

Strategic Leadership Influence on Organizational Culture for Flexibility, Diversity, and Inclusion in Nigeria's Oil and Gas Industry

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Abstract

In this study, we quantitatively examine how specific strategic leadership behaviors, commitment levels, and leadership styles influence organizational culture in promoting flexibility, diversity, and inclusion culture (FDI-C) within Nigeria's oil and gas sector. We employed a structural equation modeling statistical analysis approach, based on data collected from 103 participants through a self-administered online survey. The findings indicate that inclusive leadership fosters supportive FDI-C, leadership commitment affects FDI-C both directly and indirectly, and transformational leadership is the most effective style for advancing FDI-C. In today's competitive and dynamic business environment, fostering FDI-C is increasingly critical for enhancing performance, improving employee retention, and equipping teams for long-term success. To achieve these outcomes, organizations should invest in transformational leadership training, and leaders should integrate diversity metrics into leadership performance indicators.

Keywords: strategic leadership, organizational culture, flexibility, diversity, inclusion, nigeria, oil and gas sector

1. Introduction

The Nigerian oil and gas industry, though central to the nation's economy, operates within a

volatile global energy market while also facing significant internal structural challenges (Ali & Misnan, 2025; Ebelogu et al., 2025). The global transition toward renewable energy has intensified competitive pressures, requiring Nigerian firms to adopt adaptive, sustainability-driven strategies (REN21, 2024). Despite employing a diverse workforce spanning ethnic, cultural, and professional backgrounds, the sector has struggled to leverage this diversity owing to rigid hierarchies, exclusionary practices, and a legacy of top-down bureaucratic leadership (Oruebo & David-Alonge, 2024; Umuteme & Adegbite, 2023). Moreover, scholars have identified rigid hierarchical systems, low levels of gender diversity, and limited employee participation in decision-making as cultural barriers that constrain adaptability, innovation and engagement in the Nigerian oil and gas sector (Bode, 2024; Umuteme & Adegbite, 2023). As the industry faces evolving challenges, integrating flexibility, diversity, and inclusion culture (FDI-C) has transitioned from an ethical consideration to a strategic necessity (Obaid & Al-Abachee, 2020). The FDI-C label was deliberately adopted to distinguish it from the widely used economic meaning of FDI—foreign direct investment. Addressing these challenges will require more than traditional leadership, it demands strategic leadership that can reshape organizational culture and promote sustainable growth.

The intersection of strategic leadership and organizational culture serves as a catalyst in transforming the Nigerian oil and gas industry into a future-ready, people-centric, and performance-driven sector. Organizational culture provides a fundamental framework through which employees interpret their environment and guide their behavior. Culture significantly influences organizational performance by shaping strategic alignment, employee engagement, decision-making, and adaptability (Akpa et al., 2021; WalkMe Team, 2025). Organizational culture thus plays a central role in aligning strategy with behavior. Samimi et al. (2022, p. 3) defined strategic leadership as “the functions performed by individuals at the top levels of an organization that are intended to have strategic consequences,” including decision-making, stakeholder engagement, and cultural alignment.

Scholarly debate reflects divergent perspectives on how best to cultivate FDI-C. Some scholars have emphasized top-down organizational policies and programs, whereas others have highlighted the central role of leadership tone in shaping employee behaviors (Beaumont-Oates, 2024; Oruebo & David-Alonge, 2024). Although a growing body of evidence demonstrates the positive impact of leadership on diversity and inclusion outcomes in Western contexts (McKinsey & Company, 2023), scholars have argued that entrenched hierarchies and rigid structures in African resource-based industries exacerbate barriers to inclusivity, a claim that firm-level studies support. Gender disparities remain particularly pronounced, with women underrepresented in mid- to senior-level roles despite initiatives such as mentorship and flexible policies introduced by firms such as NNPC Ltd. (Bode, 2024). This underscores the persistence of cultural barriers that formal programs alone cannot address. Empirical evidence on how specific leadership behaviors and commitment levels drive cultural transformation toward FDI-C within Nigeria’s oil and gas industry remains limited. Even fewer scholars have examined whether inclusive leadership (IL) mediates the relationship between strategic commitment and cultural outcomes.

In this study, we aim to identify the strategic leadership behaviors that most effectively foster FDI-C, assess the extent of leadership commitment to embedding these values across organizations, and examine how leadership styles influence the relationship between strategic commitment and cultural outcomes. These objectives are operationalized through three guiding research questions: What are the key strategic leadership behaviors that significantly shape organizational culture toward FDI-C? To what extent do leaders demonstrate commitment to embedding FDI-C in organizational practice? And which leadership styles most effectively enhance or mediate the influence of strategic leadership on cultivating an FDI-C?

2. Literature Review and Hypotheses

2.1 Strategic Leadership and Organizational Culture

Strategic leadership is widely recognized as a critical determinant of organizational culture, shaping how firms adapt to dynamic environments and align internal capacities with external demands (Alayoubi et al., 2020). In knowledge-intensive and high-risk sectors such as oil and gas, top leaders' strategic commitment sets the tone for long-term direction, priorities, and values, thereby establishing the organization's identity and strategic trajectory (O'Reilly et al., 2025). Strategic leadership is central to shaping and sustaining organizational culture (Akanji et al., 2020) because leaders act as cultural architects by modeling behaviors and reinforcing values that align with strategic goals (Nosratabadi et al., 2020). Their commitment, demonstrated through consistent actions and transparent communication, fosters cohesion and a shared sense of purpose (Adeniyi et al., 2024). Effective organizations align leadership values with cultural frameworks to promote unity and adaptability (Adeniyi et al., 2024; Vito, 2020). As culture and leadership influence each other, long-term cultural success depends on values-driven, responsive, and engaged leadership. Leadership commitment influences not only operational strategies but also the deeper cultural norms that enable FDI-C. Increasingly, FDI-C is regarded as essential for fostering innovation, resilience, and sustainable competitiveness (Han et al., 2024; Nanayakkara & Wilkinson, 2021).

