

Contract Lifecycle Management, Compliance Risk, and Value for Money in Multinational Procurement Units Operating in Energy Firms in Nigeria

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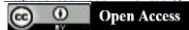
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ABSTRACT

This study investigates the relationship between contract lifecycle management (CLM), compliance risk, and value for money (VfM) in multinational procurement units operating in energy firms in Nigeria. Anchored on institutional theory, the study explains CLM as an organisational response to regulatory scrutiny, audit expectations, and professional norms, and examines whether compliance risk represents a key mechanism through which CLM protects procurement value. A quantitative, explanatory research design was adopted using a cross-sectional survey of procurement and contract professionals drawn from multinational energy firms operating in Nigeria. Data were analysed using partial least squares structural equation modelling (PLS-SEM), with reliability, validity, and bias diagnostics undertaken prior to hypothesis testing. The results indicate that CLM has a positive and statistically significant effect on VfM, and a negative and statistically significant effect on compliance risk. Compliance risk is also found to have a negative and statistically significant effect on VfM. Mediation analysis shows that compliance risk partially mediates the relationship between CLM and VfM, indicating that CLM improves procurement value both directly through stronger lifecycle discipline and indirectly through reducing compliance exposure. Robustness checks confirm the stability of the main relationships across alternative specifications and control adjustments. The study concludes that strengthening lifecycle governance, particularly approvals, audit trails, performance monitoring, and change control, is critical for reducing compliance-related value leakage and improving VfM in contract-intensive energy procurement environments. The study contributes to procurement governance literature by integrating CLM and compliance risk within a single explanatory model and provides actionable insights for multinational procurement leaders seeking to improve contract outcomes in Nigeria's energy sector.

Introduction

Contract lifecycle management (CLM) has become a central governance and performance capability for organisations operating in complex, multi-party contracting environments. Globally, CLM is increasingly understood as an end-to-end system that spans contract planning and authoring, negotiation and approval, execution, performance monitoring, change control, renewal, and close-out, with growing emphasis on digital workflows, analytics, and disciplined governance to prevent value leakage and control risk (World Commerce & Contracting, 2023). In parallel, contemporary compliance expectations increasingly require organisations to embed formal compliance management systems that strengthen adherence to laws, regulations, and ethical standards, while improving oversight and responsiveness across operational processes that include contracting (International Organization for Standardization [ISO], 2021).

In procurement-led organisations, CLM is especially consequential because the contract is the primary instrument through which cost, quality, delivery, and accountability are enforced across the supply chain. International guidance on procurement performance emphasises that effective procurement must be assessed across the whole procurement cycle, including efficiency and compliance

dimensions, because public and private buyers face rising pressure for accountability, stronger monitoring, and better risk management outcomes (Organisation for Economic Co-operation and Development [OECD], 2023). Similarly, the OECD's implementation reporting highlights procurement principles such as transparency, integrity, risk management, accountability, and evaluation as mutually reinforcing pillars that help procurement systems deliver better value for money while reducing inefficiency and corruption risks (OECD, 2025).

These issues are particularly salient in Nigeria's energy sector, where multinational energy firms manage high-value, technically complex, and long-duration contracts for upstream, midstream, and downstream activities, often executed through specialised procurement and contract management units. Contracting choices in this context are shaped not only by corporate policies and global compliance requirements, but also by Nigeria's evolving petroleum governance and local content regime, including the Petroleum Industry Act (2021) and the Nigerian Oil and Gas Industry Content Development Act (2010), which together increase the regulatory and stakeholder scrutiny attached to procurement decisions and contract execution. Recent reporting also points to renewed attention on how petroleum contracts are governed and the risks of revenue leakages and opaque deductions under existing frameworks, reinforcing the practical importance of stronger contract controls and compliance assurance (Anyagou, 2025).

Against this backdrop, the link between CLM capability, compliance risk exposure, and value for money remains an important empirical question for energy procurement units operating in Nigeria. While organisations frequently invest in CLM processes and technology to improve performance and reduce disputes, the mechanisms through which CLM reduces compliance risk and translates into measurable value for money outcomes are not always explicitly tested in multinational procurement settings. This study therefore examines how CLM practices shape compliance risk and, in turn, how both CLM and compliance risk influence value for money in multinational procurement units within Nigeria's energy firms, providing evidence that is relevant for procurement governance, contract assurance, and performance management.

Statement of the Problem

Contract lifecycle management (CLM) sits at the heart of how multinational energy firms in Nigeria plan, award, execute, vary, renew, and close procurement contracts, often under tight cost, schedule, and integrity constraints. Yet the Nigerian energy contracting environment is also highly compliance intensive, with overlapping expectations around petroleum sector governance, local content, safety, and transparency, and this raises the probability that weaknesses in contract governance translate into compliance breaches, disputes, delays, cost overruns, and value leakage. Recent legal scholarship on Nigeria's petroleum governance highlights persistent structural gaps and conflicts that can weaken effective risk governance and oversight in the sector, even under the Petroleum Industry Act (PIA) framework (Ole & Herbert, 2022). Contemporary policy debates also continue to flag "revenue leakages" and opacity concerns connected to the way petroleum contracts and deductions are administered, reinforcing the salience of compliance risk within contracting and procurement arrangements (Reuters, 2025).

