

Is Remuneration a Hygiene Factor in Higher Education? Evidence from ICT Competence, Prophetic Leadership, and Lecturer Performance in Indonesian Public Service Agency Universities

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Abstract:

Despite extensive remuneration reforms in Indonesian Public Service Agency universities (PTN BLU), empirical evidence remains inconclusive as to whether financial incentives genuinely improve lecturer performance. Most prior studies emphasize satisfaction effects, leaving a gap regarding remuneration's role as a performance driver once adequacy thresholds are met. Grounded in Herzberg's Two-Factor Theory and supported by the MARS Model, this study positions remuneration as a potential hygiene factor, ICT competence as an ability dimension, and prophetic leadership as a value-based determinant shaping role perceptions. A quantitative cross-sectional survey of 390 permanent lecturers was analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results reveal that remuneration has no significant direct effect on lecturer performance once perceived as adequate. In contrast, ICT competence exerts a strong positive influence ($p < 0.001$), and prophetic leadership shows a moderately significant effect ($p < 0.001$). The model explains 72.3% of the variance in performance. This study provides original empirical evidence that remuneration primarily functions as a hygiene factor in Islamic public higher education, highlighting the strategic importance of digital competence and value-based leadership beyond financial incentives.

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Introduction

In the twenty-first century, higher education drives national competitiveness through the production of qualified graduates, impactful research, and sustained innovation within knowledge economies (David et al., 2023; Li & Xu, 2025; Poutanen, 2023). Globally, universities play a central role in shaping human capital development, research productivity, and technological advancement, thereby influencing countries' positions within academic and economic hierarchies (OECD, 2025; UNESCO, 2014). In Indonesia, this strategic mandate is institutionalised through Law No. 12/2012, which requires universities to fulfil the Tri Dharma Perguruan Tinggi, teaching, research, and community service as integrated indicators of accountability and institutional quality.

Within this framework, lecturers constitute the pivotal human resource determining institutional reputation and academic performance (Kustini et al., 2022). Lecturer performance refers to observable behaviours and measurable outputs aligned with formal academic responsibilities, including teaching effectiveness, research productivity, publication quality, citation impact, innovation, and community engagement (Gibson et al., 2012; Prawirosentono, 1999; Rivai et al., 2015). In Indonesia, these dimensions are increasingly quantified through the Science and Technology Index (SINTA), which directly contributes to national university clustering and reputational standing.

Despite strong policy emphasis and established measurement systems, performance disparities persist across public universities. For example, UIN Sultan Maulana Hasanuddin Banten continues to lag in SINTA-based publication and citation metrics despite adequate staffing levels, reflecting limited engagement with indexed journals and suboptimal utilisation of digital academic platforms (OECD, 2016). Such conditions indicate that structural resources and formal qualifications alone cannot fully explain variations in productivity. Instead, motivational, capability-based, and organisational determinants must be considered to understand lecturer performance better.

One significant policy response to this challenge has been remuneration reform under Public Service Agency (Badan Layanan Umum, BLU) status, which grants financial flexibility and introduces performance-based pay mechanisms (Government Regulation No. 23/2005). Conceptually, remuneration reform aims to align individual effort with institutional objectives through performance-contingent rewards (Armstrong & Murlis, 2019). However, international evidence on performance-based pay in higher education remains mixed. While some studies report modest gains in measurable outputs such as credit accumulation or short-term productivity (Lintner, 2024; T. D. Nguyen et al., 2019), others highlight limited intrinsic motivational effects and strong contextual dependencies (Aoki & Rawat, 2020; H.-A. H. Dang & King, 2013; Harkness & Schier, 2011; Imberman, 2015). Indonesian studies similarly show that remuneration reforms tend to enhance job satisfaction and perceptions of fairness but do not consistently translate into sustained academic productivity (Ardianto et al., 2024; Kustini & Purwanto, 2020; Mahmud et al., 2018; Sancoko et al., 2023; Senjani, 2022).

Herzberg's Two-Factor Theory offers a critical lens to address this issue. The theory distinguishes hygiene factors such as remuneration which prevent dissatisfaction but do not inherently motivate beyond adequacy thresholds, from motivators such as achievement, recognition, and responsibility, which directly stimulate performance (Herzberg, F., Mausner, B., & Snyderman, 1959; Onen & Maicibi, 2006). Recent empirical applications continue to validate this distinction (Galanakis & Peramatzis, 2022; Gimpl, 2025; Kehui et al., 2025). In contexts where remuneration reforms have already raised income levels, salary may no longer serve as a distinct motivational force. Instead, performance variation may depend more strongly on non-financial drivers.

