**Indo American Journal of Multidisciplinary Research and Review (IAJMRR)**
**International Peer Reviewed - Refereed Research Journal**
**ISSN: 2581 - 6292, Impact Factor: 6.885, Website: www.iajmrr.com**

# STRATEGIC LEADERSHIP EFFECTIVENESS IN THE GHANA AND NIGERIAN NAVIES

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**Cite This Article:** Bright Emmanuel Kojo Atiayao, Michael Martinson Boakye & Gideon C. Mwanza, "Strategic Leadership Effectiveness in the Ghana and Nigerian Navies", Indo American Journal of Multidisciplinary Research and Review, Volume 10, Issue 2, July - December, Page Number 84-90, 2026.

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**Type of Review:** Peer Reviewed as per |C|O|P|E| Guidance.

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**DOI:** https://doi.org/10.5281/zenodo.24414874

**Abstract:**

This study compares perceived strategic leadership effectiveness in the Ghana and Nigerian navies and examines how dimension-level patterns differ despite similar overall ratings. A pragmatist convergent mixed-methods design combined common-scale survey responses from 241 senior naval officers (Ghana n = 85; Nigeria n = 156) with 26 key-informant accounts. The 10-item effectiveness measure had Cronbach's α = .829. Both country means exceeded the neutral midpoint (Ghana M = 3.687; Nigeria M = 3.738; both p< .001). The overall difference was not statistically significant, t(239) = −0.768, p = .443, d = −0.103; Welch and Mann-Whitney tests corroborated this finding. Nigerian respondents rated coordination and collaboration (p = .002, d = −0.429) and innovation and technology (p< .001, d = −0.535) higher. The Ghanaian ethics-and-governance advantage was not significant (p = .114). Officer accounts emphasised disciplined prioritisation and accountability in Ghana, and technology-enabled coordination and adaptation in Nigeria. The evidence supports contextual interpretation rather than a ranking of operational effectiveness. Cross-sectional perceptions, unequal groups and untested measurement invariance limit inference. Multidimensional, context-sensitive leadership assessment is recommended.

**Key Words:** Strategic Leadership; Naval Leadership; Ghana; Nigeria; Gulf Of Guinea; Mixed Methods; Contingency Theory

## Introduction:

Maritime-security institutions in the Gulf of Guinea are expected to protect territorial waters, fisheries, ports and offshore assets while responding to piracy, trafficking and illicit maritime activity. These responsibilities span agencies and national jurisdictions, and their implementation depends on how command structures coordinate information, people and limited assets (Bueger & Edmunds, 2024; Agyekum et al., 2024). Defence-resource management also entails difficult choices over readiness, training, maintenance and operational priorities (Dolidze & Kandelaki, 2024).

Strategic leadership is concerned with senior decision-makers' direction-setting, resource alignment, professional culture, adaptation and stakeholder relationships (Samimi et al., 2022; Singh et al., 2023). Yet evaluations frequently compress these distinct practices into one overall score. An aggregate comparison can conceal dissimilar patterns among the component dimensions, particularly when the institutions being compared differ in scale, maritime exposure and inter-agency arrangements.

Ghana and Nigeria share a regional maritime-security setting but operate under different institutional and geographic conditions. Existing studies document complex relations between maritime stakeholders in Ghana (Agyekum, 2024) and persistent obstacles to inter-agency cooperation (Agyekum et al., 2024); research on Nigerian initiatives also foregrounds the breadth of anti-piracy, surveillance and coordination obligations (Lamptey, 2023). These studies do not establish that one navy is better led than the other, nor do they offer a matched officer-based comparison using an identical effectiveness instrument.

The article therefore asks: (RQ1) How do officers in each navy rate perceived strategic leadership effectiveness? (RQ2) Do the overall country means differ significantly? (RQ3) Which of the seven measured dimensions show different country patterns, and how do officer accounts contextualise them? The formal composite hypothesis is $H_0$: the population mean perceived leadership-effectiveness score does not differ between the Ghana and Nigerian groups. Dimension comparisons are secondary, exploratory tests; officer narratives inform interpretation rather than confirm causal mechanisms.

