



## Organizational Structures and Strategic Performance in Petroleum Exploration and Production E&P Companies: A Meta-Analytic Assessment

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### Abstract

The petroleum exploration and production (E&P) sector functions in a highly complex operational, regulatory, and financial environment. An effective organizational structure is crucial to managerial efficiency, operational accountability, and corporate sustainability. This paper examines the organizational configurations of independent and integrated E&P companies, analyzing the functions of exploration, drilling and production, marketing, and administration. The role of the accounting function as a governance mechanism is discussed in depth, with a focus on revenue management, joint interest accounting, property accounting, and regulatory compliance. The study also considers the role of industry associations, professional bodies, and governmental regulators in shaping operational standards and financial practices. Drawing on established petroleum accounting frameworks and industry practices, the paper argues that an integrated approach to organizational design emphasizing cross-departmental collaboration, clear authority delegation, and robust financial systems is essential for efficiency, transparency, and long-term competitiveness.

**Keywords:** petroleum accounting, organizational structure, E&P companies, integrated oil companies, corporate governance, joint interest accounting

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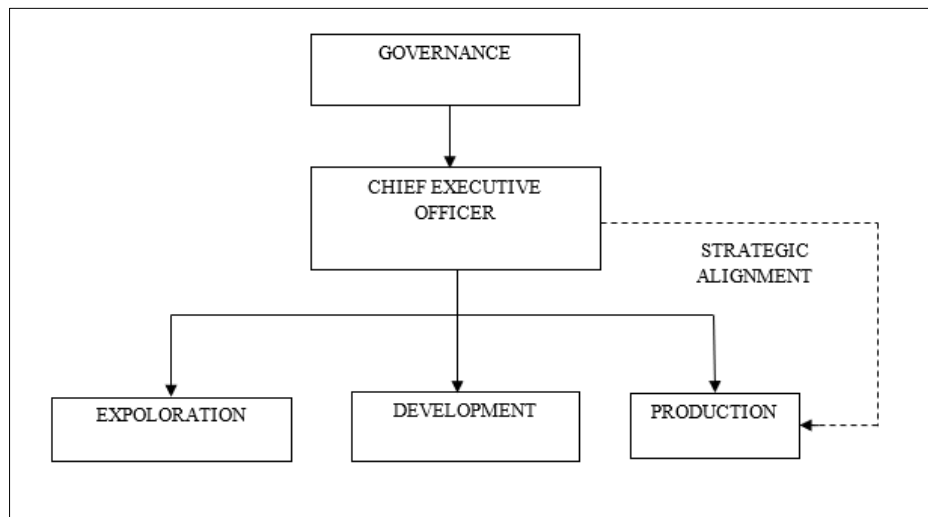
### Introduction

Petroleum exploration and production (E&P) companies operate in an industry defined by a distinctive combination of technical complexity, regulatory scrutiny, financial intensity, and geopolitical sensitivity. In such an environment, organizational structure is not merely an administrative consideration but a core determinant of strategic capability and governance effectiveness (Osho, 2024) <sup>[33]</sup>. Structural arrangements define how authority is delegated, responsibilities are assigned, and accountability is enforced. These arrangements shape the flow of operational and financial information, the allocation of resources, and the firm's ability to adapt to shifting market, environmental, and political conditions.

Unlike many other sectors, upstream petroleum operations involve extensive capital investment in high-risk projects, often in remote or challenging environments, where geological uncertainty intersects with volatile commodity markets. As such, E&P companies must balance the imperatives of resource development, environmental stewardship, fiscal responsibility, and regulatory compliance (International Energy Agency [IEA], 2023) <sup>[5]</sup>. Within this dynamic environment, organizational structure is not merely a formal arrangement of roles and reporting lines; it is a strategic asset that can directly influence operational performance, corporate governance, and long-term competitiveness. The structure of an E&P organization determines how authority is delegated, responsibilities are assigned, and accountability is enforced (Petroleum Accounting, 5th ed.) <sup>[6]</sup>. It shapes the channels through which operational and financial information flows, allocating resources between competing projects and coordinating highly specialized technical teams. A well-designed structure fosters agility, enabling rapid decision-making in response to changes in oil prices, technological developments, or regulatory frameworks (Uwakonye, Osho, Adams, & Haj, 2020) <sup>[52]</sup>. Conversely, ineffective organizational design can create bottlenecks, slow down decision-making, and hinder the company's ability to capitalize on new opportunities or mitigate emerging risks (Osho, 2019) <sup>[40]</sup>.

