



Compliance as a Catalyst: How Regulatory Environment Moderates the Knowledge Management–Employee Performance Link in Emerging Market Banking

Richard Berimah Twum¹²³

¹ National Investment Bank PLC, Accra, Ghana

² TALI Graduate School, Dominion University College (now Southshore University College), Accra, Ghana

³ Department of Statistics, University of Cape Coast, Cape Coast, Ghana

Author Email: richardberimah@gmail.com

Abstract— In highly regulated emerging economies, Human Resource (HR) strategies face the dual challenge of fostering employee performance while ensuring regulatory compliance. Prevailing literature often treats regulation as a constraint; however, this study examines how the regulatory environment moderates the relationship between Knowledge Management Practices (KMP) and Employee Performance (EP) within Ghana's commercial banking sector. Drawing on the Ability-Motivation-Opportunity (AMO) framework and Institutional Theory, we conceptualize compliance as a potential catalyst for human capital effectiveness.

Approach: Using a quantitative cross-sectional survey of 310 banking professionals across ten commercial banks in Accra, Ghana, data were analyzed via Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4. The study employed rigorous robustness checks, including assessment for common method bias and predictive relevance (Q^2).

Findings: Results confirm that KMP significantly enhances EP ($\beta = 0.186$, $p = 0.007$). Critically, the regulatory environment positively moderates this relationship ($\beta = 0.101$, $p = 0.049$), indicating that supportive policy frameworks amplify the performance returns of knowledge investments. The direct effect of regulation on performance was non-significant, underscoring its role as a contextual enabler rather than a direct driver.

Originality: This study extends Strategic HRM literature by theorizing regulatory environment as a boundary condition for AMO-based HR practices. It offers an integrated AMO-Institutional perspective, demonstrating that "compliance-driven HR" can transform regulatory constraints into performance catalysts in emerging markets.

Practical Implications: HR leaders in regulated industries should align knowledge-sharing initiatives, training programs, and performance metrics with regulatory expectations. Policymakers are advised to design enabling regulations that support organizational learning and competency development.



Keywords: Knowledge Management; Employee Performance; Regulatory Environment; Strategic HRM; AMO Theory; Emerging Markets; Banking Sector; Ghana.

I. INTRODUCTION

The sustainability of competitive advantage in the global banking sector increasingly depends on the effective deployment of human capital (Boxall & Purcell, 2016). Within this context, Knowledge Management Practices (KMP) encompassing the creation, sharing, application, and retention of organizational knowledge are recognized as critical drivers of employee performance (EP) and organizational innovation (Alavi & Leidner, 2001; Nguyen & Nguyen, 2021). However, the translation of knowledge initiatives into measurable performance outcomes is not automatic; it is contingent upon the organizational and institutional context in which HR practices are embedded (Jackson et al., 2022).

In emerging economies such as Ghana, the banking sector operates within a stringent regulatory environment designed to ensure financial stability, consumer protection, and systemic integrity (Bank of Ghana, 2021). For HR practitioners, this creates a strategic tension: how to cultivate a high-performance knowledge culture while simultaneously meeting complex compliance obligations (Garcia & Martinez, 2023). Prevailing HRM literature often treats regulatory factors as external constraints or control variables, overlooking their potential role as strategic enablers that shape the effectiveness of internal human resource practices (Budhwar et al., 2023). Consequently, there is a scarcity of research investigating how external institutional pressures interact with internal knowledge strategies to influence employee outcomes in developing economies.

To address this gap, this study integrates the Ability-Motivation-Opportunity (AMO) framework (Appelbaum et al., 2000) with Institutional Theory (DiMaggio & Powell, 1983) to examine the moderating role of the regulatory environment on the KMP–EP relationship. The AMO framework posits that performance is a function of employees' Ability (skills/knowledge), Motivation (incentives), and Opportunity (participation/structure). We argue that a supportive regulatory environment enhances the "Opportunity" component by providing clarity, legitimacy, and structured pathways for knowledge application. Conversely, ambiguous or punitive regulations may constrain the utility of knowledge initiatives, even when ability and motivation are high.

Drawing on empirical data from 310 banking professionals in Ghana, this research asks: Under what regulatory conditions do knowledge management practices most effectively enhance employee performance? Our findings contribute to Strategic HRM literature in three ways: (1) by theorizing regulatory environment as a boundary condition for AMO-based HR practices; (2) by providing empirical evidence from an under-researched emerging market context; and (3) by offering a practical framework for "compliance-driven HR" that aligns talent development with institutional demands.

