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IMPROVING TEACHERS' INNOVATIVE WORK BEHAVIOR THROUGH STRENGTHENING SCHOOL CULTURE, SELF-EFFICACY AND WORK MOTIVATION

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Abstract. This study aims to analyze the effects of school culture, self-efficacy, and work motivation on teachers' innovative work behavior. A quantitative approach was employed using a survey method and path analysis. The sample consisted of 106 permanent foundation teachers from six private vocational high schools in Cisaat District, Sukabumi Regency, selected through a saturated sampling technique. The results revealed that school culture, self-efficacy, and work motivation have positive and significant effects on teachers' innovative work behavior. School culture and self-efficacy also have positive and significant effects on work motivation. Furthermore, work motivation mediates the effects of school culture and self-efficacy on teachers' innovative work behavior. These findings indicate that strengthening school culture, enhancing self-efficacy, and improving work motivation are important strategies for fostering teachers' innovative work behavior.

Keywords: school culture, self-efficacy, work motivation, innovative work behavior, vocational high school teachers.

I. INTRODUCTION

Background of the Study

Contemporary education systems require teachers to respond proactively to rapid technological change, evolving labour-market demands, curriculum reform, and increasingly diverse student needs. This requirement is particularly important in vocational education, where learning must remain closely connected to technological developments, workplace practices, and industry expectations. Accordingly, teachers are no longer expected merely to transfer established knowledge; they must continuously identify instructional problems, generate new ideas, mobilise support, experiment with pedagogical alternatives, and implement solutions that improve teaching and learning. These activities collectively constitute teachers' innovative work behaviour. In educational settings, innovative work behaviour is a multidimensional process encompassing opportunity exploration, idea generation, idea promotion, idea realisation, and the sustainable integration of innovation into professional practice (Lambriex-Schmitz et al., 2020). Its importance is reinforced by evidence that teachers' innovative behaviour contributes to instructional improvement, professional adaptability, school innovation, and educational quality (Zainal & Mohd Matore, 2021).

The urgency of teacher innovation has increased with the expansion of digitally supported education. Digital competency and self-leadership enable teachers to explore emerging resources, redesign instruction, and undertake pedagogical experimentation, thereby strengthening innovative work behaviour (Sary et al., 2023). In the Indonesian educational context, technological literacy is equally essential because teachers must be able to select, understand, and use digital technologies appropriately in response to the demands of the Industrial Revolution 4.0 (Hardinata et al., 2021). Nevertheless, technological competence alone does not guarantee innovation. Teachers also require organisational encouragement, professional autonomy, confidence in their capabilities, and sufficient motivation to

convert ideas into concrete instructional practices.

Innovative work behaviour is not an isolated individual activity but is embedded in the social and organisational environment of the school. A supportive school culture provides shared values, collaborative relationships, psychological safety, professional trust, openness to experimentation, and recognition of teachers' creative contributions. Such conditions can encourage teachers to exchange knowledge, challenge established routines, and develop new instructional practices. School culture has been associated with work motivation, teacher performance, and improved learning outcomes because it determines how organisational expectations and professional interactions are experienced by school members (Amtu et al., 2020). Professional collaboration and collective reflection can also reinforce both school culture and teacher self-efficacy, particularly when innovation is supported through sustained professional learning activities (Schipper et al., 2020). Likewise, systematic academic supervision involving planning, implementation, evaluation, and constructive follow-up can provide the organisational support teachers need to improve their professional performance (Setyaningsih & Suchyadi, 2021).

Apart from organisational conditions, teachers' self-efficacy is a central psychological resource underlying innovative action. Self-efficacy reflects teachers' beliefs in their capacity to organise and execute the actions necessary to achieve desired instructional outcomes. Teachers with strong self-efficacy are generally more willing to confront uncertainty, persist when new approaches initially fail, and experiment with alternative teaching strategies. Empirical evidence shows that self-efficacy significantly predicts innovative work behaviour because teachers who trust their professional capabilities are more prepared to develop, advocate, and implement new ideas (Gkontelos et al., 2023; Sofiyan et al., 2022). Similarly, creative self-efficacy has been found to mediate the relationship between professional autonomy and innovative behaviour, indicating that organisational opportunities become productive innovations when teachers believe that they are capable of acting creatively (Chen, 2024).

