

The Influence of PLN Empowered Village Innovation on Capacity HR in Manistutu Village, Jembrana Regency, Bali

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Abstract

This study investigates the impact of the "Desa Berdaya PLN" innovation on human resource capacity in Manistutu Village, Bali, utilizing a sequential explanatory mixed-methods design to evaluate the program's shift from traditional Corporate Social Responsibility (CSR) to Creating Shared Value (CSV). The research employs Structural Equation Modeling-Partial Least Squares (SEM-PLS) to analyze quantitative data from program beneficiaries, followed by in-depth interviews to contextualize the findings. The results demonstrate that the innovation program has a positive and significant direct effect on community knowledge, skills, and superior competence, with knowledge and skill enhancement serving as a crucial mediator in this relationship. Conclusively, the study affirms that integrating energy infrastructure with structured capacity-building effectively transforms rural human capital, though sustainable empowerment requires further addressing market access and strengthening local institutional governance

Keywords: Human Resource Capacity, Innovation Management, Creating Shared Value (CSV), Mixed Methods, Rural Empowerment

INTRODUCTION

The economic disparity between urban and rural regions remains a critical challenge, necessitating strategic interventions that go beyond mere infrastructure provision. Contemporary studies suggest that sustainable rural growth is no longer solely dependent on capital investment but relies heavily on community-based innovations that integrate local wisdom with modern capabilities. As highlighted by Setiawan and Lestari (2020), the acceleration of rural development requires a holistic approach where innovation acts as a catalyst for both economic resilience and social empowerment. This phenomenon

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underscores the urgency for state-owned enterprises to align their developmental strategies with the evolving needs of rural populations.

In the context of the energy sector, PT PLN (Persero) has evolved its corporate responsibility approach, moving towards models that emphasize social innovation and energy empowerment. This shift is particularly relevant in the Balinese context, where local initiatives are increasingly directed towards creating independent energy villages. Santoso and Dewi (2022) argue that social innovation in the energy sector serves as a pivotal driver for regional independence, transforming passive beneficiaries into active economic agents. The "Desa Berdaya" program in Manistutu Village exemplifies this paradigm, aiming to leverage bio-energy and tourism potentials to foster shared value.

However, the implementation of such high-level innovations often encounters friction at the grassroots level due to the "absorptive capacity" of the community. The phenomenon observed in Manistutu Village reveals a gap between the advanced infrastructure provided and the community's readiness to utilize it effectively. Susanto and Rahmawati (2021) emphasize that the adoption of technological innovation in rural areas is significantly influenced by social capital and the specific adaptability of the workforce. Without addressing these internal human factors, the physical infrastructure risks becoming underutilized, failing to translate into tangible economic outcomes.

A review of recent literature indicates a distinct research gap regarding the mechanism of this transformation. While many studies have evaluated the external outputs of CSR and innovation programs, there is limited empirical evidence on how these programs specifically enhance human resource capacity in a post-industrial society context. Sulastrri (2021) notes that the link between CSR innovations and the specific improvement of rural human resources remains underexplored, particularly regarding how knowledge transfer mediates the relationship between corporate programs and community competence.

To address this gap, this study adopts a theoretical framework grounded in modern Human Capital Development. Tiurina (2022) posits that in the current societal landscape, human capital development is the primary determinant of competitive advantage, requiring continuous adaptation of skills and knowledge. By synthesizing this perspective with the findings on social innovation, this research constructs a model to explain how the "Desa Berdaya" innovation directly influences the formation of superior community competence, filling the void in understanding the micro-foundations of rural empowerment.

Objectives

The primary objective of this study is to empirically evaluate the effectiveness of the "Desa Berdaya PLN" innovation program in transforming the human capital landscape of Manistutu Village. Specifically, this research aims to move beyond superficial metrics of infrastructure availability and instead analyze the structural mechanisms through which



corporate social innovation influences the intrinsic capacity of rural communities. By adopting a quantitative approach supported by qualitative context, this study seeks to validate whether the shift from traditional Corporate Social Responsibility (CSR) to Creating Shared Value (CSV) significantly contributes to sustainable human resource development in a developing rural economy.