E&P companies face unique managerial challenges compared to firms in other industries. Integrating diverse disciplines in geology, petroleum engineering, land management, marketing, accounting, environmental science, and legal compliance requires a framework that facilitates interdepartmental collaboration without diluting accountability. Integrating diverse disciplines in geology, petroleum engineering, land management, marketing, accounting, environmental science, and legal compliance requires a framework that facilitates interdepartmental collaboration without diluting accountability (Osho, 2005)<sup>[41]</sup>. The geographical dispersion of activities further complicates management, particularly for companies with operations spanning multiple regions or countries. In such cases, decisions about centralization versus decentralization become pivotal: centralized structures can ensure uniform standards and cost control, while decentralized arrangements may better accommodate local conditions and faster operational responses (Energy Information Administration [EIA], 2024)<sup>[4]</sup>. Furthermore, Figure 1 illustrates the organizational structure commonly found in petroleum exploration and production (E&P) companies. It highlights how governance oversees executive leadership and

functional divisions such as Exploration, Development, and Production. It also emphasizes strategic alignment as an ongoing challenge, ensuring coherence between governance objectives and operational activities. The petroleum sector's susceptibility to geopolitical influences also reinforces the strategic role of organizational design. Shifts in government policy, international sanctions, or changes in taxation regimes can alter investment viability overnight. Similarly, environmental regulations, such as emissions limits and decommissioning obligations, necessitate specialized compliance functions integrated into corporate governance frameworks (Ojumu *et al.*, 2026)<sup>[22]</sup>. Similarly, environmental regulations, ranging from emissions limits to decommissioning obligations, require specialized compliance functions integrated into corporate governance frameworks (Osho, 2025)<sup>[31]</sup>. Organizational resilience in the face of such challenges depends on having clearly defined roles, flexible decision-making mechanisms, and transparent channels for information exchange (American Petroleum Institute [API], 2023)<sup>[2]</sup>. In this context, the organizational structure of E&P companies serves both operational and governance functions.



**Fig 1:** Challenges of Functional Divisions, Governance, and Strategic Alignment

E&P companies face unique managerial challenges compared to firms in other industries. Integrating diverse disciplines in geology, petroleum engineering, land management, marketing, accounting, environmental science, and legal compliance requires a framework that facilitates interdepartmental collaboration without diluting accountability. The geographical dispersion of activities further complicates management, particularly for companies with operations spanning multiple regions or countries. In such cases, decisions about centralization versus decentralization become pivotal: centralized structures can ensure uniform standards and cost control, while decentralized arrangements may better accommodate local conditions and faster operational responses (Energy Information Administration [EIA], 2024)<sup>[4]</sup>.

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emissions limits to decommissioning obligations, necessitate specialized compliance functions integrated into corporate governance frameworks (Osho, 2025)<sup>[31]</sup>. Organizational resilience in the face of such challenges depends on having clearly defined roles, flexible decision-making mechanisms, and transparent channels for information exchange (American Petroleum Institute [API], 2023)<sup>[2]</sup>. In this context, the organizational structure of E&P companies serves both operational and governance functions. From an operational standpoint, it aligns technical capabilities with strategic priorities, ensuring that exploration, drilling, production, marketing, and administrative support are coordinated effectively (Osho *et al.*, 2005)<sup>[25]</sup>. From a governance perspective, it embeds financial control mechanisms, particularly through the accounting function, which provides transparency to investors, regulators, and joint venture partners (Council of Petroleum Accountants Societies [COPAS], 2023)<sup>[3]</sup>.

