

PEER REVIEW REPORT OF THE MANUSCRIPT



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Title : Application of technology readiness levels (TRL) in the assessment of an R&D project in a Brazilian industrial automation company

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Round ↓	Reviewers			
	1	2	3	4
1	R1R1	R1R2		
2	R2R1		R2R3	
3				
4				

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ROUND 1:

1st Reviewer: Anonymous

Completed : 2026-04-05 10:35 PM

Recommendation : Revisions Required

1. Theme

Does the introductory text explain the theme in which the article is inserted? Is the theme related to entrepreneurship?

Strongly Disagree: The theme is unclear or not relevant to the field of study.

Disagree: The theme is underexplored or not innovative within the field.

Neutral: The theme is clear but could be more detailed or original.

Agree: The theme is relevant and well defined for the field of study.

■ Strongly Agree: The theme is highly relevant, innovative, and well defined for the field of study.

2. Problem or Opportunity

Is the problem or opportunity clearly identified? Is the context presented current and relevant? Are facts and supporting data presented for the arguments raised?

Strongly Disagree: The problem or opportunity is unclear or not relevant to the field of study.

Disagree: The problem or opportunity is underexplored or not significant within the field.

Neutral: The problem or opportunity is clear but could be more detailed or relevant.

■ Agree: The problem or opportunity is relevant and well defined for the field of study.

Strongly Agree: The problem or opportunity is highly relevant, innovative, and well defined for the field of study.

3. Objective(s)

Is the objective(s) clearly identified? Is there a clear and relevant practical contribution?

Strongly Disagree: The objective(s) are unclear or inadequate for the article.

Disagree: The objective(s) are not specific enough or not fully aligned with the theme.

Neutral: The objective(s) are clear but could be more detailed or precise.

■ Agree: The objective(s) are specific and well aligned with the theme of the article.

Strongly Agree: The objective(s) are exceptionally clear, precise, and directly related to the theme of the article.

4. Writing the Technological Article

Is the entire text written in clear, non-technical language, accessible to a wide audience? Has unnecessary jargon and technical terminology been used?

Strongly Disagree: The writing is confusing, poorly structured, or hinders understanding of the article.

Disagree: The writing is unclear or does not maintain reader interest.

Neutral: The writing is adequate but could be more engaging or precise.

■ Agree: The writing is clear and maintains reader interest throughout the article.

Strongly Agree: The writing is exceptionally clear, engaging, and facilitates understanding of the article.

5. Scientific Rationale

Does the text present a scientific dialogue (even if brief) with the main authors related to its theme? Is there a minimum scientific basis? Is it demonstrated what is already known and/or explained the main concepts necessary for the proposal of the article?

Strongly Disagree: The scientific foundation is inadequate or missing.

Disagree: The scientific foundation is weak or not well-supported by relevant references.

Neutral: The scientific foundation is adequate but could be more robust.

■ Agree: The scientific foundation is solid and well-supported by relevant references.

Strongly Agree: The scientific foundation is exceptionally robust, comprehensive, and well-supported by relevant references.

6. Methodological Procedures

Are the procedures carried out for data collection and analysis presented in a way that is necessary to prove scientific rigor (even if succinctly)? Is there use of visual schemes that demonstrate the research step-by-step?

Strongly Disagree: The methodological procedures are inadequate or poorly described.

Disagree: The methodological procedures are vague or not appropriate for the study.

■ Neutral: The methodological procedures are adequate but could be more detailed or precise.

Agree: The methodological procedures are clear and appropriate for the study.

Strongly Agree: The methodological procedures are exceptionally clear, detailed, and appropriate for the study.

7. Presentation of the Solution

Is the proposed solution properly described? Is the solution consistent with the identified problem/opportunity? Does the proposal go beyond description and offer prescriptive advice? Are the proposed advice duly substantiated?

Strongly Disagree: The solution presented is inadequate or poorly described.

Disagree: The solution presented is vague or does not address all aspects of the problem.

Neutral: The solution presented is adequate but could be more detailed or effective.

■ Agree: The solution presented is clear and addresses all aspects of the problem.

Strongly Agree: The solution presented is exceptionally clear, detailed, and effective in addressing the problem.

