

Work Competency and Job Training as Determinants of Employee Performance: Evidence from Indonesian Manufacturing

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ABSTRACT

This study examines the partial and simultaneous associations of work competency and job training with employee performance at PT. Ustegra, an Indonesian private manufacturing firm that reported declining internal performance indicators during 2016-2018. A quantitative cross-sectional survey was conducted using structured Likert-scale questionnaires administered to 30 randomly selected employees from a population of 157. The 30 distributed questionnaires were returned in usable form and analyzed with simple and multiple linear regression in SPSS Version 26 after validity, reliability, normality, multicollinearity, and heteroscedasticity checks. The bivariate results show that work competency is not significantly associated with employee performance, while job training is also not significant in the simple model. In the simultaneous model, neither work competency nor job training reaches statistical significance, and the joint model is likewise not significant, although the predictors account for 21.2% of adjusted variance in employee performance. Accordingly, the study does not provide statistical evidence that competency and job training, as measured here, explain employee performance at PT. Ustegra. The findings should therefore be interpreted as exploratory and context-specific, and future studies should employ larger samples, broader predictor sets, and longitudinal designs.

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1. INTRODUCTION

Human capital is widely treated as a strategic resource whose value emerges when organizations can transform individual capabilities into collective performance outcomes (Ployhart & Moliterno, 2011). In contemporary business environments, where competitive pressure and operational complexity

continue to intensify, employee performance has therefore become a central organizational outcome rather than a narrow personnel metric. The work-performance literature further shows that performance is multidimensional and is shaped by a combination of organizational and individual conditions rather than by output quantity alone

(Campbell & Wiernik, 2015; Diamantidis & Chatzoglou, 2019).

Employee performance refers to work-role behaviors and results manifested through task, contextual, and adaptive contributions that support organizational goals (Campbell & Wiernik, 2015; Pradhan & Jena, 2017). Thus, performance should be understood as a systematic product of employee capability and organizational context rather than as an inherent trait or random outcome. The performance of employees at PT. Ustegra, as reflected in internal evaluation records spanning 2016–2018, exhibits a discernible and sustained decline across five core dimensions: integrity (67.4% in 2016, declining to 62.2% in 2018), commitment (81.2% to 68.1%), teamwork (64.0% to 62.5%), service orientation (68.0% to 65.3%), and work discipline (78.0% to 73.4%) (PT. Ustegra internal performance data, 2016–2018). This trajectory — where all five indicators fall below or marginally within the "adequate" threshold — signals a structural human resource challenge demanding systematic inquiry rather than ad hoc intervention.

Two antecedent constructs emerge prominently in the human resource management literature as predictors of employee performance: work competency and job training. Competence is commonly understood as a multidimensional construct encompassing knowledge, skills, and behavioral attributes that enable effective role performance (Le Deist & Winterton, 2005; Campion et al., 2011). Job training, by contrast, constitutes an organizational intervention — a deliberate and systematic activity through which employees acquire, strengthen, and transfer job-relevant knowledge and skills into work outcomes (Aguinis & Kraiger, 2009; Grossman & Salas, 2011; Salas et al., 2012).

Empirical investigations into these relationships have generally reported positive associations, although the magnitude and consistency of effects vary across organizational settings. Atanur and Ariyanto (2016) found that competence and training positively affected employee performance, while Ardani et al. (2017) reported significant effects of competence and training alongside other human-capital variables. Astarina et al. (2022) also showed that training played an important mediating role between competence and employee performance, and Guan and Frenkel (2019) demonstrated that employee perceptions of training quality can shape subsequent performance outcomes. Even so, the literature still suggests that competency effects may weaken when organizational support, work systems, and transfer conditions are insufficient, which leaves room for context-specific results in SME environments (Potnuru & Sahoo, 2016; Diamantidis & Chatzoglou, 2019).

This study addresses the foregoing gap by examining the independent and simultaneous associations of work competency and job training with employee performance at PT. Ustegra - a manufacturing firm exhibiting measurable performance deterioration across multiple evaluation cycles. Rather than claiming broad theoretical novelty, the study is positioned as context-specific evidence from an Indonesian private-sector manufacturing setting and as a re-specification of a previously compiled company-based dataset into a journal article format. Its contribution lies in documenting how these commonly theorized human-resource predictors perform empirically in a small single-firm sample and in identifying the limits of inference that arise when statistical power and organizational context are constrained.

The research objectives are formally stated as follows: (RO1) to examine the effect of work competency on employee performance at PT. Ustegra; (RO2) to examine the effect of job training on employee performance at PT. Ustegra; (RO3) to examine the simultaneous effect of work competency and job training on employee performance at PT. Ustegra; and (RO4) to determine the relative explanatory contribution of these predictors as indexed by the coefficient of determination.

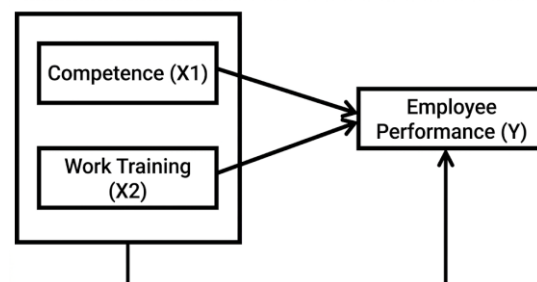


Figure 1. Conceptual Framework

2. THEORETICAL FRAMEWORK AND HYPOTHESES

2.1 Employee Performance

Employee performance constitutes the central dependent construct of this study. In the contemporary work-performance literature, performance is conceptualized as a set of observable work-role behaviors and outcomes through which employees contribute to organizational goals (Campbell & Wiernik, 2015). Consistent with this view, Pradhan and Jena (2017) emphasize that employee performance is not limited to routine task completion, but also encompasses broader role contributions that support organizational effectiveness.

The present study retained the organizational performance indicators embedded in the field instrument, namely work quality, quantity,

timeliness, effectiveness, and independence. These indicators are interpreted here as a managerial specification of broader work-performance dimensions discussed in the literature, including task, contextual, and adaptive or counterproductive aspects of work behavior (Campbell & Wiernik, 2015; Koopmans et al., 2014; Pradhan & Jena, 2017).

2.2 Work Competency

Work competency is conceptualized in this study as an integration of knowledge, skills, and behavior that supports effective role performance. Contemporary competency literature treats competence not merely as technical capability, but as a broader configuration of work-relevant attributes that can be modeled, assessed, and aligned with organizational objectives (Le Deist & Winterton, 2005; Campion et al., 2011).

Accordingly, this study operationalizes competency through five employee attributes already embedded in the field instrument — character, motive, self-concept, knowledge, and skills — as practical indicators of a broader competency profile. This operational choice is consistent with competency-modeling literature that distinguishes technical and behavioral components and highlights that competence must be organized and translated into role-relevant behavior to influence performance (Le Deist & Winterton, 2005; Campion et al., 2011).

2.3 Job Training

Job training represents an organizational-level intervention designed to systematically improve employees' knowledge, skills, and work attitudes through structured learning processes. The training and development literature consistently defines training as a planned organizational activity intended to enhance capability, promote transfer to the job, and ultimately improve work outcomes (Aguinis & Kraiger, 2009; Grossman & Salas, 2011; Salas et al., 2012).

Consistent with this literature, effective training programs depend on clear objectives, appropriate delivery methods, relevant materials, qualified trainers, and conditions that support transfer back to the workplace. In the present study, the questionnaire captured these training elements through indicators related to training objectives, training methods, training materials, trainer qualifications, and delivery practices (Aguinis & Kraiger, 2009; Grossman & Salas, 2011; Salas et al., 2012).

2.4 Hypothesis Development

2.4.1 Work Competency and Employee Performance

Theoretical and empirical literature consistently positions competency as an antecedent of employee performance because role-relevant knowledge, skills, and behavioral capability should improve how employees execute their tasks. Empirical studies have reported positive links between competence and performance in both private-sector and public-sector contexts (Ataunur & Ariyanto, 2016; Marnisah et al., 2022; Potnuru & Sahoo, 2016). Accordingly:

H1: Work competency has a positive and significant effect on employee performance

2.4.2 Job Training and Employee Performance

Training operates as an organizational mechanism for systematically narrowing the gap between current employee capability and the performance standards required by the job. Well-designed training can improve knowledge acquisition, strengthen transfer to the workplace, and elevate subsequent work outcomes (Aguinis & Kraiger, 2009; Aragón et al., 2014; Grossman & Salas, 2011; Salas et al., 2012). More recent empirical evidence also shows that training quality and employee perceptions of training are associated with improved performance across different organizational settings (Giday & Elantheraiyan, 2023; Guan & Frenkel, 2019; Hosen et al., 2024). Accordingly:

H2: Job training has a positive and significant effect on employee performance

2.4.3 Joint Effect of Work Competency and Job Training

The simultaneous consideration of both competency and training as predictors offers a more complete theoretical account of performance than either construct affords alone. Competency captures employees' pre-existing and internalized capability, while training represents the organization's deliberate investment in developing and activating that capability. Prior studies indicate that these constructs are conceptually complementary and may jointly contribute to performance outcomes, whether directly or through mediated pathways (Astarina et al., 2022; Ataunur & Ariyanto, 2016; Potnuru & Sahoo, 2016). Accordingly:

H3: Work competency and job training jointly have a positive and significant effect on employee performance

3. METHODOLOGY

3.1 Research Design

This study adopts a quantitative, cross-sectional explanatory design aimed at examining associations between work competency, job training, and employee performance. The research employs survey-based primary data collection and evaluates

the hypothesized relationships through simple and multiple linear regression analysis. Because the design is cross-sectional, the study is intended to assess statistical association rather than establish temporal causality.

3.2 Population and Sample

The population of this study comprises all employees of PT. Ustegra, totaling 157 individuals. From this bounded population, 30 employees were selected using simple random sampling. The sampling frame was prepared from the employee list provided by the company, and random selection was generated with SPSS Version 26 so that each employee had an equal probability of selection. The study should therefore be understood as an exploratory single-firm survey with limited statistical power rather than as a high-precision confirmatory test. Thirty questionnaires were distributed to the selected employees, and all 30 were returned in analyzable form, yielding a usable response rate of 100%.

3.3 Data Collection

Primary data were collected via a structured, closed-ended, self-administered questionnaire distributed directly to the sampled employees at PT. Ustegra's operational site. The instrument was adapted from prior studies and reworded for contextual clarity before administration. All items used a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire cover note informed respondents that participation was voluntary, the data were used for academic purposes only, and personal responses would be kept confidential. The final analytical dataset contained complete responses for all 30 cases, so no missing-data imputation was required.

3.4 Measurement Instruments

All three constructs were operationalized with 15 analyzed items, five items per construct. Work Competency (X1) was measured through character, motive, self-concept, knowledge, and skills. Job Training (X2) was measured through training objectives, training methods, training materials, trainer qualifications, and delivery practices. Employee Performance (Y) was measured through work quality, quantity, timeliness, effectiveness, and independence. Each item was coded from 1 to 5 and aggregated at the construct level for the subsequent analyses. The item structure reported here follows the validated indicators retained in the statistical output used as the basis for this article.

Table 1. Measurement Instruments

| Construct / definition | Indicators | Items | Source |
|------------------------|------------|-------|--------|
|------------------------|------------|-------|--------|

| | | | |
|--|--|---------|--|
| Work Competency - work-related capability | Character; Motive; Self-concept; Knowledge; Skills | 5 items | Le Deist & Winterton (2005); Campion et al. (2011) |
| Job Training - structured learning for job capability | Objectives; Methods; Materials; Trainer; Delivery | 5 items | Aguinis & Kraiger (2009); Grossman & Salas (2011); Salas et al. (2012) |
| Employee Performance - work outcomes against standards | Quality; Quantity; Timeliness; Effectiveness; Independence | 5 items | Campbell & Wiernik (2015); Koopmans et al. (2014); Pradhan & Jena (2017) |

Source: Derived from various journals (2022)

3.5 Instrument Quality Assessment

Validity was assessed using Pearson Product-Moment correlation, with the criterion $r\text{-hitung} > r\text{-tabel}$ ($r\text{-tabel} = 0.361$ at $df = 28$, two-tailed, $\alpha = 5\%$) constituting the threshold for item retention (Ghozali, 2006). All 15 items satisfied this criterion — competency items ranged from $r = 0.511$ to $r = 0.601$; training items from $r = 0.556$ to $r = 0.996$; and performance items from $r = 0.463$ to $r = 0.642$. Reliability was evaluated using Cronbach's alpha, with threshold $\alpha > 0.600$. Obtained values — $\alpha = 0.712$ for work competency, $\alpha = 0.818$ for job training, and $\alpha = 0.701$ for employee performance — all confirm internal consistency reliability.

3.6 Classical Assumption Tests

Three classical assumption diagnostics were conducted. Normality of residuals was evaluated using the Kolmogorov–Smirnov test and visually confirmed through a Probability Plot (P-P plot), which demonstrated that data points aligned closely along the diagonal reference line. Multicollinearity was assessed through Variance Inflation Factor (VIF) and Tolerance statistics: Tolerance = 0.984 and VIF = 1.08 for work competency; Tolerance = 0.984 and VIF = 1.09 for job training — both within acceptable bounds (Tolerance > 0.1 and VIF < 10), confirming the absence of multicollinearity (Ghozali, 2011). Heteroscedasticity was examined via the Scatterplot method (ZPRED vs. SRESID), revealing random dispersion of data points with no systematic pattern, thereby satisfying the homoscedasticity assumption.

3.7 Model Specification

Three regression models were estimated to address the research objectives. Model 1 and Model 2 specify the bivariate relationships (RO1 and RO2), while Model 3 specifies the simultaneous multivariate relationship (RO3). The verified equations based on the archived SPSS output are:

Model 1: $Y = 14.567 + 0.053X1$

Model 2: $Y = 16.796 - 0.101X2$

Model 3: $Y = 19.053 - 0.103X1 + 0.139X2$

Hypothesis testing was conducted through the t-test (partial effects; $\alpha = 0.05$) and F-test (simultaneous effect; $\alpha = 0.05$), with critical values of t-table = 2.0518 (df = 27) and F-table = 3.54 (df1 = 2; df2 = 27). All analyses were executed using SPSS Version 26.

4. RESULTS

4.1 Respondent Profile

The final analytical sample comprised 30 employees of PT. Ustegra. In terms of gender, the sample was evenly distributed: 15 males (50.0%) and 15 females (50.0%). The age distribution was skewed toward younger employees, with 19 respondents (63.0%) aged 20–30 years and 11 respondents (37.0%) aged 31–40 years; no respondents were aged above 40. Regarding educational attainment, 16 respondents (53.0%) held senior high school or vocational qualifications (SMK/SMA), while 14 respondents (47.0%) held undergraduate degrees (S1).

4.2 Descriptive Statistics

Table 2. Descriptive Statistics

| Variable | N | Min | Max | Mean | Std. Dev. |
|--------------|----|-----|-----|--------|-----------|
| Work | 30 | 12 | 24 | 19.700 | 3.100 |
| Competency | | | | | |
| Job Training | 30 | 15 | 21 | 21.670 | 2.600 |
| Employee | 30 | 12 | 25 | 19.960 | 5.181 |
| Performance | | | | | |

Source: Data processed by the Author (2022)

Work competency (X_1) registered a mean of 19.700 (SD = 3.100) against a theoretical maximum of 25, suggesting a moderately below-optimal level of perceived competency. Job training (X_2) yielded a mean of 21.670 (SD = 2.600). Employee performance (Y) returned a mean of 19.960 (SD = 5.181), reflecting appreciable variance corroborating the management-reported performance heterogeneity documented in the firm's 2016–2018 evaluation records.

4.3 Instrument Validity and Reliability

Table 3. Validity and Reliability

| Variable | r-calc | Validity | Cronbach's α | Reliability |
|--------------|--------|---------------|---------------------|-------------|
| Work | 0.511 | Valid (all 5) | 0.712 | Reliable |
| Competency | 0.601 | | | |
| Job Training | 0.556 | Valid (all 5) | 0.818 | Reliable |
| Employee | 0.463 | Valid (all 5) | 0.701 | Reliable |
| Performance | 0.642 | | | |

Source: Data processed by the Author (2022)

4.4 Classical Assumption Diagnostics

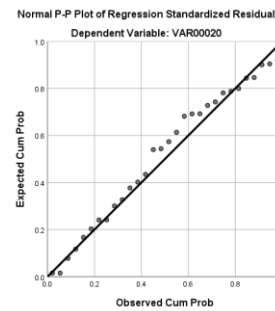


Figure 2. Normal P-P Plot of Regression Standardized Residuals

Table 4. Multicollinearity Diagnostics

| Variable | Tolerance | VIF | Decision |
|--------------|-----------|-------|----------------------|
| Work | 0.984 | 1.080 | No multicollinearity |
| Competency | | | |
| Job Training | 0.984 | 1.090 | No multicollinearity |

Source: Data processed by the Author (2022)

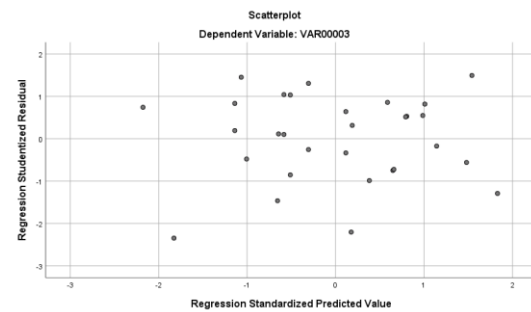


Figure 3. Scatterplot — Heteroscedasticity Diagnostic

4.5 Simple Linear Regression Results

Model 1 - the bivariate regression of employee performance on work competency - yielded $Y = 14.567 + 0.053X_1$. The coefficient for X_1 is positive in sign but statistically non-significant ($t = 0.241$; Sig. = $0.811 > 0.05$). The model summary for this bivariate specification shows $R = 0.277$, $R^2 = 0.077$, and Adjusted $R^2 = 0.044$, indicating that work competency alone explains only a small share of the variance in employee performance.

Model 2 - the bivariate regression of employee performance on job training - yielded $Y = 16.796 - 0.101X_2$. The coefficient for X_2 is negative in sign and statistically non-significant ($t = -0.560$; Sig. = $0.580 > 0.05$). The model summary for this specification shows $R = 0.016$, $R^2 = 0.000$, and Adjusted $R^2 = -0.035$, indicating that job training, as measured in the bivariate model, contributes virtually no explanatory power.

4.6 Multiple Linear Regression Results

The full multivariate model regressing employee performance simultaneously on work competency and job training yielded: $Y = 19.053 - 0.103X_1 +$

0.139X2. Holding job training constant, the coefficient for work competency ($B = -0.103$; standardized beta = -0.103) indicates a negative but non-significant association with employee performance. Holding work competency constant, the coefficient for job training ($B = 0.139$; standardized beta = 0.116) indicates a positive but non-significant association. The multiple correlation coefficient $R = 0.516$ suggests a moderate combined association, while $R^2 = 0.266$ and Adjusted $R^2 = 0.212$ show that the model explains 26.6% of raw variance and 21.2% after adjustment.