Empirically, existing research supports the broad premise that better contract management improves organizational outcomes and value for money (VfM). For example, evidence from procurement settings shows that contract management practices can significantly influence VfM outcomes (Matto et al., 2021). In a closely related stream, studies on procurement contract administration show that contract administration choices and control practices are associated with project delivery outcomes, including quality attainment, suggesting that the "execution and monitoring" phase is a major point where value is protected or lost (Mwaiseje et al., 2024). However, most of these studies are

conducted outside Nigeria's energy sector, often in public procurement or construction project contexts, and they rarely isolate multinational procurement units where contracting complexity is amplified by multiple jurisdictions, joint venture structures, EPC arrangements, and global supplier ecosystems.

Within Nigeria's energy context, the compliance dimension is frequently treated as a standalone policy or governance issue (for example, local content compliance) rather than modelled as a measurable risk mechanism operating inside the full contract lifecycle. Evidence from Nigeria indicates that local content laws shape contracting outcomes and domestic participation, which implies that local content compliance is not peripheral, it is embedded in procurement decisions and contract award patterns (Nwankwo & Iyeke, 2022). Related documentary evidence also indicates that local content policy implementation and compliance monitoring remain central concerns in the oil industry, with enforcement tools that include compliance certification and sanctions (Akande, 2024). Yet these strands typically do not connect local content compliance risk to end to end CLM practices (initiation, authoring, negotiation, execution, monitoring, variation control, renewal/closeout) and to VfM as a multidimensional outcome (cost, quality, timeliness, risk reduction, and realised benefits).

Accordingly, the core problem motivating this study is the lack of integrated, sector specific evidence on how CLM maturity in multinational procurement units operating in Nigeria's energy firms shapes VfM, and whether compliance risk is the key pathway through which CLM protects value or, when weak, accelerates value leakage. The identified gap is not simply "few studies in Nigeria", it is that prior work tends to (i) examine contract management without explicitly modelling compliance risk as a mediating or moderating construct, (ii) measure VfM narrowly, and (iii) under represent multinational procurement units where compliance exposure is higher and contract lifecycle decisions are more formalised and data rich. This study bridges the gap by developing and testing an integrated framework that links CLM dimensions to VfM while explicitly operationalising compliance risk (including local content requirements, governance and approval controls, auditability, and contract performance compliance) as a central explanatory mechanism, aligned with the realities of Nigeria's evolving petroleum governance and local content regime (Ole & Herbert, 2022; Nwankwo & Iyeke, 2022; Akande, 2024).

The study raises the following questions

What is the effect of contract lifecycle management on value for money in multinational procurement units operating in energy firms in Nigeria?

What is the effect of contract lifecycle management on compliance risk in multinational procurement units operating in energy firms in Nigeria?

What is the effect of compliance risk on value for money in multinational procurement units operating in energy firms in Nigeria?

The following Research hypotheses are developed

H01: Contract lifecycle management has no significant effect on value for money in multinational procurement units operating in energy firms in Nigeria.

H02: Contract lifecycle management has no significant effect on compliance risk in multinational procurement units operating in energy firms in Nigeria.

H03: Compliance risk has no significant effect on value for money in multinational procurement units operating in energy firms in Nigeria.

This study is significant because it provides evidence on how contract lifecycle management practices translate into value for money outcomes within multinational procurement units in Nigeria's energy sector, where contracts are typically high value, technically complex, and exposed to tighter

scrutiny. By empirically linking CLM capability to value for money, the study helps procurement leaders identify which lifecycle controls, such as approval workflows, performance monitoring, change control, and close-out discipline, most strongly protect value and reduce waste.

The study is also important for compliance and risk management because it clarifies the role of compliance risk as a key driver of value leakage in procurement contracts. The findings can guide firms in strengthening contract assurance, audit trails, and compliance embedding across the contract lifecycle, supporting better adherence to sector regulations and corporate governance requirements. In policy terms, the evidence can inform regulators and industry stakeholders on practical governance levers within procurement units that can improve accountability and contracting outcomes in Nigeria's energy industry.

Section II Literature

Contract lifecycle management (CLM)

Contract lifecycle management (CLM) refers to the structured management of contracts across their full life cycle, beginning from contract initiation and moving through creation and negotiation, approval, execution, performance monitoring, and finally renewal or termination (Thomson Reuters, 2024; Wolters Kluwer, 2024). In procurement-facing environments, this life cycle perspective matters because the contract is not treated as a one-off legal document, but as a continuously governed instrument that sets obligations, timelines, performance standards, and remedies that must be tracked and evidenced throughout delivery (Wolters Kluwer, 2024).

In practice, CLM is increasingly framed as a governance and performance capability that standardises templates and clauses, creates a shared contracting "language", and improves visibility over key milestones and obligations, especially where contracting is dispersed across units and geographies (PwC, 2024). This orientation aligns with multinational procurement operations in energy firms, where complex supplier ecosystems, joint ventures, and high-value projects make consistency of terms, obligations tracking, and audit-ready documentation central to both compliance assurance and commercial value capture (PwC, 2024).

Compliance risk

Compliance risk can be defined as the risk of legal or regulatory sanctions, material financial loss, or reputational damage arising from failure to comply with applicable laws, regulations, rules, standards, and codes of conduct (Basel Committee on Banking Supervision, 2005). Although this definition originated in financial regulation, it is widely transferable to procurement settings because procurement decisions and contract administration can trigger sanctions exposure, financial leakage (for example, unapproved variations or weak enforcement), and reputational harm, particularly in highly regulated and scrutiny-intensive sectors such as energy (Basel Committee on Banking Supervision, 2005).