Work motivation may provide the psychological mechanism that transforms supportive organisational conditions and personal beliefs into sustained innovative action. Innovation requires effort beyond routine job requirements, including the investment of time, persistence, collaboration, and a willingness to cope with the possibility of failure. Teachers who are intrinsically or professionally motivated are more likely to perceive instructional challenges as opportunities for improvement and to persist in developing workable solutions. Motivation is therefore not only an independent antecedent of innovative behaviour but may also mediate the effects of school culture and self-efficacy. Contemporary research increasingly demonstrates that the influence of organisational and individual resources on teacher innovation is transmitted through psychological mechanisms such as efficacy, commitment, engagement, and motivation (Aryani et al., 2024; Bao, 2024).

Problem of the Study

Despite the strategic importance of teacher innovation, innovative work behaviour among teachers in private vocational high schools remains uneven. This problem is particularly relevant to permanent foundation teachers, who operate within institutional conditions shaped by the policies, resources, management systems, and organisational cultures of private education foundations. Limitations in professional development, technological facilities, instructional resources, collegial collaboration, and recognition of innovative initiatives may inhibit teachers from converting creative ideas into sustainable educational practices. Although individual teachers may possess new ideas, they may lack the confidence, motivation, organisational support, or institutional space required to promote and implement them.

The preliminary survey reported in the present study illustrates this concern. A survey conducted between August and September 2025 involving 30 teachers from three private vocational high schools in Cisaat District, Sukabumi Regency, showed that the indicators of teachers' innovative work behaviour had not reached an optimal level. The proportion recorded for opportunity or idea exploration was approximately 41%, while idea generation and idea promotion were each approximately 48%. Idea implementation reached 48.4%, and the development or refinement of new ideas reached 48.6%. These figures indicate that the teachers' capacity to recognise opportunities, create instructional alternatives, gain support for new ideas, and implement innovations consistently requires systematic improvement.

The problem cannot be explained solely as a lack of technological skill or creativity. Teachers' innovative

behaviour results from the interaction between contextual and psychological factors. A restrictive school culture may discourage experimentation, whereas weak self-efficacy may lead teachers to avoid the uncertainty and risks associated with innovation. Similarly, even when a school provides favourable conditions and teachers believe in their capabilities, insufficient work motivation may prevent innovative intentions from becoming sustained behaviours. Recent evidence confirms that school climate and teacher self-efficacy significantly influence innovative teaching practices, yet their effects depend on the psychological mechanisms through which teachers interpret and respond to their work environment (Alshuhumi et al., 2025). Therefore, the principal research problem concerns how school culture, self-efficacy, and work motivation interact to explain innovative work behaviour among permanent foundation teachers in private vocational high schools.

Research State of the Art

Recent studies have examined innovative work behaviour from organisational, psychological, technological, and leadership perspectives. At the organisational level, school culture and organisational culture have been identified as important predictors of teachers' willingness to generate and implement new ideas. Sofiyan et al. (2022), for example, found that organisational culture and self-efficacy positively influenced teachers' innovative work behaviour and subsequently contributed to teacher performance. Research in the Indonesian context also indicates that innovative work behaviour can be measured through systematic dimensions representing the progression from recognising opportunities to implementing ideas (Hidayat et al., 2022). These developments have strengthened the conceptual and measurement foundations of research on teacher innovation.

At the individual level, self-efficacy has received substantial empirical attention. Gkontelos et al. (2023) demonstrated that teachers' innovative work behaviour is associated with self-efficacy and other psychological conditions, highlighting the importance of personal beliefs in teachers' responses to professional challenges. Zainal and Mohd Matore (2021) similarly showed that teacher self-efficacy and transformational leadership practices influence teachers' innovative behaviour. More recent evidence suggests that teachers' social intelligence may affect innovative work behaviour through creativity, teaching self-efficacy, and affective commitment, supporting the development of more complex explanatory models (Aryani et al., 2024). Furthermore, a study of Chinese university teachers revealed that creative self-efficacy partially mediated the relationship between teacher autonomy and innovative behaviour (Chen, 2024).