**Literature Review:**

**Contingency Theory:**

Contingency Theory is the most direct explanatory lens for this comparative article. It proposes that the effectiveness or salience of leadership practices depends on the alignment between leadership demands, institutional arrangements and the surrounding environment rather than on a universally superior style (Villoria, 2016; Northouse, 2022). Its relevant expectation here is modest: two navies may exhibit similar overall perceived effectiveness while respondents place different weight on coordination, technology, resource prioritisation or governance. This is a context-sensitive interpretation of measured differences, not a statistical test of a country-by-context moderation model.

Contingency reasoning is particularly pertinent to the difference between a smaller national force managing limited platforms and a larger organisation managing multiple theatres and agencies. Nevertheless, country is only a grouping variable in the present analyses. Actual resource levels, threat intensity and organisational complexity were not jointly modelled as explanatory moderators. The theory therefore guides interpretation and possible policy adaptation; it is not presented as confirmation that context caused the observed score differences.

Conceptually, the seven survey dimensions are related but not duplicates. Strategic direction concerns the clarity and continuity of command priorities; resource orchestration concerns choices among competing platform, financial and personnel demands; adaptive decisions concern responsiveness to changing conditions; and human-capital development concerns the preparation and support of officers and ratings. Coordination and collaboration refers to working relationships within and beyond the service, innovation and technology to the uptake and integration of new methods and systems, and ethics and governance to standards of conduct and responsible command. Presenting these components separately makes the comparison more analytically useful than treating a leadership mean as though it had one indivisible interpretation. At the same time, the available study data cannot establish that these seven factors are psychometrically distinct or equally weighted across the two navies.

For a cross-national comparison, a statistically non-significant difference and a substantively unimportant difference are different propositions. The former depends on standard errors, group sizes and the stated significance threshold; the latter would require a defensible smallest difference of practical interest, alongside the precision of the estimate. This research reports conventional comparisons, not an equivalence design. It therefore refrains from concluding that officers in Ghana and Nigeria have identical experiences of leadership. The more specific and useful question is which observed domains deserve follow-up, while recognising that the overall evidence limits claims about country-wide differences.

**Empirical Evidence and Measurement Issues:**

Strategic-leadership syntheses identify strategic direction, resource allocation, adaptation, human capital and collaborative stakeholder relationships as overlapping executive tasks (Samimi et al., 2022; Singh et al., 2023). Evidence from military settings emphasises the importance of leadership for personnel management and professional development, but it also cautions that empowerment must operate alongside clear command accountability (Holota & Tytkovskyi, 2023; Teixeira et al., 2024). These findings justify measuring multiple leadership domains rather than relying on charisma or a single leadership trait. The regional maritime evidence complicates straightforward leadership rankings. Ghanaian inter-agency research documents jurisdictional and information-sharing friction (Agyekum et al., 2024), while evaluations of technology in the Gulf of Guinea find potential improvements in awareness alongside human-capacity, governance and sustainability constraints (Okafor-Yarwood et al., 2024). More visible technology therefore cannot be equated automatically with more effective leadership. Conversely, a high governance rating does not prove superior operational performance. Both propositions require measures beyond self-report.

Two methodological issues matter. First, senior officers may rate their organisation through differing expectations shaped by rank, command culture or institutional loyalty; common-method risks make self-reported perceptions different from verified operational outcomes (Podsakoff et al., 2024). Second, use of identical items improves comparability but does not establish cross-country measurement invariance. The article therefore reports group differences cautiously and avoids equating statistical non-significance with formal equivalence.

**Methodology:**

**Design, Participants and Instruments:**

A convergent, pragmatist mixed-methods comparative design was employed: quantitative and qualitative evidence were analysed independently and brought together at interpretation (Creswell & Creswell, 2022; Fetters & Tajima, 2022). The accessible planning frame covered 2,306 senior naval officers (Ghana 176; Nigeria 2,130). A finite-population sample calculation produced a planning minimum of 330; disproportionate stratification and a census-contact effort in Ghana helped prevent the larger Nigerian frame from overwhelming comparison (Saunders et al., 2023). This planning figure is not the number analysed in the primary tests.