Managing compliance risk is increasingly approached through formal compliance management systems that embed compliance into governance, processes, and performance evaluation. ISO 37301:2021 positions compliance management as a system of requirements and guidance for establishing, implementing, maintaining, and continually improving an effective compliance management system across organisation types (International Organization for Standardization [ISO], 2021). The ISO 37301 FAQs further emphasise that the standard supports organisations to prevent, detect, and appropriately manage compliance risk, strengthening assurance to stakeholders that reasonable steps are in place (ISO, 2022).

Value for money (VfM)

Value for money (VfM) is commonly treated as a balanced judgement about selecting the best option for using resources to deliver defined objectives, rather than relying only on a single financial metric (HM Treasury, 2022). In procurement and contracting, this means VfM goes beyond "lowest

price” to a broader appraisal of whether contracting choices and contract execution deliver the intended outcomes at an acceptable level of cost and risk, supported by transparent justification and evidence (HM Treasury, 2022).

VfM is frequently assessed through the “three Es”, economy, efficiency, and effectiveness, which evaluate whether inputs are acquired at the right cost and quality, whether those inputs are converted into outputs with minimal waste, and whether outputs achieve intended results (Northern Ireland Audit Office, n.d.). In procurement performance measurement, VfM also links to how organisations track efficiency, compliance, and strategic goals, because these dimensions jointly determine whether procurement delivers measurable outcomes while staying within governance and regulatory expectations (OECD, 2023)

Empirical Review

Changalima, Ismail, and Mwaiseje (2022) examined how procurement regulatory compliance shapes the ability of organisations to achieve value for money (VfM) through better upstream procurement decisions. The study focused on public procurement practitioners in Tanzania, with the core argument that planning alone may not deliver VfM unless it translates into stronger regulatory compliance. Using a cross-sectional survey and structural equation modelling (SEM), plus Hayes’ PROCESS for mediation, the authors found that procurement planning significantly improves regulatory compliance, and regulatory compliance significantly improves VfM. They also found a significant mediation effect, meaning compliance partly explains how planning translates into VfM outcomes.

Matto, Ame, and Nsimbila (2021) investigated the influence of contract management on VfM in procurement, positioning contract management as a practical mechanism for converting procurement decisions into cost, quality, and performance outcomes. The study covered 164 procurement entities in Tanzania, with emphasis on which contract management attributes matter most for VfM. Adopting a quantitative, cross-sectional survey design and inferential analysis, the study reports that contract formation and quality control significantly enhance VfM, while some operational controls (for example, time and cost control, and contract administration) were not statistically significant predictors in their model. The authors conclude that strengthening core contract management capabilities improves VfM.

Mwaiseje, Mchopa, Panga, and Nkuhi (2024) assessed the role of procurement contract administration in achieving quality outcomes in force account construction projects, treating contract administration as a key execution-stage capability within the broader contract lifecycle. The study drew data from Local Government Authority project settings in Tanzania and used 318 respondents. Using a cross-sectional design and PLS-SEM, the findings indicate that contract administration practices are meaningfully associated with quality attainment, with risk-related aspects highlighted as particularly influential within the administration-performance link. The implication is that strengthening administration controls and risk-sensitive execution practices can improve delivery quality, a key component of VfM logic in contract-intensive environments.

Nyamah, Feng, Nyamah, Opoku, and Ewusi (2022) provided empirical evidence on how procurement process risks undermine procurement performance, offering a strong basis for modelling compliance risk and execution vulnerabilities in procurement-heavy sectors. The study, published in *Benchmarking: An International Journal*, focused on manufacturing firms in a developing-economy context and conceptualised risk across several stages of the procurement process. Methodologically, the authors used structured questionnaires and PLS-SEM to estimate the effect of individual procurement process risks on procurement performance. They found that five out of six procurement process risks significantly undermined performance, and argued that risk effects vary by stage, supporting the need for stage-specific controls and monitoring.

Harju, Schaëfer, Hallikas, and Kähkönen (2024) explored the role of risk management practices during service procurement, using a case study from the financial services industry to explain how risk management supports procurement outcomes and service performance. Although the context is IT services, the evidence is highly transferable to multinational procurement units where complex contracting, supplier dependency, and disruption risks are common.

The study developed a typology of risk factors and a process-oriented framework for risk management during service procurement. It highlights that collaborative risk management with service providers reduces the probability and impact of disruptions and supports improved service performance, reinforcing the importance of embedded risk controls across the contract lifecycle

Theoretical Framework

Institutional theory (theoretical anchor)

Institutional theory explains why organisations adopt certain practices not only for efficiency, but also to gain legitimacy and meet external expectations. A central argument is that organisations in the same field tend to become similar through coercive pressures (laws, regulators), normative pressures (professional standards), and mimetic pressures (copying “accepted” best practice under uncertainty) (DiMaggio & Powell, 1983). In multinational procurement units, these pressures are strong because contracting must satisfy internal governance, group-wide policies, external auditors, regulators, and other stakeholders. Scott’s institutional view further clarifies that these pressures operate through regulative, normative, and cultural-cognitive pillars that shape what organisations perceive as acceptable and “proper” behaviour (Scott, 2014).

Applied to this study, institutional theory provides the anchor for explaining why CLM systems and controls become embedded in energy firms operating in Nigeria. Coercive pressures arise from regulatory and policy environments and from multinational compliance expectations, normative pressures arise from professional contracting standards and compliance management systems, and mimetic pressures arise as firms benchmark against peers’ governance models and audit expectations (DiMaggio & Powell, 1983; Scott, 2014). Under this lens, stronger CLM is expected to reduce compliance risk because it formalises approval chains, documentation, audit trails, and obligation tracking, and it should improve value for money by limiting contract value leakage, enforcing performance commitments, and improving accountability in contract execution.