To analytically structure these determinants, this study integrates Herzberg's framework with the MARS Model of Individual Behaviour and Performance (McShane & Von Glinow, 2021). Rather than employing the two frameworks descriptively, the study uses Herzberg to classify remuneration as a potential hygiene factor normatively and employs the MARS model to organise performance determinants into Motivation, Ability, Role Perceptions, and Situational Factors. Within this integrated model, remuneration as motivation (Manzoor et al., 2021), primarily a Herzberg hygiene factor supporting fairness and effort alignment once adequacy is met; ICT competence (T. C. Dang et al., 2024) represents the ability dimension enabling digital scholarship, research productivity, and SINTA-indexed outputs; prophetic leadership (Juhainah et al., 2025; Tobroni, 2015)

represents a value-based mechanism shaping role perceptions through ethical modelling and purpose infusion; and BLU status constitutes the institutional context structuring incentives and constraints. This integration enables systematic comparison of heterogeneous performance drivers within a coherent analytical architecture (Junejo et al., 2024; Kehui et al., 2025). The conceptual framework is depicted in Figure 1.

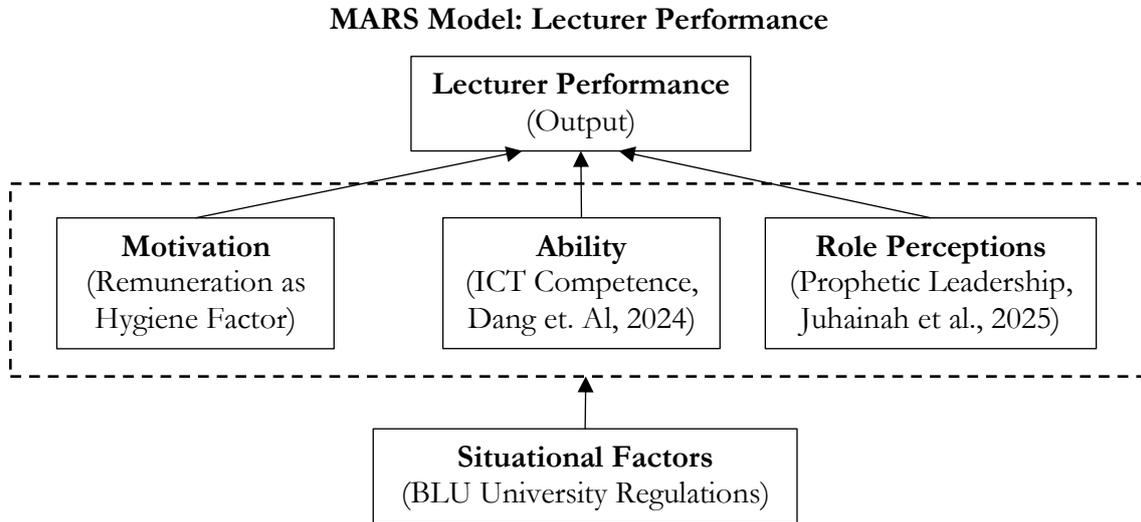


Figure 1. Conceptual Framework: MARS Model.

Although prior studies have examined remuneration, leadership, or digital competence separately in higher education contexts, no study has simultaneously tested remuneration explicitly as a hygiene factor while comparatively assessing its explanatory power against both an ability-based driver (ICT competence) and a value-based driver (prophetic leadership) within an integrated structural model for Islamic BLU universities (Alrawahi et al., 2020). Existing research frequently assumes remuneration is motivational without interrogating its theoretical status once adequacy thresholds are met. Consequently, the relative strength of financial, capability-based, and value-based determinants of lecturer performance remains theoretically under-specified and empirically under-tested, particularly within rapidly digitalising Islamic public higher education systems.

This study makes three primary contributions. Theoretically, it extends Herzberg's Two-Factor Theory into higher education by empirically testing remuneration's hygiene role within a multivariate performance framework rather than presuming its motivational status. Empirically, it develops a high-explanatory-power structural model that compares financial, ability-based, and value-based drivers of lecturer performance. Contextually, it provides original evidence from Indonesian Islamic Public Service Agency (BLU) universities, where remuneration reform, digital transformation, and value-based leadership intersect. By situating these dynamics within global debates on performance-based pay and digital transformation in higher education, the study strengthens the international relevance of research on academic motivation and productivity.

Accordingly, this study aims to critically examine whether remuneration functions merely as a hygiene factor or as a genuine performance driver, in contrast with ICT competence and prophetic leadership in Indonesian BLU universities, thereby clarifying the motivational architecture underlying lecturer performance in Islamic public higher education.

Methods

This study employed a quantitative explanatory design, using a cross-sectional survey, to examine the structural relationships among remuneration, ICT competence, prophetic leadership, and lecturer performance. The research was conducted during the 2025 academic year at Indonesian state universities holding Public Service Agency (Badan Layanan Umum/BLU) status that had formally implemented performance-based remuneration schemes. The primary objective was to explain variance in lecturer performance by comparatively assessing financial, ability-based, and value-based determinants within an integrated structural model.