After cleaning, 385 country-labelled questionnaires remained (Ghana 145; Nigeria 240). The primary country comparison instead used the 241 officers who completed the identical 10-item

effectiveness instrument (Ghana 85; Nigeria 156). The remaining records were not entered into the country-level hypothesis tests because the scale was not fully comparable. Twenty-six usable key-informant accounts (Ghana 8; Nigeria 18) furnished qualitative context. Common-scale respondents held ranks from Lieutenant Commander to Commodore in Ghana and from Lieutenant Commander to Rear Admiral in Nigeria, with command, logistics, planning, operations, technology and headquarters responsibilities.

The 10 five-point Likert items (eff1-eff10) assessed overall perceived leadership effectiveness in direction, decisions, resource priorities, personnel support, technology orientation, coordination, communication, ethics, accountability and performance under constraint. The composite had α = .829 and corrected item-total correlations of .448-.595; this indicates internal consistency, not independently proven cross-national construct equivalence (DeVellis & Thorpe, 2021). The seven reporting dimensions were strategic direction and vision; resource orchestration; adaptive decision-making; human-capital development; coordination and collaboration; innovation and technology; and ethics and governance. A 30-person pilot informed wording and reliability checks (Bujang et al., 2024).

The two numerical samples also require explicit attention to selection and transportability. The accessible population provided a planning frame, but analysed common-scale responses represent a restricted subset of the retained questionnaires. The study documents why that restriction was necessary, while not showing that completion of the identical items was unrelated to rank, responsibility, institutional affiliation or opinions about leadership. Thus, differences in observed group means could partly reflect who answered the common scale. No population weights, non-response adjustment or rank-standardised country comparison is documented in the article. The correct target of the reported tests is the sampled officer groups and their measured perceptions, not all officers serving in the two navies.

**Analytic Procedures and Ethics:**

Country means, standard deviations, medians, confidence intervals and one-sample tests against the neutral scale midpoint (3.0) described the perception profile. Shapiro-Wilk and Levene tests assessed assumptions. The pre-specified composite comparison used an independent-samples t-test, corroborated by Welch's unequal-variance test and a Mann-Whitney comparison, with the Ghana-minus-Nigeria mean difference and Cohen's d. The seven dimension-level contrasts provided exploratory descriptive and inferential detail; reported p-values are reproduced from the study without implying that multiplicity or measurement invariance was formally addressed.

Thematic interpretation used anonymised professional accounts organised around patterns visible in both country groups, with inductive refinement of categories (Braun & Clarke, 2022). A joint narrative connected statistically supported comparisons to the participants' explanations without presenting those accounts as experimental or causal verification. Participation was voluntary and consent-based; only non-classified professional material was included. The institutional ethics approval body and reference number remain to be inserted from the original research approval before submission.

**Results:**

**Sample Base and Reliability:**

Table: Evidence Base for the Comparative Analyses

| Evidence | Ghana | Nigeria | Total / use |
|---|---|---|---|
| Common-scale questionnaire | 85 | 156 | 241; principal tests |
| Retained country-labelled questionnaires | 145 | 240 | 385; context only |
| Key-informant accounts | 8 | 18 | 26; interpretation |
| Ranks in common-scale sample | Lt Cdr-Commodore | Lt Cdr-Rear Adm | Senior officers |
| Perceived effectiveness instrument | 10 items | 10 items | α = .829; item-total r = .448-.595 |

Source: Study field data. Lt Cdr = Lieutenant Commander; Rear Adm = Rear Admiral.

Using the identical 10-item subset is central to the interpretation: adding respondents who did not answer the same scale would increase N but introduce an avoidable measurement mismatch. The scale's acceptable pooled reliability supports composite description while leaving country-specific validity, item thresholds and response-style equivalence untested.