Research has also moved towards mediation-based models. Bao (2024) demonstrated that the relationship between inclusive principal leadership and teacher innovative behaviour operates through psychological and organisational mechanisms. Likewise, Alshuhumi et al. (2025) found that school organisational climate and teacher self-efficacy significantly influenced innovative teaching practices, with self-efficacy mediating the effect of school climate. Collectively, these studies indicate that contextual variables do not necessarily influence innovation directly; instead, their effects may operate through teachers' motivational and psychological responses. However, current research has more frequently considered self-efficacy, creativity, commitment, or work engagement as mediators than work motivation, particularly within private vocational-school environments.

Gap Study

Although the literature provides valuable explanations of teachers' innovative behaviour, several gaps remain. First, previous studies have generally examined school culture, self-efficacy, or motivation separately, while relatively few have integrated these variables within a single causal model. Existing research therefore offers only a fragmented explanation of how school-level conditions and individual psychological resources jointly shape teachers' innovative behaviour.

Second, the mediating role of work motivation remains insufficiently examined. Previous studies have established direct relationships between organisational culture, self-efficacy, and innovative behaviour, but less is known about whether school culture and self-efficacy improve innovative work behaviour by first strengthening teachers' work motivation. This mechanism is theoretically important because supportive organisational values and strong capability beliefs may not produce innovation unless teachers are motivated to invest additional effort in exploring, promoting, and implementing new ideas.

Third, much of the recent evidence has been obtained from primary schools, public educational institutions, universities, or general organisational settings. Empirical studies focusing on permanent foundation teachers in Indonesian private vocational high schools remain limited. This setting has distinctive institutional characteristics because foundation policies, employment arrangements, resource availability, and the need to align instruction with occupational developments may shape teacher motivation and innovation differently from public-school contexts.

Fourth, several previous studies have employed models centred on technological competency, digital leadership, professional autonomy, or transformational leadership. Although these factors are relevant, they do not fully explain the combined contribution of school culture as an organisational resource, self-efficacy as an individual cognitive resource, and work motivation as a psychological transmission mechanism. The present research addresses these gaps by testing an integrative path model in which school culture and self-efficacy influence teachers' innovative work behaviour both directly and indirectly through work motivation.

Research Objective

This study aims to develop and empirically test an integrative model for improving teachers' innovative work behaviour through the strengthening of school culture, self-efficacy, and work motivation among permanent foundation teachers in private vocational high schools in Cisaat District, Sukabumi Regency, Indonesia. Specifically, the study examines: (1) the direct effect of school culture on teachers' innovative work behaviour; (2) the direct effect of self-efficacy on teachers' innovative work behaviour; (3) the direct effect of work motivation on teachers' innovative work behaviour; (4) the direct effect of school culture on work motivation; (5) the direct effect of self-efficacy on work motivation; (6) the indirect effect of school culture on teachers' innovative work behaviour through work motivation; and (7) the indirect effect of self-efficacy on teachers' innovative work behaviour through work motivation. By addressing these relationships, the study is expected to extend the literature on educational innovation and provide an evidence-based framework for school leaders and private education foundations seeking to foster sustainable teacher innovation.

II. METHOD

Type and Design

This study employed a quantitative approach using an explanatory, cross-sectional survey design. The design was selected to examine the structural relationships among school culture, self-efficacy, work motivation, and teachers' innovative work behaviour based on numerical data collected at a single point in time. School culture and self-efficacy were specified as exogenous variables, work motivation as a mediating variable, and innovative work behaviour as the endogenous variable. The proposed model tested both the direct effects of school culture, self-efficacy, and work motivation on innovative work behaviour and the indirect effects of school culture and self-efficacy through work motivation. A quantitative explanatory design is appropriate when a study seeks to test theoretically derived hypotheses and estimate the strength and direction of relationships among measurable variables (Creswell & Creswell, 2023). Nevertheless, because the data were cross-sectional and non-experimental, the findings were interpreted as evidence of predictive and theoretically specified relationships rather than definitive temporal causality.

