

1. Submission

Engineering Science Letter

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1524 / Maniah / Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification

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▶	9095	Manuscript.docx	October 30, 2025	Article Text
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▶ Comments for the Editor	maniah 2025-10-30 06:27 AM UTC	-	0	☐

2. Review

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Round 1

Round 1 Status

Submission accepted.

Notifications

[ESL] Editor Decision	2025-12-26 06:05 AM UTC
[ESL] Editor Decision	2025-12-30 12:42 PM UTC
[ESL] Editor Decision	2026-04-22 09:47 AM UTC
[ESL] Editor Decision	2026-05-03 11:22 AM UTC

Reviewer's Attachments

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Revisions

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▶		10673	Manuscript_ESL_clean updated manuscript_2.docx	January 12, 2026	Article Text
▶		10674	Manuscript_ESL_Indicated Change_2.docx	January 12, 2026	Article Text
▶		10675	Maniah_Response to Reviewer Template.doc	December 29, 2025	Other
▶		11046	Response to Editor.docx	January 12, 2026	Article Text

Review Discussions

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▶ Deadline for Submitting the Revised	maniah 2025-12-27 04:22 AM UTC	-	0	☐

3. Editor Decision

Notifications



[ESL] Editor Decision

2025-12-26 06:05 AM UTC

Dear Maniah,

We have reached a decision regarding your submission to Engineering Science Letter, "Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification".

Our decision is: Revisions Required

To ensure a timely editorial process, we kindly request you address the revision comments made by our Editor and Reviewers at your earliest convenience.

Please upload your revised manuscript with highlighted color indicating changes so that the revisions can be assessed easier.

Please also attach point-by-point responses addressing each reviewer's comments (refer to the template [here](#)).

We are looking forward to receiving your revised manuscript.

Should you require any clarification or additional information, please feel free to contact us via support@journal.iistr.org. Your trust in our platform as a means to share your research findings is greatly appreciated.

Thank you.

Warm regards,

Reviewer A:

Recommendation: Revisions Required

Is the paper technically sound and logically structured?

No

Please rate the strength and significance of the paper's contribution to its field.

Satisfactory

Does the title accurately reflect the main focus and contribution of the paper?

Yes

If No, please suggest a revised title (maximum 12 words):

Is the abstract a clear and sufficient summary of the work?

Yes

If No, please suggest improvements to the abstract:

Is the paper clearly written, concise, and well-organized?

No

Are the figures, tables, and equations clear, relevant, and consistent with the journal's style? Are captions adequate?

No

Please assign an overall score based on the quality, relevance, and presentation of the paper.

6

Comments to the Authors (Constructive suggestions on how the paper can be improved):

This article investigates the comparative performance of Naive Bayes and k-Nearest Neighbors for classifying supply chain management data, with a focus on customer segmentation. The topic is relevant to data-driven SCM. However, I still have several concerns regarding novelty, methodological rigor, and the interpretation of results.

1. The comparison between Naive Bayes and K-NN is well established in the machine learning literature. The manuscript does not clearly articulate what new methodological or theoretical insight is gained beyond confirming that Naive Bayes performs better on this specific dataset.
2. The paper states that data are drawn from public repositories such as Kaggle and UCI, but the exact dataset name, version, and selection criteria are not fully specified. This limits reproducibility and raises concerns about data provenance.
3. Feature engineering steps such as deriving lead time and temporal variables appear to be performed prior to train test splitting. The manuscript should clarify whether all preprocessing steps were confined strictly to the training data to avoid leakage.
4. The reported Naive Bayes accuracy of 99.75 percent for a multi-class customer segmentation task is unusually high. The authors should discuss whether this result is driven by class imbalance, feature leakage, or overly separable labels.
5. The justification for Naive Bayes relies on feature independence, yet no correlation analysis or statistical test is provided to assess whether this assumption is even approximately satisfied in the dataset.
6. The choice of k values is described as typical rather than justified. There is no systematic hyperparameter tuning, cross-validation, or sensitivity analysis, which weakens the comparison.
7. The use of a single 80:20 split is insufficient for robust performance claims. Cross-validation or repeated random splits would provide stronger statistical support.
8. While Table 1 presents detailed confusion matrix results, the discussion remains largely descriptive. The authors should connect misclassification patterns to specific supply chain features or business implications.
9. Several sections, particularly in the Results and Discussion, restate algorithm descriptions rather than analyzing findings. This reduces clarity and distracts from the core contributions.
10. Claims about real-time decision support and supply chain resilience are not directly validated by experiments or deployment scenarios. These statements should be moderated or empirically supported.
11. The conclusion largely repeats numerical findings without integrating them into a broader SCM or machine learning research context. A clearer articulation of limitations and future research directions is needed.

Reviewer B:
Recommendation: Revisions Required

Is the paper technically sound and logically structured?