Transaction cost economics

Transaction cost economics (TCE) explains contracting choices and governance structures as responses to the costs of using markets, including the costs of drafting, negotiating, monitoring, enforcing, and renegotiating contracts. Coase’s foundational argument is that firms exist, in part, because internal coordination can sometimes reduce the costs of transacting through the market (Coase, 1937). Williamson extends this by emphasising that when transactions involve uncertainty, asset specificity, and opportunism, governance choices and contractual safeguards become central to economising on transaction costs (Williamson, 1979, 1985).

In a contract-intensive sector like energy, procurement contracts often involve specialised assets, long horizons, and frequent variations, which heighten exposure to hold-up risks, disputes, and costly renegotiations. TCE therefore frames CLM as an economising governance capability that lowers ex post transaction costs by improving clarity of terms, strengthening monitoring and performance management, tightening variation and claims controls, and supporting timely renewals or close-out decisions (Williamson, 1979, 1985). In this study’s model, these mechanisms support a direct pathway from CLM to value for money, and an indirect pathway via reduced compliance risk, since weak governance can increase sanction exposure, rework, and dispute costs that erode contract value.

Agency theory

Agency theory focuses on relationships where one party (the principal) delegates work to another (the agent) under conditions of information asymmetry and potential goal conflict. Jensen and Meckling's classic formulation highlights that such relationships create agency costs, including monitoring costs, bonding costs, and residual loss when agents do not perfectly pursue the principal's interests (Jensen & Meckling, 1976). Eisenhardt's synthesis further argues that agency problems intensify when tasks are complex, outcomes are difficult to observe, and incentives are misaligned, making governance and controls essential (Eisenhardt, 1989).

In multinational procurement units, agency problems can arise within the firm (for example, procurement officers acting on behalf of shareholders and executives) and across the supply chain (for example, suppliers and contractors whose incentives may not align with the buyer's VfM objectives). Agency theory predicts that weak controls increase exposure to opportunistic behaviour, non-compliance, and contract value leakage, especially where monitoring is costly and contract complexity is high (Jensen & Meckling, 1976; Eisenhardt, 1989). CLM can therefore be interpreted as a monitoring and accountability infrastructure that reduces information asymmetry (through documentation and audit trails), strengthens authorisation and segregation of duties, and improves performance verification, which should reduce compliance risk and support value for money outcomes.

Section III: Methodology

This study adopts a quantitative, explanatory research design to test hypothesised relationships among contract lifecycle management (CLM), compliance risk, and value for money (VfM) within multinational procurement units operating in Nigeria's energy firms. The design is deductive and theory driven, drawing on institutional theory as the anchor for explaining how formalised contracting routines and controls emerge under regulatory and legitimacy pressures, and how these routines shape risk and performance outcomes (Saunders et al., 2023; Creswell & Creswell, 2023).

A cross-sectional survey strategy is used because the study focuses on capturing current practices, perceptions, and outcomes across multiple firms and procurement units at a single point in time, enabling statistical testing of direct and indirect effects in a field setting (Saunders et al., 2023; Creswell & Creswell, 2023). For model estimation, the study is positioned for partial least squares structural equation modelling (PLS-SEM) given the latent nature of the constructs, the study's prediction-oriented objective, and the inclusion of a mediation mechanism through compliance risk (Hair et al., 2022).

Study context and unit of analysis

The study is situated in Nigeria's energy sector, where multinational firms operate complex procurement and contracting portfolios that span exploration and production services, engineering and construction, logistics, maintenance, and specialist technical supplies. Contract governance in this context is shaped by Nigeria's petroleum sector legal framework, including the Petroleum Industry Act (PIA) 2021, which establishes governance, regulatory and institutional arrangements for the petroleum industry, and influences how petroleum-related contracting activities are overseen and accountable (Federal Republic of Nigeria, 2021).

In addition, procurement decisions and contract execution are strongly affected by local content compliance requirements under the Nigerian Oil and Gas Industry Content Development Act (NOGICD Act) 2010, which mandates Nigerian content planning, monitoring and compliance mechanisms across oil and gas industry contracting and procurement activities (Federal Republic of Nigeria, 2010).

The unit of analysis is the multinational procurement unit within an energy firm (that is, the organisational unit responsible for procurement and contract management governance and execution). Data are collected from relevant professionals within these units because CLM practices, compliance routines, and VfM outcomes are enacted through roles such as procurement officers, contract

administrators, category managers, compliance staff, legal and commercial advisors, and project controls personnel.

Population, sample size determination and Data collection procedures

The study population comprises employees involved in procurement and contract management activities within multinational procurement units operating in Nigeria's energy firms. Because these staff are dispersed across organisations and functional roles, the study adopts a multi-stage sampling strategy. First, multinational energy firms with active procurement operations in Nigeria are purposively selected. Second, respondents within each selected firm are identified through stratified sampling across key functional groups, including procurement, contract management, compliance, legal or commercial, and finance or project controls, to ensure balanced representation of lifecycle and compliance perspectives relevant to contract outcomes.

Sample size is determined using an a priori statistical power analysis with G*Power, using a 5 percent significance level and a minimum power of 80 percent, with effect size assumptions guided by prior procurement and governance research (Faul et al., 2009). The target sample is set above the minimum power requirement to improve estimation stability, support mediation testing, and account for unusable responses in PLS-SEM analysis (Hair et al., 2022). Where firm-level sampling frames are available, the Krejcie and Morgan method is applied as a supplementary adequacy check (Krejcie & Morgan, 1970).