**Overall Ratings and Benchmark Tests:**

Table: Perceived Strategic Leadership Effectiveness by Country

| Country | n | Mean (SD) | Median | 95% CI | Test vs 3.0 | d vs 3.0 |
|---|---|---|---|---|---|---|
| Ghana | 85 | 3.687 (.502) | 3.700 | 3.579-3.795 | t = 12.622; p< .001 | 1.369 |
| Nigeria | 156 | 3.738 (.494) | 3.800 | 3.660-3.817 | t = 18.685; p< .001 | 1.496 |

Source: Study field data. Benchmark effect sizes describe departure from the neutral midpoint; they are not effects of leadership on performance.

Both groups rated perceived strategic leadership effectiveness above the neutral midpoint: Ghana M = 3.687 (SD = .502), Nigeria M = 3.738 (SD = .494); both benchmark tests returned p< .001. The differences from the fixed value of 3.0 were large in standardised units, but this is evidence of favourable ratings, not evidence of causally improved readiness. Median responses and within-group dispersion were

also close. The Nigerian mean exceeded the Ghanaian mean by only .051 points on a five-point response scale.

**Composite Hypothesis Test and Robustness:**

Table: Assumptions and Overall Ghana-Nigeria Difference

| Test or Estimate | Original Result |
|---|---|
| Shapiro-Wilk: Ghana | W = .982; p = .295 |
| Shapiro-Wilk: Nigeria | W = .988; p = .193 |
| Levene equality of variances | F = .035; p = .852 |
| Independent-samples t-test | t(239) = −.768; p = .443 |
| Welch t-test | t(170.266) = −.764; p = .446 |
| Mann-Whitney comparison | U = 6147.5; p = .350 |
| Ghana − Nigeria mean difference | −.051; 95% CI [−.184, .081] |
| Cohen's d | −.103 |
| Composite $H_0$ decision | Fail to reject at α = .05 |

Source: Study field data. Non-significance does not establish population equivalence.

The independent-samples result did not reject the null hypothesis, t(239) = −.768, p = .443. Both alternative procedures returned the same inferential direction; the confidence interval [−.184, .081] includes zero and the standardised difference was very small (d = −.103). Accordingly, the evidence does not establish a composite leadership-effectiveness difference between the country groups. It also does not prove equal effectiveness: no equivalence margin or equivalence test was specified.

**Dimension-Level Comparison:**

Table: Seven Perceived Effectiveness Dimensions (Ghana Minus Nigeria)

| Dimension | Ghana M (SD) | Nigeria M (SD) | Δ mean | p | d |
|---|---|---|---|---|---|
| Strategic direction and vision | 3.771 (.469) | 3.801 (.489) | −.031 | .633 | −.064 |
| Resource orchestration | 3.582 (.531) | 3.709 (.505) | −.127 | .073 | −.247 |
| Adaptive decision-making | 3.727 (.531) | 3.815 (.498) | −.088 | .212 | −.172 |
| Human-capital development | 3.641 (.564) | 3.683 (.516) | −.042 | .574 | −.078 |
| Coordination and collaboration | 3.720 (.558) | 3.934 (.469) | −.214 | .002 | −.429 |
| Innovation and technology | 3.380 (.593) | 3.683 (.548) | −.302 | < .001 | −.535 |
| Ethics and governance | 3.991 (.527) | 3.881 (.497) | +.110 | .114 | +.217 |

Source: Study field data. Δ = Ghana minus Nigeria. Dimension tests are secondary comparisons; no multiplicity-adjusted inference is asserted.

Dimension scores identify the substantive pattern hidden by the composite. Nigerian respondents gave higher ratings to coordination and collaboration (mean difference −.214, p = .002, d = −.429) and innovation and technology (−.302, p< .001, d = −.535). These are the only two statistically significant dimension-level country contrasts as originally reported. The largest positive Ghana-minus-Nigeria difference occurred for ethics and governance (+.110), but that contrast was not significant (p = .114). Resource orchestration also favoured Nigeria numerically without reaching p< .05 (p = .073).

Neither the Ghanaian governance pattern nor the Nigerian coordination and innovation pattern should be recast as a direct measure of verified naval performance. The dimensions are self-reported ratings of perceived leadership effectiveness, and the item groupings may not function identically across national command cultures. Their value is to identify targeted questions for professional review and further measurement, rather than to designate one force the overall leader.

