive and Significant Impact on Community Competence Improvement

The third hypothesis describes the relationship between community empowerment and competence. Empowerment not only enhances social and economic independence but also contributes to the improvement of individual capacities. Empowered communities tend to possess higher levels of confidence,

motivation, and initiative to learn and develop new skills. Theoretically, this relationship aligns with the *Empowerment Learning Model* (Kempa et al., 2023a), which explains that when individuals are empowered, they are motivated to enhance their competencies to sustain and expand their empowerment.

H₄ : The Impact of the KKL-PPM Program on Community Competence Improvement through Community Empowerment Is Positive and Significant

The fourth hypothesis represents a *mediation (intervening)* hypothesis, which examines the role of community empowerment as a mediating variable between the KKL-PPM program and community competence improvement. In other words, the KKL-PPM program not only directly enhances competence but also indirectly does so through the empowerment process. This model is supported by the *Empowerment Mediation Framework* (Liu & Wang, 2021a; Salvador Costa et al., 2022), which posits that community-based participatory intervention programs are more effective improving competence when the empowerment process functions optimally.

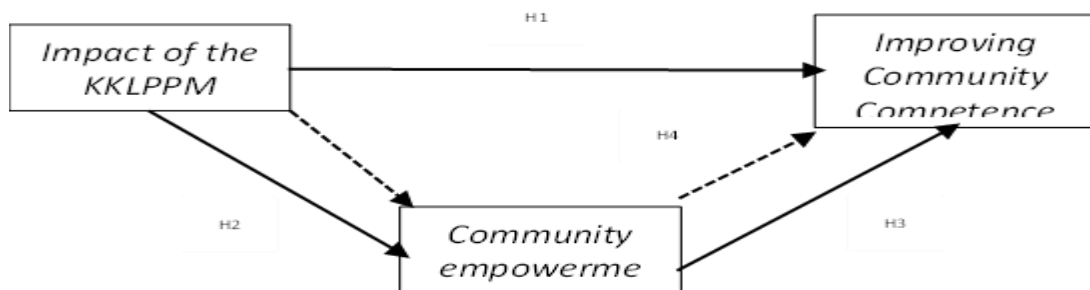


Figure 1. The theoretical model

Methodology

This study employs a quantitative approach with an explanatory research design to analyze the effect of the KKL-PPM program on community empowerment and competency improvement within the context of Ulu Belu community development. The research was conducted in Pekon Muara Dua and Pekon Karang Rejo, Ulu Belu District, Tanggamus Regency, Lampung.

The research population consisted of 1,465 households. Sampling was carried out randomly using Hair's formula, where the number of indicators is multiplied by a range of 1–10. The sample consisted of 385 respondents drawn from community members affected by the KKL-PPM program. A probability sampling technique was applied to ensure that each member of the population had an equal opportunity to

be selected. Data were collected through structured questionnaires using a five-point Likert scale to measure respondents' perceptions of program implementation, level of empowerment, and competency improvement.

Data analysis was conducted using Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) with the assistance of Smart-PLS software. The analysis included evaluation of the outer model to ensure the validity and reliability of the instruments, as well as evaluation of the inner model to examine the relationships among variables. The significance of the effects was tested using the bootstrapping technique based on t-statistics and p-values.

Results And Discussion

This study employed a quantitative method using a questionnaire survey distributed to respondents who had experience with online shopping as a result of social media exposure in Indonesia during 2025. To facilitate the sampling process, the questionnaire was distributed via Google Forms and WhatsApp. In total, the study successfully collected 385 samples (Hair, Babin, & Krey, 2017a). To ensure that respondents clearly understood each item, the researcher provided direct assistance during the questionnaire completion process. The questionnaire instrument was chosen because it is suitable for exploring perceptions, feelings, and feedback from social media users. Respondents' demographic data are presented in Table 1, categorized by gender, age, education level, access to social media, and types of preferred products. The measurement scale used in this survey was a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree.

