Paper: **"Ethical Issues of Generative AI in the Aviation Cybersecurity Environment"**

Corresponding Author: Malgorzata Zmigrodzka

Peer review:

Reviewer 1: Sherzad Ramadhan
Bucharest Academy of Economics Studies (ASE), Romania

Reviewer 2: Romina Castillo
Universidad Nacional Autónoma de México, México

Reviewer 3: Dolantina Hyka
Mediterranean University of Albania, Albania

Reviewer 4: Blinded

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Reviewer Name: Romina Castillo Malagón	
University/Country: Universidad Nacional Autónoma de México / México	
Date Manuscript Received: 27/06/2025	Date Review Report Submitted: 01/07/2025
Manuscript Title: Ethical Framework for Generative AI in Aviation environment	
ESJ Manuscript Number: 0728	
You agree your name is revealed to the author of the paper: YES	
You approve, your name as a reviewer of this paper, is available in the "review history" of the paper: YES You approve, this review report is available in the "review history" of the paper: YES	

Evaluation Criteria:
Please give each evaluation item a numeric rating on a 5-point scale, along with a thorough explanation for each point rating.

Questions	*Rating Result* [Poor] **1-5** [Excellent]
1. The title is clear and it is adequate to the content of the article.	4
The title is clear, however, in order to better adapt to the research, it is necessary to justify the reason for the choice of the study sector as well as its particular characteristics.	
2. The abstract presents objects, methods, and results.	4
The method and results are clearly and concisely stated; however, the research does not have an objective.	
3. There are a few grammatical errors and spelling mistakes in this article.	5
No grammatical or editorial errors were found. *It is suggested to add the full names of the international regulatory agencies, since only the acronyms FAA and EASA are mentioned.*	

It is suggested to add a footnote on the use of the term "AI", although it is a common term, it is important to explain what is meant by artificial intelligence.	
4. The study methods are explained clearly.	4
The research method is clearly explained, perhaps it would be pertinent to clarify the age range of the participants or the grade they are in to assess the level of knowledge they may have about aviation.	
5. The results are clear and do not contain errors.	3
It is mentioned that semi-structured interviews were conducted with 15 specialists but the analysis of these results is not found. *Although Figure 5 refers to the risk involved in the use of AI in the design of components, the analysis derived from the results obtained was not found.*	
6. The conclusions or summary are accurate and supported by the content.	4
The results of the semi-structured interviews have not been added.	
7. The references are comprehensive and appropriate.	4
There is a vast amount of information on cybersecurity and artificial intelligence issues, but no references to aviation can be found.	

Overall Recommendation (mark an X with your recommendation) :

Accepted, no revision needed	
Accepted, minor revision needed	X
Return for major revision and resubmission	
Reject	

Comments and Suggestions to the Author(s):

The topic is relevant and pertinent, it is an original and current work; however, to give more relevance to the research, I suggest explaining why aviation is important, pointing out its basic characteristics, relationship with national security issues and worldwide presence. This could contribute to enrich the analysis and strengthen the results where it is specified that it is essential to regulate the use of AI.

As part of the conclusions, the relationship between AI - cybersecurity and its impact on aviation is mentioned. By emphasizing the relationship between cybersecurity and aviation, the argument of the importance of having clear, pertinent and ethical regulations at national and international level can be strengthened.

Comments and Suggestions to the Editors Only:

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Reviewer Name: Dr. Sherzad S. Ramadhan	
University/Country: Romania	
Date Manuscript Received: 27.06.2025	Date Review Report Submitted: 02.07.2025
Manuscript Title: **Ethical Framework for Generative AI in Aviation environment**	
ESJ Manuscript Number:	
You agree your name is revealed to the author of the paper: Yes	
You approve, your name as a reviewer of this paper, is available in the "review history" of the paper: You approve, this review report is available in the "review history" of the paper: Yes	

Evaluation Criteria:
Please give each evaluation item a numeric rating on a 5-point scale, along with a thorough explanation for each point rating.