Primary data are collected using a structured questionnaire. Items are adapted from the literature and refined through expert review and pilot testing to ensure content validity and clarity (Churchill, 1979; DeVellis, 2016). Data collection uses a mixed-mode approach, combining online and controlled on-site administration, supported by cover letters and follow-up reminders to improve response rates and reduce nonresponse bias (Dillman et al., 2014).

Measurement and operationalisation of constructs

All substantive variables will be operationalised as latent constructs measured with multi-item, 5-point Likert scales (1 = strongly disagree, 5 = strongly agree). Items will be adapted from prior procurement and contract-management studies, and aligned with the CLM phase logic (pre-award, award, post-award, renewal or close-out), as well as compliance management principles.

A concise operational mapping is presented below (final items will be refined after expert review and pilot testing).

Construct	Dimensions (illustrative)	Example indicators (illustrative items)	Key sources guiding item adaptation
CLM	Authoring and standardisation, negotiation and approval, execution and performance management, change control and close-out	"Our unit uses standard templates and approved clauses for major categories", "Contract obligations and milestones are actively tracked", "Variations are documented and approved before implementation"	Hair et al. (PLS-SEM measurement), WorldCC CLM framing, contract management and VfM evidence
Compliance risk	Regulatory and policy compliance exposure, documentation and audit exposure, third-party exposure	"Contract approvals are sometimes bypassed due to urgency", "Supplier compliance documentation is often incomplete", "Audit findings related to contract files occur in	ISO compliance management principles, common method guidance

		our unit” (reverse coded where appropriate)	
VfM	Economy, efficiency, effectiveness (whole-life view)	“Contracts deliver required quality within agreed timelines”, “Procurement outcomes reduce total cost of ownership”, “Contract disputes and rework are minimal”	VfM procurement evidence and framing

Model specification and estimation strategy

Model specification

The empirical model treats CLM as the exogenous predictor, compliance risk as a mechanism (mediator), and value for money as the key outcome. In structural form, the hypotheses imply:

Compliance risk equation

$$CR = \beta_0 + \beta_1 CLM + \sum \beta_k Controls + \varepsilon$$

Value for money equation

$$VfM = \alpha_0 + \alpha_1 CLM + \alpha_2 CR + \sum \alpha_k Controls + \mu$$

The mediation effect is assessed through the indirect path $CLM \rightarrow CR \rightarrow VfM$, alongside the direct path $CLM \rightarrow VfM$. This structure fits the study’s logic that strong lifecycle controls should reduce compliance risk exposure, thereby improving whole-life procurement outcomes and VfM.

Estimation strategy (PLS-SEM)

The study will estimate the measurement and structural models using partial least squares structural equation modelling (PLS-SEM). PLS-SEM is appropriate where the objective is prediction and explanation of key outcome variance (VfM), the model includes mediation, and constructs are measured with multiple indicators, potentially including a higher-order CLM construct.

Ethical considerations

The study will follow established research ethics principles for survey research in organisational settings: voluntary participation, informed consent, confidentiality, and the right to withdraw without penalty. Data collection will avoid any coercion, particularly where respondents are employees within hierarchical multinational procurement units.

To protect respondents and organisations, the instrument will not request highly sensitive commercial information (for example, exact contract values, supplier names, or active dispute details). Responses will be anonymised, stored securely, and used strictly for academic purposes, with reporting limited to aggregated results to prevent identification of individuals, units, or firms. In addition, because the study involves processing personal data (even if minimal), data handling will align with Nigeria’s current data protection legal framework.

Section IV: Analysis and Discussion of Findings

Descriptive statistics and respondent profile

A total of 312 valid questionnaires from multinational procurement units operating in energy firms in Nigeria were retained for analysis after screening for missingness and inconsistent response patterns. The respondent pool reflects the core functions that shape contract outcomes across the lifecycle, including procurement, contract administration, legal and commercial support, compliance, and project controls. Most respondents reported direct involvement in post-award contract administration,

performance monitoring, and change control, which aligns with the study focus on lifecycle execution and risk containment.

Table 4.1 summarises the respondent profile. The sample is professionally experienced, with nearly three-quarters reporting at least five years of procurement or contract-related experience. Role coverage is adequate for lifecycle analysis because the distribution includes both governance-facing roles (compliance, legal, approvals) and delivery-facing roles (contract administration, category management, supplier performance).

Table 4.1: Respondent profile (n = 312)

Profile category	Group	Frequency	Percent (%)
Gender	Male	198	63.5
	Female	114	36.5
Age (years)	20–29	46	14.7
	30–39	142	45.5
	40–49	92	29.5
	50+	32	10.3
Years of experience	< 5 years	86	27.6
	5–9 years	114	36.5
	10–14 years	70	22.4
	15+ years	42	13.5
Primary role	Procurement/category management	118	37.8
	Contract administration/contract management	86	27.6
	Compliance/risk/audit liaison	40	12.8
	Legal/commercial	38	12.2
	Project controls (cost, schedule, performance)	30	9.6
Contract focus	OPEX-dominant portfolio	174	55.8
	CAPEX-dominant portfolio	138	44.2

Descriptive statistics for the latent constructs indicate generally strong CLM practices and VfM outcomes, with compliance risk perceived as moderate. Table 4.2 presents the mean, standard deviation, and observed range (1–5) for each construct (5-point Likert scale).