Data analysis was conducted using a covariance-based *structural equation modeling (SEM)* approach with the SmartPLS 3.0 software. The SEM approach was considered appropriate for this study because it can effectively analyze online behavior involving large datasets, complex models, and latent variables (Hair et al., 2017a). The research process was carried out systematically, beginning with data analysis and statistical testing to ensure that the data were normally distributed, valid, and reliable as research measurement tools. Once data quality requirements were met, the next step was hypothesis testing by examining direct relationships among constructs and assessing potential mediation effects.

The demographic table above illustrates the characteristics of 385 respondents from Pekon Karang Rejo and Pekon Muara Dua in Ulu Belu District. In

terms of location distribution, the number of respondents is relatively balanced, with 49.4% from Karang Rejo and 50.6% from Muara Dua. This indicates an equal representation of both villages in the study. Based on gender, female respondents are slightly more numerous (51.9%) compared to males (48.1%). In terms of age, the majority of respondents fall within the 20–29 years (28.6%) and ≥ 40 years (35.0%) categories, reflecting a combination of young, productive groups and older, more experienced individuals. With regard to education, most respondents hold a Senior High School/Vocational level (36.4%), followed by higher education graduates (24.6%). Meanwhile, respondents with only basic education remain quite significant at 15.6%. This composition suggests that the community has access to secondary and higher education, although a portion is still limited to primary-level education. In terms of occupation, the agricultural sector dominates, with 44.2% of respondents working as farmers, followed by traders/MSME entrepreneurs (22.1%), private employees (18.2%), and other occupations (15.5%). This highlights that the community's main livelihood remains heavily dependent on the agricultural sector. Regarding monthly income, the majority of respondents earn between Rp1,000,000 – Rp2,000,000 (31.2%), followed by those earning Rp2,000,001–Rp3,000,000 (26.0%) and above Rp3,000,000 (23.3%). Only 19.5% of respondents earn less than Rp1,000,000. These findings reflect that most of the community falls into the lower-middle income category, with economic conditions still strongly influenced by agricultural yields and small-scale businesses.

Table 1. Demographics of the research sample (n: 385)

Category	Subcategory	Frequency (n)	Percentage (%)
Village Location	Pekon Karang Rejo	190	49.40%
	Pekon Muara Dua	195	50.60%
Gender	Male	185	48.10%
	Female	200	51.90%
Age	< 20 years	45	11.70%
	20–29 years	110	28.60%
	30–39 years	95	24.70%
	≥ 40 years	135	35.00%
Education	Elementary School/Equivalent	60	15.60%
	Junior High School/Equivalent	90	23.40%
	Senior High School/Vocational	140	36.40%
	Higher Education	95	24.60%

Occupation	Farmer	170	44.20%
	Trader/MSME Entrepreneur	85	22.10%
	Private Employee	70	18.20%
	Others	60	15.50%
Monthly Income	< Rp1,000,000	75	19.50%
	Rp1,000,000 –	120	31.20%
	Rp2,000,000		
	Rp2,000,001 –	100	26.00%
	Rp3,000,000		
	> Rp3,000,000		

There are three main constructs being tested, namely Impact of the KKLPPM Program, Improving Community Competence, and Community Empowerment. Each construct is measured by several indicators, which are analyzed through values of outer loading, Average Variance Extracted (AVE), discriminant validity, and composite reliability. The outer loading values reflect the strength of contribution of each indicator to its respective construct. In general, a good outer loading value is above 0.70. All indicators under the Impact of the KKLPPM Program construct show very high outer loading values, ranging from 0.916 to 0.953. The indicators under Improving Community Competence also show high values, between 0.886 and 0.910, with one indicator (PKM9) having a value of 0.707, which is still within an acceptable tolerance range. The indicators for Community Empowerment also demonstrate high outer loadings, all above 0.86. AVE measures how much variance of the source: own elaboration.

