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Modeling the Influence of the Islamic Republic of Iran on the Geopolitical Transformations of Energy in the Mediterranean Sea: A Case Study of the Oil and Gas Industry

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1. Round 1

1.1. Reviewer 1

Reviewer:

In the methods section, the sentence “The methodology of the present research is based on the application of structural equation modeling by partial least squares in the framework of the DPSIR conceptual model” is promising, but the methodological design is not described with sufficient reproducibility. The authors should report the number of experts, their areas of expertise, inclusion criteria, sampling strategy, demographic/professional characteristics, and the process by which expert judgments were converted into the final causal matrix. Without these details, the study cannot be adequately evaluated or replicated.

In the methods section, the manuscript refers to “the final matrix obtained from the focus group,” but it does not explain how the focus group was conducted. The authors should specify the number of focus-group sessions, duration, moderation procedure, consensus-building method, scoring system, and whether Delphi rounds or expert validation were used. Since the FCM results depend directly on expert judgments, methodological transparency at this point is essential.

In Tables 6, 8, 10, 12, and 14, the RMSEA values are close to the upper acceptable threshold in some models, particularly 0.093 and 0.097. The authors report all models as simply “confirmed,” but a more nuanced interpretation is needed. Values approaching 0.10 indicate only marginal or acceptable fit rather than strong fit, and this should be acknowledged. The discussion should distinguish between excellent fit, acceptable fit, and borderline fit rather than treating all indices uniformly.

In the path-analysis tables, all t-values are reported as statistically significant, but the manuscript does not report p-values, confidence intervals, standard errors, or bootstrapping procedures. For example, the path “Economic stability and national

financial system ← Legal arrangements" has a coefficient of 0.45 and t = 7.61, which is significant but weaker than the other indicators. The authors should discuss not only significance but also relative effect size and substantive importance.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

In the hypotheses section, the proposed DPSIR hypotheses such as "Driving forces have positive effects on pressures" and "Pressures have negative effects on state" should be conceptually aligned with the actual variables analyzed later in the article. The subsequent results focus on factors such as foreign policy and energy diplomacy, governance, regional security developments, technological infrastructure, and economic stability, but the manuscript does not clearly show how each of these corresponds to Driver, Pressure, State, Impact, and Response categories. A mapping table or explanatory paragraph is required.

In the FCM findings section, the sentence "The size of the circles related to each factor indicates the centrality of that factor" is useful, but the figure and table should also explain how centrality was calculated. The manuscript should define influence, dependence, and centrality mathematically or procedurally, especially because Table 1 and Table 2 present different centrality values for some factors. Readers need to know whether centrality equals the sum of absolute incoming and outgoing weights, normalized scores, or another FCMapper index.

In Table 1, the centrality of "Foreign policy and energy diplomacy of the Islamic Republic of Iran" is reported as 5.53, while in Table 2 it is reported as 6.15. The authors should explain why these values differ. If Table 1 and Table 2 are based on different calculations, the distinction must be clearly described. If this is a typographical or computational inconsistency, it should be corrected because it affects the ranking and interpretation of the most central variables in the model.

In the scenario analysis section, the phrase "if foreign policy and energy diplomacy of the Islamic Republic of Iran in the intended organization becomes zero" is unclear and should be revised. The article is about geopolitical energy transformations in the Mediterranean, not an "organization." The authors should replace ambiguous organizational language with system-level terminology, such as "if the effect of foreign policy and energy diplomacy is removed from the model." This will make the scenario analysis more conceptually consistent.

In the first scenario interpretation, the manuscript states that "economic stability and the national financial system, technological progress and industrial energy infrastructure change positively to a large extent," but Table 3 shows technological progress decreasing from 0.75 to 0.61. This interpretation appears inconsistent with the numerical results. The authors should review all scenario descriptions and ensure that the direction of change is interpreted accurately according to the reported values.

In the second scenario, the finding that the removal of governance, project management, and institutional coordination increases foreign policy and energy diplomacy from 0.59 to 0.67 requires deeper explanation. This is a theoretically interesting but counterintuitive result. The authors should explain whether this means diplomacy compensates for institutional weakness, whether it reflects model feedback effects, or whether it is a mathematical artifact of the FCM structure. Without explanation, the interpretation remains superficial.

In the structural equation modeling section, the manuscript reports fit indices such as χ^2, χ^2/df, RMSEA, NFI, GFI, CFI, and IFI while also stating that Smart-PLS was used. This creates a methodological concern because covariance-based SEM indices such as GFI and CFI are not typically central to standard PLS-SEM reporting. The authors should clarify whether the analysis was conducted in Smart-PLS, AMOS/LISREL, or another SEM package, and should report model evaluation criteria appropriate to the chosen SEM approach, such as factor loadings, AVE, composite reliability, Cronbach's alpha, HTMT, R^2, Q^2, SRMR, and bootstrapped path coefficients if PLS-SEM was used.

Authors revised the manuscript and uploaded the document.

2. Revised

Editor's decision: Accepted.
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