2.2 Flexibility, Diversity and Inclusion Culture (FDI-C)

Flexibility, which gained prominence in the 1970s amid rising global competition, remains essential for organizational adaptability and resilience (Han et al., 2024; Ikwor & Chikwe, 2025). It reflects an organization's ability to respond to change through agile decision-making, resource reallocation, and adaptive HR practices (Bal & Izak, 2020; Ni et al., 2020). Diversity and inclusion interconnect closely because diversity holds limited value without effective inclusion (Briscoe-Tran, 2023). Workplace diversity has become increasingly prominent owing to globalization and technological advancements. However, when diverse perspectives do not effectively integrate—whether because of fragmented leadership or siloed decision-making—it hinders organizational progress, particularly in complex sectors such as oil and gas (Gajere & Nimfa, 2021; Umuteme & Adegbite, 2023).

D&I initiatives significantly contribute to enhanced financial performance, innovation,

informed decision-making, and overall organizational effectiveness. Studies have shown that diverse companies often outperform their peers in terms of profitability and problem-solving capabilities (Durrah, 2023; Jejenywa et al., 2024; Nguyen et al., 2024). FDI-C, when aligned with leadership and strategic priorities, fuels innovation, employee satisfaction, and sustainable growth. Cultivating these values is essential for long-term strategic success in today's fast-paced and competitive global market.

2.3 Strategic Leadership Commitment (SLC) and FDI-C

For the purpose of this study, we define strategic leadership commitment (SLC) as the sustained dedication of senior leaders to embedding FDI-C values across organizational systems and practices. We further define FDI-C as the collective organizational norms and practices that support FDI-C values, encompassing both structural and behavioral dimensions (Le et al., 2023).

SLC is widely recognized as a foundational mechanism for fostering organizational culture, particularly in complex and hierarchical industries such as oil and gas. Although rooted in Hambrick and Mason's upper echelons theory (as cited in O'Reilly et al., 2025), recent research affirms its continued relevance. Supported by the Competing Values Framework (Lasrado & Kassem, 2021; Nanayakkara & Wilkinson, 2021), we posit that when senior leaders consistently prioritize FDI-C in their strategic decision-making, resource allocation, and communications, they act as cultural architects, shifting the firm's value system toward adaptability and collaboration. In traditionally rigid operational environments, a deliberate and visible commitment to inclusive values can challenge institutional inertia and facilitate the transition to more agile and inclusive norms. Culture also functions as a social control system that guides behavior through shared norms and informal enforcement (O'Reilly & Tushman, 2021), and strategic leaders play a pivotal role in aligning these mechanisms with espoused values.

Thus, we propose the following hypothesis:

H1: Strategic Leadership Commitment (SLC) is positively related to FDI-C.

2.4 Inclusive Leadership Behaviors and FDI-C

While strategic commitment provides the foundation for cultural transformation, its influence transmits through proximal leaders' behaviors. Inclusive behaviors, such as encouraging participation, promoting psychological safety, and modeling fairness, serve as the mechanism through which strategic intent operationalizes in day-to-day organizational life (Cao et al., 2023). IL, characterized by accessibility, equity, and the recognition of diverse perspectives, emerges as a particularly effective mechanism for embedding flexibility and diversity within workplace culture (Obaid & Al-Abachee, 2020). IL is a set of behaviors that engage diverse perspectives, promote equitable participation, and facilitate collaboration (Arman, 2023; Brouge, 2023; Li & Tang, 2022).

However, the relationship between leaders' strategic commitment and the emergence of an FDI-C may be either direct or mediated by IL, creating a dynamic that is challenging to predict and manage in practice (Beaumont-Oates, 2024). Drawing on social learning theory, employees are more likely to adopt inclusive norms when their immediate supervisors visibly demonstrate such behaviors (Li & Tang, 2022; McCausland, 2023). These behaviors, in turn, activate downstream cultural processes by fostering job crafting, collaborative decision-making, and employee voice, thereby embedding flexibility and diversity into routine organizational functions (Chen et al., 2020; Jaleel & Sarmad, 2024).

Thus, we propose the following hypothesis:

H2: Inclusive leadership is positively related to FDI-C.

2.5 Mediating Role of Inclusive Leadership between SLC and FDI-C

A review of leadership styles, behaviors, skills, and characteristics shows that those promoting belonging, fostering innovation, building trust, empowering autonomy, and leveraging individual strengths are essential for shaping FDI-C. Within this context, EI emerges as a critical attribute that enables leaders to navigate diverse work environments effectively. EI supports psychological safety and inclusion by helping leaders manage relationships and emotions more effectively (Shaffer, 2020). Psychological safety—the belief that one can take interpersonal risks without fear of punishment—is vital for building inclusive, flexible, and high-performing teams (Li & Tang, 2022). Culturally agile leaders adjust their communication, decision-making, and management styles to align with cultural expectations, fostering an inclusive climate that supports diverse teams and enhances strategic flexibility (Caligiuri & Caprar, 2022). EI, psychological safety, and cultural agility are therefore key attributes of inclusive leaders, who foster openness, accessibility, and equity within organizations (Caligiuri & Caprar, 2022; Li & Tang, 2022). IL has also been directly linked to higher levels of job crafting because it emphasizes empowerment, individual initiative, and the recognition of diverse contributions (Chen et al., 2020; Jaleel & Sarmad, 2024).