1. Research Design and Analytical Approach

The study focused on testing theoretically grounded relationships among latent constructs rather than establishing longitudinal causality. Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed using SmartPLS software. The choice of PLS-SEM was justified on three grounds. First, the model is prediction-oriented and seeks to explain variance in lecturer performance (R^2) rather than reproduce a covariance matrix, making PLS-SEM more suitable than covariance-based SEM for this research objective (Hair et al., 2017). Second, the structural model integrates multiple latent constructs drawn from distinct theoretical frameworks (Herzberg's Two-Factor Theory and the MARS Model), increasing model complexity and favouring a variance-based approach. Third, PLS-SEM is robust to potential non-normality in perceptual survey data and performs well with medium-sized samples in complex predictive models (Hair et al., 2017).

2. Population, Sampling, and Data Collection

The study was initially designed to focus on three Public Service Agency universities (PTN BLU) as primary research sites: UIN Sultan Maulana Hasanuddin Banten, UIN Syarif Hidayatullah Jakarta, and Universitas Sultan Ageng Tirtayasa. During implementation, however, the sampling frame expanded organically as the online questionnaire circulated through professional academic networks, resulting in participation from several additional PTN BLU and other public and private universities across Indonesia. This broader participation preserved the BLU's focus while enriching the sample's institutional diversity.

Data were collected using a structured questionnaire distributed both online and in paper-based formats to permanent lecturers at BLU universities. Inclusion criteria ensured that respondents had direct experience with institutional remuneration systems, digital academic practices, and faculty-level leadership structures. Participation was voluntary. Respondents received an informed consent statement explaining the research purpose, confidentiality guarantees, and protections for anonymity. No identifying personal data was collected. The study protocol followed institutional research ethics guidelines and obtained formal approval from the relevant university authority prior to data collection.

After screening for incomplete, inconsistent, or patterned responses, 390 valid questionnaires were retained. This sample size exceeds the minimum requirement suggested by the "10 times rule" (Barclay et al., 1995) and statistical power analysis standards for detecting medium effect sizes (Cochran, 1977; Cohen, 1988; Hair et al., 2017). In terms of institutional origin, nearly half of the respondents were affiliated with UIN Sultan Maulana Hasanuddin Banten (192 lecturers; 49.23%), followed by UIN Syarif Hidayatullah Jakarta (35; 8.97%) and Universitas Sultan Ageng Tirtayasa (32; 8.21%). The remaining respondents came from various Islamic and general universities, including UIN Sunan Kalijaga Yogyakarta, UIN Sunan Ampel Surabaya, UIN Alauddin Makassar, UIN Sumatera Utara Medan, and several other public and private institutions, each contributing less than 3% of

the total sample. This composition indicates that the data strongly reflect the BLU context in Banten and its surrounding regions, while also incorporating perspectives from other parts of Indonesia.

3. Instrument Development and Measurement

All constructs were operationalised as reflective measurement models, as the observed indicators were conceptualised as manifestations of underlying latent variables rather than formative composites. Changes in the latent construct are expected to cause variation across all indicators, and the indicators are assumed to be interchangeable within each construct, consistent with reflective measurement logic (Hair et al., 2017).

The questionnaire used five-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree). Instrument development followed three stages:

- a. *Adaptation*: Items were adapted from established theoretical and empirical sources.
- b. *Expert review*: Three experts in educational management and organisational behaviour evaluated item clarity and contextual relevance.
- c. *Pilot testing*: A pilot study with 48 lecturers was conducted to assess the reliability and clarity of wording before full deployment.

The final instrument comprised:

- a. *Remuneration* (33 items): capturing perceived fairness, proportionality, adequacy, and motivational relevance of remuneration.
- b. *ICT Competence* (32 items): covering seven dimensions of digital literacy relevant to academic tasks (T. C. Dang et al., 2024).
- c. *Prophetic Leadership* (31 items): operationalising six prophetic values (*ṣidq, amānah, tabligh, fatānah, ‘adālah, shūrā*) into observable leadership behaviours (Juhainah et al., 2025; Tobroni, 2015).
- d. *Lecturer Performance* (31 items): reflecting teaching quality, research productivity, publication output, and community service aligned with the Tri Dharma Perguruan Tinggi.

4. Assessment of Common Method Bias

Because all data were collected through self-reported questionnaires at a single point in time, standard method bias (CMB) was assessed. First, Harman’s single-factor test indicated that no single factor accounted for the majority of the variance. Second, full collinearity variance inflation factors (VIF) were examined following Kock’s approach. All VIF values were below the conservative threshold of 3.3, indicating that common method bias was unlikely to threaten the validity of the findings. Additionally, lateral collinearity diagnostics confirmed that predictor constructs did not exhibit problematic multicollinearity.

5. Measurement Model Evaluation

PLS-SEM analysis followed a two-stage approach.