Data and Data Sources

The research was conducted in six private vocational high schools in Cisaat District, Sukabumi Regency, West Java, Indonesia. The target population consisted of 106 permanent foundation teachers employed by the participating schools. Because the population was relatively accessible and manageable, the study applied a total-sampling technique in which all 106 eligible teachers were invited to participate. The inclusion criteria required respondents to be active permanent foundation teachers, to have sufficient experience within their respective schools to evaluate the organisational environment, and to provide voluntary consent. The unit of analysis was the individual teacher.

The study primarily used quantitative data obtained directly from respondents' perceptions of school culture, self-efficacy, work motivation, and innovative work behaviour. Demographic information, including gender, age,

educational qualification, teaching experience, and school affiliation, was collected to describe the respondents' characteristics. Supporting institutional information concerning the number and distribution of permanent foundation teachers was obtained from administrative records provided by the participating schools. Respondents' identities were anonymised, participation was voluntary, and the collected data were used exclusively for academic purposes.

Data Collection Technique

Data were collected using a structured self-administered questionnaire. Four scales were developed or adapted according to the conceptual and operational definitions of the variables. The school-culture instrument assessed shared values, collaboration, professional support, openness to change, and organisational practices that encourage innovation. The self-efficacy instrument measured teachers' beliefs in their ability to perform professional tasks, address instructional difficulties, and achieve expected outcomes. The work-motivation instrument assessed teachers' professional drive, persistence, responsibility, achievement orientation, and willingness to expend effort. Meanwhile, innovative work behaviour was measured through teachers' engagement in opportunity exploration, idea generation, idea promotion, idea implementation, and the refinement or sustainability of new practices.

Each statement was rated on a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Before the main survey, the instrument underwent expert review to evaluate the relevance, clarity, and representativeness of its items. A pilot test was subsequently conducted with teachers who possessed characteristics similar to those of the target respondents but were not included in the final sample. Item validity was evaluated through item–total correlations, while internal consistency was assessed using Cronbach's alpha. Items that did not meet the validity or reliability criteria were revised or removed before the questionnaire was administered. This staged procedure was intended to ensure that the items adequately represented each construct and produced consistent scores, in accordance with contemporary principles of scale development and validation (DeVellis & Thorpe, 2021). The final questionnaires were distributed after permission had been obtained from the relevant school authorities, and respondents received an explanation of the research objectives, confidentiality safeguards, and completion procedures.

Data Analysis

The data were first screened for completeness, coding accuracy, missing values, response patterns, and potential outliers. Descriptive statistics—including frequency, percentage, mean, standard deviation, minimum, and maximum scores—were calculated to summarise the respondents' profiles and the empirical distribution of each research variable. The quality of the measurement instruments was reassessed using corrected item–total correlations and Cronbach's alpha. Prior to hypothesis testing, the relevant statistical assumptions were examined, including residual normality, linearity, homoscedasticity, and multicollinearity. Variance inflation factor and tolerance statistics were used to determine whether the predictor variables exhibited problematic multicollinearity.

The hypotheses were tested using regression-based path analysis. The first structural equation estimated the effects of school culture and self-efficacy on work motivation. The second equation estimated the effects of school culture, self-efficacy, and work motivation on teachers' innovative work behaviour. Standardised path coefficients, standard errors, *t* values, probability values, coefficients of determination, and effect directions were reported. Statistical significance was evaluated at the .05 level. The indirect effect of school culture on innovative work behaviour through work motivation and the indirect effect of self-efficacy on innovative work behaviour through work motivation were examined using a bootstrap procedure with 5,000 resamples and 95% confidence intervals. An indirect effect was regarded as statistically significant when its confidence interval did not include zero. Bootstrapping was selected because it estimates the sampling distribution of an indirect effect without relying on the assumption that the product of regression coefficients is normally distributed (Hayes, 2022). The mediation results were

subsequently classified as indirect-only, complementary, competitive, or non-mediation based on the statistical significance and direction of the direct and indirect effects.

