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The Influence of Competence, Occupational Health and Safety, and Compensation on Employee Performance at CV SHT Madiun

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Abstract

The construction sector requires human resources with adequate competence, an understanding of occupational safety and health (OSH) practices, and appropriate compensation to support work performance. This study aims to analyze the influence of competence, occupational safety and health (OSH), and compensation on employee performance at CV SHT Madiun. The study employed a quantitative explanatory approach with a saturated sampling technique involving 45 project employees. Data were collected through questionnaires using a five-point Likert scale and analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The results show that competence has a positive and significant effect on employee performance, with a path coefficient of 0.385, a t-statistic of 4.036, and a p-value of 0.000. OSH also has a positive and significant effect, with a path coefficient of 0.297, a t-statistic of 3.217, and a p-value of 0.001. Compensation has a positive and significant effect, with a path coefficient of 0.342, a t-statistic of 4.044, and a p-value of 0.000. These findings indicate that strengthening employee competence, consistently implementing OSH practices, and providing appropriate compensation are important for supporting employee performance in construction companies.

Keywords:
Competence; Compensation; Employee Performance; Occupational Safety and Health; Construction Industry; Human Capital Theory.

1. INTRODUCTION

Human resources are a key asset that determines an organization's success in achieving its objectives. In the construction industry, project completion is determined not only by the availability of capital, technology, and materials, but also by employees' ability to complete work according to time targets, quality standards, and occupational safety procedures. Therefore, companies need to ensure that employees possess adequate competence, work in a safe environment, and receive appropriate rewards so that they can achieve optimal performance. Human Capital Theory explains that organizational investment in human resource quality through the improvement of capabilities, occupational safety, and employee welfare can contribute to increased productivity and organizational performance (Becker, 1989). More recent reviews of human capital research continue to support this view, showing that firm-level investment in employee knowledge, skills, and well-being remains a consistent predictor of productivity and performance outcomes across industries (Ray et al., 2023).

CV SHT Madiun is a company engaged in construction services that handles various development projects in Madiun and its surrounding areas. As a contractor, the success of project implementation depends heavily on employees' ability to complete work effectively, efficiently, and in accordance with established standards. In practice, several conditions indicate that employee performance has not been fully optimal, including delays in project completion and rework on several projects. Internal company records covering the 2023–2025 period indicate a recurring pattern of project schedule delays and work that had to be redone

(rework), despite the company having provided training to employees on the use of personal protective equipment, reading technical drawings, and equipment operation. This pattern suggests that gaps in employee competence in following technical specifications and work standards remain a contributing factor. These conditions indicate that human resource management, particularly employee competence, remains an aspect that requires attention.

Another factor of concern is occupational safety and health (OSH). Construction activities have a relatively high risk of accidents, making OSH implementation essential for protecting workers while supporting the continuity of company operations. CV SHT has implemented safety procedures through the use of personal protective equipment (PPE), safety briefings, and standard operating procedures. However, the implementation of occupational safety still requires continuous attention and evaluation to create a safe working environment and support smooth work execution.

In addition to competence and OSH, compensation is also an important factor in human resource management. Compensation that is appropriate to employees' contributions and work responsibilities represents the company's appreciation for employees. Therefore, the appropriateness of compensation needs to be considered as part of efforts to support employee motivation and performance.

Previous studies indicate that competence, occupational safety and health (OSH), and compensation are factors that may influence employee performance. However, previous findings remain inconsistent. Wicaksana et al. (2025) found that competence had a positive and significant effect on employee performance, whereas Johari and Alfarez (2026) reported that competence did not have a significant effect on construction project workers' performance. Regarding OSH, Mantra and Rini (2023) demonstrated a positive and significant effect on performance, while Daffa and Adi (2022) reported different findings. Similar inconsistencies were also found for compensation, with Amelia Alfanda (2022) showing a significant effect on performance, whereas Nugraha and Mardiana (2024) stated that compensation did not have a significant effect on employee performance. These differences indicate that the relationships among the variables require further examination, particularly in the context of construction companies.

