

REVIEWER'S REPORT

Manuscript No.: IJAR-59216

Title: Generative Artificial Intelligence for Executive Visual Communication in Saudi GigaProjects: A Framework for Decision Support under Vision 2030

Recommendation:

Accept as it is
 Accept after minor revision.....
Accept after major revisionyes
 Do not accept (*Reasons below*)

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

Reviewer's ID: JPR-Dr.Shaweta Sachdeva

Detailed Reviewer's Report

1. The manuscript addresses a timely and relevant topic by examining the role of generative AI in executive visual communication for Saudi giga-projects. The proposed **Executive Visual Decision Support (EVDS)** framework is clearly positioned as a governance-aware approach.
2. The **abstract should be made more structured and concise**. It currently combines background, findings, framework description, implications, and future work in a long narrative. Consider explicitly presenting the review objective, methodology, major findings, framework contribution, and limitations.
3. The **research gap should be stated more explicitly** in the Introduction. The manuscript discusses several related areas—generative AI, explainable AI, digital twins, construction AI and human-AI collaboration—but the precise gap that necessitates the EVDS framework should be clearly differentiated from existing frameworks.
4. The methodology requires **greater reproducibility**. The authors mention publisher platforms, scholarly discovery services, backward/forward citation checks, and four search categories, but do not provide the exact databases, search strings, search dates, number of records retrieved, duplicate-removal procedure, screening process, and final inclusion/exclusion counts.
5. Since this is an integrative review, the authors should consider providing a **PRISMA-style flow diagram or equivalent study-selection flowchart**, even if the review is not intended to be a systematic review.
6. Only **30 sources** are included in the evidence corpus. The authors should justify whether this number provides sufficient coverage for such a multidisciplinary topic and explain how the final 30 studies were selected from the initially identified literature.
7. The manuscript should provide a **more detailed evidence-classification table**, including publication year, country/context, research method, sample/data source, major findings, limitations, and relevance to EVDS. This would make the synthesis more transparent.
8. The paper makes extensive use of evidence from construction AI, explainability, human-AI collaboration, and organisational studies to develop a framework for Saudi giga-projects. The

REVIEWER'S REPORT

authors should **more clearly distinguish direct evidence from Saudi giga-projects from evidence transferred from other domains or geographical contexts.**

9. The proposed EVDS framework is identified as an **analytical proposition rather than an empirically validated causal model.** This is appropriately acknowledged, but the manuscript should more clearly distinguish framework-derived propositions from findings directly supported by the reviewed studies.
10. The **five layers of the EVDS framework** are clearly explained, but the manuscript would benefit from defining the inputs, outputs, responsible stakeholders, control mechanisms, and measurable indicators associated with each layer.
11. Figure 1 presents a useful pipeline from project evidence to accountable executive action. However, the figure could be improved by **showing more explicit data flows, feedback mechanisms, validation checkpoints, and human intervention points.**
12. Figure 2 and Table 2 provide useful representations of the human-AI decision loop and decision stages. The authors should ensure that **all terminology used in the figures and tables is defined consistently in the main text.**
13. The manuscript proposes several evaluation indicators, including decision preparation time, traceability, executive comprehension, unsupported outputs, decision-cycle length, human overrides, and action closure. These indicators should be converted into a **clear evaluation framework with operational definitions and possible measurement methods.**
14. A stronger **validation strategy** is needed. The manuscript should provide a hypothetical case study, expert evaluation, Delphi study, pilot scenario, or comparative assessment to demonstrate how the EVDS framework would operate in a realistic giga-project environment.
15. The discussion of **hallucination, uncertainty, provenance, explainability, and human oversight** is relevant, but the manuscript could provide more concrete technical mechanisms such as retrieval-augmented generation, source citation, confidence calibration, validation rules, access control, and audit logging.
16. The manuscript should discuss **data privacy, cybersecurity, intellectual-property protection, cross-organisational data sharing, and confidentiality** in greater depth because giga-project environments involve multiple contractors, consultants, government bodies, and technology platforms.
17. The Saudi context is central to the manuscript, but the authors should provide **more concrete examples of Saudi giga-project environments** and explain how requirements may differ among projects such as NEOM and other large-scale Vision 2030 programmes.
18. The discussion of **Arabic-English bilingual generation** appears mainly in the future research section. Given the Saudi context, bilingual communication could be integrated more substantially into the proposed framework, particularly at the visual communication and executive governance layers.
19. The manuscript should strengthen the discussion of **bias and cultural/contextual risks** associated with generative AI, particularly when executive information is generated from heterogeneous organisational and stakeholder sources.
20. Some statements are broad and should be supported by more specific evidence. For example, claims regarding generative AI reducing decision latency should clearly distinguish between **demonstrated empirical findings and proposed future benefits.**
21. The manuscript would benefit from a **clear comparison with existing AI decision-support, construction intelligence, digital-twin, and explainable-AI frameworks** to establish what is genuinely novel about EVDS.
22. The terminology should be standardized throughout the paper. Terms such as “**generative reasoning,**” “**visual intelligence,**” “**executive visual communication,**” “**decision support,**” and “**governance**” should each receive precise operational definitions.

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REVIEWER'S REPORT

23. There are several lengthy sentences and paragraphs that could be divided for improved readability. The manuscript would benefit from **professional language editing and grammatical polishing**, particularly for sentence structure, article usage, and consistency of British/American English.
24. The manuscript should carefully check **reference formatting, DOI presentation, author names, publication years, journal details, and consistency between in-text citations and the reference list**.
25. The limitations section is appropriate and acknowledges the lack of direct empirical evidence and the use of a curated integrative corpus. However, the authors should also discuss **possible selection bias and researcher subjectivity in the conceptual coding and synthesis process**.
26. The conclusion should focus more explicitly on the **specific contribution of the EVDS framework**, rather than reiterating several arguments already presented in the Discussion.
27. A final **conceptual contribution statement** would strengthen the manuscript—for example, clearly identifying what the study adds to the literature on generative AI, construction project management, executive decision support, and AI governance.
28. Overall, the manuscript has a potentially useful conceptual contribution, but **substantial revision is recommended**, particularly regarding review methodology transparency, evidence selection, framework validation, empirical grounding, Saudi-context specificity, and technical/organisational implementation details.