Yes

Please rate the strength and significance of the paper's contribution to its field.

Somewhat Satisfactory

Does the title accurately reflect the main focus and contribution of the paper?

Yes

If No, please suggest a revised title (maximum 12 words):

Is the abstract a clear and sufficient summary of the work?

Yes

If No, please suggest improvements to the abstract:

Is the paper clearly written, concise, and well-organized?

No

Are the figures, tables, and equations clear, relevant, and consistent with the journal's style? Are captions adequate?

Yes

Please assign an overall score based on the quality, relevance, and presentation of the paper.

7

Comments to the Authors (Constructive suggestions on how the paper can be improved):

- The manuscript addresses a relevant application area, namely supply chain data classification, but the methodological framing remains largely introductory rather than research-oriented.
- The choice of only two baseline classifiers limits the scientific contribution. Including at least one tree-based or margin-based method would strengthen comparative insights.
- The paper conflates algorithm suitability with dataset compatibility. The conclusion that Naive Bayes is superior appears dataset-specific, yet it is presented in more general terms.
- Feature preprocessing steps such as label encoding and normalization are described. However, there is no justification for their necessity with Naive Bayes, which does not require feature scaling.
- The discussion of Gaussian versus Multinomial Naive Bayes is conceptually correct. Unfortunately, the manuscript does not clearly state which variant was ultimately used for the reported results.
- Figures showing workflow diagrams add limited value, as they replicate standard RapidMiner or similar pipeline structures without analytical insight.
- The reported performance metrics would benefit from confidence intervals or variance measures to indicate robustness.

- Several references cited are descriptive or practitioner-oriented, and stronger engagement with recent peer-reviewed machine learning or SCM analytics literature is recommended.
 - There are frequent grammatical issues and repetitions that should be addressed through careful editing.
 - The strategic SCM implications are asserted rather than demonstrated. A concrete example linking classification outcomes to operational decisions would improve impact.
 - Ethical and bias considerations related to customer segmentation are not discussed, despite their relevance in applied machine learning contexts.
 - Overall, the manuscript is suitable as an applied case study, but it requires clearer positioning, stronger methodological rigor, and more restrained claims to meet the standards of the journal.
-

4. Submission Accepted


Engineering Science Letter



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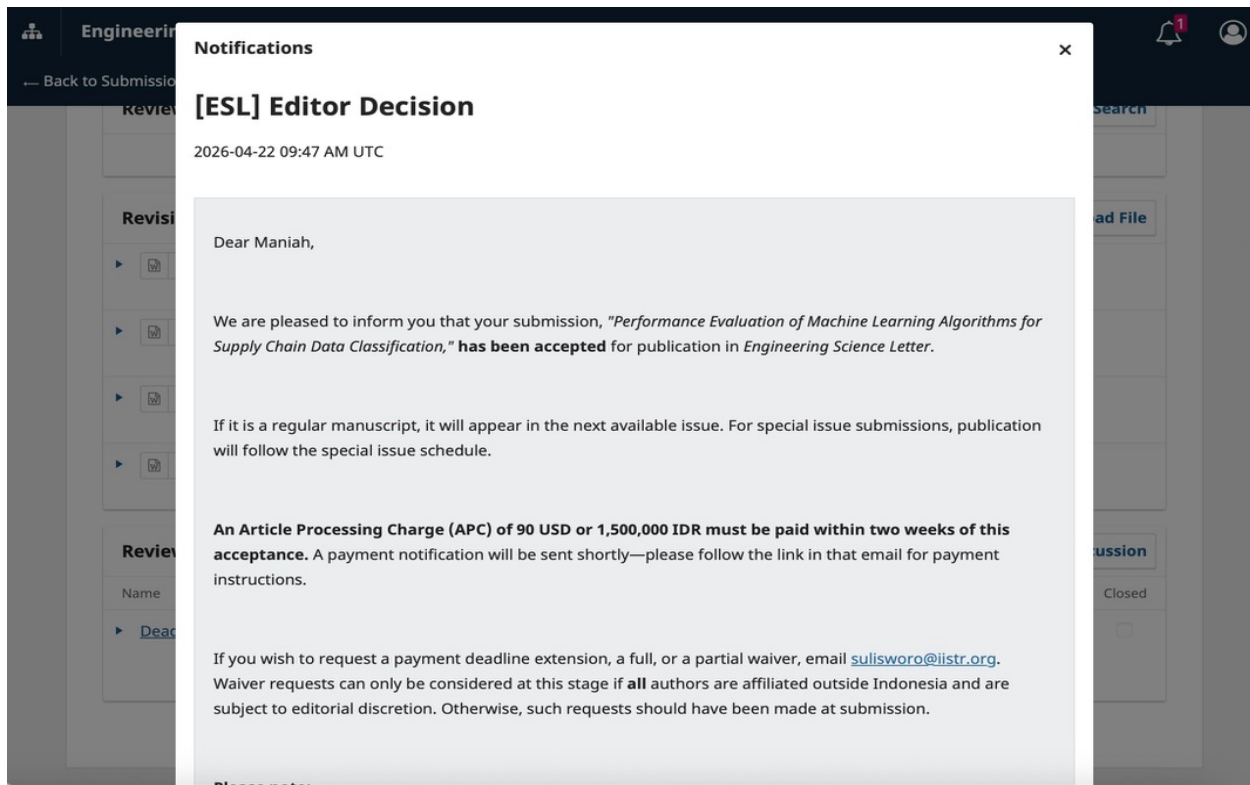
Round 1