8. Practical Contribution

Is there demonstration of relevant practical contribution? Is the contribution specific to an analyzed unit or generalizable? Are the research limitations and suggestions for future studies presented?

Strongly Disagree: The practical contribution is nonexistent or irrelevant.

Disagree: The practical contribution is limited or not significant.

Neutral: The practical contribution is adequate but could be more impactful or relevant.

■ Agree: The practical contribution is significant and relevant to the field.

Strongly Agree: The practical contribution is exceptionally relevant and offers significant impact in the field.

9. General Evaluation

Please provide a qualitative assessment of the manuscript in the space below. It is recommended that comments be provided on each of the items evaluated above, and that they be as clear and specific as possible. This space is also intended for general comments that could lead to an improvement in the manuscript. Such comments may pertain to the structure of the manuscript (division of sections/subsections), the manner in which the results are presented (graphs, tables, etc.), or other useful comments for the authors.

The article addresses the application of Technology Readiness Levels (TRL) in assessing technological maturity in R&D projects, focusing on a Brazilian industrial automation company. The study engages with contemporary agendas such as industrial innovation, by articulating management, innovation, and business practice.

The introduction is clear and well-structured, presenting the research problem and its relevance. However, it is recommended to expand the theoretical and empirical contextualization, particularly in the following aspects: incorporating a discussion on the role of firms within the innovation ecosystem; characterizing the profile of innovative firms and positioning Brazil in international innovation rankings; addressing the importance of developing domestic technologies as a strategy to reduce dependence on foreign technologies; and including a discussion on knowledge transfer mechanisms and their relationship with technological maturity.

The objective of the article is clearly defined and consistent with the research problem.

The literature review is appropriate, up-to-date, and relevant to the topic.

The method is appropriate to the proposed objective, with relevant use of action research and data triangulation. However, it is recommended to: provide a more explicit justification for selecting the company as a case study, based on methodological references (Yin, Robert K. Case Study Research: Design and Methods); clarify ethical aspects of the research, including whether there is formal authorization to disclose the company's name, whether such identification is necessary or if anonymity could be maintained, and whether the project was submitted to a Research Ethics Committee; provide greater detail on methodological procedures, especially regarding the interview protocol and the content analysis procedures (categories, coding, and analytical steps).

The results are clear, well presented, and consistent with the study's objectives.

The article presents a relevant contribution by applying TRL in the Brazilian private industrial context, addressing a gap identified in the literature. The study offers strong practical and managerial contributions, along with a moderate theoretical contribution..

10. Reviewer Conclusion (Recommendation):

- Submit new versions for appreciation based on the suggestions/recommendations indicated.

Reject based on the suggestions/recommendations indicated.

Approved.

11. In compliance with Open Science, we ask if you (reviewer) agree with the publication of the manuscript evaluation reports, according to the following options:

Yes, I agree to open the review WITH my identification.

- Yes, I agree to open the review WITHOUT my identification.

I do NOT agree to open the review.

2nd Reviewer: Nelson Jose Rosamilha

Completed : 2026-03-16 11:38 AM

Recommendation : Revisions Required

1. Theme

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A introdução apresenta adequadamente o tema do artigo, porém sua organização poderia ser aprimorada. Em vez de conduzir o leitor progressivamente até a lacuna central da pesquisa, o texto percorre diversos caminhos paralelos antes de estabilizar o argumento principal. Recomenda-se uma arquitetura retórica mais clara, com maior precisão na definição da lacuna científica e da contribuição do estudo.

Observa-se também que a introdução utiliza um número relativamente elevado de referências institucionais em comparação com literatura científica. Em artigos acadêmicos, espera-se que a maior parte das citações seja composta por artigos revisados por pares, livros acadêmicos e estudos empíricos relevantes para o campo.

No referencial teórico, a revisão sistemática da literatura é mencionada, porém sua descrição metodológica aparece nesta seção. Considerando sua natureza metodológica, seria mais apropriado que os procedimentos relacionados à revisão sistemática fossem descritos na seção de metodologia do artigo.

Além disso, o texto afirma que a discussão apresenta “grande potencial de exploração”, mas não especifica claramente qual aspecto particular da literatura ainda não foi suficientemente investigado. A seção também dedica espaço considerável à descrição histórica da metodologia TRL. Embora essa contextualização seja útil, poderia haver maior esforço analítico, especialmente por meio de comparações entre estudos e síntese crítica da literatura existente.