II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

II.1. KNOWLEDGE MANAGEMENT PRACTICES AND EMPLOYEE PERFORMANCE: AN AMO PERSPECTIVE

Knowledge Management Practices (KMP) are fundamentally HR interventions that build human capital. According to the AMO framework, KMP enhances the Ability of employees through knowledge acquisition and creation (training and learning), and the Opportunity to perform through knowledge sharing and application (collaborative structures) (Jiang et al., 2012). In the banking sector, where products are complex and customer needs are dynamic, employees who effectively access and apply knowledge demonstrate higher task proficiency and productivity (Opeke & Adelowo, 2020).

Empirical studies consistently link KMP to improved individual performance. For instance, Nguyen and Nguyen (2021) found that knowledge sharing significantly predicts task effectiveness in financial services. Similarly, Kianto et al. (2017) demonstrated that knowledge creation processes are positively associated with employee innovation and performance. Therefore, consistent with the RBV and AMO perspectives, we posit that internal knowledge capabilities are a primary driver of performance.

H1: Knowledge Management Practices have a positive and significant effect on Employee Performance.

II.II. THE REGULATORY ENVIRONMENT IN EMERGING MARKET BANKING

Institutional Theory suggests that organizations must align with external regulatory norms to gain legitimacy and access resources (DiMaggio & Powell, 1983). In Ghana, the Bank of Ghana (BoG) enforces prudential regulations, digital finance directives, and anti-money laundering policies (Bank of Ghana, 2021). While traditionally viewed as compliance burdens, recent scholarship suggests that clear regulatory frameworks can reduce uncertainty and standardize operational processes (Garcia & Martinez, 2023).

For HR managers, the regulatory environment defines the "rules of the game." Supportive policies (e.g., mandates for staff training on digital compliance) can provide the structure needed for knowledge initiatives to thrive. Conversely, restrictive or ambiguous policies may create cognitive load, diverting employee attention from performance tasks to mere compliance survival (Kroszner & Shiller, 2023). Thus, regulation is not merely a backdrop but an active contextual factor influencing HR outcomes.

II.III. THE MODERATING ROLE OF REGULATORY ENVIRONMENT

Contingency Theory posits that there is no universal best practice; HR effectiveness depends on the fit between internal practices and external conditions (Donaldson, 2001). Integrating this with the AMO framework, we argue that the Opportunity to apply knowledge is contingent upon regulatory clarity.

When the regulatory environment is supportive (high policy clarity, enabling incentives), it amplifies the Ability gained through KMP. For example, if regulations mandate continuous professional development (CPD), knowledge sharing becomes not just beneficial but essential for career progression, thereby strengthening the KMP–Performance link. Conversely, in environments with high regulatory ambiguity, employees may hesitate to apply new knowledge for fear of non-compliance, attenuating the performance benefits of KMP (Ghorbani et al., 2021).

This moderation effect suggests that KMP yields the highest performance returns when aligned with a conducive regulatory framework. This aligns with recent findings by Budhwar et al. (2023), who noted that institutional voids in emerging markets can weaken HR interventions unless mitigated by strong institutional support.

H2: The regulatory environment positively moderates the relationship between Knowledge Management Practices and Employee Performance, such that the relationship is stronger when regulatory support is high.

III. METHODOLOGY

III.I. RESEARCH DESIGN AND PHILOSOPHICAL STANCE

This study employed a quantitative, cross-sectional survey design grounded in a post-positivist philosophical stance. This approach is appropriate for testing theory-driven hypotheses about relationships between latent constructs (Knowledge Management Practices, Regulatory Environment, Employee Performance) within a specific organizational context (Edwards &

Berry, 2010). While cross-sectional designs limit causal inference, they are widely accepted in strategic HRM research for examining moderated relationships when complemented by robust statistical controls and theoretical justification (Aguinis et al., 2021).

III.II. POPULATION, SAMPLING, AND DATA COLLECTION

Target Population: The study targeted employees of commercial banks operating within the Accra Metropolitan District of Ghana. Accra was selected as it hosts the headquarters of most commercial banks and represents the epicenter of regulatory and knowledge-intensive banking activities in Ghana.

Sampling Procedure: A stratified random sampling technique was employed to ensure representation across:

Departments: Operations, Retail Banking, Credit/Risk, Human Resources, and IT/Digital Services.

Hierarchical Levels: Junior staff, officers, middle management, and senior management.

Sample Size Justification: Using G*Power 3.1, an a priori power analysis for multiple regression (testing moderation) with a medium effect size ($f^2 = 0.15$), $\alpha = 0.05$, and power = 0.80 indicated a minimum required sample of 103. To account for potential non-response and ensure robustness for PLS-SEM (which benefits from larger samples for stable path estimates), we targeted 300+ responses. A total of 310 valid responses were obtained from employees across ten commercial banks (including Ecobank, Stanbic Bank, and Consolidated Bank Ghana), achieving a 98.41% response rate.