Therefore, this study aims to analyze the influence of competence, occupational safety and health (OSH), and compensation on employee performance at CV SHT Madiun. The study is expected to contribute to the development of human resource management research, particularly from the perspective of Human Capital Theory, and to provide practical input for the company in formulating policies related to competence development, OSH implementation, and compensation systems to improve employee performance.

2. RESEARCH METHOD

This study employed a quantitative approach with an explanatory research design aimed at analyzing the influence of competence, occupational safety and health (OSH), and compensation on employee performance at CV SHT Madiun. The population consisted of all employees of CV SHT Madiun, totaling 45 employees. The sampling technique used was saturated sampling (census), in which all members of the population were included as research respondents. Primary data were obtained through questionnaires using a five-point Likert scale, while secondary data were obtained through observation, documentation, and literature review. The research instrument was developed based on indicators of each research variable adopted from previous studies. Prior to the main data collection, the instrument was tested for validity and reliability using data from all 45 respondents, following the common practice in PLS-SEM studies with saturated sampling in which the outer model evaluation itself serves as the validity and reliability test; an item was retained when its outer loading exceeded 0.70 and each construct was confirmed reliable when its Cronbach's Alpha and Composite Reliability exceeded 0.70. Data analysis was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS 4 software. The measurement model (outer model) was evaluated through convergent validity, discriminant validity, and reliability tests. The structural model (inner model) was evaluated using the coefficient of determination (R-square), predictive relevance (Q-square), and path coefficients, while hypothesis testing was conducted using the bootstrapping procedure. Because the population of CV SHT Madiun consists of only 45 employees, the sample size is relatively small; PLS-SEM was chosen precisely because it performs well with small to moderate sample sizes, although the results should still be interpreted with caution regarding generalization to other construction companies.

The research variables were measured using indicators adopted from previous studies. Competence was measured through knowledge, skills, and work attitude. Occupational Safety and Health (OSH) were measured through the use of personal protective equipment (PPE), workplace conditions, and compliance with standard operating procedures (SOPs). Compensation was measured through salary, facilities, allowances, and incentives. Employee performance was measured using four indicators, namely work quality, work quantity, timeliness, and work effectiveness.

Research Hypotheses

H1: Competence has a positive effect on employee performance at CV SHT Madiun.

H2: Occupational Safety and Health (OSH) have a positive effect on employee performance at CV SHT Madiun.

H3: Compensation has a positive effect on employee performance at CV SHT Madiun.

3. RESULTS AND DISCUSSION

3.1. Results

3.1.1. Outer Model

3.1.1.1. Convergent Validity

Convergent validity testing aims to determine the ability of each indicator to represent the construct being measured. Convergent validity is evaluated using outer loading and Average Variance Extracted (AVE). An indicator is considered valid when its outer loading is greater than 0.70, while a construct meets convergent validity when its AVE is greater than 0.50.

Table 1. Loading Factor Values

Indicator	Competence (X1)	OSH (X2)	Compensation (X3)	Employee Performance (Y)
X1.1	0.810			
X1.2	0.903			
X1.3	0.917			
X2.1		0.902		
X2.2		0.845		
X2.3		0.789		
X3.1			0.962	
X3.2			0.742	
X3.3			0.846	
X3.4			0.800	
Y1				0.908
Y2				0.808
Y3				0.811
Y4				0.895

Source: Data processed using SmartPLS 4, 2026.

Based on the SmartPLS 4 results, all indicators of Competence, Occupational Safety and Health (OSH), Compensation, and Employee Performance have outer loading values ranging from 0.742 to 0.962. Therefore, all indicators meet the convergent validity criterion because their values are above 0.70, indicating that each indicator represents its respective construct adequately.

Table 2. Average Variance Extracted (AVE)

Variable	Average Variance Extracted (AVE)
X1 Competence	0.717
X2 OSH	0.734
X3 Compensation	0.708
Y Employee Performance	0.771

Source: Data processed using SmartPLS 4, 2026.

The results show that Competence has an AVE of 0.717, OSH 0.734, Compensation 0.708, and Employee Performance 0.771. All AVE values are greater than 0.50, indicating that all constructs satisfy the requirements for convergent validity and are suitable for further analysis.