Indicators is explained by the construct. An AVE value above 0.50 indicates adequate convergent validity. The AVE values for all constructs are very high: Impact of the KKLPPM Program = 0.881. Improving Community Competence = 0.772. Community Empowerment = 0.783 Composite reliability (CR) is used to assess the internal consistency or reliability of the indicators within each construct. A good CR value is above 0.70. In this dataset, the CR values for all three constructs are very high: Impact of the KKLPPM Program = 0.974. Improving Community Competence = 0.968. Community Empowerment = 0.970. Discriminant validity indicates the extent to which a construct is truly distinct from other constructs. The discriminant validity values presented briefly in this study show that the constructs have sufficiently high values: Impact of the KKLPPM Program = 0.939. Improving Community Competence = 0.939. Community Empowerment = .901

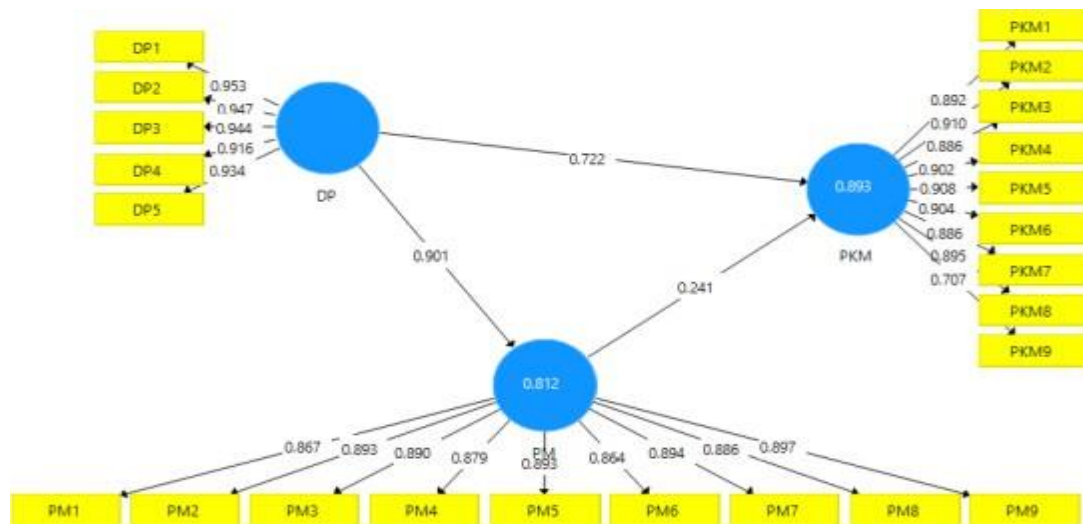


Figure 2. Standardized measurement model

Source: Smart pls.3.0,2026

Table 2. Summary of the measurement model

Construct	Coding	Outer Loading	Average Variance Extracted (Ave)	Discriminat Validity	Composite Reliability
Impact of the KKLPPM Program	DP1	0.953	0.881	0.939	0.974
	DP2	0.947			
	DP3	0.944			
	DP4	0.916			
	DP5	0.934			
Improving Community Competence	PKM1	0.892	0.772	0.939	0.968
	PKM2	0.91			
	PKM3	0.886			
	PKM4	0.902			
	PKM5	0.908			
	PKM6	0.904			
	PKM7	0.886			
	PKM8	0.895			
	PKM9	0.707			
Community empowerment	PM1	0.867	0.783	0.901	0.97
	PM2	0.893			
	PM3	0.89			
	PM4	0.879			
	PM5	0.893			
	PM6	0.864			
	PM7	0.894			
	PM8	0.886			
	PM9	0.897			

Source: Smart pls.3.0,2025

In this research model, the two main constructs analyzed are Improving Community Competence (PKM) and Community Empowerment (PM). The R Square (R^2) value indicates the proportion of variance in the dependent construct that can be explained by the independent constructs within the model. Meanwhile, the Adjusted R Square is a modified version of R^2 that takes into account the number of predictors in the model. The analysis results show that the R^2 value for PKM is 0.893, meaning that 89.3% of the variability in community competence can be explained by other constructs in the model. Similarly, the R^2 value for PM is 0.812, indicating that 81.2% of the variability in community empowerment is also explained by the relevant constructs. The high R^2 values for both constructs indicate that the model has strong predictive power and is capable of explaining a significant portion of the changes in the respective variables. Furthermore, the fact that the Adjusted R Square values are identical to the R^2 values suggests that the model is efficient, not overfitted, and does not include irrelevant independent variables.