Sample Demographics: The sample comprised 58% male and 42% female respondents. In terms of tenure, 56.1% had 5–10 years of banking experience, 28.4% had 1–4 years, and 15.5% had over 10 years. Hierarchical distribution: 45% junior staff, 35% officers, 15% middle management, and 5% senior management.

III.III. MEASUREMENT INSTRUMENTS

All constructs were measured using multi-item scales adapted from validated prior studies, using a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

Knowledge Management Practices (KMP): Measured as a second-order construct with six first-order dimensions: Knowledge Creation, Acquisition, Sharing, Application, Codification, and Retention. Items were adapted from Kianto (2008) and Nonaka & Takeuchi (1995). Example item: "Employees in my bank are encouraged to share knowledge and best practices with colleagues."

Employee Performance (EP): Assessed using the individual work performance questionnaire adapted from Koopmans et al. (2019), focusing on task performance and contextual performance. Example item: "I adequately complete assigned duties."

Regulatory Environment (RE): Measured using items capturing perceived regulatory clarity, supportiveness, and enablement, adapted from Garcia & Martinez (2023) and institutional theory scales (e.g., Kostova & Roth, 2002). Example item: "Government policies in the banking sector provide clear guidelines that help us perform our jobs effectively."

Control Variables: Following best practices in HRM research (e.g., Jiang et al., 2012), we controlled for gender, age, tenure, and hierarchical level, as these demographic factors may influence both knowledge behaviors and performance perceptions.

III.IV. DATA ANALYSIS STRATEGY



Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4. PLS-SEM was chosen for three reasons: (1) its suitability for predictive-oriented research and theory development; (2) its ability to handle complex models with second-order constructs and interaction terms; and (3) its robustness with non-normal data common in survey research (Hair et al., 2019).

ANALYSIS PROCEEDED IN TWO STAGES

Measurement Model Assessment: Evaluated for

Reliability: Cronbach's Alpha ($\alpha > 0.70$) and Composite Reliability (CR > 0.70).

Convergent Validity: Average Variance Extracted (AVE > 0.50).

Discriminant Validity: Fornell-Larcker criterion and Heterotrait-Monotrait (HTMT) ratio (< 0.85) (Henseler et al., 2015).

STRUCTURAL MODEL ASSESSMENT

Path Coefficients: Evaluated using bootstrapping with 5,000 subsamples to generate t-statistics and confidence intervals.

Model Fit: Assessed via Standardized Root Mean Square Residual (SRMR) and Normal Fit Index (NFI).

Predictive Relevance: Evaluated using Stone-Geisser's Q^2 via blindfolding.

Effect Size: Calculated f^2 to assess the practical significance of predictors.

Addressing Common Method Bias (CMB): Given the single-source, cross-sectional design, we employed multiple procedural and statistical remedies:

Procedural: Ensured respondent anonymity, used psychologically proximal item ordering, and included reverse-coded items.

Statistical: Conducted Harman's single-factor test (unrotated PCA) and a full collinearity assessment using Variance Inflation Factors (VIF). All VIF values were below the conservative threshold of 3.3, indicating CMB is not a critical threat (Kock, 2015).

Testing Moderation: The interaction term (KMP \times Regulatory Environment) was created using the product indicator approach in SmartPLS 4. This approach is recommended for PLS-SEM moderation analysis as it properly accounts for measurement error in latent variables (Henseler & Chin, 2010). Simple slope analysis was conducted to interpret the nature of the significant interaction.

Endogeneity Check: To address potential endogeneity concerns (e.g., omitted variables, reverse causality), we employed the Gaussian Copula approach available in SmartPLS 4 (Park & Gupta, 2012). The non-significant copula terms suggested that endogeneity does not bias our key findings.

IV. RESULTS

IV.I. PRELIMINARY ANALYSES

A total of 310 valid responses were retained for analysis from employees across ten commercial banks in Accra, Ghana, achieving a 98.41% response rate. The sample comprised 58% male and 42% female respondents, with 56.1% having 5–10 years of banking experience. Hierarchical distribution: 45% junior staff, 35% officers, 15% middle management, and 5% senior management.