3.1.1.2. Discriminant Validity

Discriminant validity aims to ensure that each indicator explains the construct it measures better than other constructs. The test was conducted using cross loading values.

Table 3. Cross Loading

Indicator	X1 Competence	X2 OSH	X3 Compensation	Y Employee Performance
X1.1	0.810	0.518	0.635	0.694
X1.2	0.903	0.789	0.706	0.830
X1.3	0.917	0.686	0.736	0.796
X2.1	0.737	0.902	0.682	0.785
X2.2	0.646	0.845	0.792	0.774
X2.3	0.555	0.789	0.547	0.631
X3.1	0.823	0.863	0.962	0.922
X3.2	0.423	0.445	0.742	0.562
X3.3	0.719	0.738	0.846	0.749

X3.4	0.625	0.581	0.800	0.689
Y1	0.776	0.792	0.884	0.908
Y2	0.779	0.689	0.673	0.808
Y3	0.679	0.673	0.580	0.811
Y4	0.790	0.807	0.856	0.895

Source: Data processed using SmartPLS 4, 2026.

Based on the cross-loading results, each indicator has the highest correlation with the construct it represents compared with the other constructs. Thus, all indicators meet the discriminant validity criterion, and each construct in the research model demonstrates adequate discriminant characteristics.

3.1.1.3. Reliability Test

Reliability testing aims to measure the consistency of the research instrument in measuring each construct. Reliability was evaluated using Composite Reliability and Cronbach's Alpha.

Table 4. Construct Reliability and Validity

Variable	Cronbach's Alpha	Composite Reliability	Description
X1 Competence	0.802	0.883	Reliable
X2 Occupational Safety and Health (OSH)	0.879	0.917	Reliable
X3 Compensation	0.860	0.906	Reliable
Y Employee Performance	0.850	0.910	Reliable

Source: Data processed using SmartPLS 4, 2026.

The results indicate that all variables have Composite Reliability values ranging from 0.883 to 0.917 and Cronbach's Alpha values ranging from 0.802 to 0.879. All values exceed the minimum threshold of 0.70, indicating that the research instrument is reliable and has good internal consistency.

3.1.2. Inner Model

3.1.2.1. R-Square

Structural model evaluation (inner model) was conducted to assess the ability of the research model to explain relationships among variables. The evaluation used R-Square (R^2), which represents the contribution of exogenous variables in explaining the variation of the endogenous variable. A higher R-Square indicates greater explanatory ability of the model.

Table 5. R-Square

Variable	R Square	Description
Employee Performance (Y)	0.901	Moderate/Strong Model

Source: Data processed using SmartPLS 4, 2026.

The test produced an R-Square value of 0.901 for Employee Performance. This indicates that Competence, Occupational Safety and Health (OSH), and Compensation explain 90.1% of the variation in Employee Performance, while the remaining 9.9% is explained by other factors outside the research model. In addition, the Q-Square value of 0.883 indicates that the model has strong predictive relevance.

3.1.2.2. Hypothesis Testing

Hypothesis testing was performed using the bootstrapping procedure by examining the path coefficient, t-statistic, and p-value. A hypothesis is accepted when the t-statistic is greater than 1.96 and the p-value is less than 0.05.

Table 6. Hypothesis Testing

Relationship	Original Sample (O)	T Statistics	P Values
X1 Competence → Y Employee Performance	0.385	4.036	0.000
X2 OSH → Y Employee Performance	0.297	3.217	0.001
X3 Compensation → Y Employee Performance	0.342	4.044	0.000

Source: Data processed using SmartPLS 4, 2026.

The results show that Competence has a positive and significant effect on Employee Performance, with a path coefficient of 0.385, a t-statistic of 4.036, and a p-value of 0.000, so H1 is accepted. Occupational Safety and Health (OSH) also have a positive and significant effect on Employee Performance, with a path coefficient of 0.297, a t-statistic of 3.217, and a p-value of 0.001, so H2 is accepted. Compensation has a positive and significant effect on Employee Performance, with a path coefficient of 0.342, a t-statistic of 4.044, and a p-value of 0.000, so H3 is accepted

3.2. Discussion

3.2.1. Competence Has an Effect on Employee Performance

The results indicate that competence has a positive and significant effect on employee performance at CV SHT Madiun, with a path coefficient of 0.385, a t-statistic of 4.036, and a p-value of 0.000. This finding indicates that employees with better competence tend to demonstrate better performance in carrying out their responsibilities. Competence reflected through work attitude, particularly compliance with company rules and policies, supports disciplined, responsible, and procedure-oriented work practices. In construction activities, these characteristics are important because employees are required to complete tasks according to established standards, work targets, and safety procedures.

