

Review Form 3

Journal Name:	Journal of Engineering Research and Reports
Manuscript Number:	Ms_JERR_124540
Title of the Manuscript:	INVESTIGATING HOW BLOCKCHAIN TECHNOLOGY CAN ENHANCE THE SECURITY AND TRACEABILITY OF AEROSPACE SUPPLY CHAINS
Type of the Article	Manuscript

General guidelines for the Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
<p>Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.</p>	<p>This work is of great scientific interest because it tackles the important problem of employing blockchain technology to improve security and traceability in aerospace supply chains. This study offers insightful information on how blockchain might reduce risks associated with counterfeit parts and regulatory compliance, as well as the growing complexity of global supply chains. I value the manuscript's strict methodology and fair assessment of the advantages and disadvantages of blockchain adoption. It is a well-rounded contribution to the area with useful implications for academia and industry because it includes economic, operational, and environmental considerations.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The current title, "Investigating How Blockchain Technology Can Enhance the Security and Traceability of Aerospace Supply Chains," is clear and reflects the manuscript's focus. However, it could be slightly more concise and engaging. Here's a suggestion: "Enhancing Security and Traceability in Aerospace Supply Chains Through Blockchain Technology."</p>	
<p>Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p>The abstract of the article is comprehensive, covering the main focus, methodology, key findings, and implications. However, there are some suggestions to improve clarity and conciseness:</p> <p>Suggestions:</p> <ol style="list-style-type: none"> 1. Clarity on the Methodology: The abstract mentions a "mixed-methods approach" but could briefly explain what the qualitative part includes (e.g., interviews, case studies). This would give a clearer picture of the research methodology. 2. Breakdown of Key Findings: The findings related to blockchain's impact on security, traceability, and environmental benefits are valuable but could be better organized. For example, mention the specific benefits like counterfeit part prevention, regulatory compliance, and operational efficiency separately for clearer understanding. 3. CO₂ Reduction Mention: The mention of blockchain reducing CO₂ emissions is important but could be clarified. Explain briefly how blockchain reduces emissions—through operational efficiency or reduced paperwork, for example—so readers understand the connection. 4. Regulatory Challenges: The abstract notes "regulatory misalignment" and "interoperability challenges" as barriers but could benefit from a more specific mention of how significant these challenges are and what might help overcome them. <p>Revised Version: "This study explores the impact of blockchain technology on aerospace supply chains, focusing on mitigating risks such as supply chain disruptions, counterfeit parts, and regulatory compliance challenges. A mixed-methods approach, combining quantitative analysis with qualitative case studies, was employed using data from the Federal Aviation Administration (FAA), Aerospace Industries Association (AIA), and blockchain providers. Key findings include improved traceability ($\beta = 0.40, p < 0.001$) and transparency ($\beta = 0.38, p < 0.001$) through part authentication and provenance tracking. A cost-benefit analysis revealed a return on investment of up to 2.31, alongside a reduction in CO₂ emissions by 25%. While blockchain enhances operational efficiency, regulatory misalignment and interoperability challenges remain significant barriers. The study concludes that blockchain is a transformative tool for improving security, traceability, and sustainability in aerospace supply chains."</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>The subsections and structure of the manuscript are generally appropriate and logically organized. The paper follows a standard scientific structure, with clear sections for the Introduction, Literature Review, Methodology, Results, Discussion, and Conclusion. Each section addresses key elements of the study and flows logically from one part to the next.</p> <p>Suggestions for improvement:</p> <ol style="list-style-type: none"> 1. Introduction: The introduction sets the stage well, but it could benefit from a clearer articulation of the research questions or objectives at the end, which will guide the reader into the study's purpose more explicitly. 2. Literature Review: This section is comprehensive but could be more segmented. Adding subsections within the literature review, such as "Blockchain in Supply Chains," "Challenges in Aerospace Supply Chains," and "Regulatory Issues" would make it easier for readers to follow specific themes. 3. Results and Discussion: These sections are well-organized, but you could consider breaking them 	

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	<p>into smaller subsections based on themes or key findings, like "Blockchain's Impact on Traceability" or "Cost-Benefit Analysis of Blockchain Adoption." This would improve clarity and allow readers to navigate the sections more easily.</p> <p>4. Conclusion: While it effectively summarizes the study, the conclusion could be expanded to include a "Limitations and Future Research" subsection to guide future studies in this area.</p> <p>Overall, the structure is suitable, but slight adjustments could improve the manuscript's readability and logical flow.</p>	
<p>Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.</p>	<p>This publication uses a well-structured mixed-methods strategy that incorporates both qualitative and quantitative studies to demonstrate scientific robustness and technical soundness. The conclusions gain legitimacy from the inclusion of data from reputable sources such as the FAA, AIA, and blockchain suppliers. Furthermore, the utilization of Structural Equation Modeling (SEM) and Cost-Benefit study (CBA) guarantees a thorough and robust statistical study. The study is given more depth and realism by addressing potential obstacles like regulatory misalignment and interoperability issues in the text. This helps to make the conclusions both practically and theoretically sound.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> <p>:</p>	<p>The references in the manuscript are generally sufficient and cover key aspects of blockchain technology, aerospace supply chains, and related challenges. However, while the manuscript cites many important sources, a number of the references are from 2020 or earlier. Given the rapid evolution of blockchain technology, adding more recent references from 2023 or 2024 would enhance the study's relevance and ensure the literature review is up-to-date.</p> <p>Suggestions for Additional References:</p> <ol style="list-style-type: none"> Blockchain in Aerospace: Look for recent case studies or white papers from major aerospace companies (e.g., Airbus or Boeing) implementing blockchain technology. Recent Technological Developments: Include references from recent blockchain innovations, such as the use of smart contracts and AI integration in supply chains, from 2023-2024. Regulatory Updates: Any updates from international regulatory bodies like the FAA or EASA in 2023 or 2024 regarding blockchain adoption in aerospace would be valuable. <p>By adding these more recent sources, the manuscript can better reflect the current state of blockchain applications in aerospace.</p>	
<p><u>Minor</u> REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The article's language and English quality are generally appropriate for academic discourse since they are precise, professional, and easy to understand.</p>	
<p><u>Optional/General</u> comments</p>	<p>Optional/General Comments:</p> <ol style="list-style-type: none"> Visuals and Figures: The manuscript could benefit from more visual aids, such as flowcharts, graphs, or models, particularly in the methodology and results sections. Visual representations of the SEM model, blockchain processes, or cost-benefit analysis would enhance understanding and engagement. Future Directions: It may be useful to include a brief section on potential future applications of blockchain in aerospace or other industries. This would help emphasize the broader relevance of the study. Practical Implications: Expanding on the practical implications of the findings for aerospace companies or supply chain managers could make the paper more impactful. Consider including recommendations on how these stakeholders can begin implementing blockchain solutions. 	

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PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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