Common Method Bias (CMB) Assessment: Given the cross-sectional, single-source design, we assessed CMB using Harman's single-factor test. The unrotated exploratory factor analysis revealed that the first factor accounted for 38.7% of the variance, below the 50% threshold, suggesting CMB is not pervasive. Additionally, a full collinearity assessment using Variance Inflation Factors (VIF) yielded values ranging from 1.89 to 2.94, all below the conservative threshold of 3.3 (Kock, 2015), confirming that CMB does not critically threaten the validity of our findings.

IV.II. MEASUREMENT MODEL ASSESSMENT

The measurement model was evaluated for reliability, convergent validity, and discriminant validity using PLS-SEM guidelines (Hair et al., 2019).

Reliability and Convergent Validity: As shown in Table 4.1, all constructs demonstrated high internal consistency. Cronbach's Alpha values ranged from 0.893 to 0.959, and Composite Reliability (CR) values ranged from 0.897 to 0.966, exceeding the 0.70 threshold. Convergent validity was confirmed as all Average Variance Extracted (AVE) values exceeded 0.50 (range: 0.573–0.730).

Table 4.1: Measurement Model Assessment

Construct	Cronbach's Alpha	Composite Reliability	AVE
Employee Performance (EP)	0.893	0.897	0.573
Government Policies (GP)	0.955	0.957	0.712
Knowledge Acquisition (KAC)	0.926	0.936	0.628
Knowledge Application (KAP)	0.935	0.940	0.638
Knowledge Creation (KC)	0.937	0.943	0.637
Knowledge Codification (KCO)	0.957	0.964	0.724
Knowledge Retention (KR)	0.959	0.962	0.730
Knowledge Sharing (KS)	0.923	0.930	0.592

Note: KMP is modeled as a second-order reflective-reflective construct comprising the six first-order dimensions above.

Discriminant Validity: Discriminant validity was assessed using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio.

Fornell-Larcker Criterion: As shown in Table 4.2, the square root of each construct's AVE (diagonal, bold) exceeded its correlations with other constructs, satisfying the Fornell-Larcker criterion.

HTMT Ratio: As shown in Table 4.3, most HTMT ratios were below the conservative threshold of 0.85 (Henseler et al., 2015). However, one value (KS → KR = 0.894) slightly exceeded this threshold, suggesting potential overlap between the Knowledge

Sharing and Knowledge Retention dimensions. Given that these are first-order dimensions of the higher-order KMP construct, this overlap is theoretically acceptable and does not threaten the distinctiveness of the main study constructs (EP, GP, and the second-order KMP) (Hair et al., 2019).

Table 4.2: Fornell-Larcker Criterion

Construct	EP	GP	KAC	KAP	KC	KCO	KR	KS
EP	0.757							
GP	0.384	0.844						
KAC	0.381	0.479	0.793					
KAP	0.426	0.433	0.682	0.799				
KC	0.364	0.526	0.781	0.747	0.798			
KCO	0.363	0.524	0.721	0.685	0.741	0.851		
KR	0.415	0.542	0.762	0.710	0.776	0.817	0.854	
KS	0.463	0.545	0.722	0.699	0.833	0.748	0.731	0.769

Note: Bold diagonal values are square roots of AVE; off-diagonal values are construct correlations.

Table 4.3: HTMT Ratios

Construct	EP	GP	KAC	KAP	KC	KCO	KR
GP	0.401						
KAC	0.397	0.504					
KAP	0.448	0.460	0.718				
KC	0.381	0.557	0.826	0.792			
KCO	0.378	0.545	0.763	0.723	0.783		
KR	0.436	0.569	0.795	0.746	0.814	0.857	
KS	0.494	0.580	0.779	0.752	0.894	0.801	0.780

IV.III. STRUCTURAL MODEL AND HYPOTHESIS TESTING

The structural model was assessed using bootstrapping with 5,000 subsamples. The model explained a meaningful proportion of variance in Employee Performance. Path coefficients and hypothesis tests are presented in Table 4.4.

Direct Effects (H1): Knowledge Management Practices had a positive and significant direct effect on Employee Performance ($\beta = 0.186, t = 2.687, p = 0.007$). This supports H1, confirming that KMP enhances employee performance in Ghana's banking sector.

Moderating Effect (H2): The interaction term ($KMP \times$ Government Policies) showed a positive and significant effect on Employee Performance ($\beta = 0.101, t = 1.897, p = 0.049$). This supports H2, indicating that government policies significantly moderate the KMP–EP relationship.

Direct Effect of Government Policies: The direct path from Government Policies to Employee Performance was not significant ($\beta = 0.099, p = 0.083$), suggesting policies function primarily as a contextual moderator rather than a direct driver of performance.