III. RESULTS

Overview of the Findings

The path-analysis results demonstrate that school culture, self-efficacy, and work motivation are important determinants of teachers' innovative work behaviour. All hypothesised direct relationships were positive and statistically significant. School culture and self-efficacy positively affected work motivation and teachers' innovative work behaviour, while work motivation positively affected innovative work behaviour. The mediation analysis further showed that work motivation transmitted part of the influence of school culture and self-efficacy to innovative work behaviour.

These findings indicate that teachers' innovative work behaviour is produced through the interaction of organisational and psychological resources. A supportive school culture creates an environment conducive to experimentation, collaboration, knowledge exchange, and the implementation of new ideas. Self-efficacy provides teachers with confidence in their capacity to manage uncertainty and perform innovative professional activities. Work motivation subsequently converts these favourable conditions and beliefs into persistent efforts to explore, promote, implement, and refine innovations.

Table 1. *Summary of Hypothesis-Testing Results*

Hypothesis	Structural relationship	Direction	Decision
H1	School culture → Innovative work behaviour	Positive and significant	Supported
H2	Self-efficacy → Innovative work behaviour	Positive and significant	Supported
H3	Work motivation → Innovative work behaviour	Positive and significant	Supported
H4	School culture → Work motivation	Positive and significant	Supported
H5	Self-efficacy → Work motivation	Positive and significant	Supported
H6	School culture → Work motivation → Innovative work behaviour	Positive indirect effect	Supported
H7	Self-efficacy → Work motivation → Innovative work behaviour	Positive indirect effect	Supported

Note. The table presents the direction and statistical decision reported by the study. Standardised coefficients, *t* values, *p* values, confidence intervals, and coefficients of determination should be inserted from the final statistical output before manuscript submission.

School Culture and Innovative Work Behaviour

The results demonstrate that school culture has a positive and statistically significant effect on teachers' innovative work behaviour. Teachers who perceived stronger shared values, professional collaboration, organisational support, openness to change, and recognition of new initiatives were more likely to explore opportunities and generate, promote, and implement new ideas. A constructive school culture therefore functions as an organisational resource that reduces the interpersonal and professional risks involved in experimentation.

In the context of private vocational high schools, this result is especially relevant because instructional innovation frequently requires coordination between teachers, school leaders, education foundations, and industry partners. When innovation is treated as a shared institutional responsibility, teachers are more willing to propose instructional improvements, use new technologies, develop vocational projects, and modify learning strategies. Conversely, when school routines emphasise compliance and discourage experimentation, potentially valuable ideas may remain unexpressed or unimplemented.

Self-Efficacy and Innovative Work Behaviour

Self-efficacy was also found to have a positive and statistically significant effect on innovative work behaviour. Teachers who believed in their professional capabilities demonstrated a greater willingness to undertake challenging instructional tasks, respond constructively to problems, and persevere when implementing new practices. Strong self-efficacy appears to help teachers interpret innovation-related uncertainty as a manageable professional challenge rather than as a threat.

This finding suggests that innovative work behaviour requires more than knowledge of new teaching methods. Teachers must also believe that they can successfully apply, evaluate, and improve those methods. Teachers with stronger efficacy beliefs are more likely to communicate their ideas, seek support from colleagues and school leaders, overcome initial resistance, and refine innovations after receiving feedback.

Work Motivation and Innovative Work Behaviour

Work motivation had a positive and significant effect on teachers' innovative work behaviour. Motivated teachers were more willing to devote additional time and cognitive effort to developing instructional alternatives, solving professional problems, and sustaining the implementation of new ideas. Innovation commonly extends beyond routine teaching requirements and may initially provide no guarantee of success. Consequently, teachers need sufficient professional drive, persistence, achievement orientation, and commitment to maintain innovative efforts.

The result positions work motivation as a proximal psychological factor in the innovation process. School culture may provide opportunities, and self-efficacy may provide confidence, but teachers must still be motivated to convert these resources into observable professional behaviour. Motivation therefore helps explain why teachers working in similar schools and possessing comparable competencies may exhibit different levels of innovation.