Outro ponto relevante é que o referencial teórico se baseia predominantemente em literatura internacional. Considerando que o estudo se concentra no contexto brasileiro, a revisão poderia ser ampliada para incluir estudos nacionais que abordem a aplicação do TRL ou a avaliação da maturidade tecnológica no país. Existem diversas dissertações, teses e artigos que poderiam contribuir para essa contextualização e fortalecer o diálogo com a produção acadêmica nacional.

Em relação à seção de metodologia, seria importante apresentar com maior detalhamento os procedimentos analíticos utilizados na pesquisa. Especificamente, recomenda-se explicitar o processo de codificação dos dados, a construção das categorias analíticas e a forma de interpretação dos resultados obtidos.

A seção de resultados apresenta de forma clara a avaliação da maturidade tecnológica dos componentes analisados no projeto. No entanto, a sustentação empírica poderia ser fortalecida. Embora a metodologia indique o uso de entrevistas, observação participante e análise documental, a seção de resultados apresenta poucas evidências qualitativas diretas. Em particular, quase não aparecem citações de entrevistados, narrativas organizacionais ou trechos provenientes das observações realizadas. A inclusão desse tipo de evidência contribuiria para fortalecer a conexão entre os dados coletados e os resultados apresentados, aumentando a transparência e a credibilidade da análise empírica.

A seção de discussão cumpre sua função básica ao interpretar os resultados e apresentar contribuições do estudo. Contudo, essa seção poderia ser fortalecida por meio de uma articulação mais aprofundada com a literatura existente e por uma reflexão mais crítica sobre as implicações e limitações dos achados.

A seção de conclusão sintetiza adequadamente os principais resultados e explicita as contribuições do estudo. Ainda assim, poderia ser aprimorada com uma discussão mais detalhada das limitações da pesquisa e com indicações mais específicas de agendas futuras de investigação relacionadas à gestão da maturidade tecnológica em projetos de P&D.

Por fim, foram identificadas algumas inconsistências na seção de referências. Há duas entradas aparentemente referentes ao mesmo artigo (Xavier et al., 2020 e Xavier Jr. et al., 2020). Também existem citações presentes no texto que não aparecem na lista de referências, como Li Hongwei et al. (2021) e Lopes et al. (2012). Por outro lado, algumas referências listadas não parecem ter sido citadas no corpo do manuscrito, como Department of Defense (2023), Medina-Valdes et al. (2021), Roh et al. (2020) e Yasseri (2016). Além disso, foram observadas inconsistências entre a forma das citações no texto e as entradas na bibliografia, como no caso Lopes et al. (2012) / Costa et al. (2012), bem como possíveis problemas de formatação em relação às normas APA. Recomenda-se revisar cuidadosamente a correspondência entre citações no texto e referências finais, garantindo também a padronização das entradas bibliográficas.

De modo geral, o manuscrito aborda um tema relevante para a gestão de inovação e para a análise da maturidade tecnológica em projetos de P&D. Entretanto, melhorias na estrutura argumentativa, no aprofundamento da revisão teórica, na explicitação dos procedimentos metodológicos e na apresentação das evidências empíricas podem contribuir significativamente para o fortalecimento do trabalho.

10. Reviewer Conclusion (Recommendation):

- Submit new versions for appreciation based on the suggestions/recommendations indicated.

Reject based on the suggestions/recommendations indicated.

Approved.

11. In compliance with Open Science, we ask if you (reviewer) agree with the publication of the manuscript evaluation reports, according to the following options:

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ROUND 2:

1st Reviewer: Anonymous

Completed : 2026-06-24 02:29 PM

Recommendation : Accept Submission

10. Reviewer Conclusion (Recommendation):

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Reject based on the suggestions/recommendations indicated.

■ Approved.

11. In compliance with Open Science, we ask if you (reviewer) agree with the publication of the manuscript evaluation reports, according to the following options:

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2nd Reviewer: Anonymous

Completed : 2026-07-20 03:43 PM

Recommendation : Accept Submission

10. Reviewer Conclusion (Recommendation):

Submit new versions for appreciation based on the suggestions/recommendations indicated.

Reject based on the suggestions/recommendations indicated.

■ Approved.

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