Questions	*Rating Result* [Poor] **1-5** [Excellent]
1. The title is clear and it is adequate to the content of the article.	**4**
The topic is timely and highly relevant, considering the rapid integration of AI into critical sectors like aviation. Establishing a clear ethical framework ensures safe, transparent, and accountable use of generative AI, especially in high-stakes environments where human lives are involved.	
2. The abstract presents objects, methods, and results.	**2**
The abstract addresses a timely and important topic, highlighting ethical and cybersecurity concerns of generative AI in aviation. However, it lacks clarity in its objective and structure. The focus shifts between cybersecurity professionals and student surveys without clear connection, and key elements like the study's aim and contribution need to be more explicitly stated. Improving coherence, grammar, and focus would enhance its academic quality.	

3. There are a few grammatical errors and spelling mistakes in this article.	1

The article contains multiple grammatical errors and awkward phrasing that detract from the overall clarity and professionalism of the text. There are issues with sentence structure, verb tense consistency, and punctuation throughout the manuscript. Some spelling mistakes and typographical errors are also noticeable. A thorough proofreading by a native English speaker or a professional editor is strongly recommended to improve readability and ensure the work meets academic language standards.

4. The study methods are explained clearly.	2

- Participant pool (57 students) is convenience-based and highly specialized limits generalizability, acknowledge this as a limitation.

- Questionnaire items, scales, and interview protocol are not described; include instrument details or an appendix.

- No explanation of how qualitative data were coded (thematic analysis steps, software, inter-coder reliability).

- Survey period (Sep–Oct 2024) is now nine months old, the AI field evolves monthly. Consider a follow-up or justify relevance.

5. The results are clear and do not contain errors.	1

• Figures themselves are missing from the manuscript, ensure they are embedded, labelled, and captioned with statistics.
• Only descriptive counts (overwhelmingly agreed) no inferential statistics or cross-tabulations to deepen insight.
• Results are not explicitly linked back to any research questions or objectives (because none were stated).

6. The conclusions or summary are accurate and supported by the content.	1

The conclusions are overly broad and lack a strong foundation in the presented data. They echo general ethical concerns without critically analyzing or synthesizing the survey and interview findings. The proposed ethical framework appears disconnected from the empirical results, and no clear methodology is provided for how it was developed. Moreover, the outdated survey timeframe (Sept–Oct 2024) undermines the relevance of the conclusions given the rapid evolution of generative AI.

7. The references are comprehensive and appropriate.	2

The reference list shows inconsistencies in formatting, such as irregular use of italics, punctuation, and citation styles. Some entries lack complete information like DOIs or page numbers, and there are discrepancies between in-text citations and the reference list. Additionally, the list could benefit from including more foundational and diverse sources to strengthen the theoretical grounding of the study.

Overall Recommendation (mark an X with your recommendation) :

Accepted, no revision needed	
Accepted, minor revision needed	
Return for major revision and resubmission	

Reject	

Comments and Suggestions to the Author(s):
This study addresses a highly relevant and timely topic the ethical and cybersecurity challenge of generative AI in the aviation sector. The combination of a mixed-methods approach with survey data and expert interviews is appropriate for exploratory research in this emerging field. However, the manuscript requires significant improvements before it can be considered for publication.
First, the study lacks a clearly stated research objective and well-defined research questions, which are critical for guiding the reader and structuring the analysis. The literature review is insufficiently developed, it mainly provides background information without critically synthesizing prior work or identifying specific gaps the study intends to fill. Including a dedicated literature review section would strengthen the theoretical foundation.
The methodology section needs more detail, particularly regarding the survey instrument, interview protocols, and data analysis procedures. The sample is limited to students from a single institution, which constrains the generalizability of findings, especially given the rapid developments in AI since data collection. This limitation should be acknowledged explicitly.
Results are presented descriptively, but the absence of figures and lack of deeper analysis reduce their impact. The discussion section would benefit from a tighter focus on interpreting the study's own findings rather than summarizing external cases and literature. The proposed ethical framework, while promising, is not clearly linked to the empirical data or explained in sufficient detail.
Finally, the conclusion reiterates general AI ethics concerns but does not adequately tie back to the study's results or outline specific actionable recommendations. The reference list needs thorough formatting and completeness checks.
In summary, the manuscript has potential but requires clearer objectives, stronger methodological rigor, improved integration of data and discussion, and enhanced presentation to meet academic publication standards.
Comments and Suggestions to the Editors Only:

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Reviewer Name: Dolantina HYKA	
University/Country: Mediterranean University of Albania, Albania	
Date Manuscript Received: 19/08/2025	Date Review Report Submitted: 21/08/2025
Manuscript Title: Ethical Framework for Generative AI in Aviation environment	
ESJ Manuscript Number: 0728/25	
You agree your name is revealed to the author of the paper: yes	
You approve, your name as a reviewer of this paper, is available in the "review history" of the paper: yes You approve, this review report is available in the "review history" of the paper: yes	

Evaluation Criteria:
Please give each evaluation item a numeric rating on a 5-point scale, along with a thorough explanation for each point rating.

Questions	*Rating Result* [Poor] **1-5** [Excellent]
1. The title is clear and it is adequate to the content of the article.	**5**
The title is concise, specific, and aligns well with the manuscript's focus. It effectively communicates the dual emphasis on "Ethical Framework" and "Generative AI" within the aviation sector.	
2. The abstract presents objects, methods, and results.	**4**
The abstract captures the research purpose, methodology (mixed-methods with students and experts), and major findings. However, it could benefit from a clearer articulation of how the proposed ethical framework directly builds upon the empirical findings.	
3. There are a few grammatical errors and spelling mistakes in this article.	**4**

Overall language quality is good, but there are minor issues with sentence structure and clarity (e.g., "the highlight key concerns" should be "they highlight key concerns"). While not detrimental to comprehension, light proofreading is recommended.	
4. The study methods are explained clearly.	**4**
The methods section adequately describes the survey and interviews. However, the sampling strategy (students vs. experts) could be explained with greater justification to address representativeness. Additionally, the data analysis section could include more detail on coding/quantification of qualitative insights.	
5. The results are clear and do not contain errors.	**4**
The figures and survey findings are well-presented, with visual clarity. Still, the statistical treatment is limited—basic descriptive results dominate, and more rigorous statistical analysis (e.g., chi-square, regression trends) would strengthen reliability.	
6. The conclusions or summary are accurate and supported by the content.	**5**
The conclusions align closely with findings and discussion, particularly emphasizing the necessity of transparency, regulation, and human oversight in aviation-related AI. The manuscript offers strong practical implications for policymakers and aviation regulators.	
7. The references are comprehensive and appropriate.	**5**
The references are up-to-date (2023–2024), relevant, and well-integrated. They include both theoretical and applied perspectives on AI ethics and cybersecurity. However, additional aviation-specific AI ethics literature could further enrich the review.	

Overall Recommendation (mark an X with your recommendation) :

Accepted, no revision needed	
Accepted, minor revision needed	**X**
Return for major revision and resubmission	
Reject	

Comments and Suggestions to the Author(s):

1. Consider refining the abstract to make the connection between empirical findings and the proposed ethical framework more explicit.

2. Clarify methodological justification, particularly the reliance on aviation students as the primary survey population. Adding demographic breakdowns would strengthen credibility.

3. Improve consistency in grammar and phrasing with light proofreading.

4. Expand the analysis of qualitative data and clarify how expert interviews influenced the final framework.

5.   Consider adding more aviation-specific ethical case studies or regulatory perspectives beyond the cited cyber incidents to reinforce applicability.

Comments and Suggestions to the Editors Only: