

Determinants of Police Personnel Performance: Effectiveness of Operational Fund Utilization, Competence and Infrastructure at the East Luwu Police, Indonesia.

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ABSTRACT

Purpose: This study examines how operational fund utilization, personnel competence, and infrastructure relate to personnel performance in an Indonesian police district.

Research Method: A cross-sectional questionnaire survey of 181 personnel at Luwu Timur Police District was analyzed using partial least squares structural equation modeling.

Results and Discussion: Personnel competence and infrastructure showed statistically significant positive associations with performance, with infrastructure displaying the largest estimated coefficient. Operational fund utilization was not significantly associated with performance. The model had substantial explanatory power, although measurement overlap and predictor collinearity limited interpretation.

Implications: The single-district, self-reported, cross-sectional design precludes causal inference. Police managers may consider targeted competency development and adequate operational facilities alongside accountable budget allocation, but measurement limitations require caution.

Originality: The study jointly examines perceived financial, human, and physical resources in relation to police personnel performance within one organizational setting.

Keywords: police performance; operational funds; personnel competence; infrastructure; public-sector management.

1. Introduction

Police personnel performance is central to the quality and accountability of public services. Organizational conditions are pertinent because frontline service outcomes depend not only on individual effort but also on managerial systems and organizational capabilities. Research on police agencies has examined performance-management indicators, organizational benchmarking, and the implications of management reform for service quality (Al Ramahi *et al.*, 2023; Neyroud *et al.*, 2023; Vuorensyrjä, 2023). These findings establish a public-management context for examining the resources available to personnel.

Evidence from Indonesian public organizations suggests that employee competence is related to performance (Basalamah, 2023; Hattab *et al.*, 2023), while police-specific evidence also identifies the relevance of competence and work experience (Windani *et al.*, 2024). Workplace facilities have been linked to employee performance in a different organizational setting (Tahir & Hajjad, 2023). Research

on regional planning agencies further illustrates the managerial importance of budgeting and internal control for organizational outcomes, although it does not directly measure police performance (Nur & Reynilda, 2025).

These literatures address relevant resources but do not necessarily establish their simultaneous associations within district-level policing. In particular, budget utilization is an organizational input, whereas personnel competence and infrastructure represent different forms of capability and operational support. How these perceived resource dimensions relate to personnel performance when modeled together therefore remains a context-specific question rather than a settled causal mechanism.

This study examines the associations of effective operational fund utilization, personnel competence, and infrastructure with police personnel performance in Luwu Timur Police District, Indonesia. Its contribution is an integrated, single-district assessment of perceived financial, human, and physical resources, interpreted with explicit attention to measurement validity and the limits of cross-sectional evidence. The following sections develop the hypotheses, describe the survey and analysis, report the findings, and discuss their implications and limitations.

2. Literature Review and Hypothesis Development

2.1 Organizational Resources and Police Performance

The resource-based view (RBV) emphasizes organizational resources and capabilities as foundations for performance (Barney, 1991). Although originally formulated for firms, resource-oriented reasoning has been discussed for public services, where resources must be organized around public value and service outcomes (Kosiol *et al.*, 2023). Human-resource research further distinguishes employee capabilities from the organizational practices that mobilize them (Delery & Roumpi, 2017). In policing, the relevant resource dimensions include budgetary support, employee competence, and usable operational infrastructure; their joint consideration is a conceptual lens rather than evidence of causality. Adjacent-sector findings highlight the need to separate resources from performance outcomes: capital resources and organizational conditions may operate together (Luthans *et al.*, 2024), while workforce practices, logistics capabilities, and organizational performance have been studied as distinct dimensions in service organizations (Evangelista *et al.*, 2023). Such evidence informs the conceptual framing but should not be taken as a direct empirical estimate for police districts.

2.2 Effective Operational Fund Utilization

Operational fund utilization concerns the perceived allocation and deployment of available financial resources in support of personnel duties. Financial input may provide an enabling condition rather than an immediate determinant of individual performance. Research on organizational financial and human-resource outcomes underscores the importance of managerial deployment, although findings outside policing do not directly establish the relationship tested here (Rosyafah & Pudjowati, 2024). This study therefore tests a context-specific positive association rather than assuming that higher utilization necessarily causes higher performance.

H1. Effective operational fund utilization is positively associated with police personnel performance.

2.3 Personnel Competence

Competence encompasses the technical, managerial, and social capabilities required for effective task execution. Competency-modeling scholarship emphasizes the specification of behaviorally meaningful and distinguishable attributes (Campion *et al.*, 2011). Studies of public servants and police personnel have linked competence with performance (Basalamah, 2023; Hattab *et al.*, 2023; Windani *et al.*, 2024). Broader syntheses also identify professional expertise and organizational capabilities as relevant to organizational effectiveness (Pham *et al.*, 2026). Training-focused evidence from manufacturing illustrates a distinct setting in which workforce development and performance have been investigated (Naing & Fang, 2026).

H2. Personnel competence is positively associated with police personnel performance.

2.4 Infrastructure and Operational Support

Infrastructure refers to the physical and technological facilities through which police personnel perform assigned tasks, including vehicles, equipment, information technology, and communication systems. Research in workplace settings links usable facilities with employee performance (Tahir & Hajjad, 2023); related studies of nursing personnel show that capability and working conditions may interact with employee outcomes (Mubyl *et al.*, 2024). Other public-sector research documents relationships between work environments and staff outcomes (Mubyl & Zainal, 2025). These studies support examining operational support as a separate perceived resource, while recognizing that their settings and measures differ from policing.

H3. Infrastructure is positively associated with police personnel performance.

3. Research Method

3.1 Research Design and Participants

The study used a quantitative, cross-sectional questionnaire design in Luwu Timur Police District, South Sulawesi, Indonesia. The target population consisted of 370 district police personnel, of whom 181 participated in the analyzed sample. The study reports stratified random sampling across organizational functions, but details of strata, allocation, and respondent selection were not provided; the representativeness of the sample therefore cannot be evaluated from the reported information.

3.2 Instrument and Data Collection

The self-administered instrument contained 41 items using a five-point agreement scale. Effective operational fund utilization was measured with 10 items; personnel competence with 12 items spanning technical, managerial, and social dimensions; infrastructure with 10 items concerning vehicles, equipment, information technology, communication systems, and supporting facilities; and personnel performance with 9 items on work quality, quantity, timeliness, effectiveness, and responsibility. The instrument was reportedly pilot-tested with 45 respondents before the main survey, and completed questionnaires were screened and coded. Budget and operational documents provided contextual information rather than observations in the structural model. Item wording, pilot-test diagnostics, and the full dataset are not reproduced in this article.

3.3 Analytical Procedure

The analysis was conducted using partial least squares structural equation modeling (PLS-SEM) in SmartPLS 4. The measurement model was reported using indicator loading ranges, Cronbach's alpha, rho_A, composite reliability, average variance extracted (AVE), and discriminant-validity diagnostics. The structural model was assessed through bootstrapped path coefficients, T-statistics, P-values, the coefficient of determination (R^2), effect sizes (f^2), and inner variance inflation factors (VIF). Established methodological literature informed interpretation of model reporting, composite measurement, and discriminant-validity diagnostics (Fornell & Larcker, 1981; Hair *et al.*, 2019; Hair *et al.*, 2020; Henseler *et al.*, 2015). Bootstrap resampling settings and confidence intervals are not reported.

4. Results and Discussion

4.1 Analysis Results

4.1.1 Measurement Reliability and Convergent Validity

The reported PLS-SEM model includes four constructs and 41 retained indicators for 181 observations. Table 1 summarizes the reported measurement statistics for all four constructs.