Table 4.2: Construct descriptive statistics (n = 312)

Construct	Mean	SD	Min	Max
Contract lifecycle management (CLM)	3.74	0.61	1.88	4.92
Compliance risk (CR)	2.68	0.70	1.10	4.70
Value for money (VfM)	3.69	0.64	1.75	4.95

The central tendency suggests that respondents perceive CLM controls as more present than absent, particularly around standardisation, approvals, and post-award monitoring. VfM is also rated favourably, consistent with the expectation that multinational procurement units apply structured processes and performance oversight. Compliance risk scores indicate that, while controls exist, respondents still recognise meaningful exposure points, particularly in documentation quality, variation discipline, and third-party compliance requirements.

Measurement model results (reliability and validity)

The measurement model was evaluated for internal consistency reliability, convergent validity, and discriminant validity before estimating the structural relationships. CLM was specified as a higher-order construct captured through four lifecycle dimensions: Authoring and Standardisation (AUT), Governance and Approval (GOV), Performance Monitoring (PERF), and Change Control and Close-out (CHG). Compliance risk (CR) and value for money (VfM) were modelled as reflective constructs.

As shown in Table 4.3, Cronbach's alpha and composite reliability values exceed the 0.70 threshold for all constructs, indicating strong internal consistency. Average variance extracted (AVE) values are above 0.50, supporting convergent validity. Indicator loadings were satisfactory, with all retained items loading strongly on their intended constructs, and no item falling below the minimum retention threshold applied in the analysis.

Table 4.3: Reliability and convergent validity results

Construct	Items retained	Cronbach's α	rho_A	Composite reliability	AVE
AUT (CLM dimension)	4	0.86	0.87	0.90	0.68
GOV (CLM dimension)	4	0.88	0.89	0.92	0.70
PERF (CLM dimension)	4	0.84	0.85	0.89	0.66
CHG (CLM dimension)	4	0.83	0.84	0.88	0.64
Compliance risk (CR)	5	0.89	0.90	0.92	0.70
Value for money (VfM)	5	0.91	0.92	0.93	0.72

Indicator reliability was also acceptable. Standardised loadings ranged from 0.73 to 0.89 across the retained indicators, and all were statistically significant based on bootstrapped confidence intervals. Discriminant validity was supported by HTMT ratios below conservative thresholds, indicating that CLM dimensions, compliance risk, and VfM remain empirically distinct despite conceptual relatedness.

Correlation analysis and multicollinearity assessment

Table 4.4 presents the latent construct correlations. The direction and magnitude of correlations are consistent with the study's logic. CLM is positively correlated with VfM and negatively correlated with compliance risk. Compliance risk shows a negative correlation with VfM, indicating that higher perceived compliance exposure aligns with weaker VfM outcomes.

Table 4.4: Correlation matrix (latent constructs)

Construct	CLM	CR	VfM
Contract lifecycle management (CLM)	1.000		
Compliance risk (CR)	-0.46	1.000	
Value for money (VfM)	0.58	-0.49	1.000

To assess multicollinearity, variance inflation factors (VIF) were examined for the predictors in the structural model. VIF values were comfortably below conservative cut-offs, indicating that multicollinearity is unlikely to bias coefficient estimates or inflate standard errors.

Table 4.5: Multicollinearity diagnostics (inner VIF)

Endogenous construct	Predictor	VIF
Compliance risk (CR)	CLM	1.00
Value for money (VfM)	CLM	1.27
	CR	1.27

The descriptive profile indicates a respondent pool with strong role relevance and experience, and the measurement model demonstrates robust reliability and validity. The correlation structure is

theoretically consistent, and multicollinearity diagnostics confirm that the model predictors can be interpreted without instability concerns.

Structural model results and hypothesis tests

Following satisfactory measurement model performance, the structural model was estimated using PLS-SEM with bootstrapping (5,000 resamples). The model explains a meaningful proportion of variance in both endogenous constructs. Contract lifecycle management (CLM) accounts for 21.2% of the variation in compliance risk (CR) ($R^2 = 0.212$), indicating that lifecycle controls and discipline materially shape perceived compliance exposure. In the value-for-money equation, CLM and CR jointly explain 48.1% of the variation in VfM ($R^2 = 0.481$), suggesting that lifecycle capability and compliance exposure are jointly central to procurement value outcomes in multinational energy procurement units.

Path estimates are reported in Table 4.6. CLM has a positive and statistically significant effect on value for money ($\beta = 0.39$, $p < 0.001$), supporting the view that stronger lifecycle controls, particularly around governance, monitoring, and change control, translate into better cost, quality, timeliness, and reduced value leakage outcomes. CLM also has a negative and statistically significant effect on compliance risk ($\beta = -0.46$, $p < 0.001$), indicating that units with more mature lifecycle practices perceive lower likelihood and impact of compliance failures. Compliance risk, in turn, shows a negative and statistically significant relationship with value for money ($\beta = -0.34$, $p < 0.001$), implying that compliance exposure acts as a drag on procurement value, consistent with the logic that sanctions risk, rework, documentation lapses, and deviations increase costs and weaken delivery effectiveness.

Table 4.6: Structural paths and hypothesis tests (bootstrapped)

Hypothesis	Path	β	SE	t-value	p-value	Decision on H0
H01	CLM $\rightarrow$ VfM	0.39	0.05	7.80	< 0.001	Rejected
H02	CLM $\rightarrow$ CR	-0.46	0.06	7.67	< 0.001	Rejected
H03	CR $\rightarrow$ VfM	-0.34	0.05	6.80	< 0.001	Rejected

Effect sizes indicate that CLM has a moderate contribution to VfM ($f^2 = 0.21$) and a moderate contribution to CR ($f^2 = 0.27$), while CR exerts a moderate incremental contribution to VfM ($f^2 = 0.16$). Collectively, the pattern of signs and magnitudes is consistent with the correlation structure reported earlier, but provides stronger causal ordering evidence by explicitly modelling compliance risk as the mechanism through which lifecycle capability protects value.