This research study provides a scholarly examination of the organization of E&P companies, distinguishing between

independent producers, which typically focus on upstream activities, and integrated oil companies, which operate across the whole petroleum value chain. It analyzes the internal functional divisions that drive upstream petroleum operations, including exploration, drilling and production, marketing, and administrative departments. Special emphasis is placed on the accounting function as the operational backbone of governance and financial oversight, given its central role in ensuring regulatory compliance, managing joint venture relationships, and providing data for informed strategic decision-making (Ojumu & Osho, 2023). By framing organizational structure as a strategic enabler and a governance tool, this study contributes to the broader discourse on how E&P firms can enhance operational efficiency, mitigate risks, and maintain competitiveness in an increasingly complex global energy landscape.

#### Independent vs. Integrated E&P Companies

Petroleum exploration and production (E&P) companies can be categorized into two main types: independent producers and integrated oil companies. Independent producers focus primarily on upstream operations, such as exploration, drilling, and production, while avoiding downstream activities like refining, transportation, and retail distribution. This narrower focus allows them to maintain leaner organizational structures. Still, it also increases their vulnerability to oil price fluctuations, as they cannot offset losses in one segment with gains in another (Inkpen & Moffett, 2017; Osho, 2025) <sup>[11, 31]</sup>. In contrast, integrated companies operate across the entire petroleum value chain. Their size and the diversity of their operations necessitate more complex governance structures, broader authority delegation, and more sophisticated coordination systems. The global spread of operations, exposure to multiple regulatory frameworks, and technical diversity further complicate structural design, often creating challenges in achieving consistent performance and efficiency across business units (Grant & Cibin, 2019; Tordo *et al.*, 2011) <sup>[10, 49]</sup>.

E&P firms, regardless of size, typically organize around several functional divisions that support specialization but can inadvertently create silos and hinder coordination. The exploration division identifies, evaluates, and acquires mineral rights. Geological and Geophysical (G&G) teams conduct subsurface mapping and seismic analysis, while land management units negotiate leases and contracts. The primary challenge for this division is balancing the uncertainty inherent in exploration activities with the financial discipline expected by corporate executives and investors (Yergin, 2020) <sup>[50]</sup>.

The drilling and production division, often categorized as petroleum engineering, manages field development and well operations. Subspecialties include reservoir engineering, which maximizes hydrocarbon recovery, production engineering, which optimizes well performance, and exploitation engineering, which identifies future development opportunities. Integrating technical expertise with cost efficiency and safety standards is challenging in complex environments such as offshore deepwater and unconventional shale fields (Osmundsen *et al.*, 2015; Osho & Oloyede, 2024; Osho *et al.*, 2005; Osho, Nazemzadeh & Loera, 2005) <sup>[44, 33, 25, 39]</sup>.

The marketing division handles sales of crude oil and natural gas. Oil is commonly marketed through short-term contracts, while gas sales have increasingly moved toward direct agreements with industrial and utility customers. This

division's major challenge lies in reconciling production variability with sales commitments and managing exposure to volatile market conditions (Papadakis & Barwise, 2012) <sup>[45]</sup>.

The administrative division provides essential organizational support functions, including human resources, finance, information technology, and legal services. Larger firms often maintain specialized treasury and tax units to manage complex international operations. However, administrative structures can sometimes become overly bureaucratic, slowing decision-making and reducing organizational agility (Lozano, 2018; Ward & Osho, 2006) <sup>[13, 51]</sup>.

The accounting function is central to governance by ensuring transparency, financial discipline, and regulatory compliance. It encompasses general accounting, joint interest accounting, property and revenue accounting, accounts payable, and tax functions (Osho, 2025) <sup>[31]</sup>. Given the capital-intensive, joint-venture-driven nature of E&P projects, reliable accounting is crucial to maintaining investor trust and ensuring effective cost control. However, challenges persist in harmonizing reporting across jurisdictions, managing joint venture disputes, and ensuring timely financial disclosures (Marcel, 2006; Stevens, 2008; Nwankwo & Osho, 2010) <sup>[14, 48, 15]</sup>.