Table 3. R Square Test / Adjusted R Square

Construc	R Square	R Square Adjusted
PKM	0.893	0.893
PM	0.812	0.812

Source : Smart pls.3.0,2025

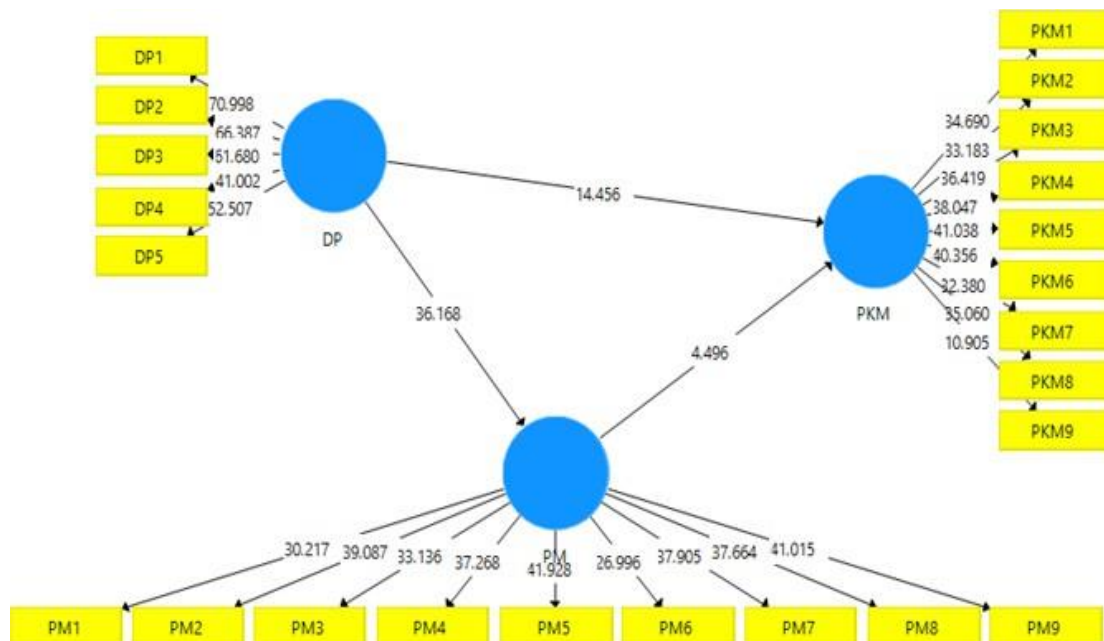


Figure 3. SEM model (validity and reliability test)

Table 4. Path Analysis Test

Counstruc	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
DP -> PKM	0.722	0.719	0.05	14.456	0.000
DP -> PM	0.901	0.898	0.025	36.168	0.000
PM -> PKM	0.241	0.243	0.054	4.496	0.000

Source: Smart pls.3.0,2025

The results of the analysis on the relationships between constructs in this model indicate a significant influence among the three main constructs: Impact of the KKLPPM Program (DP), Improving Community Competence (PKM), and Community Empowerment (PM). The statistical tests were conducted using the values of original sample (O), sample mean (M), standard deviation (STDEV), T-statistics, and P-values to assess the strength and significance of the relationships between constructs.

Firstly, the relationship between DP and PKM shows a coefficient value of 0.722, with a T-statistic of 14.456 and a P-value of 0.000. This indicates that the impact of the KKLPPM program on improving community competence is highly significant. The high coefficient and a T-statistic far above the threshold (≥ 1.96 for a 5% significance level) confirm that this influence is not due to chance.

Secondly, the relationship between DP and PM has an even higher coefficient value of 0.901, with a T-statistic of 36.168 and a P-value of 0.000. This shows that the KKLPPM program has a very strong and significant influence on community empowerment. This value also suggests that the program's success in empowering the community is more dominant compared to its direct effect on improving competence alone.