School Culture and Work Motivation

The analysis showed that school culture positively and significantly affected teachers' work motivation. A culture characterised by professional trust, cooperation, shared objectives, supportive leadership, and acknowledgement of teacher contributions can strengthen teachers' sense of belonging and professional purpose. Teachers become more motivated when they perceive that their efforts contribute to meaningful institutional goals and that innovative initiatives receive appropriate support.

This finding also indicates that work motivation should not be treated exclusively as an individual characteristic. It can be developed through organisational practices. School policies concerning participation in decision-making, recognition, professional development, resource provision, and collegial collaboration influence teachers' willingness to expend additional effort.

Self-Efficacy and Work Motivation

Self-efficacy had a positive and significant effect on work motivation. Teachers who believed that they could successfully perform their professional responsibilities were more likely to establish challenging goals, maintain effort, and remain engaged when difficulties arose. Confidence in one's capability appears to strengthen the expectation that professional effort will lead to valuable results.

This relationship is particularly important for vocational-school teachers because changes in occupational standards and digital technologies continually create new instructional demands. Teachers with weak efficacy beliefs may withdraw from such challenges, whereas efficacious teachers are more likely to view them as opportunities for competence development and professional achievement.

Mediating Role of Work Motivation

Work motivation significantly mediated the relationships between school culture and innovative work behaviour and between self-efficacy and innovative work behaviour. Thus, school culture and self-efficacy affected innovation not only directly but also indirectly by strengthening teachers' motivation. The mediation results clarify the psychological process through which organisational and personal resources are translated into innovative action.

A supportive culture encourages teachers to feel valued and professionally involved, which increases their motivation to contribute ideas and improve instructional practices. Similarly, self-efficacy strengthens teachers' expectations of success, thereby increasing their willingness to invest effort in innovation. Work motivation consequently operates as a behavioural activation mechanism connecting favourable working conditions and efficacy beliefs with the implementation of new ideas.

Discussions

Interpretation of the Direct Effects

The positive relationship between school culture and innovative work behaviour supports the argument that teacher innovation is socially and organisationally embedded. Innovative behaviour involves opportunity exploration, idea generation, idea promotion, idea implementation, and the refinement of new practices; these stages require collaboration and organisational acceptance rather than individual creativity alone (Lambriex-Schmitz et al., 2020). The present result is consistent with Sofiyan et al. (2022), who found that organisational culture positively predicted teachers' innovative work behaviour. It also corresponds with Amtu et al. (2020), who demonstrated that school culture and work motivation contribute to teacher performance and educational outcomes.

A professional culture that encourages collaborative learning allows teachers to discuss instructional problems, challenge established assumptions, and test alternative practices. Schipper et al. (2020) showed that collaborative professional-development activities can improve school culture and teacher self-efficacy. In addition, systematic academic supervision may help develop teachers' professional capacity when it provides constructive evaluation and appropriate follow-up rather than administrative control alone (Setyaningsih & Suchyadi, 2021). Consequently, the school culture identified in the present study should be understood as an enabling structure that provides teachers with relational support, professional direction, and institutional legitimacy for innovation.

The significant effect of self-efficacy on innovative work behaviour reinforces the psychological explanation of teacher innovation. Innovation involves uncertainty and a possibility of failure; therefore, teachers must believe that they can organise and execute the actions required to achieve desirable results. This finding is consistent with Gkontelos et al. (2023), who demonstrated that teachers' innovative work behaviour was positively related to self-efficacy. It also supports the findings of Zainal and Mohd Matore (2021), who reported that teacher self-efficacy and transformational school leadership contributed to innovative behaviour.

Creative self-efficacy has similarly been shown to explain how professional autonomy is transformed into teachers' innovative behaviour (Chen, 2024). This evidence suggests that institutional opportunities are insufficient when teachers doubt their ability to use them productively. In the present study, teachers with stronger self-efficacy were more prepared to experiment, promote their ideas, seek feedback, and persist during implementation. This interpretation is also compatible with Aryani et al. (2024), who found that efficacy-related psychological processes contribute to the relationship between teachers' personal capacities and innovative work behaviour.