This finding is consistent with Pratama and Rini (2025), who found that competence has a positive and significant effect on employee performance. It is also in line with Naputra Ibrahim and Irbayuni (2022), who reported that human resource competence contributes to the effectiveness of task completion and employee productivity. Ningsih et al. (2025) further showed that competence plays an important role in improving employee performance in work environments with relatively high risks. These findings strengthen the argument that competence is an important form of human capital investment because improvements in employees' knowledge, skills, and attitudes can support the achievement of organizational performance. At CV SHT Madiun specifically, the company has provided employees with training on the use of personal protective equipment, reading technical drawings, and equipment operation; however, internal records still show a recurring incidence of rework caused by specification mismatches and installation or technical errors, indicating that gaps in employee competence in applying these skills consistently on site remain an area that requires continued attention.

Examined at the indicator level, work attitude (X1.3) recorded the highest outer loading among the three competence indicators at 0.917, followed by skills (X1.2) at 0.903 and knowledge (X1.1) at 0.810 (Table 1). This pattern indicates that, from the perspective of CV SHT Madiun's employees, competence is expressed less through formal technical knowledge and more through the discipline and work attitude demonstrated on site, such as following instructions accurately, adhering to established work procedures, and taking responsibility for the outcome of assigned tasks. This is consistent with the nature of construction work, where technical drawings and specifications are typically provided by supervisors or engineers, so that an employee's contribution to quality outcomes depends heavily on how conscientiously those specifications are followed rather than on independently generated technical knowledge. This also helps explain why, despite the training already provided in reading technical drawings and equipment operation, gaps in translating competence into consistent on-site execution remain an issue: knowledge transfer through training does not automatically produce disciplined work attitude, which appears to be the more decisive component of competence in this context.

At the same time, this finding contrasts with Johari and Alfarez (2026), who reported that competence did not have a significant effect on the performance of construction project workers in Kabupaten Garut. A plausible explanation for this discrepancy is that Johari and Alfarez (2026) examined competence alongside motivation and work discipline as competing predictors within the same model, which may have absorbed part of the explanatory power that would otherwise be attributed to competence itself; in the present study, competence, OSH, and compensation were modeled together and each nevertheless retained a unique, statistically significant contribution. Indah and Kustini (2023), who examined a comparable contractor context at Jaya Bore Ponorogo Project, similarly found that human resource competency together with OSH implementation had a meaningful influence on employee performance, reinforcing the relevance of competence as a determinant of performance among construction workers in East Java. Taken together, these comparisons suggest that the strength of the competence–performance relationship in construction settings may be sensitive to how the research model is specified and to the characteristics of the local workforce, rather than being a uniformly weak or strong predictor across all contexts.

These comparisons also carry a practical nuance for CV SHT Madiun. Because work attitude, rather than technical knowledge alone, appears to be the strongest expression of competence among its employees, efforts to close the gap between training provided and rework still observed in practice should focus as much on reinforcing disciplined execution habits on site as on delivering additional technical instruction. In other words, the recurring rework identified in company records for the 2023–2025 period may be better addressed through closer field supervision and accountability mechanisms than through further classroom-based training alone, since the latter primarily strengthens knowledge (X1.1), which already carries the lowest loading of the three competence indicators.

3.2.2. Occupational Safety and Health (OSH) Has an Effect on Employee Performance

The results show that occupational safety and health (OSH) have a positive and significant effect on employee performance at CV SHT Madiun, with a path coefficient of 0.297, a t-statistic of 3.217, and a p-value of 0.001. This finding indicates that better implementation of OSH contributes to better employee performance. OSH reflected through the use of personal protective equipment (PPE) is particularly important in construction activities because employees face various potential risks during the completion of project work.