Given that leadership commitment and behavior often function in tandem, we further propose a mediating role for inclusive leadership behaviors in the SLC–FDI-C relationship. Leaders may articulate strategic intent, but direct supervisors' behaviors must make that intent visible, credible, and actionable (Simons, 2002, as cited in Ete et al., 2022). Prior scholars have suggested that leader behaviors mediate the effect of organizational strategy on cultural outcomes, particularly in knowledge-intensive and resource-constrained sectors (Jerab & Mabrouk, 2023; O'Reilly et al., 2021).

Thus, we propose the following hypothesis:

H3: Inclusive leadership mediates the relationship between SLC and FDI-C.

2.6 Complementary Leadership Styles and FDI-C

2.6.1 Transformational Leadership Style and FDI-C

In addition to this mediated pathway, we contend that distinct leadership styles may exert complementary and reinforcing influences on FDI-C. Transformational leadership, which Burns (as cited in Lasrado & Kassem, 2021) introduced, inspires and motivates followers to exceed expectations by addressing their higher ethical and motivational needs (Scott & Klein, 2022). It fosters inclusive cultures that enhance both individual and team motivation, contributing to organizational excellence. Bass (as cited in Scott & Klein, 2022) identified four key components of transformational leadership—charisma, inspirational motivation, intellectual stimulation, and individualized consideration—all of which promote personal growth and goal achievement. Transformational leadership motivates employees through vision, intellectual stimulation, and individualized consideration (Brown et al., 2019; Han et al., 2024; Le & Le, 2023). By protecting autonomy, framing inclusion as both a moral and strategic imperative, and modeling cultural agility (Ang et al., 2020), transformational leaders embed inclusive norms as performance drivers.

Thus, we propose the following hypothesis:

H4a: Transformational leadership is positively related to FDI-C.

2.6.2 Authentic Leadership Style and FDI-C

Authentic leadership, which Luthans and Avolio introduced in 2003 (as cited in Zhu, 2025), emphasizes self-awareness, ethical transparency, and alignment between values and behaviors. It enhances employee satisfaction by fostering secure and ethical relationships and facilitates knowledge sharing (Cao et al., 2023). This leadership style is particularly effective in contexts requiring cultural sensitivity and moral decision-making (Zhu, 2025), which is especially relevant to the Nigerian oil and gas sector. Authentic leadership, characterized by transparency, self-awareness, and ethical consistency, enhances trust and psychological safety, which are critical in diverse or marginalized work environments (Bernardes et al., 2020; Cao et al., 2023; Zhu, 2025). Authentic leaders stabilize inclusive routines and reduce the relational costs of voice by aligning stated values with demonstrated behaviors (Mahmoud et al., 2024; Zhu, 2025).

Thus, we propose the following hypothesis:

H4b: Authentic leadership is positively related to FDI-C.

2.6.3 Servant Leadership Style and FDI-C

Servant leadership, which Robert Greenleaf coined in 1970 (as cited in Deshwal & Ali, 2020), reframes the leader's role as one of service to others. Servant leaders prioritize inclusion, support employees, and foster strong relationships, which helps attract and retain diverse talent (Ng et al., 2024). This leadership style emphasizes follower development, relational trust, and ethical stewardship, provides a people-centered foundation for inclusive cultures (Kaltiainen &

Hakanen, 2022; Lee et al., 2020). By fostering belonging and encouraging discretionary effort, servant leaders enable participation and adaptability in dynamic environments (Agustin-Silvestre et al., 2024; Ng et al., 2024).

Thus, we propose the following hypothesis:

H4c: Servant leadership is positively related to FDI-C.

2.6.4 Democratic/Participative Leadership Style and FDI-C

Kurt Lewin (as cited in Anwer et al., 2022) introduced democratic leadership, also known as participative leadership. It involves employees in decision-making through support, shared responsibility, and open discussion. This style also promotes inclusion and employee development, enhancing engagement and informed decision-making, particularly in projects requiring diverse skills (Hawley, 2024). While democratic or participative leadership approaches promote fairness and collaboration (Davis, 2024; Guo et al., 2023; Hawley, 2024), their impact may be limited in hierarchical, compliance-focused industries, where assertive and symbolic leadership remains critical to change. This suggests that democratic leadership may lack the behavioral salience necessary to drive deep cultural shifts toward FDI-C.

Thus, we propose the following hypothesis:

H4d: Democratic (participative) leadership is not significantly related to FDI-C.

Considered together, these hypotheses outline a multidimensional framework in which SLC and inclusive behaviors are theorized to interact in shaping FDI-C-oriented organizational culture, while transformational, authentic, and servant leadership styles provide complementary microclimates of reinforcement. The conceptual model positions organizational culture as a system of shared meanings influenced by both senior-level signals and proximal leader behaviors (Woznyj et al., 2022), consistent with prior research emphasizing the role of IL in fostering flexible, innovative cultures within structurally constrained organizations (Culture Partners, 2024; Jerab & Mabrouk, 2023). In theory, the interplay among SLC, IL, and leadership styles explains how leaders shape FDI-C and embed values that enhance organizational adaptability and resilience.

3. Method

3.1 Research Design

We employed a quantitative, cross-sectional research design to examine the influence of strategic leadership on organizational culture, with a particular focus on FDI-C within Nigeria's oil and gas sector. The empirical strategy followed a staged approach, beginning with descriptive analysis of the survey data, progressing to validation of the latent measurement structure, and concluding with estimation of the structural relationships linking leadership commitment, inclusive leadership behaviors, and organizational culture for FDI-C. This sequence ensured that the statistical tests were theoretically grounded, empirically supported, and robust to the sector's complexities.