The positive effect of work motivation indicates that innovation demands sustained discretionary effort. Teachers must often invest time beyond routine instructional responsibilities to identify problems, develop materials, integrate technology, coordinate with colleagues, and evaluate new approaches. Recent evidence shows that work engagement and perceived organisational support are important drivers of innovative work behaviour among educators (Zargar et al., 2025). In this respect, motivation enables teachers to transform innovative intentions into consistent professional practices.

The findings are also relevant to the digital transformation of vocational education. Digital competence can stimulate innovative work behaviour because it gives teachers access to new instructional resources and alternative pedagogical possibilities (Sary et al., 2023). However, technological competence requires motivational support to become an implemented innovation. Teachers may understand digital technologies without being willing to redesign lessons, tolerate initial difficulties, or evaluate their effectiveness. Technological literacy must therefore be accompanied by organisational and psychological strengthening (Hardinata et al., 2021).

Interpretation of the Mediation Effects

The mediating role of work motivation extends previous research by explaining why school culture affects innovative work behaviour. A supportive culture communicates that innovation is expected, legitimate, and valued. This perception increases teachers' willingness to invest additional effort, which subsequently strengthens innovative action. The result is consistent with evidence that organisational environments influence teachers' innovative practices through intervening psychological mechanisms rather than through organisational conditions alone (Alshuhumi et al., 2025).

The mediation of the self-efficacy–innovation relationship further demonstrates that confidence must be activated through motivational energy. Self-efficacy strengthens teachers' expectations that their efforts will be successful, while motivation determines whether they are prepared to expend those efforts. This interpretation parallels Chen's (2024) finding that efficacy beliefs form a psychological mechanism connecting professional conditions with innovative behaviour.

The present results also complement Bao's (2024) dual-mediation model, which showed that leadership influences teacher innovation through psychological and organisational processes. Although leadership was not the central variable in this study, both studies support a process-based understanding of innovation: organisational resources shape internal psychological states, which then influence innovative behaviour. Work motivation is therefore not merely an additional predictor but an explanatory bridge linking school culture and self-efficacy with innovation.

Moreover, the significant direct and indirect relationships suggest that work motivation functions as a complementary mediator. School culture and self-efficacy can encourage innovation directly, but their effects are strengthened when they also enhance teachers' motivation. This combined pathway offers a more comprehensive explanation than models that examine organisational culture, efficacy beliefs, or motivation separately.

Novelty and Contribution

The principal novelty of this research lies in the integration of school culture, self-efficacy, work motivation, and innovative work behaviour within a single explanatory model. Previous research has frequently investigated organisational culture and self-efficacy as direct predictors of teacher innovation (Sofiyan et al., 2022), self-efficacy in combination with leadership (Zainal & Mohd Matore, 2021), digital competency and self-leadership (Sary et al., 2023), or teacher autonomy and creative self-efficacy (Chen, 2024). The present study extends these models by identifying work motivation as a mechanism through which both an organisational resource and an individual cognitive resource influence innovative behaviour.

The study also contributes context-specific evidence from permanent foundation teachers in Indonesian private vocational high schools. This population operates under distinctive employment arrangements and institutional policies while simultaneously responding to technological developments and labour-market expectations. The results therefore extend a literature that has often focused on public schools, primary education, or universities.

Methodologically, the study contributes by examining seven interconnected direct and indirect relationships rather than testing isolated bivariate associations. The model demonstrates that improving innovative work behaviour requires simultaneous attention to the school environment, teachers' beliefs in their capabilities, and the motivational process connecting those resources with innovative action.

Table 2. *Novelty and Contributions of the Study*

Dimension	Previous emphasis	Contribution of the present study
Conceptual	Separate organisational or individual predictors	Integrates school culture, self-efficacy, motivation, and innovation
Explanatory	Predominantly direct-effect models	Tests motivation as a mediating mechanism
Contextual	Public schools, primary schools, or universities	Focuses on permanent foundation teachers in private vocational schools
Practical	General recommendations for teacher innovation	Identifies coordinated organisational and psychological interventions
Empirical	Innovation as an individual outcome	Shows innovation as the product of direct and mediated pathways

Implication and suggestions

Theoretically, the findings support a multilevel explanation of innovative work behaviour. School culture represents an organisational resource, self-efficacy represents an individual cognitive resource, and work motivation represents an activating psychological mechanism. Teacher innovation emerges when these three components reinforce one another. Consequently, models of educational innovation should avoid treating innovative behaviour exclusively as a product of individual creativity.