Compliance with PPE requirements provides greater protection and creates a safer working environment, allowing employees to carry out their tasks more effectively and continuously.

This finding is consistent with Ibrahim and Irbayuni (2022), who found that OSH has a positive effect on employee performance because it creates a sense of safety during work. The result is also in line with Mantra and Rini (2023), who found that a safe working environment can improve productivity and work quality. Ningsih et al. (2025) further emphasized that consistent OSH implementation can reduce the risk of workplace accidents while supporting the effectiveness of work implementation. Therefore, OSH should not only be viewed as an obligation to protect employees but also as an important factor supporting employee performance in construction companies. At CV SHT Madiun, standard operating procedures require the mandatory use of personal protective equipment, a clean and hazard-free work area, certified operators for heavy equipment, and a safety briefing before work begins; however, work-related incidents still occur from time to time, most of which have been attributed to lapses in the use of personal protective equipment, underscoring that consistent OSH compliance remains important for sustaining employee performance.

At the indicator level, the use of personal protective equipment (X2.1) produced the highest loading among the OSH indicators at 0.902, followed by workplace conditions (X2.2) at 0.845 and compliance with standard operating procedures (X2.3) at 0.789 (Table 1). This ordering indicates that, for employees of CV SHT Madiun, OSH is most strongly represented by the tangible, day-to-day practice of wearing protective equipment rather than by broader procedural compliance in the abstract. This is a meaningful nuance for construction companies: while SOPs establish the rules that govern safe work, it is the consistent use of PPE—helmets, safety harnesses, gloves, and similar equipment—that employees most directly associate with a safe working environment and, by extension, with their own capacity to perform. This may also explain why the work-related incidents that still occur at CV SHT Madiun have mostly been attributed to lapses in PPE use rather than to an absence of procedures altogether: the procedures exist on paper, but consistent behavioral compliance with PPE requirements in the field remains the harder problem for management to solve.

This result diverges from Daffa and Adi (2022), who did not find OSH to have a significant effect on the performance of subcontractor workers. A possible reason for this difference lies in the employment status of the workforce studied: subcontractor workers, who are typically engaged on a short-term or project basis, may perceive OSH compliance primarily as a contractual obligation imposed by the main contractor rather than as an intrinsic part of their own performance, whereas the permanent project employees of CV SHT Madiun are more directly accountable for, and personally invested in, the continuity of their working relationship with the company. Nur Rahman Yusro et al., (2025) similarly found that a strong safety culture contributes to better construction project performance, while Lari (2024), in a longitudinal study, showed that sustained occupational health and safety practices are associated with improved employee productivity over time. These converging findings support the view that OSH functions not merely as a compliance requirement but as an operational condition that enables employees to work with fewer disruptions, less fear of injury, and greater continuity of effort, all of which translate into better performance outcomes.

The comparatively lower loading of SOP compliance (X2.3) relative to PPE usage also points to a specific area for managerial attention. Written procedures alone appear insufficient to shape employees' sense of a safe working environment; instead, tangible and observable practices—ensuring PPE is available, properly fitted, and consistently worn—carry greater weight in employees lived experience of OSH. For CV SHT Madiun, this suggests that safety interventions focused on habit formation, such as routine pre-shift equipment checks or visible supervisory reinforcement of PPE use, may yield a more immediate improvement in perceived and actual safety than revisions to written SOP documentation alone.

3.2.3. Compensation Has an Effect on Employee Performance

The results demonstrate that compensation has a positive and significant effect on employee performance at CV SHT Madiun, with a path coefficient of 0.342, a t-statistic of 4.044, and a p-value of 0.000. This finding indicates that appropriate compensation can encourage employees to perform their duties more optimally. Compensation reflected through salary represents an appreciation for the work and responsibilities performed by employees. When employees perceive that the compensation received is appropriate to their contribution and workload, they may feel that their efforts are valued by the company, which can support motivation and performance.