To test the proposed model empirically, we employed SEM using Python (semopy) and R (lavaan), supplemented by nonparametric bootstrapping with 1,000 resamples to generate robust standard errors and confidence intervals. SEM was suitable for this study because it allows simultaneous estimation of multiple latent variables, their measurement properties, and interrelationships, while accommodating both direct and indirect pathways. Scholars in organizational research have increasingly recognized SEM's versatility for its ability to handle complex models involving mediation, measurement error, and latent constructs (Zyphur et al., 2023). Given this study's focus on the mediating role of IL and the comparative influence of different leadership styles, SEM provided a flexible and rigorous analytical framework.

3.2 Measures

We measured all constructs using established scales, adapted for the Nigerian oil and gas context. We recorded responses on a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

We assessed organizational culture for FDI-C using an adapted version of the Denison Organizational Culture Survey, a foundational instrument in culture measurement that Denison (1990) developed (Kabigting et al., 2019). We modified the instrument to reflect inclusivity-oriented dimensions, including openness to diverse talent, procedural fairness, and flexible work models ($\alpha = 0.88$).

We measured SLC using items from the Multifactor Leadership Questionnaire (MLQ-5X) that Bass and Avolio (1990, 2000) originally developed (Batista-Foguet et al., 2021), adapted to capture leaders' modeling of inclusive values, alignment of resources with diversity goals, and integration of flexibility principles into strategic vision ($\alpha = 0.79$). We assessed inclusive behaviors, the mediator, using items from validated IL scales that capture psychological safety, respect for differences, and participative behavior, specifically adapting measures that Al-Atwi and Al-Hassani (2021) developed and validated, which demonstrated strong convergent and discriminant validity.

We measured the four leadership styles—transformational, authentic, servant, and democratic—using adapted items from the MLQ that Bass and Avolio (1990, 2000) originally developed (as cited in Batista-Foguet et al., 2021), with modifications to ensure contextual fit while preserving construct validity (we provide details of all scale adaptations and reliability coefficients in the appendix (Table A4)).

3.3 Data and Sample

In this quantitative, cross-sectional study, we examine strategic leadership's influence on organizational culture for FDI-C in Nigeria's oil and gas industry. We collected data from 103 employees using a stratified random sampling procedure to capture junior staff, middle managers, and senior executives. Participants completed a structured, closed-ended electronic questionnaire containing validated 5-point Likert items measuring perceptions of SLC, inclusive behaviors, leadership styles, and cultural indicators of FDI-C. We anonymized all

responses and prepared them for structural equation modeling (SEM).

The sample spanned all four primary oil and gas subsectors: downstream (45%), integrated operations (35%), upstream (15%), and midstream (5%). Most respondents (79.6%) reported working in large enterprises. A sizable share of responses originated from a few major organizations: NMDPRA (25%), Ardova Plc (17%), Sahara Group (10%), and NNPC Ltd (10%), with other firms contributing less than 5% each. Industry tenure was relatively balanced, with 56% reporting 2–5 years, 27% reporting 6–10 years, and 17% over 10 years of experience. Leadership style preferences showed a strong inclination toward transformational leadership (41%), followed by authentic (27%), democratic (18%), and servant (15%; see corresponding figures and tables in the appendix)

While stratification ensured representation across the leadership hierarchy, the concentration of responses from leading firms and the downstream and integrated segments indicates potential response bias toward prominent industry players. Most respondents occupied floor-level and middle management positions, so the cultural assessments primarily reflect operational and supervisory experiences rather than abstract strategic perspectives. This positional emphasis is appropriate for this study's focus on IL behaviors as enacted and experienced at frontline and managerial levels, providing a sector-specific basis for interpreting the structural relationships tested.

3.4 Data Analysis Methods

Following data collection, we screened responses and cleaned them for missing values and outliers, then summarized them using descriptive statistics to evaluate scale distributions. We conducted SEM, using the lavaan package. We began the analysis with CFA to validate the measurement model, followed by estimation of the structural model to test direct, indirect, and complementary relationships among SLC, inclusive behaviors, leadership styles, and FDI-C.

The first step involved computing descriptive statistics, including means, standard deviations, and correlations for all variables. These results provided a preliminary understanding of data distribution, variation across constructs, and the strength of associations among the focal variables. For instance, the mean value for FDI-C items exceeded the scale midpoint, suggesting moderate to strong support for inclusivity-oriented practices across the sampled organizations. SLC and inclusive behaviors also showed relatively high means, consistent with the expectation that leadership values and day-to-day behaviors play key roles in shaping cultural norms. Correlations indicated that both SLC and inclusive behaviors were positively associated with FDI-C, providing an initial empirical basis for the hypothesized structural pathways.

Guided by the study's theoretical model, we proceeded with the analysis in two stages, separating measurement validation from structural inference. We specified all focal constructs as reflective latent variables. In the first stage, we conducted confirmatory factor analysis (CFA) to establish unidimensionality, reliability, and convergent validity, ensuring that observed indicators loaded substantively and uniquely onto their intended constructs. In the second stage,

we estimated the structural model using SEM. This model tested the direct effects of SLC on FDI-C and inclusive behaviors, the mediating role of inclusive behaviors, and the complementary influence of transformational, authentic, servant, and democratic leadership styles. We evaluated mediation using bootstrapped indirect effects with bias-corrected confidence intervals, and we assessed explanatory power via R^2 values for endogenous constructs. We used pairwise chi-square difference tests to compare the leadership styles' relative strength.

We assessed model adequacy using chi-square, comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Tests of reliability, convergent validity, and discriminant validity confirmed construct robustness. We examined assumptions of multivariate normality using Mardia's test, and we assessed collinearity through variance inflation factor diagnostics, with no violations detected. Additional checks included multigroup analyses across oil and gas subsectors, inspection of modification indices, and diagnostic tests for common method variance, all of which supported the results' stability. This staged analytical approach, combining descriptive exploration, measurement validation, and structural inference, provided a rigorous empirical basis for evaluating how leadership commitment, inclusive behaviors, and leadership styles shape FDI-C in the Nigerian oil and gas sector.