Table 5. Multiple Regression Coefficients

| Parameter | Statistic | Decision |
|----------------------|--|-------------------------------|
| Constant | $B = 19.053$; $SE = 6.248$; $t = 3.050$; $p = 0.005$ | - |
| Work Competency (H1) | $B = -0.103$; Beta = -0.103 ; $SE = 0.191$; $t = -0.539$; $p = 0.594$ | Not supported |
| Job Training (H2) | $B = 0.139$; Beta = 0.116 ; $SE = 0.229$; $t = 0.608$; $p = 0.548$ | Not supported |
| Model fit | $R = 0.516$; $R^2 = 0.266$; Adj. $R^2 = 0.212$; Std. Error = 2.831 | Overall model non-significant |

Source: Data processed by the Author (2022)

The multiple correlation coefficient $R = 0.516$ indicates a moderate positive association between the predictor set and employee performance. The Adjusted $R^2 = 0.212$ indicates that work competency and job training jointly explain 21.2% of variance in employee performance, with the remaining 78.8% attributable to factors outside the present model.

4.8 Hypothesis Testing

Table 6. ANOVA — Simultaneous F-Test

| Source | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|-------|-------|
| Regression | 7.267 | 2 | 3.634 | 0.341 | 0.714 |
| Residual | 287.699 | 27 | 10.656 | — | — |
| Total | 294.967 | 29 | — | — | — |

Source: Data processed by the Author (2022)

The F-statistic for the simultaneous model ($F = 0.341$; Sig. = 0.714) is below the critical value ($F\text{-table} = 3.54$), so H3 is not supported. The partial test for work competency also does not reach significance ($t = -0.539$; Sig. = 0.594), and H1 is therefore not supported. Likewise, the partial test for job training does not reach significance ($t = 0.608$; Sig. = 0.548), and H2 is not supported. Accordingly, after verification against the archived SPSS output, none of the three hypotheses receives statistical support.

Table 7. Summary of Hypothesis Test Results

| Hypothesis | t / F Statistic | Decision |
|------------------------------------|----------------------------|---------------|
| H1: Work Competency -> Performance | $t = -0.539$; $p = 0.594$ | Not supported |
| H2: Job Training -> Performance | $t = 0.608$; $p = 0.548$ | Not supported |

H3: Joint effect -> Performance $F = 0.341$; $p = 0.714$ Not supported

Source: Data processed by the Author (2022)

5. DISCUSSION

5.1 Overview of Findings

The verified results indicate a more conservative pattern than initially reported. Across the bivariate and multivariate models, neither work competency nor job training demonstrates a statistically significant association with employee performance at the 5% level. Although the combined model yields a moderate R value and an Adjusted R2 of 0.212, the overall F-test remains non-significant. The discussion below therefore interprets the findings as exploratory and emphasizes the limits of inference that follow from the small single-firm sample and the cross-sectional design.

5.2 The Non-Significant Effect of Work Competency

The absence of a statistically significant association between work competency and employee performance at PT. Ustegra diverges from much of the prior literature that reports positive competency-performance links. In the present dataset, the simple model coefficient is positive but trivial and the multivariate coefficient becomes negative after job training is entered, yet neither estimate is statistically distinguishable from zero. This pattern suggests that the study does not provide firm evidence that measured competency translates into observable performance in this organizational setting. A plausible explanation is that competency may require enabling conditions - such as supervision, work design, motivation, and performance management - before it appears as measurable output. However, given the limited sample size, these explanations should be treated as tentative rather than definitive. Several factors may help explain this null finding, but these explanations remain speculative. The descriptive distribution suggests limited variability in competency scores, the organizational context may constrain the translation of individual capability into performance, and the small sample increases the likelihood of Type II error. Future studies should examine these possibilities with broader models and larger samples.