The dimension-level p-values also deserve appropriately restrained interpretation. Seven contrasts were examined in addition to the composite hypothesis, raising the possibility of chance findings when multiple outcomes are inspected. The original inferential results are retained without a newly invented familywise-error correction or re-analysis of the raw data. The two comparatively strong signals on coordination and innovation merit attention, but external replication with pre-specified testing and item-level checks would better establish their stability. For dimensions with p-values above .05, descriptive signs should be stated without categorical claims of national advantage; this is especially important for ethics and governance, where Ghana's numerical difference was positive but not significant.

**Qualitative Integration:**

The Ghanaian key-informant accounts linked effective leadership to clear command intent, disciplined allocation of scarce assets, accountability and prioritisation of mission-critical obligations. These narratives were consistent with a high Ghanaian governance rating, although they cannot elevate its non-significant country difference into a statistically demonstrated advantage. Respondents also described the importance of careful personnel deployment and sustained readiness with limited platforms.

Nigerian accounts gave particular attention to a larger multi-agency theatre, surveillance, technological adaptation, operational feedback, partnerships and the management of fleet and maintenance needs. These accounts are compatible with the higher Nigerian coordination and innovation scores. However, narrative convergence is interpretive corroboration, not proof that institutional scale or technology investments produced the observed ratings.

Across both sets of accounts, the common themes were strategic prioritisation, coordination, readiness, personnel development and accountable command. This explains why a similar aggregate rating can coexist with different emphases: respondents in each setting described several ways in which senior leadership is experienced. The data do not establish a sequence of mediated effects through which one practice creates another.

**Discussion:**

**Interpreting Similarity and Selective Difference:**

The principal comparative finding is a small, non-significant country difference at composite level alongside significant differences in two of seven dimensions. The composite and dimension outcomes are not contradictory: a mean across several domains can look similar even when individual domains vary. The accurate conclusion is therefore neither "no differences anywhere" nor "one navy is more effective", but that common-scale officer perceptions were broadly similar overall and selectively different in coordination and innovation.

Contingency Theory provides a parsimonious explanation for why this pattern is plausible (Villoria, 2016; Northouse, 2022). A smaller navy may accentuate command discipline and resource sequencing, whereas a larger, multi-theatre force may make inter-agency coordination and technological adaptation more visible. The empirical comparison does not test the relevant environmental factors directly; context is therefore an interpretive proposition rather than a demonstrated statistical driver. Applying the theory critically avoids treating any observed gap as automatically caused by national circumstances.

**Relationship to Previous Studies:**

The strong salience of coordination in Nigeria resonates with Gulf of Guinea work depicting maritime security as a collective-action problem, although Ghanaian evidence also documents serious inter-agency challenges (Agyekum et al., 2024; Lamptey, 2023). The finding should not be read as proof that Nigerian coordination is objectively superior. It shows a higher rating among the surveyed Nigerian officers on a common group of perception items. Literature on maritime technology similarly supports the importance of organisational integration but warns that the possession of surveillance tools is not equivalent to sustainable operational capability (Okafor-Yarwood et al., 2024).

Research on strategic leadership recognises that ethics, human capital, collaboration and innovation are interdependent rather than interchangeable (Samimi et al., 2022; Singh et al., 2023). The present ratings therefore support a multidimensional diagnostic view of command effectiveness. The high Ghanaian ethics-and-governance mean and the positive Nigerian technology mean may be useful topics for reciprocal professional learning, but inference should remain proportional to the exploratory tests and qualitative evidence.

The practical implication is not that two institutions should pursue identical reforms. In a force with few available platforms, a leadership review could focus on protecting maintenance and training priorities and making trade-offs transparent. In a more differentiated operating environment, a review might also examine the reliability of coordination channels and the sustainability of surveillance systems. These are possible audit questions suggested by the thematic evidence and the regional literature, not assessed intervention effects. A sound learning exchange would first document processes and constraints within each force, identify shared problems, and then use small-scale evaluation to determine whether an adapted practice produces measurable local benefit.

