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Increasing Teachers' Creativity Through Strengthening Mutual Cooperation and Work Motivation

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ABSTRACT

Teacher innovation is the key to improving the quality of learning. Although work motivation, organizational support, and creativity have been proven to influence teachers' innovation, there are still few integrative approaches that consider local wisdom such as *gotong royong*, a typical Indonesian cultural value. This research aims to develop and optimize a model that maps the role of mutual cooperation and work motivation in encouraging teacher innovation, to support strategic decision-making in the field of education. With a mixed-method approach, data were collected from 180 foundation permanent teachers (GTY) at private high schools in Bekasi Regency. The analysis was carried out using PLS-SEM, with validation of factor and path coefficients to optimize the model. The results showed that mutual cooperation had a significant direct effect on teachers' innovation ($\beta = 0.180$; $p = 0.002$) and work motivation ($\beta = 0.623$; $p = 0.000$), while work motivation was a strong predictor of teacher innovation ($\beta = 0.766$; $p = 0.000$). This research confirms that the culture of mutual cooperation and work motivation plays a strategic role in educational innovation. The integrated model developed is a new contribution to the management of teacher innovation based on culture and psychology and can be used in continuous education policies.

Keywords: Teacher Innovation; Mutual cooperation; Work Motivation; PLS-SEM; Local wisdom.

INTRODUCTION

Teacher innovation is a key factor in improving the quality of learning. It is a necessity, especially amid transformations in education that impact teachers' readiness in learning (Jumini, 2023). Innovative teachers consistently develop new ways and solutions to face challenges in daily practice (Halász, 2020). Factors influencing teachers' innovation include organizational support, personality, and creativity. This aligns with research by Sunaryo et al. (2023), which shows these factors significantly affect teachers' innovation while enhancing learning processes and outcomes. Innovative learning approaches such as personalized lesson plans, technology-based learning, and interactive methods have been shown to significantly improve student engagement, academic performance, and positive social interactions (Alkhatib, 2025). Continuous professional development is essential to encourage teacher innovation, as studies indicate it strengthens teachers' work commitment and innovation, directly correlating with better educational quality and student performance (Albaladejo-González et al., 2025; Asiyah et al., 2021).

Teachers with intrinsic motivation and high creative self-efficacy tend to be more active in implementing innovation in their teaching. Creative self-efficacy is identified as a

key predictor of innovative behavior in teachers' work environments (Basar et al., 2024; Gaziel et al., 2018), meaning teachers confident in their creative abilities are more likely to adopt innovative teaching methods. Additionally, a positive organizational climate plays a crucial role in boosting motivation and encouraging innovative behaviors. Research by Awan & Ahmad (2024) shows that a supportive and innovative school environment increases teacher motivation, reinforcing innovative practices. Leadership that provides autonomy and support is also a major factor in enhancing innovative behavior, as empowering leadership strengthens teachers' self-efficacy, which drives innovation (Basar et al., 2024; Koch et al., 2015). Furthermore, teachers who enjoy better work-life quality and feel psychologically empowered are more likely to develop innovative behaviors. These factors mediate the relationship between work motivation and innovation, confirming that empowered and satisfied teachers are better prepared to innovate (Rahimi et al., 2024; Xiang et al., 2024). High levels of work engagement are also closely linked to increased innovative behaviors; engaged teachers invest more effort in creative and innovative methods, improving teaching effectiveness and positively impacting student outcomes (Rais et al., 2022).

The culture of local wisdom, especially the value of mutual cooperation, plays a significant role in building teachers' work motivation that supports innovation in learning. As a form of cooperation and mutual help in society, *gotong royong* creates an environment conducive to developing teachers' innovation. Values such as mutual cooperation (*Mulo Nu Mia*) and kinship (*Pun Jabai*) in Rejang culture have been integrated into the elementary school operational curriculum to strengthen student character formation (Ferdi Hasan et al., 2024). Collaboration among teachers is also important for increasing competence and motivation. Although some believe collaboration may reduce teachers' autonomy, research shows it has great potential to enrich professional abilities (Kolleck, 2019). Moreover, collaboration supported by distributed leadership and an innovative school climate can strengthen collaboration-based pedagogical practices (Ma & Marion, 2024). Integrating local wisdom in education contributes not only to cultural preservation but also enhances the relevance and sustainability of learning systems (Arjaya et al., 2024). For example, Muhammadiyah applies principles of local wisdom in its education system, including inclusivity and acceptance of students from various backgrounds (Mu'ti & Amirrachman, 2025).