In the first stage, the reflective measurement model was evaluated by assessing:

- a. Indicator loadings (≥ 0.70 preferred)
- b. Average Variance Extracted (AVE ≥ 0.50) for convergent validity (Hair et al., 2017)
- c. Internal consistency reliability using Cronbach’s alpha, composite reliability (CR), and ρ_A (Dijkstra & Henseler, 2015)

- d. Discriminant validity using the Fornell–Larcker criterion and Heterotrait–Monotrait (HTMT) ratio (Henseler et al., 2015)

Variance inflation factors (VIF) were also examined to ensure the absence of multicollinearity among indicators.

6. Structural Model Evaluation

In the second stage, the structural model was assessed by examining:

- a. Coefficient of determination (R^2)
- b. Predictive relevance (Q^2) using blindfolding
- c. Standardised path coefficients (β)
- d. Effect sizes (f^2)
- e. Collinearity diagnostics among predictor constructs

Statistical significance was evaluated through bootstrapping with 5,000 subsamples at a 5% significance level (Hair et al., 2017).

This analytical procedure enabled rigorous testing of whether remuneration functions primarily as a hygiene factor relative to ICT competence and prophetic leadership in explaining lecturer performance. Consistent with the theoretical positioning, Herzberg’s Two-Factor Theory served as the principal interpretive framework for remuneration. At the same time, the MARS Model structured the comparative analysis of ability-based and role-based determinants.

Result and Discussion

1. Result

a. Respondent Profile and Descriptive Overview

A total of 390 lecturers completed the survey, exceeding the minimum sample size required for PLS-SEM analysis and ensuring adequate statistical power for detecting medium effects (Cohen, 1988; Hair et al., 2017). Data were collected between September and November 2025 through an online questionnaire distributed to permanent lecturers at Indonesian universities holding Public Service Agency (BLU) status. Regarding geographic location, most respondents were based in Banten Province (237 lecturers; 60.77%), followed by DKI Jakarta (48; 12.31%) and East Java (43; 11.03%). The dominance of respondents from Banten reflects the concentration of BLU-oriented universities in this province particularly UIN Sultan Maulana Hasanuddin Banten and Universitas Sultan Ageng Tirtayasa, which served as the primary empirical locus of the study. At the same time, the sizeable number of respondents from DKI Jakarta and East Java, alongside smaller clusters from other provinces, provides functional variation in institutional contexts for analysing remuneration, ICT competence, prophetic leadership, and lecturer performance.

The respondent profile reflects a mature academic cohort. Most participants were in mid-career age groups, particularly 35-40 years (21.28%), followed by 50-55 (18.97%) and 40–45 (16.92%). More than four-fifths (80.51%) were affiliated with BLU institutions, aligning with the study’s institutional focus. Regarding income distribution, nearly half of the respondents (47.69%) reported receiving monthly remuneration in the IDR 2-4 million range, followed by 21.79% in the IDR 4-6 million range. At the same time, only a small proportion exceeded IDR 8 million. This distribution indicates moderate remuneration dispersion within the sample.

Table 1. Descriptive Statistics of Latent Variables

Construct	N	Min	Max	Mean	SD	Variance
Remuneration	390	40	165	120.08	20.919	437.618
ICT Competence	390	88	160	128.36	15.609	243.644

Prophetic Leadership	390	59	155	116.67	18.357	336.993
Lecture Performance	390	89	155	124.67	14.104	198.909

Descriptive statistics of the latent constructs indicate that ICT competence recorded the highest mean score ($M = 128.36$, $SD = 15.61$), followed by lecturer performance ($M = 124.67$, $SD = 14.10$), remuneration ($M = 120.08$, $SD = 20.92$), and prophetic leadership ($M = 116.67$, $SD = 18.36$). Remuneration exhibited the most significant variance (437.62), suggesting greater dispersion in pay perceptions than in performance assessments.

b. Measurement Model Assessment

All constructs were specified as reflective measurement models. Table 2 presents the statistics.

Table 2. Measurement Model Quality Metrics

Construct	AVE	CR (ρ_c)	Cronbach α	Max HTMT	VIF Max
Prophetic Leadership	0.639	0.981	0.980	0.661	1.852
Lecturer Performance	0.526	0.969	0.966	0.845	—
ICT Competence	0.504	0.962	0.958	0.845	1.211
Remuneration	0.510	0.966	0.964	0.661	1.734

Note: VIF Max refers to the inner model (predictors of Lecturer Performance). Performance is endogenous (no VIF reported).

Indicator loadings exceeded the recommended threshold of 0.70 and were statistically significant ($p < 0.001$; bootstrapping $n = 5,000$), confirming strong indicator reliability.

Convergent validity was established, as all Average Variance Extracted (AVE) values exceeded 0.50 (Hair et al., 2017). Internal consistency reliability was robust across constructs, with composite reliability (ρ_c) values ranging from 0.962 to 0.981 and Cronbach's alpha values between 0.958 and 0.980, well above recommended thresholds.