We estimated models using maximum likelihood with 1,000 bootstrap resamples to obtain robust standard errors and confidence intervals for path coefficients. We evaluated the primary mediation effect—SLC influencing FDI-C through inclusive behaviors—using a bias-corrected bootstrapping approach based on Preacher and Hayes (2008; as cited in Wang et al., 2021). We summarized the magnitude of mediation using the variance accounted for statistic, consistent with recent applications in IL mediation models (Wang et al., 2021). We entered leadership styles as exogenous predictors of FDI-C in a nested specification, allowing assessment of their unique contributions net of SLC and inclusive behaviors, and enabling pairwise chi-square difference tests to compare the four styles' relative strength.

3.5 Robustness Checks

We conducted robustness analyses to assess the findings' stability. A multigroup analysis across oil and gas subsectors—upstream, downstream, and integrated—indicated no substantial variation in the structural relationships. We examined modification indices but implemented no changes because none was statistically justified and theoretically defensible.

4. Results

4.1 Measurement Model

We evaluated model fit using multiple, complementary indices. The measurement model demonstrated good fit: $\chi^2(19) = 89.47$, $p < 0.001$; CFI = 0.941; TLI = 0.912; RMSEA = 0.078, with a 90% confidence interval of 0.061 to 0.096; and SRMR = 0.041. All standardized factor loadings were statistically significant ($p < 0.001$) and ranged from 0.61 to 0.85, supporting

convergent validity. Composite reliability values exceeded 0.80 for all latent constructs, and average variance extracted values were above 0.50, indicating satisfactory internal consistency.

4.2 Structural Equation Model

The hypothesized structural model demonstrated satisfactory fit to the data, $\chi^2(48) = 156.82$, $p < 0.001$; CFI = 0.932; TLI = .908; RMSEA = 0.071 (90% CI: 0.058, 0.084); SRMR = 0.046. The model accounted for 58.3% of the variance in supportive FDI-C ($R^2 = 0.583$), confirming leadership constructs' substantial explanatory power in shaping organizational culture within the oil and gas sector.

Direct path estimates showed that SLC had a significant positive effect on FDI-C ($\beta = 0.318$, $p < 0.001$), indicating that visible alignment of resources, strategy, and leadership emphasis with inclusivity goals contributes independently to cultural transformation. Inclusive behaviors emerged as the strongest predictor of FDI-C ($\beta = 0.482$, $p < 0.001$), highlighting the central role of leaders' daily actions in embedding inclusivity, flexibility, and fairness into organizational norms. These results provide robust support for H1 and H2. Mediation analysis further confirmed that inclusive behaviors act as a key mechanism linking strategic commitment to culture. SLC was strongly associated with inclusive behaviors ($\beta = 0.672$, $p < 0.001$), and the indirect pathway to FDI-C through inclusive behaviors was significant ($\beta = 0.324$, $p < 0.001$). The variance accounted for a statistic of 50.5%, indicating partial variance and suggesting that, while strategic commitment exerts a direct influence on culture, its effect substantially amplifies when leaders' intentions translate into inclusive practices. The total effect of SLC on FDI-C was $\beta = 0.642$, providing strong support for H3.

Regarding the complementary effects of leadership styles, transformational leadership had the strongest incremental impact on FDI-C ($\beta = 0.284$, $p < 0.001$), consistent with its focus on vision, intellectual stimulation, and value-driven change. Authentic leadership also contributed positively ($\beta = 0.152$, $p < 0.001$), reflecting the importance of transparency and value congruence in reinforcing inclusivity. Servant leadership, though smaller in magnitude, remained significant ($\beta = 0.098$, $p = 0.020$), highlighting the role of follower-centered practices in supporting cultural change. In contrast, democratic leadership did not reach statistical significance ($\beta = 0.067$, $p = 0.078$), suggesting that shared decision-making, while normatively aligned with inclusion, may be insufficient to shift entrenched hierarchical cultures. Pairwise chi-square difference tests confirmed that transformational leadership had significantly stronger effects than authentic ($\Delta\chi^2(1) = 8.74$, $p = 0.003$), servant ($\Delta\chi^2(1) = 12.56$, $p < 0.001$), and democratic leadership ($\Delta\chi^2(1) = 15.23$, $p < 0.001$) did. These findings support H4a–H4c but provide no support for H4d. Overall, the structural model indicates that both strategic intent and behavioral enactment are essential for fostering a supportive FDI-C. SLC is important, but cultural transformation is most effectively achieved through inclusive behaviors reinforced by complementary leadership styles.