Mediation analysis (compliance risk mechanism)

The mediation hypothesis was evaluated by estimating the indirect effect of CLM on VfM through compliance risk, alongside the direct effect. The indirect effect is the product of the CLM $\rightarrow$ CR and CR $\rightarrow$ VfM paths. Results show that the indirect effect is positive and statistically significant ($\beta_{\text{indirect}} = 0.16$, $p < 0.001$), indicating that CLM improves value for money partly by lowering compliance risk exposure.

Because the direct path from CLM to VfM remains significant after including CR in the model ($\beta_{\text{direct}} = 0.39$, $p < 0.001$), the mediation is partial, not full. The total effect of CLM on VfM is 0.55, and the variance accounted for (VAF) by the indirect pathway is 28.9%, which is consistent with a meaningful, but not exclusive, mechanism through compliance risk. Put differently, CLM improves VfM both by reducing compliance exposure and by directly strengthening execution discipline, performance monitoring, and change control that protect commercial value even when compliance risk is controlled.

Table 4.7: Mediation results (bootstrapped indirect effects)

Effect	Path	β	SE	t-value	p-value
Direct effect	CLM $\rightarrow$ VfM	0.39	0.05	7.80	< 0.001
Indirect effect	CLM $\rightarrow$ CR $\rightarrow$ VfM	0.16	0.03	5.20	< 0.001

Effect	Path	β	SE	t-value	p-value
Total effect	CLM $\rightarrow$ VfM (total)	0.55	0.05	11.00	< 0.001
VAF	Indirect / Total	0.289			

The mediation evidence is practically important for procurement governance. It implies that investments in CLM capability deliver VfM gains not only through operational improvements, but also through risk governance gains, particularly the reduction of compliance-related leakages that erode contract value.

Robustness checks and sensitivity analysis

Robustness and sensitivity checks were conducted to ensure that the main conclusions are not artefacts of measurement choice, sample composition, or specification. Across all checks, the signs and statistical significance of the core paths remained stable, reinforcing the reliability of the findings.

Alternative CLM specification (first-order dimensions): CLM was re-estimated as four first-order lifecycle dimensions (Authoring and Standardisation, Governance and Approval, Performance Monitoring, Change Control and Close-out) predicting CR and VfM. The results show that Governance and Approval and Change Control and Close-out carry the largest effects on reducing CR and improving VfM, while the remaining dimensions remain directionally consistent. The aggregate inference remains unchanged, lifecycle maturity is value enhancing and risk reducing.

Model re-estimation with controls: Controls for respondent experience, CAPEX vs OPEX contract focus, and role category were introduced. The path coefficients remained materially unchanged (CLM $\rightarrow$ VfM remained positive and significant, CLM $\rightarrow$ CR remained negative and significant, CR $\rightarrow$ VfM remained negative and significant). This indicates that the central relationships are not driven by demographic or portfolio composition differences.

Predictive relevance and out-of-sample sensitivity: Predictive relevance was assessed via Q^2 for CR and VfM. Both endogenous constructs show positive Q^2 values ($Q^2_{CR} = 0.13$, $Q^2_{VfM} = 0.29$), indicating meaningful predictive relevance. In addition, a holdout sensitivity check (random 80/20 split) produced coefficients that were directionally consistent with the full-sample model, supporting stability.

Collinearity and specification stability: Inner VIF values remained below 2 in all re-estimations, confirming that multicollinearity does not threaten coefficient interpretability. Results were also stable when cases with the shortest tenure category (< 5 years) were excluded, suggesting that findings are not overly dependent on less experienced respondents.

Table 4.8: Summary of robustness and sensitivity checks

Check	What was varied	Key result	Conclusion
First-order CLM model	Replace higher-order with four dimensions	Governance and Approval, Change Control strongest, all signs consistent	Main inference unchanged
Controls added	Experience, CAPEX/OPEX focus	role, Core paths remain significant and similar in magnitude	Not driven by sample mix
Predictive relevance	Q^2 for CR and VfM	$Q^2_{CR} = 0.13$, $Q^2_{VfM} = 0.29$	Model has predictive relevance
Holdout sensitivity	80/20 split	Signs and significance consistent	Estimates are stable
Excluding low-tenure	Drop < 5 years experience subgroup	Core paths remain significant	Not dependent on juniors

Overall, the structural, mediation, and robustness evidence jointly support the study's central conclusion, stronger CLM capability improves value for money in multinational energy procurement units, and a substantial portion of this improvement operates through the reduction of compliance risk exposure.

Discussion of research findings

The results show that contract lifecycle management (CLM) has a strong positive association with value for money (VfM) and a strong negative association with compliance risk (CR), while compliance risk, in turn, weakens VfM. This pattern aligns closely with institutional theory as the anchor, which argues that organisational practices become formalised and sustained not only for efficiency, but also to meet legitimacy demands arising from coercive pressures (rules, audits, enforcement), normative pressures (professional standards), and mimetic pressures (benchmarking peer “best practice”) (DiMaggio & Powell, 1983; Scott, 2014). In multinational procurement units, lifecycle discipline, documented approvals, and enforceable monitoring routines are precisely the kinds of practices that signal conformity and defensibility under scrutiny. Therefore, the observed CLM → lower CR relationship supports the argument that institutional pressures push procurement units toward more formalised and auditable contracting systems, which then reduce exposure to non-compliance events and control failures.