For school leaders and private education foundations, the findings suggest that innovative work behaviour can be strengthened by developing a culture of professional trust, collaboration, knowledge sharing, and openness to experimentation. Teachers should be provided with opportunities to participate in instructional decision-making, discuss professional problems, pilot new methods, and obtain constructive feedback. Recognition should include both successful innovations and carefully evaluated experimental efforts so that teachers do not interpret unsuccessful trials as professional failure.

Teacher self-efficacy can be strengthened through mastery-oriented professional development, mentoring, peer observation, lesson study, academic supervision, and opportunities to demonstrate successful practices. Training should extend beyond one-time workshops and include guided implementation, reflection, feedback, and revision. Such an approach is likely to build both competence and confidence.

Work motivation should be reinforced through transparent recognition systems, meaningful professional-development opportunities, manageable workloads, instructional autonomy, and clear connections between innovation and school goals. Because innovative work often requires effort beyond formal routines, school management should provide time, facilities, collegial assistance, and institutional acknowledgement.

Vocational schools should also establish stronger links between teacher innovation and contemporary industry practices. Collaborative projects with industry partners, digital teaching laboratories, teacher internships, and interdisciplinary instructional teams may help teachers recognise authentic opportunities for innovation. However, such initiatives should be accompanied by motivational and efficacy-building support to ensure that institutional programmes result in sustained classroom practices.

Directions for Future Research

Future studies should employ longitudinal designs to establish the temporal sequence among school culture, self-efficacy, work motivation, and innovative work behaviour. Because the present study used cross-sectional data, the model identifies statistically supported relationships but cannot conclusively demonstrate how these variables change over time.

Further research should also include multiple data sources. Innovative work behaviour may be assessed through teacher self-reports, principal evaluations, peer assessments, classroom observations, and documentary evidence of instructional innovations. Combining these sources would reduce common-method bias and provide a more objective representation of innovation.

The model could be expanded by examining moderating variables such as transformational leadership, perceived organisational support, psychological safety, digital competence, professional autonomy, work engagement, and access to technological resources. Research has already indicated that leadership, organisational support, and digital competency are associated with teachers' innovative behaviour (Bao, 2024; Sary et al., 2023; Zargar et al., 2025). Testing these factors may reveal the conditions under which school culture, self-efficacy, and motivation produce stronger or weaker effects.

Comparative studies should investigate whether the proposed relationships differ across public and private schools, vocational and general schools, urban and rural settings, or teachers with different employment statuses. Multigroup analysis could also determine whether age, teaching experience, educational qualification, or subject specialisation changes the strength of the structural relationships.

Finally, experimental or quasi-experimental research should evaluate interventions designed to strengthen collaborative school culture, teacher efficacy, and work motivation. Such research would allow scholars to determine whether targeted organisational and professional-development programmes produce measurable improvements in innovative work behaviour and student learning.

IV. CONCLUSION

This study concludes that teachers' innovative work behaviour is strengthened through the combined influence of school culture, self-efficacy, and work motivation among permanent foundation teachers in private vocational high schools in Cisaat District, Sukabumi Regency. A supportive school culture encourages collaboration, openness to change, and institutional support for developing and implementing new ideas, while strong self-efficacy increases teachers' confidence in confronting instructional challenges and undertaking innovative practices. Work motivation directly promotes innovative work behaviour and serves as a mediating mechanism that translates supportive organisational conditions and teachers' efficacy beliefs into sustained innovative action. These findings confirm that teacher innovation cannot be developed solely through individual competence or technological training but requires an integrated strategy encompassing a collaborative organisational culture, confidence-building professional development, meaningful recognition, adequate resources, instructional autonomy, and continuous motivational support. Therefore, school leaders and private education foundations should implement coordinated policies that strengthen these organisational and psychological factors to promote sustainable teacher innovation and improve the quality and relevance of vocational education.

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