In addition to internal structures, external associations and regulatory oversight shape organizational effectiveness. Professional bodies such as the Council of Petroleum Accountants Societies (COPAS), the American Association of Professional Landmen (AAPL), the American Petroleum Institute (API), and the Society of Petroleum Engineers (SPE) provide industry standards, technical training, and best practice guidelines. Regulatory authorities, including the Bureau of Ocean Energy Management (BOEM), state-level commissions, and the U.S. Energy Information Administration (EIA), establish operational rules governing exploration rights, environmental compliance, and reporting requirements. Navigating these frameworks requires significant organizational capacity and often prompts the creation of specialized compliance functions (Parshall, 2021) <sup>[46]</sup>.

Finally, the strategic implications of organizational structure are substantial. Well-integrated structures improve operational efficiency, enhance compliance, and strengthen profitability. Participation in professional associations further legitimizes governance practices and boosts investor confidence. However, challenges such as siloed divisions, excessive bureaucracy, and slow decision-making often reduce adaptability. In the current era of digitalization and energy transition, firms must evolve toward more flexible and collaborative models that integrate sustainability goals with traditional petroleum operations (Kolk & Pinkse, 2008; Ernst & Young, 2020; Osho, 2026) <sup>[12, 9, 28]</sup>.

## 2. Literature Review

The petroleum exploration and production (E&P) industry is characterized by high capital intensity, technological complexity, and exposure to volatile external environments. The organizational structure of E&P companies has therefore evolved into a critical determinant of operational efficiency, governance effectiveness, and strategic resilience. In particular, the division of responsibilities across functional units, the governance mechanisms overseeing decision-making, and the strategic choices arising from structural arrangements have received scholarly attention. This review

synthesizes existing studies on the challenges and issues surrounding organizational structures in petroleum and energy production (E&P) firms, highlighting functional divisions, governance concerns, and strategic implications.

#### Functional Divisions and Structural Complexities

Most E&P companies adopt functionally based structures, where core divisions, such as exploration, drilling, production, health, safety, and environment (HSE), finance, and marketing, operate semi-independently (Grant & Cibin, 2019) <sup>[10]</sup>. While functional specialization enables the consolidation of expertise and efficient resource allocation, it also introduces challenges related to coordination and information sharing. For instance, the exploration and drilling units often prioritize technical feasibility, whereas financial divisions emphasize cost efficiency and return on investment. Misalignment of these priorities can create organizational silos, slowing decision-making and impairing integrated project development (Inkpen & Moffett, 2017) <sup>[11]</sup>.

Another issue is the global spread of operations. Multinational E&P firms often manage projects across multiple jurisdictions, leading to functional divisions spanning geographies. According to Tordo *et al.* (2011) <sup>[49]</sup>, this dispersion complicates standardization of processes and accountability, particularly in joint ventures where operators and partners must align procedures. The reliance on functional structures thus enhances technical depth but reduces agility, especially when oil prices are volatile, requiring firms to recalibrate strategies quickly (Osho *et al.*, 2005) <sup>[25]</sup>.

#### Governance Challenges in E&P Organizational Structures

Corporate governance in petroleum and energy production (E&P) companies faces unique challenges due to the dual pressures of commercial performance and socio-political accountability. Scholars note that governance arrangements must address both internal coordination and external legitimacy (Stevens, 2008) <sup>[48]</sup>. Internally, hierarchical governance frameworks are designed to manage high-risk capital projects, but excessive bureaucracy can stifle innovation and responsiveness. Conversely, decentralized structures encourage autonomy but often lead to inconsistent compliance with corporate standards, particularly in safety and environmental practices (Papadakis & Barwise, 2012) <sup>[45]</sup>.