Future comparison should distinguish at least three levels of evidence: what senior officers think leaders do, how independently observed command processes function, and what operational outputs and readiness indicators show. The present article measures the first level and provides interview-based interpretations of it; it does not substitute for the second or third. A longitudinal mixed-methods design could track whether dimension ratings change after documented professional-development or coordination reforms while incorporating operational records permitted by security protocols. Formal invariance testing would help determine whether score comparisons have the same construct meaning in both countries. Such an approach would strengthen both the fairness of the comparison and the usefulness of recommendations.

One way to read the findings is as a warning against oversimplified institutional benchmarking. Mean rankings are particularly vulnerable to changes in response composition: a survey with more officers from an operational branch may value coordination differently from a survey with a larger headquarters or training component. The present samples include multiple responsibility groups, but no role-specific standardisation or matched-command comparison is reported. Thus, even where a dimension differs significantly, the result identifies a pattern among respondents rather than a fully controlled difference between the underlying national institutions. Reporting both uncertainty and effect size is valuable precisely because statistical significance is not a substitute for a theory of comparability.

Another consideration is the distinction between a leadership priority and a leadership output. Innovation and technology scores reflect officers' judgements about leadership orientation toward new systems, not verified evidence that surveillance infrastructure operates reliably or improves mission success. Coordination scores similarly reflect opinions about collaboration rather than documented response times or the quality of intelligence shared between agencies. Maritime-security scholarship

shows that technology systems and partnerships operate under practical training, sustainability and organisational constraints (Okafor-Yarwood et al., 2024; Agyekum et al., 2024). A stronger applied follow-up would therefore pair each survey dimension with carefully selected evidence of implementation, such as approved training records, maintenance routines, documented coordination exercises or other releasable non-classified process indicators.

The same caution applies to the apparently favourable aggregate means. Officers can recognise commendable leadership practices while still operating under serious equipment and budget restrictions. Large differences from the survey midpoint do not demonstrate an absolute standard of effectiveness or an absence of unmet operational needs. Further, a midpoint test asks a different question from the cross-country test: it asks whether a sample mean exceeds a fixed neutral response value, not whether leadership explains outcomes or whether one country outperforms another. Separating these questions improves alignment between the research question, the hypothesis decision and the policy interpretation. It also prevents recommendations from being justified by descriptive ratings that were never intended as performance audits.

**Methodological Significance, Boundaries and Future Work:**

This article strengthens the existing comparison by restricting primary inference to identical items and reporting the test statistic, confidence interval and effect size rather than relying on country means alone. It also makes the difference between aggregate and dimension-level results explicit. The important limitations are unequal sample sizes, one-time self-reports, possible command-culture response bias, untested cross-country measurement invariance and the absence of independent operational metrics. The 26 qualitative accounts offer contextual depth but are not a representative second survey. An independent follow-up should assess invariance, incorporate command and readiness records where ethically permissible, and pre-specify adjustment for several dimension comparisons (Podsakoff et al., 2024).

**Conclusion and Practical Recommendations:**

Perceived strategic leadership effectiveness was rated positively by surveyed senior officers in both navies, and the overall country contrast was neither statistically significant nor practically large. Nigerian officers reported significantly higher perceptions on coordination and collaboration and on innovation and technology; other dimension gaps, including Ghana's higher ethics-and-governance mean, were not statistically supported. The qualitative material describes different emphases within a shared need to lead under constraint. These findings support context-sensitive comparison, not claims of measured naval superiority or verified causal influence on defence outcomes.

For naval headquarters, a seven-dimension assessment would be more informative than a single effectiveness score. Ghanaian leadership-development reviews could scrutinise coordination systems and technology integration while preserving attention to accountable priorities; Nigerian reviews could explicitly link innovation and partnership agendas to maintenance, professional development and governance. Bilateral case-based peer learning should compare working practices, not presume direct transferability. Ministries should evaluate such changes with repeat measurement and independent indicators rather than assuming that present perception gaps predict operational gains.

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