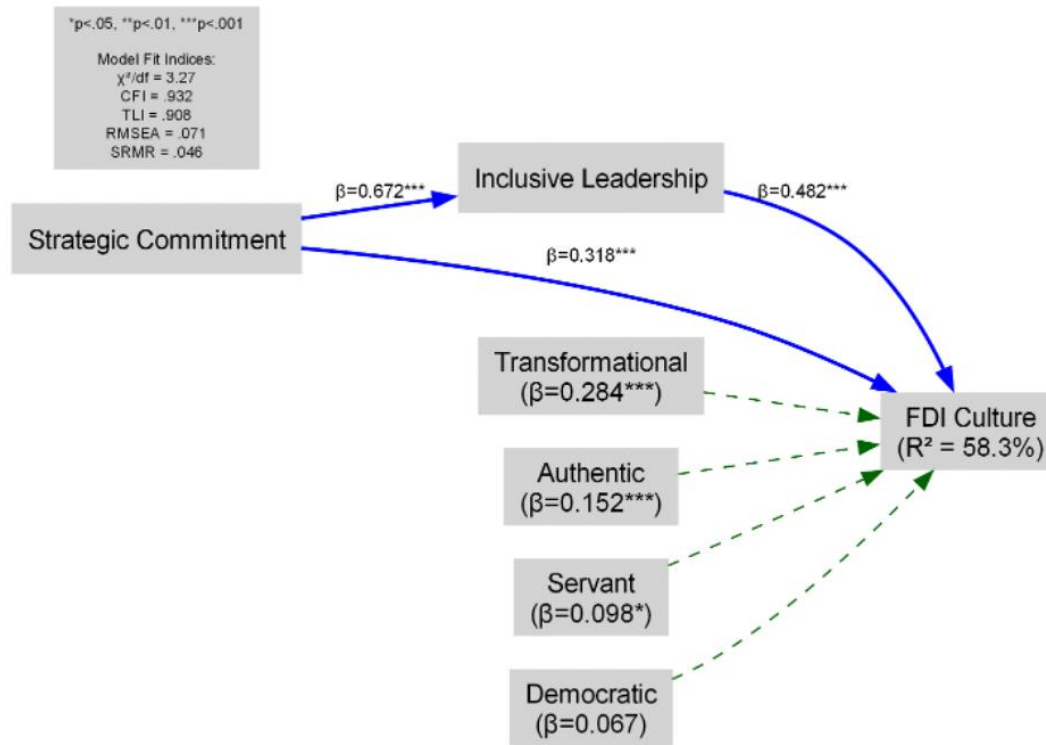


Figure 1. SEM Results for the Direct, Mediated, and Complementary Effects of Leadership on FDI-C

Table 1. Standardized Path Coefficients and Comparisons for Leadership Effects on FDI-C

Predictor	β	SE	95% CI	z-value	p-value	Hypothesis
Direct Effects						
SLC → FDI-C	.318	.058	[.204, .432]	5.483	<.001	H1 Supported
IL → FDI-C	.482	.062	[.361, .603]	7.774	<.001	H2 Supported
Indirect Effect						
SLC → IL → FDI-C	.324	.032	[.261, .387]	10.125	<.001	H3 Supported
Leadership Styles → FDI-C						
Transformational	.284	.045	[.196, .372]	6.311	<.001	H4a Supported
Authentic	.152	.039	[.075, .229]	3.897	<.001	H4b Supported
Servant	.098	.042	[.016, .180]	2.333	.020	H4c Supported
Democratic	.067	.038	[-.008, .142]	1.763	.078	H4d Not Supported

5. Discussion and Conclusion

This study provides new empirical evidence on how SLC, inclusive behaviors, and complementary leadership styles shape organizational culture for FDI-C in Nigeria's oil and gas sector. The results highlight three key dynamics: (a) inclusive behaviors are the strongest direct driver of FDI-C; (b) SLC influences FDI-C both directly and indirectly through inclusive behaviors; and (c) transformational leadership is more effective than authentic, servant, or democratic leadership is in reinforcing inclusive cultural norms.

5.1 Theoretical Contributions

The findings extend organizational culture theory by demonstrating how leadership commitment translates into cultural outcomes primarily through inclusive behaviors. Akpa et al. (2021) emphasized that culture functions as both a sense-making framework and a behavioral guide. Our results confirm that leadership's formal commitments must be enacted in routine, interpersonal actions before they become culturally embedded. The strong mediating role of inclusive behaviors aligns with Budur and Demir's (2019) perspective that supportive climates grounded in psychological safety and trust are essential for aligning employee experiences with strategic goals. The finding that transformational leadership exerts a stronger effect than authentic, servant, or democratic leadership does provide insight into leadership contingencies in hierarchical industries. While authentic and servant leaders foster trust and belonging (Ng et al., 2024) and democratic leaders encourage collaboration (Hawley, 2024), these approaches appear less decisive in highly regulated and structurally rigid contexts. Instead, the visionary and change-oriented qualities of transformational leadership resonate more strongly, enabling cultural agility where operational norms resist adaptation. This echoes Shaffer's (2020) argument that leaders with EI and transformational capacity are in a unique position to inspire collective learning and resilience.

5.2 Sectoral and Contextual Implications

Rigid processes and regulatory oversight that often reinforce hierarchical cultures characterize the oil and gas sector (Owolabi, 2025). Our findings suggest that in such environments, inclusive behaviors are critical for translating abstract leadership commitments into visible cultural practices. Democratic leadership's nonsignificance further underscores that shared decision-making alone may be insufficient where authority and compliance structures dominate. Instead, flexibility and inclusion must be anchored in leader modeling of fairness, openness, and psychological safety. This aligns with evidence that flexible practices, such as autonomy in work design and adaptive HR models, enhance resilience and performance in constrained industries (Davidescu et al., 2020). The explanatory power of the model ($R^2 = 58.3\%$) indicates that leadership variables are substantial but not exhaustive in shaping FDI-C. External pressures, such as global energy transitions, union relations, and policy reforms, may interact with leadership in influencing organizational adaptability. These findings suggest that future scholars should examine the interplay between leadership and institutional factors in cultural transformation.