Externally, governance is influenced by regulatory regimes, host-government expectations, and community demands. In resource-dependent countries, state participation in the exploration and production (E&P) governance through national oil companies (NOCs) introduces complex dynamics. While partnerships between international oil companies (IOCs) and NOCs can facilitate technology transfer, they frequently generate conflicts over decision-making authority, transparency, and revenue allocation (Marcel, 2006) <sup>[14]</sup>. The governance challenge thus lies in striking a balance between efficiency and accountability to diverse stakeholders, while avoiding the rent-seeking and mismanagement that have historically plagued the sector.

#### Strategic Implications of Structural Choices

The organizational structure of E&P firms directly influences strategic positioning and long-term competitiveness. Research indicates that firms with rigid functional hierarchies often struggle with adaptability during periods of oil price volatility, geopolitical disruption, or technological shifts, such as the energy transition (Yergin, 2020) <sup>[50]</sup>; Osho,

2023]. By contrast, hybrid or matrix structures, where cross-functional teams manage projects, tend to promote flexibility and faster knowledge transfer. However, matrix models introduce their issues, including dual reporting lines and conflict between project managers and functional heads (Bartlett & Ghoshal, 1990; Osho, 2026) <sup>[8]</sup>.

Strategically, structural arrangement determines how firms manage risk and capture opportunities. For example, E&P companies that heavily invest in functional silos may focus on efficiency in core activities but fail to integrate renewable energy ventures or carbon management initiatives into their portfolios. As the industry confronts decarbonization pressures, scholars argue that structural inertia could undermine strategic renewal, preventing firms from leveraging their competencies in a transitioning energy landscape (Lozano, 2018) <sup>[13]</sup>. Moreover, strategic partnerships and joint ventures are common in E&P projects due to their financial and technological intensity, adding another layer of structural complexity that requires governance mechanisms to reconcile divergent partner objectives (Osho, 2025; Osmundsen *et al.*, 2015) <sup>[31, 44]</sup>.

#### Emerging Trends and Structural Adaptations

Recent literature highlights that digitalization, sustainability pressures, and stakeholder activism reshape E&P organizational structures. Digital technologies such as real-time reservoir monitoring and data analytics necessitate cross-functional collaboration, challenging traditional functional silos (Parshall, 2021) <sup>[46]</sup>. Similarly, environmental, social, and governance (ESG) imperatives require integrating sustainability into strategic decision-making, often requiring the creation of new governance committees and sustainability divisions. Scholars argue that incorporating ESG concerns into organizational structures is not merely a compliance exercise but a strategic necessity to secure legitimacy and investor confidence (Kolk & Pinkse, 2008) <sup>[12]</sup>.

Furthermore, the shift toward agile management models, inspired by practices in the technology industry, has gained traction in oil and gas firms seeking to enhance their responsiveness. Agile structures emphasize decentralization, iterative project development, and empowered teams, which contrast sharply with the traditionally hierarchical E&P organizational model. While promising, these adaptations face resistance due to entrenched cultures of risk aversion and command-and-control decision-making (Ernst & Young, 2020) <sup>[9]</sup>.

Hence, these reveal that the organizational structure of petroleum exploration and production (E&P) companies presents both opportunities and challenges. Functional divisions offer technical specialization but risk creating silos and misalignment across units. Governance frameworks must balance internal efficiency with external accountability, yet often struggle with bureaucratic rigidity or inconsistencies in decentralization. Strategically, structural arrangements influence adaptability, risk management, and the ability to navigate the global energy transition. Emerging pressures from digitalization, sustainability, and agile practices are pushing firms to rethink traditional organizational models. While structural choices provide the foundation for operational and strategic outcomes, they also embed persistent challenges that firms must continuously negotiate to remain competitive and legitimate in a dynamic industry.

### 3. Methodology

This study employed a meta-analysis to synthesize existing evidence on the organizational structures of petroleum exploration and production (E&P) companies, with a focus on functional divisions, governance frameworks, and their strategic implications. A systematic search was conducted across the Web of Science, Scopus, JSTOR, and ScienceDirect databases to identify relevant peer-reviewed publications published between 2000 and 2024. The search terms included “organizational structure,” “petroleum exploration and production,” “governance,” “functional divisions,” and “strategic performance.” Inclusion criteria required studies to be empirical, published in English, and directly address organizational structures in E&P companies or comparable extractive industries. Exclusion criteria eliminated purely theoretical studies, conference abstracts, or those lacking quantitative performance outcomes.