Additionally, learning orientation and self-determination strongly influence teachers' innovative work behavior. Attitudes toward innovation, subjective norms, innovation efficacy, and innovative intentions mediate increased innovation in teachers' work (Kurniawan et al., 2025). The application of STEM approaches based on local wisdom increases sustainability literacy and connects learning with real-world conditions, encouraging teachers to apply their knowledge in daily life (Nugroho et al., 2019).

Although the relationship between mutual cooperation and work motivation has been extensively researched separately, a more holistic approach through modeling and

optimization of teacher innovation remains rare. Research indicates that teacher collaboration positively impacts motivation but is often perceived as a challenge to individual autonomy, resulting in inconsistent findings across various theoretical approaches (Kolleck, 2019). For collaboration to be effective, shared values and interdependent relationships are essential, playing a critical role in encouraging teacher learning and innovation (Krichesky & Murillo, 2018). Intrinsic motivation and professional development are key factors for the success of collaboration-based innovation (Fischer-Schöneborn & Ehmke, 2023). The success of collaboration in educational innovation depends on elements such as volunteerism, common goals, and the level of trust between teachers (Drossel et al., 2019).

There are limitations in understanding how mutual cooperation and work motivation affect the improvement of teachers' innovation. Currently, no research specifically discusses the concept of mutual cooperation or *gotong royong* between teachers and its direct influence on innovation. Further empirical studies are needed to clarify the motivational mechanisms and their impact on teachers' innovative behaviors. Identification of factors such as organization and work engagement shows that the relationship between career development and teacher innovation is mediated by a strong sense of belonging and involvement in the work environment (Koopman, 2021). Additionally, support from colleagues and students correlates positively with teacher innovation, mediated by self-efficacy (Ma & Marion, 2024).

A systematic data-based modeling system as a guide for strategic decision-making to improve teacher innovation is not yet available. To address this gap, it is important to develop an easily accessible data system that supports teachers' innovative decision-making (Alonzo et al., 2024), alongside strengthening digital and transformational leadership in schools to create an environment conducive to innovation (Kılınç et al., 2024; Yingxin et al., 2024).

Existing research is generally descriptive or correlational, with limited exploration of optimization approaches as strategies to strengthen teacher innovation. Most studies focus on identifying factors influencing innovation, such as teacher attitudes and beliefs, school structures, and work environments (Monge-López & Gómez-Hernández, 2021). However, these tend to be limited to identifying supporting factors without exploring the implementation of optimization strategies.

Leadership support and professional learning communities (PLCs) significantly influence teachers' innovation skills in technology integration (Rasdiana et al., 2024), but this research emphasizes relationships and influences rather than developing concrete optimization strategies. Creativity and teacher empowerment are recognized as important elements in encouraging innovation (Barua et al., 2024), yet comprehensive optimization approaches to improving innovation remain underexplored.

Several studies acknowledge methodological limitations that affect the validity of findings and the application of optimization strategies (Chand et al., 2021). These studies typically employ descriptive or correlational approaches without deeper exploration of optimization measures. Moreover, the lack of theorization regarding innovation limits the value of research in informing educational policies and practices (Ellis et al., 2023). Without a solid theoretical foundation, developing effective optimization strategies is challenging.

Therefore, this study aims to develop and validate an integrated model that maps the role of mutual cooperation (*gotong royong*) and work motivation in enhancing teacher innovation. Using a mixed-method approach and data modeling through PLS-SEM, this research seeks to provide empirical evidence and a practical framework for strengthening innovation practices in educational institutions. The implications include policy recommendations and strategic insights for school leaders, education foundations, and policymakers to foster a school culture that promotes collective work values and intrinsic motivation as key drivers of innovation. Additionally, the model can serve as a practical tool for identifying priority areas in teacher development programs that are culturally rooted and psychologically empowering.