5.3 Managerial Implications

For practitioners, the findings underscore that senior commitment must pair with consistent inclusive behaviors to achieve cultural change. Leaders cannot rely solely on strategic statements or resource allocation; they must embody principles of respect, fairness, and participation in daily interactions. This aligns with Adeniyi et al. (2024), who emphasized that cultural transformation depends on leadership consistency and values-driven modeling. Training and development should therefore prioritize behavioral competencies that reinforce psychological safety and inclusivity, while integrating transformational leadership practices that position FDI-C as central to long-term competitiveness. The evidence also highlights FDI-C's strategic value for organizational performance. Flexibility enhances retention and productivity (Davidescu et al., 2020), while diversity and inclusion improve decision-making and innovation (Durrah, 2023; Jejenywa et al., 2024). For leaders in resource-intensive industries, aligning these cultural elements with strategic objectives can create sustainable advantages that are both difficult to replicate and essential for navigating volatility (Barney, as cited in Akpa et al., 2021).

5.4 Conclusion

In this study we examined how SLC, inclusive behaviors, and distinct leadership styles shape organizational culture for FDI-C in Nigeria's oil and gas sector. By integrating cross-sectional evidence with established cultural and leadership frameworks, we provide a coherent account of how strategic intent becomes embedded in organizational life (Akpa et al., 2021; Nanayakkara & Wilkinson, 2021).

The contribution of this study is threefold. First, we find that SLC strongly predicts IL behaviors, which in turn significantly foster FDI-C. Second, SLC also exerts a direct influence on FDI-C, while transformational, authentic, and servant leadership styles provide additional explanatory power. Third, our analysis shows that these leadership factors collectively account for 58.3% of the variance in FDI-C, underscoring leadership's central role in shaping organizational outcomes. The results underscore the need for organizations to strengthen IL competencies, particularly in communication, EI, and psychological safety. Targeted training in transformational leadership can further embed FDI-C principles, while integrating inclusion metrics into performance reviews ensures accountability. Crucially, visible and sustained commitment from senior leaders remains essential to model and reinforce openness, transparency, and equity.

Despite its contributions, we acknowledge this study's limitations. Its cross-sectional design precludes causal inference, and the focus on a single sector restricts generalizability. Future researchers should employ longitudinal and comparative designs to examine these mechanisms' durability and transferability, capturing how strategic commitments, behaviors, and culture coevolve over time. Additionally, multisource data would help mitigate potential biases in perceptual measures. Expanding the analysis beyond Nigeria's oil and gas sector would further test generalizability; in less hierarchical industries, democratic or participative leadership may exert a stronger influence on cultural outcomes (Joseph & Kibera, 2019).

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Obtained.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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Appendix

Table A1. Leadership Style Preferences

Style	Frequency	%
Transformational	42	40.8
Authentic	28	27.2
Democratic	18	17.5
Servant	15	14.6

Note: Transformational leadership is most preferred (40.8%).

Table A2. Organizational Culture Support for FDI-C

Support Level	Frequency	Percentage
Strongly Supportive	35	34.0%
Moderately Supportive	45	43.7%
Neutral	15	14.6%
Weak/Not Supportive	8	7.8%

Note: 77.7% of respondents report at least moderate support for FDI-C, suggesting widespread cultural alignment.

Table A3. Participant Characteristics

Variable	Category	Frequency	%
Role	Middle Management	62	60.2
	Floor Management	36	35.0
	Top Management	5	4.8
Industry Tenure	2–5 years	58	56.3
	6–10 years	28	27.2
	10+ years	17	16.5
Company Size	Large (500+ employees)	82	79.6
	Medium (50–499)	15	14.6
	Small/Micro (< 50)	6	5.8

Note: Dominance of large enterprises (79.6%) suggests findings are particularly relevant for multinational firms.

Table A4: Scale Reliability (Cronbach's Alpha)

Adapted Scales:

1. FDI-C Scale (four items, adapted from Denison Organizational Culture Survey):
 - Items:
 1. “My company prioritizes employee well-being.”
 2. “Our culture supports flexible work models.”
 3. “Diversity is represented at all levels.”
 4. “All employees have equal opportunities.”
 - $\alpha = 0.88$ (Excellent internal consistency).
2. Leadership Commitment Scale (three items, adapted from *MLQ-5X*):
 - Items:
 1. “Leadership is committed to FDI-C.”
 2. “Leadership implements inclusive policies.”
 3. “Leadership models inclusive behaviors.”
 - $\alpha = 0.79$ (Acceptable).

Scale Adaptation Details

1. FDI-C Scale:
 - Source: Denison Organizational Culture Survey (Denison, 1990).
 - Adaptations:
 - Added items on flexibility (e.g., agile work models).
 - Simplified Likert anchors (1 = strongly disagree, 5 = strongly agree).
2. Leadership Styles:
 - Source: Multifactor Leadership Questionnaire (Bass & Avolio, 2000).
 - Adaptations:
 - Merged “transformational” and “authentic” subscales for FDI-C focus.
 - Added behavioral examples (e.g., “Leaders adjust policies for inclusivity”).

Note: Adaptations ensured relevance to the oil and gas context while preserving construct validity.