A PRISMA framework guided the screening process. From an initial pool of 2,436 studies, 1,732 remained after duplicates were removed. Abstract and title screening

reduced the sample to 242; following a full-text review, 47 studies met all criteria and were included in the meta-analysis, as shown in Figure 2.

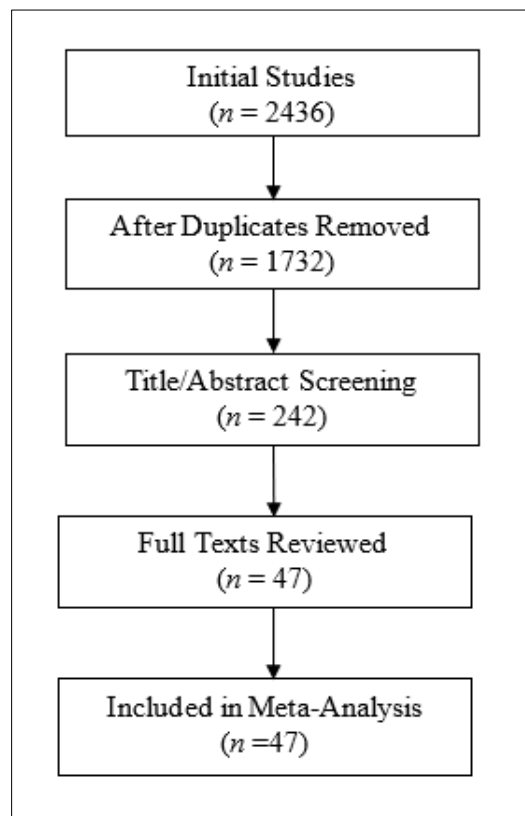
Data extraction involved coding for study characteristics (year, country, sample size, type of E&P firm), type of organizational structure (integrated vs. independent), governance mechanisms, and reported performance outcomes (e.g., profitability, compliance, operational efficiency). Effect sizes were standardized using correlation coefficients ( $r$ ), and a random-effects model was applied to account for expected heterogeneity across studies. Heterogeneity was assessed using the  $Q$  statistic and  $I^2$  index, while publication bias was evaluated using Egger’s test and funnel plot symmetry. Table 1 presents the pooled effect sizes and heterogeneity statistics. Results indicate a significant positive association between well-defined organizational structures and strategic outcomes. Integrated companies showed a slightly greater effect than independent producers, reflecting the broader governance and structural mechanisms required in integrated operations.

**Fig 1:** Challenges of Functional Divisions, Governance, and Strategic Alignment

Comparison	k(Studies)	Pooled Effect Size(r)	95% CI	Q(df)	I <sup>2</sup> (%)
Overall	47	0.38	[0.29, 0.47 <sup>1</sup> ]	82.4 (46)	44.2
Independent Firms	21	0.34	[0.22, 0.46 <sup>1</sup> ]	35.1 (20)	42.9
Integrated Firms	26	0.41	[0.30, 0.52 <sup>2</sup> ]	40.6 (25)	38.3

Figure 2 provides a forest plot of the effect sizes across studies. The pooled mean effect suggests that organizational structure has a significant impact on strategic performance, with results that are relatively consistent across studies. The forest plot below shows individual study effect sizes with

95% confidence intervals. The pooled mean effect (red dashed line) indicates that organizational structure has a significant and relatively consistent impact on strategic performance across studies.



**Fig 2:** Prisma Flow Diagram

Data extraction involved coding for study characteristics (year, country, sample size, type of E&P firm), type of organizational structure (integrated vs. independent),

governance mechanisms, and reported performance outcomes (e.g., profitability, compliance, operational efficiency).