METHOD

This study used a mixed-method approach (qualitative and quantitative), with an analysis framework based on HR POP (Human Resources Potential, Organization, and Process). The population consisted of private school teachers holding the status of Foundation Permanent Teachers (GTY) in Bekasi Regency, totaling 180 purposively selected respondents. Data collection involved distributing research instruments to these 180 respondents to gather empirical data necessary for measuring the relationships between mutual cooperation, work motivation, and teacher innovation within a model framework developed from previous qualitative findings. Quantitative data were analyzed using Partial Least Squares – Structural Equation Modeling (PLS-SEM) to test relationships between latent variables and to measure the strength of influence of each construct. Following the establishment of a significant structural model, a follow-up analysis was conducted using the loading factor of each indicator on the construct variable.

RESULTS AND DISCUSSION

This research emphasizes the importance of applying local wisdom, such as the culture of mutual cooperation, in the world of education to increase teachers' creativity and innovation. This approach supports efforts to preserve cultural heritage while encouraging the advancement of modern education (Ferdi Hasan et al., 2024; Siradjuddin, 2023). Based on interviews with 13 private high school teachers in Bekasi Regency, it was revealed that the two main factors that affect teachers' innovation are work motivation at 69% and mutual cooperation culture at 62.5%. This illustrates that teachers' creativity does not only depend on individual factors, but is also highly determined by social interactions in the work environment.

The results of the PLS-SEM analysis show that there is a direct and indirect positive influence of the culture of mutual cooperation on teacher innovation. The culture of mutual cooperation directly affects teacher innovation and work motivation, and has an indirect influence through increasing work motivation which ultimately encourages teacher innovation. With these findings, the research succeeded in enriching the literature on the

strategic role of collective culture in building motivation and innovation in the education sector.

From the output of PLS SEM, there is a direct positive influence of mutual cooperation on teacher innovation, mutual cooperation on work motivation, work motivation on teacher innovation and a positive indirect influence of mutual cooperation on teacher innovation through work motivation.

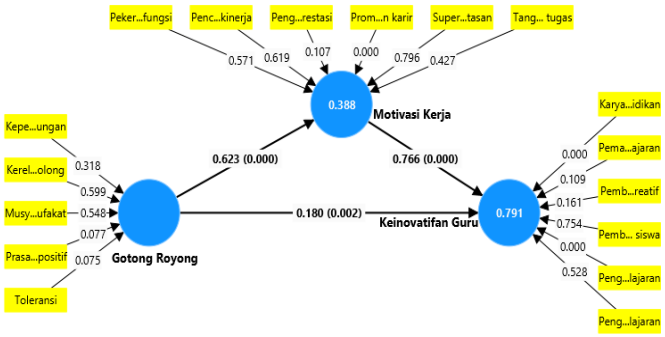

Figure 1: PLS SEM Output Relationship between variables
Source: Results of author's data processing using SmartPLS (2025)

This research succeeded in filling the gap in the literature by showing how the culture of mutual cooperation significantly affects teachers' innovation, both directly and indirectly through work motivation. The results of the PLS-SEM model show that mutual cooperation has a direct influence on teacher innovation of 0.180 (p = 0.002), as well as contributing to increasing work motivation with a coefficient of 0.623 (p = 0.000), which in turn has a strong impact on teacher innovation of 0.766 (p = 0.000).

Teacher collaboration is very important to increase educational innovation and improve the quality of schools. Collaborative practices such as co-development and problem-solving demand strong interdependence and shared values, which can significantly enhance teacher learning and innovation (Pan et al., 2024). The study also confirms that organizational culture and self-confidence have an effect on teacher performance, with work motivation as an important mediator (Huda et al., 2025). Teachers with high intrinsic motivation, including creative self-efficacy and prosocial motivation, exhibit better performance and innovative behaviors. This motivational mechanism plays an important role in influencing teacher innovation (Dronova et al., 2024). Teachers with high levels of intrinsic motivation, demonstrated through innovation and prosocial motivation, tend to exhibit stronger innovative behaviors. Interestingly, the role of work motivation as a mediator in the relationship between collective culture and teacher innovation has not been comprehensively explored before, and this study provides strong evidence that the gotong royong culture is able to strengthen teachers' intrinsic motivation and produce innovative learning practices. Furthermore, intrinsic motivation is proven to be a crucial factor in driving teacher innovation. Several studies have shown that intrinsic motivation not only influences innovative behavior