Table 1. Reliability and Convergent Validity

Construct	n	Loading range	α	rhoA	CR	AVE
Operational Fund Utilization (X1)	10	0.804–0.932	0.967	0.968	0.971	0.770
Personnel Competence (X2)	12	0.850–0.979	0.993	0.994	0.994	0.930
Infrastructure (X3)	10	0.752–0.941	0.965	0.971	0.969	0.761
Personnel Performance (Y)	9	0.889–0.969	0.985	0.985	0.987	0.891

The reported coefficients suggest high internal consistency and convergent validity by the stated metrics. However, very high internal-consistency coefficients, particularly for competence and performance, can also signal closely overlapping or redundant items. Without the item wording and indicator-level results, such redundancy cannot be ruled out by aggregate reliability estimates alone (Hair *et al.*, 2020).

4.1.2 Discriminant Validity

The reported discriminant-validity diagnostics are not satisfactory for all construct pairs. In particular, operational fund utilization and personnel competence have HTMT = 0.913, while infrastructure and personnel performance have HTMT = 0.906. In both pairs, the relevant square root of AVE is also below the interconstruct correlation. Thus, the evidence does not fully distinguish these constructs, and the associated paths require cautious interpretation (Fornell & Larcker, 1981; Henseler *et al.*, 2015). The diagnostics do not justify removing indicators without a defensible examination of item wording, theory, and cross-loadings.

Table 2. Fornell–Larcker and HTMT Assessment

Construct or pair	Fornell–Larcker value	HTMT	Assessment
X1: Operational Fund Utilization	0.877	—	Diagonal
X2: Personnel Competence	0.965	—	Diagonal
X3: Infrastructure	0.872	—	Diagonal
Y: Personnel Performance	0.944	—	Diagonal
X1–X2	0.896	0.913	Concern
X1–X3	0.745	0.767	Below 0.90
X1–Y	0.813	0.832	Below 0.90
X2–X3	0.761	0.766	Below 0.90
X2–Y	0.850	0.859	Below 0.90
X3–Y	0.891	0.906	Concern

4.1.3 Structural Relationships and Explanatory Power

Table 3. Structural Paths and Hypothesis Tests

H	Relationship	β	T	P	Outcome
H1	Operational Funds → Performance	0.074	0.557	0.578	Not supported
H2	Competence → Performance	0.350	2.227	0.026	Supported
H3	Infrastructure → Performance	0.569	3.151	0.002	Supported

Note. β denotes the standardized original-sample coefficient. Hypotheses are evaluated at a two-tailed 5% significance level.

The reported bootstrapping results do not support H1, whereas H2 and H3 are positively associated with the outcome at the stated significance level. Infrastructure has the largest estimated structural coefficient. These are model-based associations and should not be interpreted as causal effects. Inference remains conditional on the measurement-quality limitations described above.

Table 4. Coefficient of Determination and Effect Sizes

Outcome or predictor	R ²	Adjusted R ²	f ²	Interpretation
Personnel Performance	0.866	0.864	—	Substantial explained variance
Operational Funds → Performance	—	—	0.008	Negligible incremental effect
Competence → Performance	—	—	0.162	Medium incremental effect
Infrastructure → Performance	—	—	0.967	Large incremental effect

The model accounts for a high proportion of variance in reported personnel performance ($R^2 = 0.866$; adjusted $R^2 = 0.864$). The incremental effect-size estimates are largest for infrastructure, followed by competence, with a negligible estimate for operational funds. High explanatory power does not remove the need to evaluate measurement differentiation, shared-method variance, or predictive validation.

4.1.4 Inner Collinearity Assessment

Table 5. Inner Variance Inflation Factors

Predictor	Inner VIF
Operational Fund Utilization	5.344
Personnel Competence	5.647
Infrastructure	2.499

Operational fund utilization and competence have reported inner VIFs above 5, indicating notable predictor collinearity under this rule of thumb. Consequently, their separate path estimates should be interpreted with care. The inner VIF statistics assess collinearity among predictors and should not be presented as a completed common-method-bias test. A separate full-collinearity approach has been proposed for such assessment, but this specific diagnostic was not reported (Kock, 2015).

