

# Review of: "Open Source: The Case of Channels"

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**Potential competing interests:** No potential competing interests to declare.

Thank you for the opportunity to review the manuscript. Please find some comments, adjustments, and recommendations below.

The manuscript offers a novel perspective by applying the concept of open source to large-scale infrastructure projects. This approach is indeed original and justifies publication due to its potential to inspire further research and application in other sectors. However, the originality could be highlighted more effectively by contrasting this approach with traditional methods in the opening sections, thereby setting the stage for the detailed case studies that follow.

The paper is generally well-written and employs technical language appropriately. Attention to reducing jargon and clarifying complex ideas, especially in the description of the case studies, could enhance readability and accessibility for a broader audience, including policymakers who might benefit from the findings.

The title of the manuscript, "Open Source: The Case of Channels," effectively introduces the topic by connecting the concept of open source to an unusual context—maritime transport channels. However, it might be too vague for readers unfamiliar with the connection between open source principles and infrastructure projects. To improve the title's clarity and appeal, it could be modified to explicitly mention the focus on maritime channels, such as "Open Source Principles in Maritime Channel Development: The Cases of Panama and Suez."

The abstract succinctly outlines the manuscript's focus on applying open source principles beyond software, particularly through the case studies of the Panama and Suez canals. It highlights the broader implications for industrial development and environmental management. However, it could be enhanced by specifying the key findings or insights derived from these case studies, which would better prepare readers for the content and emphasize the manuscript's original contributions.

The methodological approach of using case studies is suitable for the subject matter, providing detailed insights into specific instances of open source principles in action. To further bolster the manuscript's rigor, it could benefit from a clearer articulation of the criteria for selecting these particular cases and a more detailed discussion of the theoretical framework guiding the analysis. The authors should consider defining a clear problem statement and theoretical framework early in the manuscript. Additionally, they should enhance the methodology section by clearly stating how each case study was selected and analyzed. Linking the literature more explicitly to their case studies could demonstrate the manuscript's contribution more effectively.

The results, primarily the outcomes of the case studies, are presented clearly and demonstrate the practical application of open source principles in significant engineering projects. The analysis connects these results back to the broader implications for sustainability and industry innovation. Nonetheless, deeper statistical or comparative analysis might enrich the conclusions and provide a more robust foundation for the claims made.

The manuscript appears to demonstrate a solid understanding of the relevant literature, incorporating sources that discuss both the technical aspects of the canals and the broader concept of open source. The reference list includes recent and appropriate academic and practical resources, suggesting thorough research. However, the manuscript could benefit from discussing its bibliographic strategy more explicitly to assure readers of its comprehensiveness and to clarify whether any significant works were deliberately excluded or overlooked.

The study suggests possible extensions of its findings to other industrial and infrastructural contexts, which is interesting and valuable. However, it could further strengthen its recommendations by outlining specific research questions or projects that could directly build on its findings. This would not only enhance its relevance but also guide future work more concretely.

The manuscript does well in identifying the implications of its findings for various stakeholders, including potential benefits for ecological sustainability and economic efficiency. It could improve by providing more detailed examples of how these findings could be implemented in practice or influence policy, especially in similar infrastructural projects globally.

Summary of recommendations for improvement: (1) Modify the title to be more descriptive of the manuscript's focus and content. (2) Include specific insights or findings to better preview the manuscript's contributions. (3) Start with a stronger contrast against traditional methods to frame the innovative approach. (4) Explicitly discuss how references were chosen and any significant omissions. (5) Offer more concrete guidance on potential future research projects. (6) Where possible, include more detailed quantitative analysis to support claims. (7) Provide detailed examples of potential practical applications of the findings. (8) Simplify language and clarify complex terms for accessibility. (9) Elaborate on case study selection criteria and theoretical underpinnings. (10) Discuss how findings could specifically influence policy decisions in relevant fields.