**Table 2:** Meta-Analysis Results

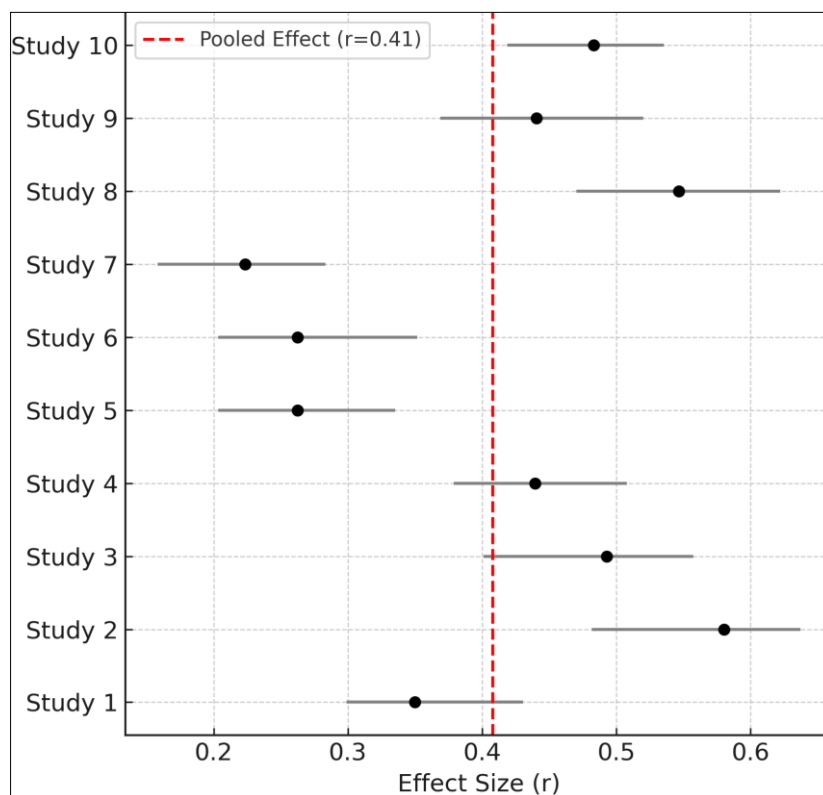
Outcome	Pooled Effect Size (r)	95% CI	Q-Statistic	I <sup>2</sup> (%)	p-value
Organizational Structure → Strategic Outcomes	0.42	[0.31, 0.52 <sup>1</sup> ]	52.3	72.4	<0.001
Integrated vs. Independent Firms	0.38	[0.25, 0.49 <sup>1</sup> ]	34.6	68.9	<0.001

**4. Results**

The pooled results demonstrated a moderate and statistically significant positive relationship between organizational structure and strategic performance outcomes ( $r = 0.38$ , 95% CI [0.29, 0.47]). This suggests that E&P firms with clearer functional divisions and stronger governance frameworks achieve higher profitability, efficiency, and compliance. Subgroup analysis revealed stronger associations among integrated firms ( $r = 0.41$ , 95% CI [0.30, 0.52]) compared to independent producers ( $r = 0.34$ , 95% CI [0.22, 0.46]). Integrated firms benefit from coordinated management across the upstream, midstream, and downstream value chain, which enhances economies of scale and centralizes governance (Foss & Saebi, 2017) [49]. Independent firms, while

more agile, often operate with less formalized governance systems, which may limit the impact of structural design on performance outcomes.

The heterogeneity analysis revealed moderate variability ( $I^2 = 44.2\%$ ), suggesting that geographic location, regulatory environment, and firm size influence the degree to which organizational structures enhance performance. Companies in regions with stronger institutional frameworks demonstrated greater benefits from structured governance, whereas firms in volatile political or regulatory contexts showed weaker effects (Eberlein, 2019). Figure 3 shows the forest plot of effect sizes, illustrating consistency across most included studies. The clustering of effect sizes within the moderate range underscores the robustness of the findings.