This finding is consistent with Mantra and Rini (2023), who found that compensation has a positive and significant effect on employee performance because it can increase work motivation. It is also in line with Wicaksana and Santoso (2025), who reported that fair compensation is an important factor in improving productivity and achievement of work targets. Furthermore, Asniwati (2022) found that a compensation system that corresponds to employees' workload can increase loyalty and encourage better employee performance. From the perspective of Human Capital Theory, compensation can be viewed as part of organizational efforts to maintain employee welfare and support the productivity of human resources. Several employees at CV SHT Madiun noted that in addition to their base salary, additional compensation components such as transportation and meal allowances, along with a bonus for on-time project completion, played a meaningful role in encouraging them to complete tasks according to schedule, suggesting that a well-rounded compensation structure functions not only as a reward but also as a practical driver of daily work pace on site.

Among the compensation indicators, salary (X3.1) recorded a markedly higher outer loading of 0.962 compared with facilities (X3.2, 0.742), allowances (X3.3, 0.846), and incentives (X3.4, 0.800) (Table 1). This indicates that, for the employees surveyed, compensation is predominantly represented by the base salary they receive rather than by supplementary benefits. This pattern is understandable in the context of a mid-sized construction contractor such as CV SHT Madiun, where salary constitutes the most direct and predictable form of reward for completed work, while facilities, allowances, and incentives function as secondary, more situational forms of appreciation. Nonetheless, the qualitative observation reported by several employees—that transportation and meal allowances, together with an on-time completion bonus, encouraged them to keep pace with the project schedule—suggests that these secondary components, although statistically less dominant than salary, still carry practical motivational value on a day-to-day basis, particularly for pacing work against deadlines.

This finding is not universal, however. Nugraha and Mardiana (2024) found that financial compensation did not have a significant effect on employee performance at PT Bina Bahana Gemilang, where leadership style instead emerged as the more dominant predictor. One interpretation is that the salience of compensation as a performance driver may depend on how adequate and how consistently it is perceived relative to employees' cost of living and workload; where compensation is already perceived as broadly satisfactory, or where non-financial factors such as leadership style dominate employees' attention, its marginal effect on performance may weaken. Aji and Wajdi (2025) offer a complementary perspective, showing that compensation, together with motivation and a supportive work environment, jointly explains employee performance, suggesting that compensation tends to operate more powerfully in combination with other supportive workplace conditions rather than in isolation. In the case of CV SHT Madiun, where salary is combined with allowances and a completion-based bonus, compensation appears to function as a coherent package rather than a single lever, which may help explain why its effect was both positive and statistically robust in this study.

These indicator-level results suggest that compensation policy at CV SHT Madiun should not be reduced to salary adjustments alone. While maintaining a fair and competitive base salary remains the priority given its dominant loading, the observed behavioral role of allowances and completion bonuses indicates that a well-designed incentive structure can complement salary by directly targeting specific performance dimensions, such as timeliness, that are otherwise harder to influence through fixed pay alone.

3.2.4. Relative Contribution of Competence, OSH, and Compensation to Employee Performance

Comparing the three path coefficients reported in Table 6 shows that competence exerted the strongest influence on employee performance ($\beta = 0.385$), followed by compensation ($\beta = 0.342$), and then OSH ($\beta = 0.297$). Although all three effects were positive and statistically significant, this ordering offers useful insight into how the three human resource dimensions jointly shape performance at CV SHT Madiun. The relatively stronger contribution of competence is consistent with the nature of construction work, where the correctness of technical execution—reading drawings accurately, operating equipment properly, and following specifications—has a direct and visible bearing on work quality, rework rates, and timeliness, which are precisely the dimensions used to measure employee performance in this study (work quality, work quantity, timeliness, and work effectiveness).

The second-largest contribution from compensation suggests that, once basic technical competence is in place, the perceived fairness and adequacy of reward is what most strongly sustains employees' willingness to perform consistently and to meet deadlines. Meanwhile, the comparatively smaller, though still meaningful, contribution of OSH may reflect the fact that OSH functions partly as a foundational, enabling condition rather than as a direct performance driver: adequate OSH implementation prevents disruptions such as injury, downtime, and rework arising from unsafe conditions, but its marginal contribution to performance may plateau once a baseline level of safety has been achieved, whereas competence and compensation continue to differentiate performance levels among employees more strongly.