Secondly, this study aims to measure and analyze the direct influence of the PLN Empowered Village Innovation on the enhancement of community knowledge and skills. This objective focuses on determining the extent to which specific interventions—such as technical training, digital literacy workshops, and the introduction of electrified production tools—translate into tangible improvements in the cognitive and psychomotor capabilities of the local workforce. It seeks to quantify the effectiveness of the program as a medium for knowledge transfer and to identify which aspects of the innovation are most potent in elevating the technical proficiency of village residents.

Thirdly, the research is designed to examine the direct impact of the innovation program on the formation of Superior Community Competence (*Kompetensi Unggul*). Beyond basic skills, this objective investigates the broader developmental outcomes, including the cultivation of entrepreneurial mentalities, adaptive resilience, and professional work ethics among the program beneficiaries. The study aims to demonstrate that the provision of reliable energy infrastructure, when coupled with empowerment programs, serves as a critical catalyst for creating a competitive and independent rural society capable of self-driven economic growth.

Fourthly, a critical objective of this research is to investigate the mediating role of knowledge and skill enhancement in the relationship between the innovation program and superior competence. This part of the study aims to open the "black box" of the empowerment process by proving that infrastructure innovation does not automatically yield superior competence; rather, it must first be internalized through improved individual capabilities. By establishing this indirect path, the research seeks to confirm that the accumulation of human capital (knowledge and skills) is the essential bridge that connects external corporate interventions to long-term community empowerment.

Finally, this study aims to provide theoretical and practical contributions by formulating a validated model of rural human resource development. Theoretically, it seeks to enrich the literature on Innovation Diffusion and Human Capital Theory within the context of the energy sector's role in rural development. Practically, the findings are intended to offer strategic recommendations for PT PLN (Persero) and local policymakers, identifying specific barriers and enablers to ensure that future CSV initiatives are evidence-based and precisely targeted to maximize social impact and community independence.



DISCUSSION

The empirical validation of the proposed model was conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The bootstrapping procedure verified the significance of the path coefficients, confirming that all proposed relationships in the structural model are statistically significant.

The first hypothesis (H_1) posits that the "Desa Berdaya PLN" Innovation has a direct positive influence on Superior Community Competence. The SEM analysis confirms this hypothesis, demonstrating a positive path coefficient with a T-statistic value significantly exceeding the critical threshold of 1.96 ($p\text{-value} < 0.05$). This statistical evidence indicates that the provision of energy infrastructure and electrified production tools directly correlates with the community's capacity to perform at a superior level. The result validates the premise that physical innovation is a fundamental prerequisite for competence, as it provides the necessary machinery for the community to engage in higher-value economic activities.

The second hypothesis (H_2), which assesses the impact of Innovation on the Enhancement of Knowledge and Skills, is also supported by the SEM results. The analysis reveals a strong positive correlation, evidenced by a significant T-statistic. This finding confirms that the innovation program—specifically its accompanying training modules and technical guidance—effectively functions as a medium for technology transfer. The statistical significance suggests that the introduction of new technology (innovation) compels the beneficiaries to acquire new operational capabilities, thereby directly elevating their cognitive and psychomotor skills.

The third hypothesis (H_3) asserts that the Enhancement of Knowledge and Skills significantly influences Superior Community Competence. The path analysis yields a positive coefficient and a significant T-statistic, supporting this hypothesis. This result statistically proves that "software" improvements (knowledge accumulation) are critical predictors of "outcome" improvements (competence). It implies that as the community's understanding of business management and technical operations increases, their overall adaptability and professional resilience (competence) rise proportionately.

Finally, the fourth hypothesis (H_4) examines the indirect effect of Innovation on Superior Competence through the Enhancement of Knowledge and Skills. The specific indirect effect analysis in SEM-PLS confirms that knowledge and skills significantly mediate this relationship. The statistical data indicates that a substantial portion of the innovation's impact on competence is transmitted through the improvement of human capital. This finding is crucial as it quantitatively demonstrates that physical infrastructure alone is less effective without the concurrent development of human skills, validating the full mediation model.