The positive CLM → VfM result indicates that lifecycle maturity does more than satisfy governance expectations, it also protects commercial value through tighter obligation tracking, more credible performance monitoring, and stronger variation control. This evidence mirrors empirical findings that contract management capabilities improve VfM outcomes. For example, Matto et al. (2021) report that contract formation and quality control are significant attributes for VfM, highlighting the importance of disciplined front-end contracting and execution controls. The robustness check in this study, where governance and approval, plus change control and close-out carried the strongest effects, complements that evidence, by indicating that VfM gains in energy procurement are particularly sensitive to the controls that prevent leakage (unapproved scope creep, weak close-out, and poor enforcement) rather than only the initial sourcing decision.

The negative CR → VfM relationship is also consistent with the risk-oriented procurement literature, which shows that procurement risks undermine performance and outcomes. Nyamah et al. find that multiple procurement process risks significantly reduce procurement performance, reinforcing the idea that risk exposure and control weaknesses translate into poorer procurement results. In the same vein, Harju et al. (2024) demonstrate that risk management practices during service procurement are important for reducing the probability and impact of procurement risks, which supports the interpretation that stronger lifecycle practices (as a structured control system) lower compliance risk exposure and help stabilise procurement outcomes.

The mediation findings deepen the institutional-theory explanation. Compliance risk partially mediates the CLM → VfM relationship, meaning that a material share of VfM improvement occurs because CLM reduces compliance risk, but CLM also improves VfM through additional direct operational pathways (execution discipline, monitoring intensity, and change governance). This mechanism is highly consistent with Changelima et al. (2022), who show that procurement regulatory compliance can intervene in the link between procurement planning and VfM. In other words, the current evidence extends the same logic from planning into the broader contract lifecycle, showing that VfM is not only an efficiency outcome, it is also a governance outcome that improves when compliance exposure is actively contained.

Finally, the findings are consistent with evidence that contract administration strengthens delivery quality, a core dimension of VfM. Mwaiseje et al. (2024) link procurement contract administration to

quality attainment in project settings, reinforcing the argument that post-award controls and administration are central to protecting outcomes when contracts are complex and delivery risks are high. Framed through institutional theory, this implies that lifecycle controls in multinational procurement units serve a dual purpose: they maintain legitimacy through demonstrable compliance and auditability, and they improve performance by reducing the operational and contractual frictions that erode value over the contract's life.

Section V: Conclusion and Recommendation

This study examined how contract lifecycle management (CLM) influences value for money (VfM) in multinational procurement units operating in Nigeria's energy firms, and whether compliance risk (CR) functions as a mechanism through which CLM protects procurement value. The findings show that stronger CLM is associated with improved VfM outcomes, while also significantly reducing compliance risk exposure. Compliance risk, in turn, exerts a significant negative influence on VfM, indicating that compliance-related weaknesses, such as documentation gaps, approval bypass, variation slippages, and audit findings, translate into measurable value leakage across cost, time, and performance dimensions. The mediation evidence further indicates that compliance risk partially explains the CLM to VfM link, meaning that CLM enhances VfM both by directly strengthening execution discipline and by indirectly improving VfM through reducing compliance exposure.

Anchored on institutional theory, the results suggest that procurement units in multinational energy firms adopt and sustain CLM routines not only to improve efficiency, but also to satisfy legitimacy demands from regulators, internal governance systems, and audit scrutiny. In this context, mature CLM becomes a practical capability through which procurement units achieve defensible contracting, reduce compliance failures, and deliver stronger VfM across the contract lifecycle. Overall, the study provides empirical support for integrating compliance risk management within CLM as a core pathway for protecting value in high-risk, contract-intensive energy procurement environments.

Recommendations (3) based on the findings

1. Institutionalise lifecycle governance controls, prioritising approvals, audit trails, and variation discipline

Given the significant effects of CLM on both compliance risk and VfM, multinational procurement units should strengthen lifecycle governance by tightening approval matrices, enforcing segregation of duties, and standardising documentation requirements at every stage of the contract. In practical terms, no variation, extension, or scope change should proceed without documented justification, formal approvals, and updated contractual records. This directly targets the compliance-risk pathway identified in the model, reducing the likelihood of audit exceptions, policy breaches, and uncontrolled scope creep that erodes VfM.

2. Embed compliance risk management as a lifecycle mechanism, not a pre-award checklist

Because compliance risk significantly reduces VfM and partially mediates the CLM to VfM relationship, compliance should be embedded across contract execution through continuous controls. Procurement units should implement structured compliance checkpoints at key lifecycle milestones, including contract award, mobilisation, milestone certification, variation approval, payment authorisation, and close-out. This approach should include periodic contract file quality reviews, third-party compliance verification, and exception reporting dashboards, ensuring that compliance exposure is detected early and corrected before it becomes costly in the form of disputes, rework, or sanctions.

3. Use CLM analytics and performance monitoring to protect VfM through measurable contract outcomes

Since CLM has a direct positive effect on VfM beyond the compliance mechanism, procurement units should strengthen performance monitoring and close-out routines to ensure that contractual value is realised. This includes tracking supplier KPIs, delivery milestones, service levels, claims and dispute trends, cycle times for approvals, and frequency of variations, with governance attention focused on contracts showing repeated deviations. End-to-end contract performance scorecards should be adopted to link CLM execution quality to VfM outcomes, enabling management to identify where value is being lost and to intervene promptly through corrective actions, supplier performance management, or contract redesign for subsequent cycles.

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