5.3 The Non-Significant Effect of Job Training

The job training results are likewise non-significant. In the bivariate model the coefficient is slightly negative, whereas in the multivariate model it becomes positive, but both estimates remain statistically non-significant. The direction change across specifications indicates that the observed relationship is unstable within this small sample and

should not be interpreted as evidence of a reliable training effect. Relative to the training literature, the current study therefore offers a cautionary finding: the mere presence of training-related indicators does not necessarily predict higher employee performance when the sample is small, the organizational context is narrow, and other relevant determinants are omitted from the model.

Accordingly, the present data do not warrant claims that training participation or training quality, as measured here, improves employee performance at PT. Ustegra. A more definitive test would require larger samples, richer measures of training exposure and transfer, and preferably longitudinal observation of performance after training interventions.

5.4 The Non-Significant Joint Effect

The simultaneous model also fails to achieve significance ($F = 0.341$; $p = 0.714$). Accordingly, the study does not provide statistical support for the proposition that work competency and job training jointly explain employee performance at PT. Ustegra, even though the adjusted coefficient of determination suggests some descriptive fit. This mismatch between model fit statistics and hypothesis-test outcomes is a reminder that explanatory proportion alone does not establish statistically reliable joint effects. Additional predictors - such as motivation, leadership, discipline, work climate, and organizational culture - may account for the unexplained variance and should be incorporated in future studies.

5.5 Practical Implications

Because none of the tested coefficients is statistically significant, managers should avoid treating the present results as conclusive evidence that competency or job training, by themselves, are proven drivers of employee performance in this setting. Practically, both domains remain important from a human-resource perspective, but subsequent interventions should be accompanied by clearer program evaluation, broader performance diagnostics, and follow-up measurement. For PT. Ustegra, the findings are better used as an initial diagnostic signal that employee performance is likely shaped by a wider set of organizational factors beyond the two predictors included here.

6. CONCLUSION

6.1 Summary of Findings

This study examined the partial and simultaneous associations of work competency and job training with employee performance at PT. Ustegra, a private manufacturing firm exhibiting documented multi-year performance decline. Based on verified SPSS outputs, the simple regression results show that work competency is not significantly associated with

employee performance ($B = 0.053$; $t = 0.241$; $p = 0.811$), and job training is also not significant in the bivariate model ($B = -0.101$; $t = -0.560$; $p = 0.580$). In the multiple regression model, work competency remains non-significant ($B = -0.103$; $t = -0.539$; $p = 0.594$) and job training is likewise non-significant ($B = 0.139$; $t = 0.608$; $p = 0.548$). The simultaneous model is not statistically significant ($F = 0.341$; $p = 0.714$), so H1, H2, and H3 are all not supported. Although the model reports $R = 0.516$ and Adjusted $R^2 = 0.212$, these values should be interpreted cautiously because the coefficient tests and overall model test do not support statistically reliable effects.

6.2 Theoretical and Methodological Implications

The study's contribution is therefore modest and context-bound. Rather than confirming the expected positive effects of competency and training, the verified results highlight that these relationships may not appear clearly in small cross-sectional single-firm datasets. Methodologically, the study underscores the importance of checking consistency across coefficients, significance tests, and model summary statistics before drawing substantive conclusions. It also shows the need for stronger reporting of participant selection, response rate, measurement procedures, and missing-data handling in cross-sectional human-resource research.

6.3 Limitations and Future Research

Four principal limitations bound the present findings. First, the cross-sectional design prevents causal inference. Second, the sample of 30 employees from a single firm constrains statistical power and external generalizability. Third, the model includes only two predictors, leaving substantial variance potentially attributable to omitted variables such as motivation, organizational culture, leadership quality, and work discipline. Fourth, the study relies on self-reported questionnaire data within one Indonesian private manufacturing firm, so the findings should be interpreted as context-specific and exploratory.

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