4.2 Discussion

4.2.1 Operational Fund Utilization and Personnel Performance

The data do not support a direct positive association between perceived operational fund utilization and reported personnel performance after the other resources are considered. In an RBV-informed interpretation, money may be an enabling input rather than a capability that is independently associated with frontline outcomes (Barney, 1991; Kosiol *et al.*, 2023). This interpretation is plausible but was not tested as a mediation mechanism. Organizational research on resource allocation and financial outcomes (Rosyafah & Pudjowati, 2024) provides adjacent context rather than direct evidence of a police-specific mechanism. The modest path estimate must also be read alongside the strong correlation and collinearity involving competence.

4.2.2 Personnel Competence and Personnel Performance

The positive competence association is consistent with evidence from Indonesian public-sector staff and police personnel (Basalamah, 2023; Hattab *et al.*, 2023; Windani *et al.*, 2024). Competence may capture relevant technical, managerial, and interpersonal readiness, but the analysis does not demonstrate that increased training would cause higher performance. Theoretical work on human-capital practices and competency development supports the value of distinct capability measures (Campion *et al.*, 2011; Delery & Roumpi, 2017). Findings from other workplaces should be read as contextual parallels rather than corroboration of an identical effect (Mubyl *et al.*, 2024; Naing & Fang, 2026; Pham *et al.*, 2026).

4.2.3 Infrastructure and Personnel Performance

Infrastructure has the largest reported coefficient, consistent with the operational importance of vehicles, information systems, communication equipment, and other facilities. Employee-performance research on workplace facilities and conditions offers a plausible comparative setting (Mubyl & Zainal, 2025; Tahir & Hajjad, 2023). Nevertheless, infrastructure and performance are not sufficiently differentiated by the supplied validity criteria. Their high overlap could inflate the appearance of an independent relationship; the estimate cannot be interpreted as an established causal effect or as a direct policy return from additional infrastructure spending.

4.2.4 Synthesis, Implications, and Boundaries of Evidence

Taken together, the results suggest that perceived human and physical support are more closely associated with reported personnel performance than perceived fund utilization within the fitted model. This contributes a local, integrated comparison of resource dimensions to the public-management discussion; it does not show that budget utilization is unimportant. Police-service research indicates that organization-wide performance and service quality also depend on management systems and institutional context (Al Ramahi *et al.*, 2023; Neyroud *et al.*, 2023; Vuorensyrjä, 2023).

Managerial implications should therefore focus on assessing actual competence needs and the adequacy of essential facilities, while retaining accountable fund deployment and evidence-based performance monitoring. The single-district survey is cross-sectional and self-reported. Such designs may be affected by common-method bias, which cannot be inferred away from ordinary structural VIFs (Kock, 2015; Podsakoff *et al.*, 2003). Extremely high construct reliabilities, two discriminant-validity failures, and elevated inner VIFs restrict confidence in the magnitude and independence of the estimated paths. Future studies should inspect item content, test the measurement model in an independent sample, and consider more varied sources of performance evidence. These are recommendations for future research, not procedures claimed to have been performed here.

5. Concluding Remarks and Recommendation

This study finds that perceived personnel competence and operational infrastructure, but not perceived operational fund utilization, are positively associated with self-reported police personnel performance in the specified district-level model. By examining financial, human, and physical resources together, the study offers an integrated view of how these resource perceptions relate to personnel outcomes in a single Indonesian police setting.

The findings support considering staff capabilities and practical operational support alongside responsible budget management. They do not establish causation, and the relative magnitudes of the structural associations require particular caution because some constructs were insufficiently differentiated and some predictors were strongly correlated.

Future research should clarify the conceptual boundaries of the measures, validate them in independent samples, use evidence sources beyond one self-report survey, and compare different police districts over time. These steps would help determine whether the observed pattern is robust and whether particular resource investments precede measurable improvements in personnel outcomes.

Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

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