Discriminant validity was assessed using both the Fornell–Larcker criterion and the Heterotrait–Monotrait (HTMT) ratio. In all cases, the square roots of AVE exceeded inter-construct correlations, and HTMT values remained below 0.85, with the highest observed ratio (ICT competence–lecturer performance) at 0.845, within acceptable limits (Henseler et al., 2015). These results indicate satisfactory construct distinctiveness.

Collinearity diagnostics further confirmed model robustness. Inner variance inflation factors (VIF) ranged from 1.211 to 1.852, well below the conservative threshold of 3.0 (Hair et al., 2017). Although a small number of outer VIF values exceeded 5 due to higher-order indicator structures, theoretical justification and strong loading values supported indicator retention. Overall, the measurement model demonstrated satisfactory reliability, convergent validity, discriminant validity, and absence of problematic multicollinearity.

c. Structural Model Results

The structural model demonstrated substantial explanatory power. The coefficient of determination for lecturer performance was $R^2 = 0.723$, indicating that remuneration, ICT competence, and prophetic leadership jointly explain 72.3% of the variance in lecturer performance. Predictive relevance was also confirmed, with $Q^2 = 0.714$, exceeding zero and satisfying the Stone–Geisser criterion (Bhushan & Kumar, 2022; Geisser, 1974; Stone, 1974).

Table 3. Path Coefficients and Hypothesis Testing

Hypothesis	Path	β	<i>SD</i>	<i>t</i> -value	<i>p</i> -value	f^2	Decision
H1	Remuneration-Performance	0.006	0.043	0.143	0.886	≈ 0.000	Not supported
H2	ICT Competence-Performance	0.725	0.031	23.196	<0.001	1.567	Supported
H3	Prophetic leadership-Performance	0.244	0.046	5.304	<0.001	0.116	Supported

Note: β =standardised path coefficient; f^2 =effect size (Cohen, 1988: 0.02 small, 0.15 medium, 0.35 large). Bootstrapping $n=5000$, two-tailed, $\alpha=0.05$.

Bootstrapping results (5,000 subsamples; $\alpha = 0.05$) revealed a differentiated pattern of effects. ICT competence showed a strong, statistically significant positive effect on lecturer performance ($\beta = 0.725$, $t = 23.196$, $p < 0.001$), with a considerable effect size ($f^2 = 1.567$). Prophetic leadership also exerted a positive and significant influence ($\beta = 0.244$, $t = 5.304$, $p < 0.001$), with a small-to-moderate effect size ($f^2 = 0.116$). In contrast, remuneration did not exhibit a significant effect ($\beta = -0.006$, $t = 0.143$, $p = 0.886$), and its effect size was negligible ($f^2 \approx 0.000$). Figure 2 depicts the structural model with standardised path coefficients.

Partial model comparisons reinforced these findings. A model including only remuneration explained virtually no variance in performance ($R^2 = 0.004$). When ICT competence was included alongside remuneration, R^2 increased sharply to 0.692, indicating that most explanatory power was derived from ICT competence. The addition of prophetic leadership to this model further increased R^2 to 0.723, representing an incremental contribution ($\Delta R^2 = 0.031$; $f^2 \approx 0.108$). These results confirm that ICT competence is the dominant predictor, while prophetic leadership contributes additional explanatory value, and remuneration contributes minimally. Table 4 shows the statistics.

Table 4. Partial Model Comparison (R^2 Decomposition)

Model Specification	R^2 (Performance)	ΔR^2 vs. Full
Remuneration only	0.004	-0.719
Remuneration + ICT Competence	0.692	-0.031
Remuneration + Prophetic Leadership	0.306	-0.417
Full (Remuneration + ICT + Prophetic)	0.723	—

Note: ΔR^2 = difference from the complete model. Adding prophetic leadership to Remuneration+ICT increases R^2 from 0.692 to 0.723 ($\Delta=0.031$; $f^2 \approx 0.108$, small-medium effect).

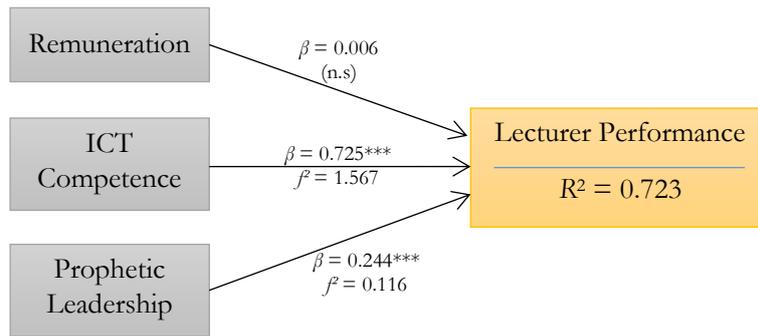


Figure 2. PLS-SEM structural model with standardised path coefficients

2. Discussion

a. Remuneration as a Hygiene Mechanism in Regulated Systems

The absence of a significant direct effect of remuneration on lecturer performance provides empirical support for Herzberg's (1959) classification of salary as a hygiene factor. In the BLU context, remuneration appears to function primarily as a stabilising mechanism that prevents dissatisfaction rather than as a driver of performance differentiation (Alrawahi et al., 2020; Galanakis & Peramatzis, 2022).