Thirdly, the relationship between PM and PKM shows a coefficient of 0.241, a T-statistic of 4.496, and a P-value of 0.000. Although the coefficient is lower than the previous two relationships, it is still statistically significant. This indicates that community empowerment also contributes to the improvement of community competence, although its influence is not as strong as the direct impact of the KKLPPM program itself.

Table 5 of Mediation Test

Counstruc	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
DP -> PM -> PKM	0.217	0.218	0.049	4.432	0.000

Source: Smart pls.3.0,2025

In this research model, one of the key aspects analyzed is the indirect (mediating) effect of the construct Impact of the KKLPPM Program (DP) on Improving Community Competence (PKM) through Community Empowerment (PM) as a mediator. This test aims to determine whether community empowerment serves as a significant intermediary pathway in strengthening the impact of the KKLPPM program on improving community competence. Based on the analysis results, the Original Sample (O) value for the mediation path $DP \rightarrow PM \rightarrow PKM$ is 0.217, with a T-statistic of 4.432 and a P-value of 0.000. A T-statistic well above the critical threshold of 1.96 (at a 5% significance level) and a P-value below 0.05 indicate that this mediating effect is statistically significant.

These findings suggest that the KKLPPM program not only has a direct impact on improving community competence but also an indirect effect through community empowerment. In other words, the greater the program's influence on empowerment, the more likely it is to enhance community competence even if the effect is indirect.

Therefore, Community Empowerment (PM) functions as a partial mediator that strengthens the relationship between DP and PKM. The presence of this mediating path enriches our understanding that the success of improving community competence is not solely determined by direct program interventions, but also by how effectively the program empowers the community in a comprehensive manner.

Discussion

The results of this study show that the implementation of the *Field Work Study – Community Empowerment Learning Program (KKL-PPM)* has had a highly significant impact on improving community competence and empowerment in Pekon Karang Rejo and Muara Dua, Ulu Belu Subdistrict. Based on the analysis of 385 respondents, the research model developed demonstrates a very high predictive power, with an R^2 value of 0.893 for the *Community Competence Improvement (PKM)* construct and 0.812 for the *Community Empowerment (PM)* construct. These findings indicate that most changes in community behavior, abilities, and levels of self-reliance can be explained by the effectiveness of the KKL-PPM program's implementation.

From a demographic perspective, the relatively balanced composition of respondents from both villages indicates that the research data have a high degree

of representativeness. The dominance of female respondents (51.9%) suggests increasing female participation in social and economic activities — a positive indicator of community-based development. Meanwhile, the age distribution, dominated by productive age groups (20–29 years) and mature age groups (≥ 40 years), reflects collaboration between the enthusiasm of the younger generation and the experience of the older generation — two essential elements in the success of empowerment programs. Most respondents had completed secondary or higher education, providing a social foundation for innovation adoption and community capacity development. However, the presence of respondents with basic education levels reminds us that program strategies should still consider simple and contextual approaches to ensure active participation from all segments of society.

In terms of occupation, the majority of the community works in the agricultural sector (44.2%), followed by small entrepreneurs and private employees. This indicates that agriculture remains the backbone of the local economy; hence, the effectiveness of the KKL-PPM program largely depends on how well it enhances productivity and added value in this sector. The fact that most respondents fall within the lower-middle-income category underscores that economic empowerment is a primary need. Therefore, programs oriented toward improving skills and innovation in local resource management are highly relevant, consistent with the theoretical perspectives of Chanchien Parajón et al. (2021), Dushkova & Ivlieva (2024), Herdiansyah (2023), Kempa et al. (2023b), and Rosdyanti et al. (2025).

The validity and reliability analyses show that all research constructs were well-measured. The *outer loading* values, ranging from 0.707 to 0.953, indicate that each indicator contributes strongly to its respective construct. The high *Average Variance Extracted (AVE)* values (0.772–0.881) confirm adequate convergent validity, while *Composite Reliability* values above 0.96 demonstrate very strong internal consistency. Thus, the structural analysis results are reliable and empirically valid, consistent with findings in Azwar et al. (2023), Bull & Dale (2021), Rissel et al. (2023), Salvador Costa et al. (2022), and Wijaya et al. (2021).