Round 1 Status

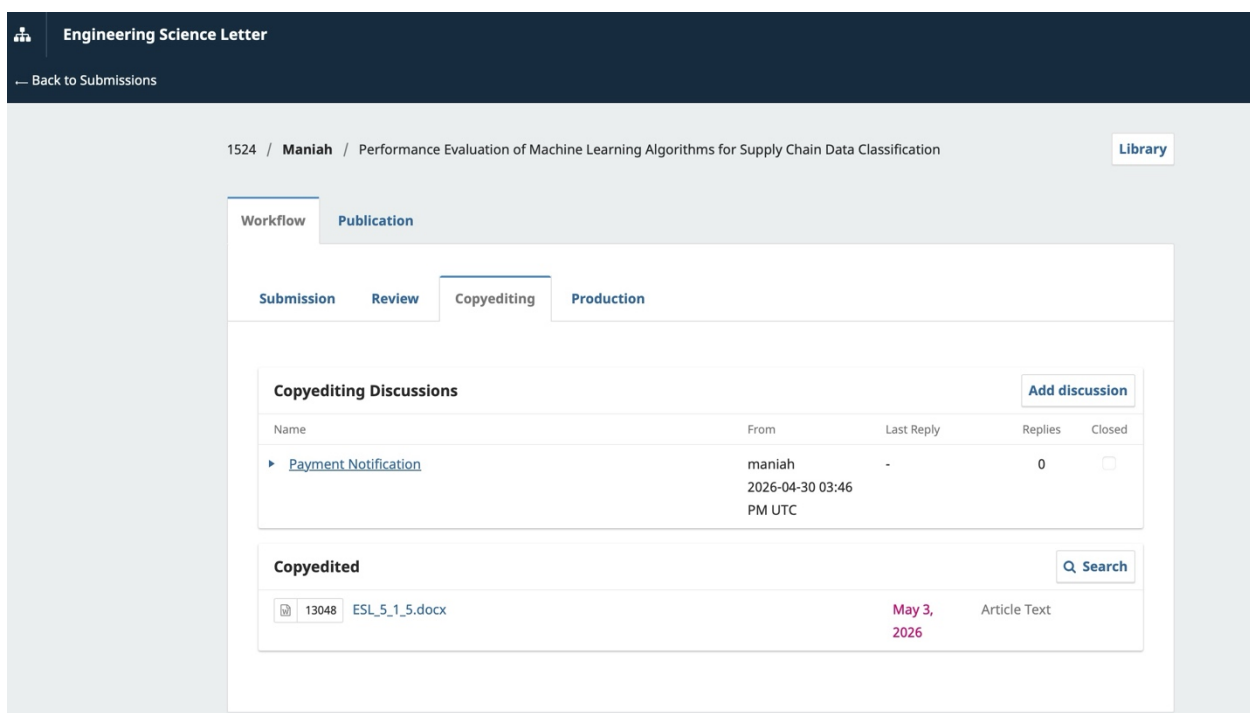
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[ESL] Editor Decision	2025-12-26 06:05 AM UTC
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5. Copyediting



6. Production

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Participants

Editorial Office (admin)

Maniah (maniah)

Messages

Note	From
Dear Maniah, I am writing to let you know that your article is now available online under the "Articles in Press" section of Engineering Science Letter. If it is a regular manuscript, your paper will be published in the next available issue. If it is for a special issue, it will be published according to the special issue schedule. Note that Engineering Science Letter publishes three regular issues a year (April, August, and December). Final Manuscript Title: "Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification" Early Access articles are intended to help authors get published as quickly as possible. Early Access articles are peer-reviewed and accepted for publication, but may not be fully edited or assigned to a publication issue or volume. All Early Access articles will receive a DOI and are fully citable as soon as they appear on the journal's website. The manuscript will still be professionally copy-edited and XML-tagged. Once the edited version is ready, it will replace the preprint on the journal's website, but the DOI will remain the same.	admin 2026-05-03 11:31 AM UTC

7. Article Publish – in Press



ESL (Engineering Science Letter)

maniah 0

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Articles in Press

Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification

<https://doi.org/10.56741/IISTR.esl.001524>



?	Total citations
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