Several contextual dynamics may explain this pattern. First, remuneration systems in BLU universities are highly regulated and standardised under national frameworks (Government Regulations No. 23/2005 and 74/2012), which limit variability and weaken competitive differentiation (Asy'ari et al., 2025; Rizkiyyan, 2025). Second, institutional remuneration formulas are often linked to workload compliance rather than to qualitative indicators such as research innovation or international publication impact (Astridina et al., 2017; Sancoko et al., 2023). This design may reinforce perceptions of fairness without generating strong performance-contingent signals. Third, the distribution of remuneration suggests a threshold condition: once adequacy is reached, additional financial increments may yield diminishing motivational returns (Deci et al., 1999; Gneezy et al., 2011; Kustini & Purwanto, 2020), consistent with recent applications of Herzberg's theory in education and healthcare settings (Alrawahi et al., 2020; Galanakis & Peramatzis, 2022; Kehui et al., 2025).

Within the MARS framework (McShane & Von Glinow, 2021), remuneration thus operates primarily as a situational factor that secures baseline equity rather than as a motivational accelerator (Adams, 1965; Gerhart et al., 2009; Imberman, 2015), consistent with Indonesian HE studies (Dewi et al., 2022; Sancoko et al., 2023).

b. ICT Competence and the Digital Productivity Imperative

The dominant effect of ICT competence highlights the structural importance of digital capability in contemporary higher education. In digitalised academic ecosystems, productivity increasingly depends on the ability to navigate indexed databases, manage references, utilise statistical software, and operate digital learning management systems (Cadez et al., 2017; Gudmundsdottir & Hatlevik, 2018; Tang & Chaw, 2016). Without such competencies, lecturers may be unable to translate motivation or institutional support into measurable outputs such as publications and citations.

This finding resonates with international evidence from Dang et al. (2024), Hai (2024), and H. N. Nguyen (2026) in Vietnam; Adarkwah (2024) in Ghana; and P. L. Nguyen et al. (2024) across ASEAN contexts, where digital competence consistently predicts research productivity and instructional effectiveness. Within the MARS architecture, ability becomes the primary performance differentiator once situational stability is achieved. In other words,

when remuneration ensures fairness, it is capability not pay that explains productivity variation.

Consequently, ICT competence should no longer be treated as an optional professional enhancement but institutionalised as a mandatory component of Continuing Professional Development (CPD) (Adarkwah, 2021; Caena & Redecker, 2019; OECD, 2019; Redecker & Punie, n.d.). Structured training in research software, reference management systems, data analysis tools, and mastery of the Learning Management System (LMS) is essential to ensure that lecturers possess the technical capacity required for measurable academic productivity (Al-Fraihat et al., 2020; Gudmundsdottir & Hatlevik, 2018; Philipsen et al., 2019). Evidence from European higher education reforms demonstrates that systematic digital capacity-building significantly improves research output, teaching effectiveness, and institutional competitiveness (Benavides et al., 2020; Broucker et al., 2018; Caena & Redecker, 2019; OECD, 2016, 2019; Philipsen et al., 2019).

c. Prophetic Leadership as a Value-Based Amplifier

Prophetic leadership demonstrated a significant yet moderate influence on lecturer performance. This pattern aligns with research on spiritual and ethical leadership, which suggests that such leadership styles enhance performance primarily through indirect pathways strengthening commitment, clarity of expectations, and perceived meaning rather than through direct control of task execution (Banks et al., 2016; Fry, 2016; Hartono, 2023; Hoch et al., 2018; Yukl, 2013). Within MARS, it clarifies role perceptions (*tabligh*, *şidq*) and amplifies ICT-enabled work with ethical purpose (Juhainah et al., 2025; Tobroni, 2015).

The incremental increase in explanatory power when prophetic leadership was added to the Remuneration and ICT competence model (R^2 rising from 0.692 to 0.723; $\Delta = 0.031$) reflects more than a statistical improvement; it reveals a theoretically meaningful configuration within the MARS framework. In classical MARS theory, performance is a multiplicative function of Motivation, Ability, Role Perceptions, Situational Factors (McShane & Von Glinow, 2021). In the present context, ICT competence represents the ability component that enables lecturers to execute digital academic tasks. In contrast, prophetic leadership primarily shapes role perceptions by clarifying normative expectations, ethical standards, and the broader purpose of academic work.

