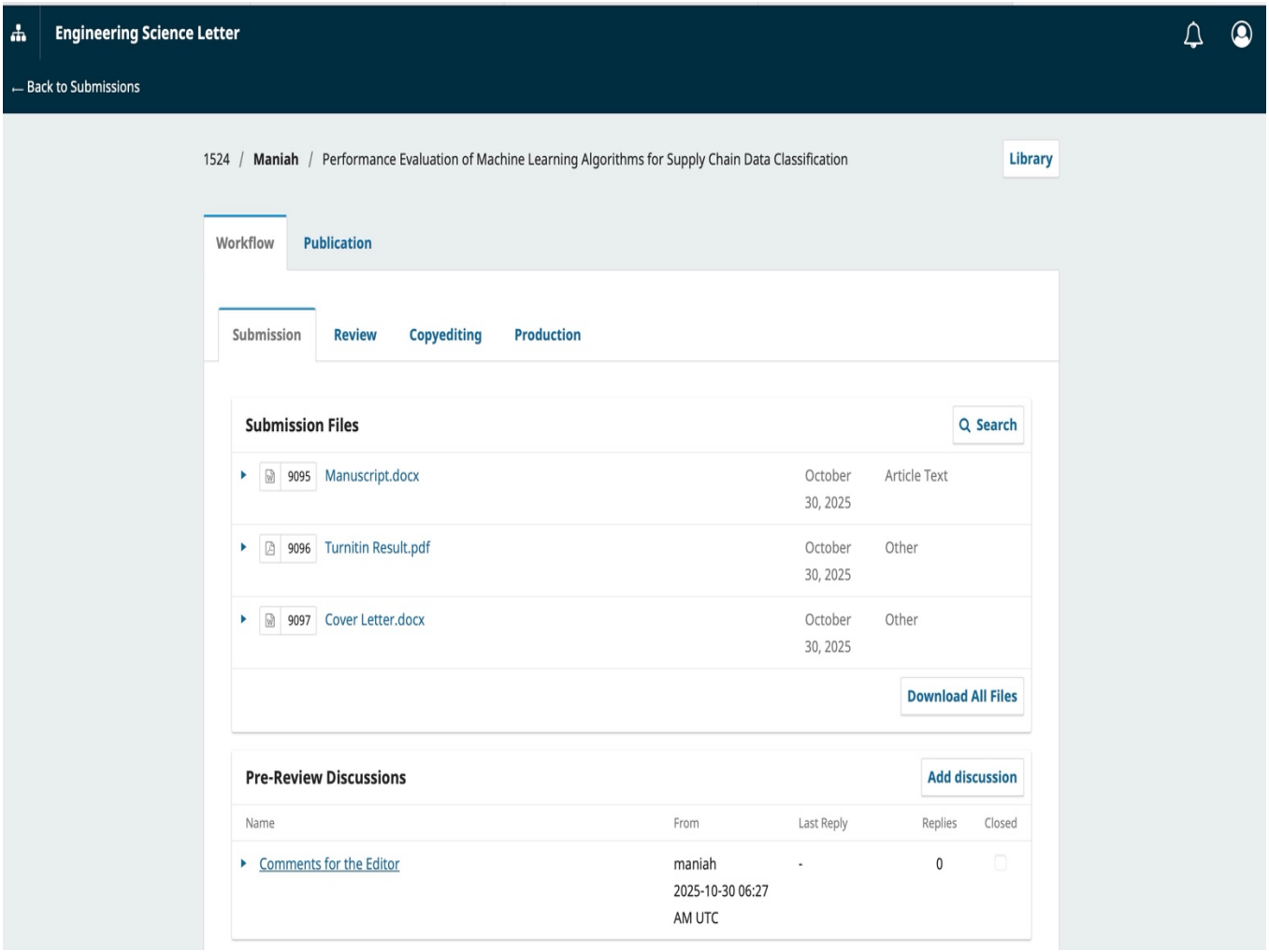
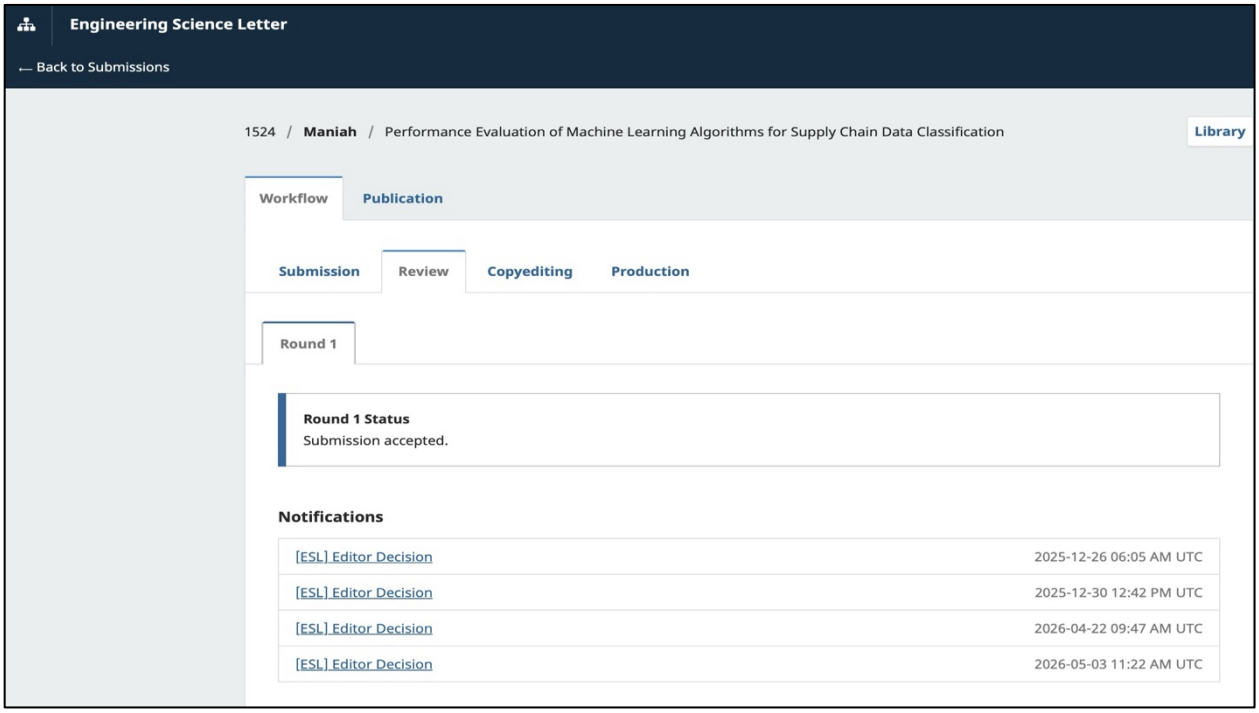
Bukti Korespondensi Jurnal Sinta-2 : Engineering Science Letter

1. Submission



2. Review - 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.

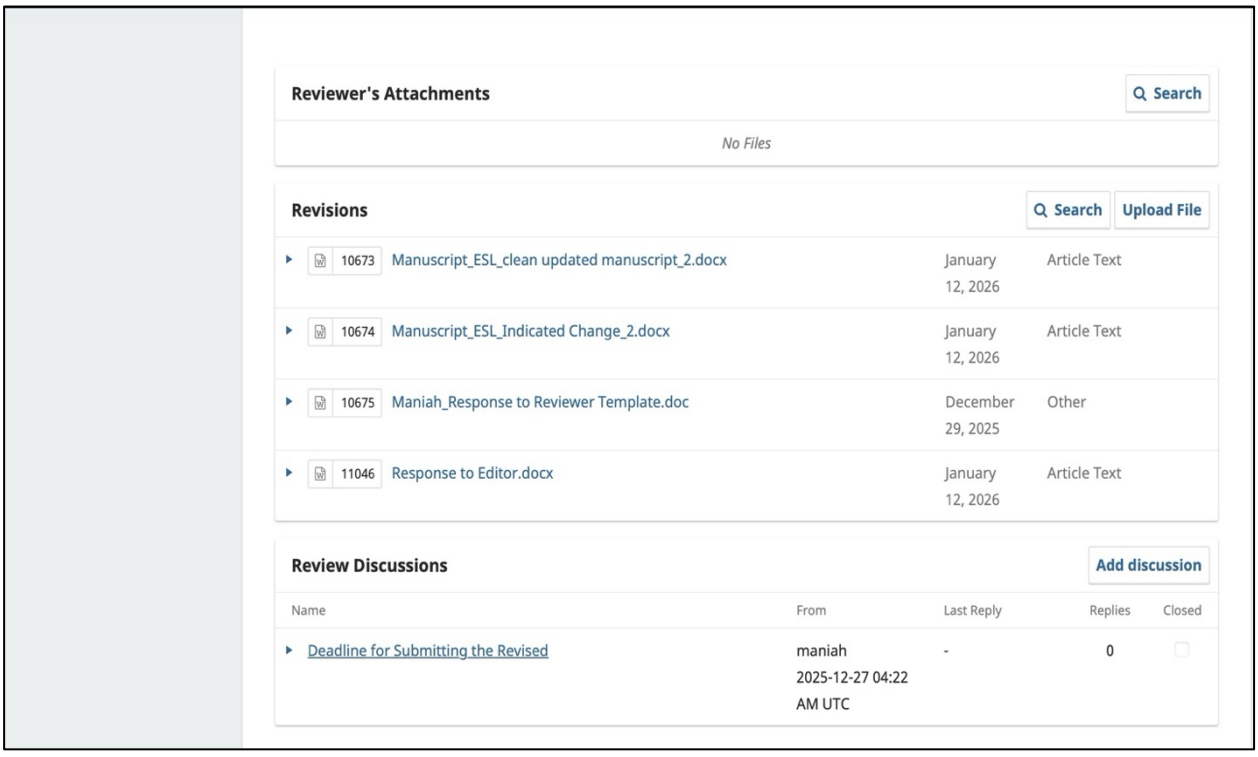
- The strategic SCM implications are asserted rather than demonstrated. A concrete example linking classification outcomes to operational decisions would improve impact.

- 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.

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3. Article Revision – 29 December 2025



Response to Reviewers – 29 December 2025

Original Manuscript ID: 1524

Original Article Title: "Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification"

To: IISTR Editorial Office

Re: Response to reviewers

Dear Editor,

Thank you for allowing a resubmission of our manuscript, with an opportunity to address the reviewers' comments.

We are uploading (a) our point-by-point response to the comments (below) (response to reviewers), (b) an updated manuscript with yellow highlighting indicating changes (pdf), and (c) a clean updated manuscript without highlights (*.docx main document/LaTeX files).

Best regards,

Maniah

Reviewer A – Concern #1:

The comparison between Naive Bayes and K-NN is well established in the literature, and the manuscript does not clearly articulate new methodological or theoretical insights.

Author response: We agree that the comparison between Naïve Bayes and K-NN is well established in the machine learning literature. Therefore, the contribution of this study is not positioned as algorithmic novelty but as an applied empirical evaluation that examines the contextual suitability, robustness, and interpretability of baseline classifiers for supply chain management (SCM) applications.

Author action: We updated the manuscript by revising the Introduction and Conclusion sections to explicitly position the study as an applied comparative evaluation and by removing any claims suggesting universal algorithmic superiority. The contribution is now clearly framed in terms of contextual insights for SCM analytics.

Reviewer A – Concern #2:

The dataset description lacks sufficient detail, limiting reproducibility.

Author response: We acknowledge this concern and agree that transparency and reproducibility are essential. The dataset description has been expanded to clarify its origin, characteristics, and selection criteria.

Author action: We updated the manuscript by adding detailed information in the Data Collection sections regarding dataset sources (Kaggle and UCI repositories), approximate sample size, key variables, and dataset selection criteria to improve reproducibility.

Reviewer A – Concern #3:

Feature engineering may have been conducted before the train–test split, raising concerns about data leakage.