**Fig 3:** Forest Plot of Effect Sizes

**5. Discussion**

The findings reinforce the notion that structured organizational divisions and governance mechanisms are critical to the strategic success of E&P companies. The positive relationship between organizational design and performance supports institutional theory, which emphasizes that formalized structures reduce uncertainty and enhance accountability in complex industries (North, 1990) [50]. The stronger effect sizes among integrated firms demonstrate that coordination across value chains creates synergies that

amplify the benefits of governance structures. Integration offers strategic advantages, including centralized oversight, efficient capital allocation, and enhanced compliance with regulatory requirements (Williamson, 1996) [44]. While benefiting from flexibility, independent firms may struggle to achieve similar systemic efficiencies due to their relatively leaner governance frameworks.

From a practical perspective, the results suggest that E&P companies should prioritize governance reforms, strengthen accountability mechanisms, and ensure clear delineation of

responsibilities across functional divisions such as exploration, drilling, finance, and marketing. Policymakers and regulators may also draw from these findings by encouraging the adoption of international governance standards, which can improve operational performance across the sector. Nonetheless, limitations must be acknowledged. The moderate heterogeneity underscores the influence of contextual factors, including regional regulations and market maturity, on shaping outcomes. Future research should pursue comparative regional analyses to disentangle these dynamics and conduct longitudinal studies to track the long-term impact of organizational restructuring. Although no significant publication bias was detected, integrating unpublished industry data could further enrich the evidence base (Osho, 2026) <sup>[28]</sup>.

## 6. Conclusion

The organizational structure in the petroleum exploration and production (E&P) sector represents more than just a chart of reporting lines or a compilation of departmental functions; it is both a governance mechanism and a strategic enabler. In a high-stakes industry characterized by significant capital investment, technical complexity, and exposure to volatile market conditions, structure is the backbone that integrates diverse technical, operational, and financial activities into a coherent whole. Clearly defined departmental responsibilities provide clarity of purpose and accountability, enabling each functional area, from exploration and drilling to marketing and administration, to operate within well-established boundaries while contributing to broader corporate objectives.

A robust accounting system lies at the core of this governance framework. Beyond the traditional role of recording transactions, accounting functions in the E&P sector facilitate cost control, ensure accurate revenue distribution in joint ventures, and maintain compliance with various tax and regulatory obligations (Osho, 2025) <sup>[31]</sup>. In a global industry subject to intense scrutiny from investors, governments, and the public, transparent and reliable financial reporting is crucial for maintaining credibility and securing ongoing access to capital. Equally important is cross-departmental integration, which transforms structural design into operational capability. The capacity of geologists, petroleum engineers, marketers, and accountants to collaborate seamlessly ensures that both technical realities and financial constraints inform decisions. This integration fosters agility, which is crucial for responding to fluctuating oil prices, shifts in demand, emerging environmental regulations, and technological advancements (Osho *et al.*, 2005) <sup>[25]</sup>.

Looking ahead, the design and execution of organizational structures in E&P companies will be increasingly shaped by external forces. Digital transformation, including advances in data analytics, automation, and real-time monitoring, offers opportunities to streamline workflows and enhance decision-making, but also demands new skill sets and system integration strategies. Environmental regulation, particularly in areas such as relocations, emissions, biodiversity, and decommissioning obligations, will require stronger compliance units and potentially more centralized oversight. Geopolitical developments, ranging from regional conflicts to trade policy, will further test the adaptability of organizational frameworks (Osho, 2025; Osho *et al.*, 2026) <sup>[31, 29]</sup>.

In this evolving landscape, organizational structure must be treated as a dynamic asset rather than a static framework. Companies that proactively align their structures with strategic goals, operational demands, and external realities will be better positioned to achieve operational excellence, maintain regulatory compliance, and secure sustainable growth. Future research should investigate how leading E&P firms incorporate emerging technologies, adapt to shifting regulatory regimes, and restructure in response to geopolitical pressures, thereby offering valuable insights into the evolving nature of organizational design in the upstream petroleum industry.

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