In Islamic public universities, role perception is not merely task clarity. However, it includes a moral–spiritual orientation grounded in prophetic values such as *şidq* (truthfulness), *amānah* (trustworthiness), *tabligh* (effective communication), *fatānah* (wisdom), *ʿadālah* (justice), and *shūrā* (inclusive). These values reframe the meaning of technological engagement. Rather than viewing ICT use as an instrument to survive “publish or perish” pressures, lecturers may interpret digital scholarship as a form of accountable service contributing to societal and *ummah* welfare.

This configuration refines the MARS model by demonstrating that in faith-informed institutional contexts, role perception can function as a normative amplifier of ability. That is, technical competence (ability) yields more substantial performance effects when embedded within value-based leadership that provides ethical meaning and collective purpose. The findings, therefore, extend MARS beyond its generic organisational application by illustrating how religiously grounded leadership can reshape the motivational architecture of performance. In regulated public university systems where situational factors (e.g., remuneration) are standardised, the interaction between ability and value-based role perception becomes the primary differentiator of productivity.

Conceptually, this suggests that in Islamic higher education, sustainable performance does not emerge from financial incentives alone or from technical competence in isolation,

but from the alignment of capability and moral purpose. This alignment enriches both Herzberg's hygiene-motivator distinction and the MARS behavioural framework.

d. Integrated Theoretical Implications

This study advances the integration of Herzberg's Two-Factor Theory and the MARS model by empirically demonstrating how hygiene thresholds operate within regulated higher education systems and how behavioural drivers reconfigure once those thresholds are met. Specifically, the findings indicate that in Indonesian BLU universities where remuneration systems are standardised and administratively regulated salary ceases to function as a performance differentiator once adequacy and perceived fairness are achieved. The near-zero path coefficient ($\beta = -0.006$) and negligible effect size ($f^2 \approx 0.000$) empirically illustrate what may be termed a *hygiene saturation zone*: a structural condition in which financial incentives stabilise organisational equity but no longer generate performance variance.

This quantification of a hygiene threshold represents an important extension of Herzberg's framework. While Herzberg (1959) conceptually distinguished hygiene from motivator factors, empirical research has often treated remuneration effects inconsistently across contexts. By demonstrating that remuneration explains virtually none of the 72.3% variance accounted for in lecturer performance, while ability (ICT competence) and role perception (prophetic leadership) explain the majority, this study provides behavioural evidence that hygiene factors may lose explanatory power in post-reform, standardised public systems. In this respect, the findings extend those of Alrawahi et al. (2020), who observed similar patterns in hospital settings, by validating the hygiene saturation logic in an academic context.

Simultaneously, the study refines the MARS model by showing asymmetrical dominance among its components. In theory, performance emerges from the multiplicative interaction of Motivation, Ability, Role Perceptions, and Situational Factors (McShane & Von Glinow, 2021). However, the present findings suggest that when situational factors (remuneration structures) are institutionally fixed, and motivational variance is constrained, ability and role perception become the primary axes of differentiation. ICT competence, representing the ability dimension, explains the most significant proportion of performance variance ($f^2 = 1.567$), while prophetic leadership, shaping role perception, amplifies and contextualises that ability. Thus, the study demonstrates that MARS components do not always contribute symmetrically; their relative influence depends on institutional maturity and regulatory structure.

Moreover, the findings resonate with global scepticism regarding performance-based pay (PBP) regimes in public institutions. Aoki and Rawat (2020) argue that tightly regulated compensation systems often produce limited motivational elasticity. The present results empirically substantiate that claim within higher education, suggesting that once remuneration reaches adequacy under centralised regulation, its marginal productivity returns diminish substantially.

Conceptually, the integration of Herzberg and MARS in this study yields a layered explanatory architecture:

- 1) Situational Stabilisation (*Hygiene*): Remuneration ensures fairness and prevents dissatisfaction, but does not differentiate performance beyond thresholds.
- 2) Capability Differentiation (*Ability*): ICT competence becomes the principal driver of measurable productivity.
- 3) Normative Amplification (*Role Perception*): Prophetic leadership enhances the ethical meaning and alignment of technical competence.

This layered configuration suggests that sustainable lecturer performance in Islamic public higher education is structurally contingent upon the alignment of capability and moral purpose within a stable institutional baseline.

e. Policy Priorities and Strategic Implications

The theoretical configuration implies clear strategic priorities for institutional reform.

First, ICT capacity building should be institutionalised as a core structural investment. This policy includes systematic training in research software, bibliometric tools, digital pedagogy platforms, and data analytics infrastructure. In digitally mediated academic ecosystems, ability development yields significantly higher performance returns than marginal salary increments.

Second, prophetic leadership development should be embedded within governance reform. Structured workshops, mentoring systems, and value-based leadership training can strengthen role clarity, ethical alignment, and institutional trust thereby amplifying the impact of digital capability.

Third, remuneration policy should be repositioned as a fairness baseline rather than a primary performance lever. Maintaining transparency, equity, and procedural justice remains crucial; however, attempting to stimulate productivity primarily through incremental pay adjustments is unlikely to produce substantial gains in regulated systems.