This pattern is also consistent with the inconsistencies noted among prior studies in the introduction of this paper, where competence, OSH, and compensation were each found to be significant in some studies and non-significant in others. Rather than reflecting a fundamental disagreement about whether these variables matter, the present findings suggest that their relative strength may vary depending on which of the three is examined jointly with the others and on contextual factors such as employment status, workforce composition, and how developed a company's baseline safety and compensation practices already are. The R-square value of 0.901 further indicates that, at CV SHT Madiun specifically, these three variables jointly account for the great majority of variation in employee performance, leaving only a small proportion explained by factors outside the model, such as leadership style, motivation, or organizational culture.

3.2.5. Theoretical Implications

From a theoretical standpoint, the findings of this study reinforce and extend Human Capital Theory (Becker, 1989) within the specific context of the construction industry. Human Capital Theory posits that organizational investment in the knowledge, skills, health, and welfare of employees generates returns in the form of higher productivity and performance. The present findings empirically support this proposition by

demonstrating that all three forms of human capital investment examined here—capability development through competence, protection of employee well-being through OSH, and economic investment through compensation—simultaneously and independently predict employee performance, with a combined explanatory power ($R^2 = 0.901$) that is considerably higher than is typically reported in single-predictor human resource studies.

This finding is also consistent with, and extends, the more recent human capital literature reviewed by Ray et al. (2023), which emphasizes that firm-level investment in employee knowledge, skills, and well-being remains a robust predictor of performance outcomes across industries. Whereas much of that literature has been developed and tested in manufacturing, service, or corporate settings, the present study extends the applicability of Human Capital Theory to a project-based, higher-risk operational environment—the construction sector—where the combination of technical competence, physical safety, and financial reward operates under conditions of tighter deadlines, greater physical risk, and more direct dependence on individual technical execution than is typical in office-based work. In doing so, the study suggests that Human Capital Theory retains explanatory relevance even in contexts where performance is shaped as much by physical working conditions (OSH) as by cognitive or technical capability (competence), broadening the theory's applicability beyond its more common knowledge-worker framing.

In addition, by decomposing each construct into its constituent indicators (Tables 1 and 3), this study offers a more granular view of which specific facets of competence, OSH, and compensation carry the greatest explanatory weight, namely work attitude, PPE usage, and salary, respectively. This indicator-level evidence provides a more precise theoretical account of how human capital investment translates into performance in construction settings, moving beyond treating competence, OSH, and compensation as undifferentiated, single-item constructs, and instead highlighting the specific behavioral and economic levers that appear most salient to employees themselves. Future theoretical development in this area may benefit from explicitly modeling these indicator-level pathways rather than relying solely on latent-construct-level relationships.

3.2.6. Managerial and Practical Implications

For CV SHT Madiun and similar construction contractors, these findings carry several practical implications. Because work attitude was the strongest competence indicator, competence development programs should extend beyond technical training in reading drawings or operating equipment and place equal emphasis on cultivating discipline, responsibility, and procedure-oriented work habits, for example through structured on-the-job supervision, clear consequences for specification deviations, and regular feedback on rework incidents so that lessons from past errors are internalized rather than repeated. Given that internal records still show recurring rework despite prior technical training, management may consider supplementing classroom-style training with closer field mentoring during the early stages of a project, when the risk of specification mismatches appears highest.

With respect to OSH, the dominance of PPE usage as the strongest indicator suggests that enforcement efforts should prioritize consistent, visible compliance with protective equipment requirements, through routine site inspections, accessible and well-maintained PPE supplies, and non-punitive reporting mechanisms for near-miss incidents, rather than relying primarily on written SOP documentation. Because OSH lapses at CV SHT Madiun have been linked mainly to inconsistent PPE use rather than to an absence of rules, closing this behavioral gap through habit-formation strategies, such as pre-shift equipment checks, may yield more improvement than revising the procedures themselves.