The confirmation of H_1 aligns with the Creating Shared Value (CSV) framework, which argues that integrating societal needs into core business strategies generates mutual benefit. By aligning energy solutions with local economic activities in Manistutu Village, PLN



has generated "shared value," proving that corporate engagement can directly enhance the competitive advantage of a rural community. This supports Santoso and Dewi (2022), who found that energy-based empowerment is a driver for regional independence, though this study expands on that by quantifying "competence" as a multi-dimensional construct involving work ethic and adaptive resilience.

The robust support for H₂ and H₃ can be explained through Rogers' Diffusion of Innovations Theory, specifically the elements of "trialability" and "observability." The PLN program allowed the community to observe the direct benefits of electric tools and try them firsthand, which accelerated the adoption process and skill acquisition. As noted by Susanto and Rahmawati (2021), technology adoption in rural areas depends heavily on social capital and facilitation. This study affirms that innovation adoption is active, requiring a learning curve that PLN successfully facilitated through structured guidance.

The significant mediation effect found in H₄ serves as the empirical manifestation of Human Capital Theory in a rural context. As argued by Tiurina (2022), physical capital only yields productivity when matched with human capital. The study demonstrates that the "Desa Berdaya" program effectively functions as an educational intervention. The transformation of Manistutu Village was made possible because the innovation program prioritized human capital investment (training) alongside physical capital investment (tools), bridging the gap identified in earlier literature by Sulastri (2021) regarding the failure of non-educational CSR programs.

From a managerial perspective, these SEM findings offer specific implications for PT PLN (Persero). The confirmed mediation effect suggests that future CSV initiatives must prioritize the "software" (training) as much as the "hardware" (electrification). Practical implementation should involve standardizing the training curriculum used in Manistutu for replication in other "Desa Berdaya" locations. PLN should consider establishing a formal "Energy Entrepreneurship Academy" at the village level to ensure continuous knowledge transfer.

Finally, for policy and community governance, the study implies a need for stronger local institutional support. The formation of Superior Competence requires an ecosystem that sustains acquired skills. Therefore, the local village government (Pemdes) and village-owned enterprises (BUMDes) must integrate competent individuals into structured business units. This ensures that market access is created for the products generated by these skilled individuals, completing the cycle of empowerment from capacity building to economic independence.

CONCLUSION

This study establishes that the "Desa Berdaya PLN" innovation serves as a critical driver for rural empowerment, effectively translating physical energy infrastructure into



superior community competence through the essential mediating mechanism of knowledge and skill enhancement. The findings empirically validate that sustainable rural development relies not merely on capital investment but on the simultaneous cultivation of human capital, confirming the efficacy of the Creating Shared Value (CSV) approach in transforming passive beneficiaries into active, competent economic agents. Consequently, to further elucidate the dynamics of rural economic resilience, future research should extend this structural model by examining the specific roles of digital market integration and local institutional governance (BUMDes) as potential moderators, while also employing longitudinal methodologies to assess the long-term durability of the acquired competence in navigating evolving market challenges.

REFERENCES

- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis, with special reference to education* (3rd ed.). University of Chicago Press.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1/2), 62–77. <https://hbr.org/2011/01/the-big-idea-creating-shared-value>
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.
- Santoso, I. B., & Dewi, I. G. A. (2022). Inovasi sosial dan pemberdayaan energi di Bali. *Jurnal Inovasi dan Kemandirian Desa*, 7(1), 89–104.
- Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1–17. [tautan mencurigakan telah dihapus]
- Setiawan, P., & Lestari, Y. (2020). Community-based innovation for sustainable rural growth. *International Journal of Research in Community Service*, 1(4), 51–55. <https://journal.rescollacomm.com/index.php/ijrcs/index>
- Spencer, L. M., & Spencer, S. M. (1993). *Competence at work: Models for superior performance*. John Wiley & Sons.
- Sulastri, M. (2021). Inovasi CSR dan peningkatan kapasitas SDM masyarakat pedesaan. *Jurnal Pengabdian Masyarakat*, 7(1), 15–28.
- Susanto, J., & Rahmawati, D. (2021). Modal sosial dan adopsi inovasi teknologi di kalangan petani muda. *Jurnal Inovasi Desa*, 4(2), 33–47.
- Tiurina, A. (2022). Problems and prospects of human capital development in post-industrial society. *Postmodern Openings*, 13(3), 412–424. <https://doi.org/10.18662/po/13.3/497>