Taken together, the findings indicate that sustainable productivity in Islamic public universities is more effectively achieved through the integration of capability enhancement and value-based leadership than through financial intensification alone. This insight contributes to broader debates on incentive design in public-sector organisations. It reinforces the argument that non-financial drivers may exert more substantial long-term performance effects once institutional equity is secured.

This study is among the first to empirically quantify what may be termed hygiene saturation in a regulated higher education system. While Herzberg's Two-Factor Theory conceptually distinguishes hygiene from motivator factors, prior empirical research has rarely measured the point at which remuneration ceases to explain performance in standardised public-sector environments. By demonstrating that remuneration contributes virtually zero variance ($\beta = -0.006; f^2 \approx 0.000$) in a model explaining 72.3% of lecturer performance, this study provides behavioural evidence of a threshold condition in which financial adequacy stabilises equity but ceases to differentiate productivity.

In doing so, the study moves beyond merely applying Herzberg's framework and instead operationalises and tests the boundary conditions of hygiene effects in a post-reform, centrally regulated academic system. This empirical identification of hygiene saturation extends prior findings from healthcare contexts (Alrawahi et al., 2020) into higher education. It offers quantitative support for global scepticism toward performance-based pay regimes in tightly regulated institutions (Aoki & Rawat, 2020).

Moreover, by embedding this threshold logic within the MARS behavioural architecture, the study advances theory by demonstrating that once situational stabilisers (remuneration) are normalised, performance variance shifts decisively toward ability-based and value-based determinants. This layered reconfiguration contributes a contextual refinement of both Herzberg's motivational structure and the MARS model in faith-informed public university systems.

Conclusion

This study demonstrates that lecturer performance in Indonesian Public Service Agency (BLU) universities is structurally driven not by financial incentives, but by the

interaction between digital capability and value-based leadership within a stabilised institutional environment. The integrative finding is clear: remuneration functions primarily as a hygiene factor ($\beta = -0.006, p = 0.886$), failing to differentiate lecturer performance once adequacy thresholds are met, with its contribution to explained variance effectively negligible (R^2 increment $< 0.5\%$). In contrast, ICT competence ($\beta = 0.725, f^2 = 1.567$) and prophetic leadership ($\beta = 0.244, f^2 = 0.116$) jointly explain 72.3% of the variance in lecturer performance through the MARS ability and role-perception pathways, respectively. This configuration validates Herzberg's distinction between hygiene and motivator mechanisms within an integrated behavioural framework.

Theoretically, this study makes three principal contributions. First, it provides one of the earliest empirical quantifications of Herzberg's hygiene threshold within Islamic higher education, extending the theory's applicability from industrial and corporate settings to regulated public universities. By identifying a hygiene saturation condition, where remuneration adequacy stabilises equity but ceases to generate productivity variance. The study operationalises Herzberg's conceptual distinction into a measurable institutional boundary. Second, it offers a novel operationalisation of the MARS model by explicitly distinguishing situational (remuneration), ability-based (ICT competence), and value-based role perception (prophetic leadership) determinants within a single structural model. The findings demonstrate that these components do not contribute symmetrically; instead, in standardised regulatory systems, explanatory dominance shifts toward capability and normative alignment. Third, the study contributes to global debates on performance management in public institutions by empirically confirming scepticism toward performance-based pay regimes (cf. Aoki & Rawat, 2020) while simultaneously highlighting digital competence as a universal driver of productivity in higher education amid Industry 4.0 transformations.

Strategically, the evidence suggests that BLU reform agendas must pivot away from remuneration-centric approaches and toward structural investments in capability and leadership. A forward-looking reform architecture may rest on three pillars. First, the establishment of a Digital Academy model, in which mandatory annual ICT certification, covering research software (EndNote, SPSS), bibliometric tools, and Learning Management System mastery is formally linked to promotion and career progression. Second, the development of a Prophetic Leadership Pipeline, embedding *ṣidq*, *tablīgh*, and *shūrā* values into faculty dean training programmes and structured mentorship systems to strengthen ethical governance and role clarity. Third, remuneration should be re-baselined as an equity floor, supported by transparent audit mechanisms, while incremental fiscal resources are strategically redirected toward digital infrastructure and professional capability development.

Taken together, these findings redefine higher education productivity beyond pay-based incentive logic toward a synergistic model of digital capability and ethical leadership. Sustainable academic performance in Islamic public universities arises not from salary escalation but from the alignment of technical competence and moral purpose within a stable institutional foundation.

Future research should employ longitudinal designs to examine the return on investment of structured ICT training, conduct cross-national comparisons across BLU-type systems (Malaysia, Turkey), and incorporate multi-source performance validation to strengthen causal inference. Such extensions will further clarify how hygiene saturation, digital transformation, and value-based leadership interact to shape academic productivity across diverse regulatory environments.

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