

REVIEWER'S REPORT

Manuscript No.: **IJAR-58609**

Title: FROM MONITORING DASHBOARDS TO GOVERNANCE TWINS AN ACCOUNTABILITY-CENTRED ARCHITECTURE FOR HUMAN-IN-THE-LOOP AI IN COMPETITIVE CITY ECONOMIC REGIONS.

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revision ...✓.....

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance		✓		

Reviewer's ID: JPR- **098**

Detailed Reviewer's Report

Decision: Accept after Major Revision

Major Comments

- Lack of Empirical Validation:** The proposed ACGT-CER framework is evaluated only through conceptual scenario-based stress testing. The manuscript would be significantly strengthened by including a real-world case study, prototype implementation, simulation, or expert validation to demonstrate its practical applicability.
- Methodology Requires Greater Detail:** Although the study adopts a Design Science Research (DSR) approach, the design process, artifact development, and evaluation methodology require more comprehensive explanation to improve reproducibility and rigor.
- Novelty Should Be Better Established:** The manuscript should provide a clearer comparison with existing governance, digital twin, and AI governance frameworks to better highlight the originality and contributions of the proposed architecture.
- Proposed Metrics Need Validation:** The introduced metrics (DTR, DEI, HOSS, and ACR) are conceptually valuable but lack validation,

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sensitivity analysis, and justification of thresholds. Their practical applicability should be demonstrated or discussed in greater depth.

5. **Implementation Strategy Needs More Technical Detail:** The implementation roadmap remains high-level. More discussion on system architecture, interoperability, data management, and deployment considerations would improve the practical value of the work.
6. **Limitations and Future Validation:** While limitations are acknowledged, the manuscript should provide a more detailed discussion on potential implementation challenges, scalability, institutional barriers, and plans for future empirical validation.

Minor Comments

1. The abstract is informative but could be more concise by emphasizing the key contribution, evaluation approach, and principal findings.
2. The literature review would benefit from a comparative summary table and inclusion of more recent studies related to governance twins, digital twins, and AI governance.
3. Improve the readability of some long paragraphs by dividing them into shorter sections.
4. Increase the resolution and font size of figures to improve readability in the final publication.
5. Clearly define all variables and symbols used in the mathematical formulations for better understanding.
6. Some tables are text-heavy; simplifying or restructuring them would improve readability.
7. Expand the discussion on Human-in-the-Loop AI by relating the framework to current AI governance standards and regulations.
8. The conclusion could briefly summarize the major contributions and highlight specific future research directions.