Table 4.4: Structural Model Results and Hypothesis Testing

Hypothesis	Path Relationship	β	Std. Dev	t-value	p-value	Decision
H1	KMP \rightarrow EP	0.186	0.069	2.687	0.007	Supported
H2	KMP \times GP \rightarrow EP	0.101	0.053	1.897	0.049	Supported
–	GP \rightarrow EP (Direct)	0.099	0.057	1.739	0.083	Not Supported
–	KMP \rightarrow KAC (Second-order loading)	0.865	0.017	51.035	0.000	–

Note: Bootstrapping with 5,000 subsamples. GP = Government Policies (Regulatory Environment). The path "KMP \rightarrow KAC" represents the loading of the first-order dimension (Knowledge Acquisition) on the second-order KMP construct and is not a hypothesis test.

IV.IV. ANALYSIS OF MODERATION: INTERPRETATION

The positive and significant coefficient of the interaction term ($\beta = 0.101, p = 0.049$) indicates that the relationship between Knowledge Management Practices and Employee Performance is contingent upon the regulatory environment.

High Policy Support: When perceived government policy support is high, the positive impact of KMP on Employee Performance is amplified. In environments where regulatory frameworks are clear, enabling, and aligned with organizational learning, knowledge initiatives yield higher performance returns.

Low Policy Support: When policy support is low (e.g., regulatory ambiguity, high compliance burden without enablement), the efficacy of KMP is attenuated. Employees may struggle to apply knowledge effectively when external rules are perceived as constraints rather than enablers.

This pattern aligns with Contingency Theory and the AMO framework: the "Opportunity" to apply knowledge (via KMP) is enhanced when the institutional context (regulatory environment) provides clarity and legitimacy.



IV.V. ROBUSTNESS AND ADDITIONAL CHECKS

Control Variables: Demographic controls (gender, tenure, hierarchy) were included in the structural model. Tenure and hierarchical level showed small positive associations with EP, but did not alter the significance of the main hypothesized paths.

Predictive Relevance: Stone-Geisser's Q^2 via blindfolding confirmed the model's predictive relevance for Employee Performance ($Q^2 > 0$).

Model Fit: The standardized root mean square residual (SRMR) was within acceptable limits (< 0.08), indicating good model fit.

V. DISCUSSION

V.I. INTERPRETATION OF KEY FINDINGS

This study set out to examine how the regulatory environment influences the relationship between Knowledge Management Practices (KMP) and Employee Performance (EP) in Ghana's banking sector. The findings provide robust empirical support for both hypothesized relationships.

First, consistent with **H1**, Knowledge Management Practices significantly enhance Employee Performance ($\beta = 0.186$, $p = 0.007$). This confirms that internal human capital interventions—specifically those focused on knowledge creation, sharing, and retention—are fundamental drivers of individual productivity in the banking sector. This aligns with the **Ability** component of the AMO framework, suggesting that equipping employees with knowledge resources directly improves their capacity to perform tasks effectively.

Second, and more critically, **H2** was supported ($\beta = 0.101$, $p = 0.049$), indicating that the regulatory environment positively moderates this relationship. The positive interaction term reveals that the performance returns on knowledge investments are not uniform; they are contingent upon the external institutional context. Specifically, when government policies are perceived as supportive and clear, the impact of KMP on performance is amplified. Conversely, in environments characterized by regulatory ambiguity or high compliance burdens without enablement, the efficacy of knowledge practices is attenuated.

Notably, the direct effect of Government Policies on Employee Performance was non-significant ($\beta = 0.099$, $p = 0.083$). This finding is theoretically significant: it suggests that regulation alone does not drive performance. Rather, policies function as a **boundary condition** or contextual enabler. They create the "Opportunity" structure (within the AMO framework) within which knowledge capabilities can be effectively deployed. This distinguishes our study from prior research that often treats policy as a direct antecedent of performance (Kinyua, 2016), offering a more nuanced view of regulation as a strategic catalyst rather than a standalone driver.

VI. CONCLUSION

This study establishes that government policies play a critical moderating role in the relationship between Knowledge Management Practices and Employee Performance in Ghana's banking sector. While KMP directly drives performance, this effect is significantly stronger when supported by a conducive policy environment. The research underscores the necessity of integrating external institutional factors into internal knowledge management frameworks.



By reframing regulation from a constraint to a catalyst, this study offers a strategic roadmap for banking leadership. To achieve sustainable competitive advantage, banks must transition from passive regulatory adherence to active strategic enablement. When knowledge assets are leveraged in alignment with regulatory frameworks, institutions can mitigate risk while maximizing the return on human capital investments. Ultimately, in emerging market banking, compliance and performance are not trade-offs; when managed strategically, they are synergistic drivers of organizational growth.

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