Substantively, the relationships among constructs reveal compelling dynamics. The *Impact of the KKL-PPM Program (DP)* has a highly significant effect on *Community Competence Improvement (PKM)*, with a path coefficient of 0.722, and on *Community Empowerment (PM)*, with a coefficient of 0.901. This indicates that the KKL- PPM program not only enhances the community's technical abilities

but also fosters self-reliance, participation, and confidence in managing local potential. The program functions not merely as a channel for knowledge transfer from universities to the community but also as a *mechanism of social transformation* that cultivates collective awareness and community capacity. This success demonstrates that the program's approach is participatory, empowering, and relevant to the needs of the local population (Ayu Lestari, n.d.; Brotosusilo et al., 2022b; Chanchien Parajón et al., 2021; Nurbaiti et al., 2025; Steiner et al., 2023; Surya et al., 2021b).

Furthermore, the relationship between *Community Empowerment (PM)* and *Community Competence Improvement (PKM)* is also significant, with a coefficient of 0.241. Although lower than the direct impact of the program on competence, this result highlights the crucial role of empowerment in creating a social environment that supports learning and self-development. When communities feel empowered, they are more open to innovation, more confident in adopting new knowledge, and more active in developing local economic potential.

This demonstrates that empowerment leads not only to structural change but also to psychological and social transformation that strengthens both individual and collective competencies (Dolezal & Novelli, 2022; Nursari et al., 2024; Salvador Costa et al., 2022).

Interestingly, the mediation test results indicate that community empowerment plays a significant *partial mediating* role between the *Impact of the KKL-PPM Program (DP)* and *Community Competence Improvement (PKM)*, with a T-statistic of 4.432 and a P-value < 0.05. This means that part of the program's effect on competence improvement is transmitted through the empowerment process. In other words, programs that not only provide technical training but also build community ownership and participation generate stronger and more sustainable impacts on competence improvement. This reinforces the view that empowerment is not merely an end result but also a critical mechanism in the process of community capacity development (Hu et al., 2022b; Kempa et al., 2023b; Kruahong et al., 2023b; Liu & Wang, 2021b).

These findings align with empowerment theories proposed by Gustinasari & Pratama (n.d.), Pratama et al. (2025), Steiner et al. (2023), and Surya et al. (2021b), which emphasize that sustainable community development can only occur when communities become the *subjects* of the development process

itself. When external interventions, such as the KKL- PPM program, succeed in fostering confidence, organizational ability, and decision-making capacity, the resulting social transformation becomes deeper and more stable. Thus, KKL-PPM can be categorized as an effective form of *community-based education* that enhances the socio-economic competitiveness of rural communities.

Conclusion

Based on the analysis and discussion, it can be concluded that the KKL-PPM program has a strong, significant, and multidimensional impact on enhancing community competence and empowerment in Pekon Karang Rejo and Muara Dua, Ulu Belu Subdistrict. The program not only improves the community's knowledge and technical skills but also fosters collective awareness, participation, and confidence to actively contribute to local development.

The results of the structural model analysis show that the *Impact of the KKL-PPM Program (DP)* has a significant effect on *Community Competence Improvement (PKM)* with a path coefficient of 0.722, and on *Community Empowerment (PM)* with a coefficient of 0.901. This finding confirms that the program's success lies more dominantly in building social empowerment rather than merely enhancing individual competence.

Furthermore, *Community Empowerment (PM)* also has a significant effect on *Community Competence Improvement (PKM)* with a coefficient of 0.241, indicating that the empowerment process helps strengthen learning outcomes and community capacity building.

Another key finding is the significant mediating effect of *Community Empowerment (PM)* on the relationship between the *Program Impact (DP)* and *Community Competence Improvement (PKM)*. This mediation pathway demonstrates that strengthening empowerment serves as an essential mechanism linking program interventions with competence enhancement.

This, empowerment is not only the outcome of the program but also a process that amplifies its indirect effects, ensuring that the program's impact becomes more sustainable and transformative.

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