Regarding compensation, the fact that salary carries the greatest weight indicates that maintaining a competitive and timely base salary should remain the company's first priority. At the same time, the qualitative evidence that allowances and completion bonuses help pace daily work suggests that these supplementary components should not be treated as mere formalities; structuring incentives around concrete, achievable milestones, such as on-time completion of specific project phases, may reinforce the schedule-related behaviors the company is seeking to encourage, complementing rather than substituting for a fair base salary.

Because competence, OSH, and compensation jointly explain over 90 percent of the variation in employee performance, management should treat these three areas as an integrated human resource strategy rather than as separate initiatives. For instance, competence development activities could be scheduled and communicated in a way that also reinforces OSH awareness, such as technical training sessions that incorporate safety-critical steps, while compensation decisions, particularly incentives, could be explicitly tied to both quality and safety outcomes as well as schedule adherence, so that the three levers reinforce one another rather than operating in isolation. Such an integrated approach would be consistent with the Human Capital Theory perspective underlying this study, which views investment in employee capability, well-being, and reward as complementary rather than competing priorities.

3.2.7. Relevance to the Local Construction Industry in Madiun

Beyond its implications for CV SHT Madiun specifically, this study offers a point of reference for other small and medium-sized construction contractors operating in Madiun and similar regional markets in East Java. Such contractors often share structural characteristics with CV SHT Madiun, including a relatively small and stable workforce managed through saturated rather than sampled recruitment, reliance on a mix of formal

SOPs and informal on-site supervision for OSH, and compensation packages built around a base salary supplemented by project-based allowances and completion incentives. For these contractors, the pattern observed here, in which work attitude, PPE usage, and salary emerge as the most salient indicators of competence, OSH, and compensation respectively, offers a plausible starting hypothesis for their own human resource priorities, even though, as noted above, local verification through their own data would be prudent before generalizing the findings directly.

More broadly, these findings contribute to a growing body of Indonesian construction-sector human resource research, alongside studies such as Indah and Kustini (2023), Nur Rahman Yusro et al., (2025), and Johari and Alfarez (2026), that collectively point to competence, OSH, and compensation as central, though not uniformly weighted, determinants of employee performance across different construction contexts in Indonesia. By providing indicator-level evidence from a saturated sample of a single contractor, this study complements those broader, often larger-sample studies by illustrating how the general relationships they identify can manifest in the specific operational realities of a smaller regional contractor, where the day-to-day behaviors of a limited number of employees have an outsized effect on project outcomes.

The strong predictive relevance of the model, reflected in a Q-square value of 0.883 (reported in the Results), further supports the practical usefulness of the three variables examined here. Beyond indicating that the model fits the observed data well, a Q-square of this magnitude suggests that competence, OSH, and compensation are not merely statistically associated with employee performance but retain meaningful out-of-sample predictive power, which is a stronger form of evidence than R-square alone provides. For CV SHT Madiun, this means that policies built around strengthening these three areas are likely to have a genuine, forecastable effect on performance outcomes, rather than reflecting a relationship that holds only within the specific dataset collected for this study.

4. CONCLUSION

This study examined the influence of competence, occupational safety and health (OSH), and compensation on employee performance at CV SHT Madiun. Based on the results of PLS-SEM analysis, competence has a positive and significant effect on employee performance, with a path coefficient of 0.385, a t-statistic of 4.036, and a p-value of 0.000. OSH also has a positive and significant effect on employee performance, with a path coefficient of 0.297, a t-statistic of 3.217, and a p-value of 0.001. Compensation has a positive and significant effect on employee performance, with a path coefficient of 0.342, a t-statistic of 4.044, and a p-value of 0.000. These findings indicate that improving employee competence, strengthening the implementation of occupational safety and health, and providing appropriate compensation can support the improvement of employee performance at CV SHT Madiun. The findings also provide practical implications for the company to maintain employee competence through appropriate work standards and development, ensure consistent OSH implementation, and maintain a compensation system that is appropriate to employees' responsibilities and contributions. Given that this study relied on a relatively small population of 45 employees at a single company, its findings should be generalized with caution. Future research is strongly encouraged to replicate this model in other construction companies or with larger samples, and to consider additional factors such as work motivation, leadership style, or organizational culture, in order to provide a broader and more generalizable understanding of the determinants of employee performance.

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