directly, but also mediates the relationship between organizational climate and teacher innovation (Awan & Ahmad, 2024). In the context of collective culture, mutual cooperation and trust are important foundations that strengthen motivation and innovation, as found in a study of teachers' collective innovation in China (Cao et al., 2025). Work motivation also acts as a bridge between organizational culture and teacher performance, as confirmed by previous research (Ertaş & Pekmezci, 2025). Thus, building an organizational culture that supports collaboration and collective learning is essential in increasing teacher motivation and innovation.

Based on Figure 1, work motivation indicators such as supervisory supervision (loading = 0.796) and performance achievement (loading = 0.619) are the main factors that clarify the relationship between work motivation and innovation. On the other hand, in the dimension of mutual cooperation culture, indicators of willingness to help (loading = 0.599) and consensus deliberation (loading = 0.548) were proven to be the main drivers of the formation of productive work motivation. Supervisory supervision, with a high load, shows that performance coaching from leaders is a major driving factor for teachers' innovative behavior (Peiró et al., 2023). Similarly, job-appropriate functions contribute to increased work motivation, which ultimately encourages innovative behaviors (Gupta, 2020). Close cooperation between teachers and the practice of consensus deliberation play an important role in building a mutually supportive work ecosystem, strengthening motivation, and generating innovation (Sobeh & Shamay-Tsoory, 2025)

This research model not only explains the direct relationship between variables, but also provides a new understanding of the importance of collective culture and work motivation in shaping innovative environments in schools. Social trust and appreciation for the contribution of each community member are the main prerequisites for the creation of an innovative educational ecosystem (Rafique et al., 2023). Organizational cultures that encourage collaboration and collective learning have been shown to accelerate open innovation (Bao et al., 2024). In the midst of the modern education ecosystem, technology integration and collaboration across communities, families, and schools are key to improving student learning outcomes (Al Husseiny & Munna, 2024). Collective learning in learning communities, although still rare, has the potential to result in systemic changes in the development of learning organizations (Castelijns et al., 2013).

Modeling carried out through the PLS-SEM approach and advanced analysis with loading Through the PLS-SEM approach, this study succeeded in mapping the priorities of strategic indicators for the development of teacher innovation based on data and local contexts. This approach is in line with the results of other studies showing that PLS-SEM is effective for analyzing the influence of factors such as organizational support, personality, and creativity on teacher innovation as well as for identifying the important role of transformational leadership in driving school innovation (Meizatri et al., 2023; Sunaryo et al., 2023). Loading factors in PLS-SEM function to identify priority indicators that most affect

latent variables, which can be used to design more accurate teacher innovation development policies. These findings are in line with a study in Saudi Arabia that managed to identify seven key indicators for the educational innovation framework (Sleemi et al., 2024). Furthermore, the PLS-SEM model has proven effective in developing a valid scale to assess access to technology in education (Habibi et al., 2021) and identify factors that influence student learning satisfaction (Mia et al., 2022). Thus, this approach paves the way for the development of contextual and sustainable data-based innovation development strategies in the educational environment.

CONCLUSION

The study found that work motivation has the greatest influence on increasing teacher innovation, followed by *gotong royong* (mutual cooperation). Mediation analysis confirmed that *gotong royong* significantly enhances the effect of work motivation on teacher innovation. Therefore, strategies to boost teacher innovation should focus on strengthening both work motivation and mutual cooperation. To enhance work motivation, efforts should target improving weaker indicators such as promotion and career development, recognition of achievements and responsibilities, while maintaining strengths like supervisory supervision, performance achievement, and alignment with duties. Similarly, strengthening *gotong royong* involves improving weaker indicators such as tolerance, positive prejudice, and environmental concern, alongside sustaining strengths like the ability to help and deliberation for consensus. Future research could explore intervention programs designed to specifically enhance these weaker indicators and examine their long-term impact on teacher innovation across diverse educational contexts.

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