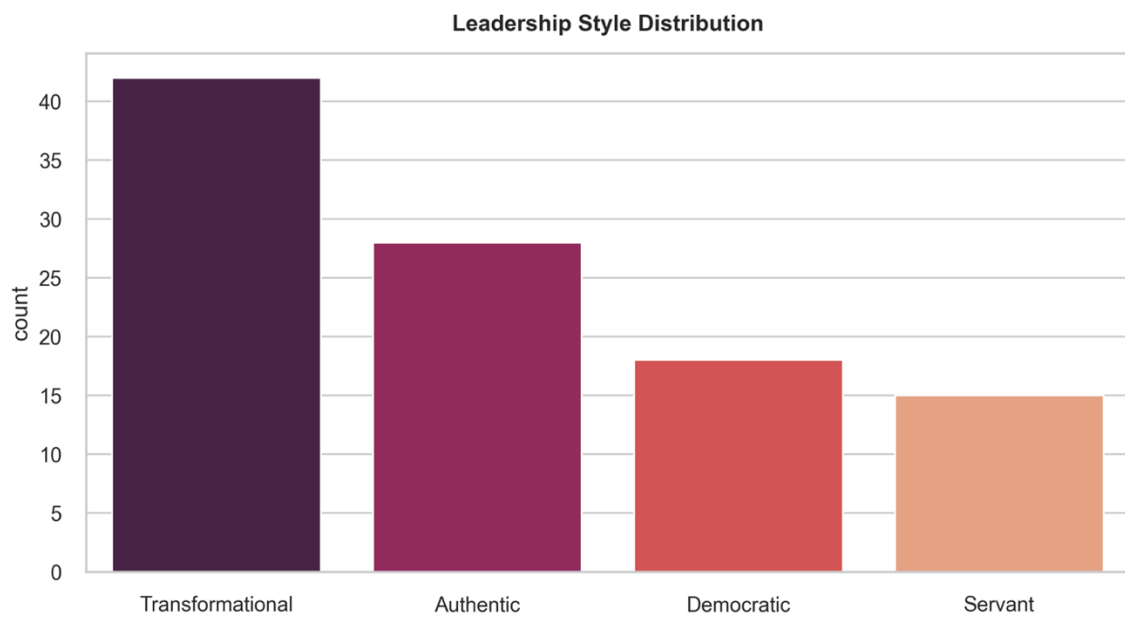


Figure A1: Leadership Style Distribution

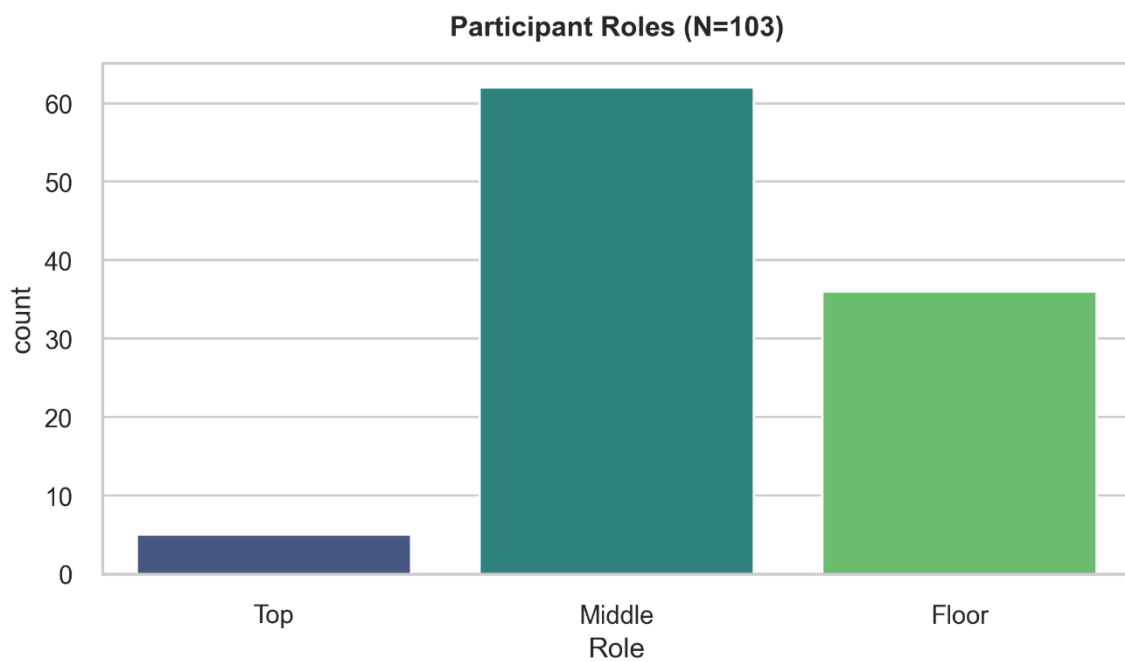


Figure A2: Role Distribution

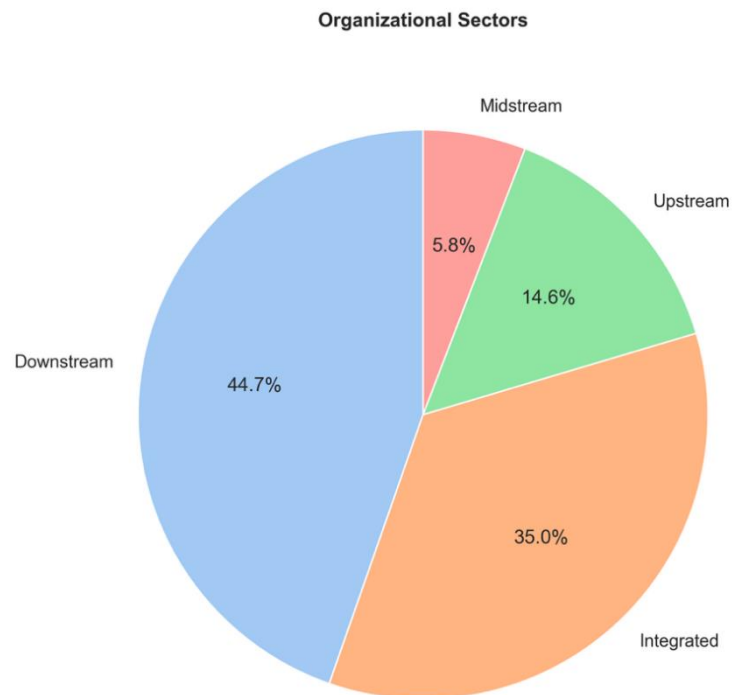


Figure A3: Sector Distribution