Author response: We appreciate this important methodological comment. We clarify that all preprocessing and feature engineering steps were conducted strictly within the training data during cross-validation to prevent data leakage.

Author action: We updated the manuscript by explicitly stating in the Research Method and Results sections that all preprocessing, feature engineering, and parameter estimation steps were performed exclusively on training folds and then applied to validation data.

Reviewer A – Concern #4:

The reported Naive Bayes accuracy (99.75%) is unusually high and requires critical discussion.

Author response: We agree that such a high accuracy requires careful interpretation. The revised manuscript now discusses potential contributing factors, including class imbalance, feature separability, and dataset characteristics, and avoids presenting the result as unconditional model superiority.

Author action: We updated the manuscript by expanding the Results and Discussion section to critically analyze the high accuracy using confusion matrix results, class-wise precision and recall, and dataset characteristics.

Reviewer A – Concern #5:

The independence assumption of Naive Bayes is not empirically assessed.

Author response: We acknowledge this limitation and have addressed it by assessing inter-feature relationships to evaluate the plausibility of the conditional independence assumption.

Author action: We updated the manuscript by incorporating exploratory correlation analysis of numerical features and adding a discussion in the Model Implementation section supported by relevant literature.

Reviewer A – Concern #6:

The choice of k in K-NN is not justified and lacks systematic hyperparameter tuning.

Author response: We agree that arbitrary parameter selection weakens the comparison. Therefore, hyperparameter tuning has been incorporated into the revised methodology.

Author action: We updated the manuscript by implementing and describing a grid search–based hyperparameter tuning procedure for selecting the optimal value of *k* within the cross-validation framework.

Reviewer A – Concern #7:

A single 80:20 split is insufficient for robust performance claims.

Author response: We fully agree that a single split is insufficient for robust evaluation. The revised manuscript adopts k-fold cross-validation to strengthen performance reliability.

Author action: We updated the manuscript by replacing the single train–test split description with k-fold cross-validation across the Research Design, Data Collection, and Evaluation sections.

Reviewer A – Concern #8:

The discussion remains descriptive and does not link misclassification patterns to SCM implications.

Author response: We appreciate this suggestion and have strengthened the discussion by linking misclassification patterns to practical SCM implications.

Author action: We updated the manuscript by revising the Results and Discussion section to connect confusion matrix patterns with customer segmentation overlap and operational decision-making in SCM contexts.

Reviewer A – Concern #9:

Several sections repeat algorithm descriptions instead of analyzing findings.

Author response: We agree and have streamlined the manuscript to reduce repetition and enhance analytical depth.

Author action: We updated the manuscript by removing redundant algorithm descriptions and emphasizing result interpretation and analytical discussion in the Results and Discussion section.

Reviewer A – Concern #10:

Claims regarding real-time decision support and supply chain resilience are not empirically validated.

Author response: We agree that such claims should be carefully stated. The revised manuscript adopts more cautious language regarding these aspects.

Author action: We updated the manuscript by moderating claims related to real-time decision support and supply chain resilience and reframing them as potential implications rather than empirically validated outcomes.

Reviewer A – Concern #11:

The conclusion mainly repeats numerical results and lacks broader contextual integration.

Author response: We appreciate this comment and have revised the conclusion to better integrate findings within the broader SCM and machine learning context.

Author action: We updated the manuscript by rewriting the Conclusion section to emphasize contextual contributions, clearly state study limitations, and outline directions for future research.

Reviewer B – Concern #1:

The manuscript addresses a relevant application area, but the methodological framework is largely introductory rather than research-oriented.

Author response: We appreciate this observation and agree that a stronger research-oriented methodological framework was needed. In the revised manuscript, we emphasize methodological rigor through the use of cross-validation, systematic hyperparameter tuning, and multi-metric performance evaluation.

Author action: We updated the manuscript by strengthening the Research Method section to clearly describe the experimental design, cross-validation framework, hyperparameter tuning procedures, and robustness considerations.

Reviewer B – Concern #2:

The choice of only two basic classifiers limits the scientific contribution.

Author response: We acknowledge this limitation. The study intentionally focuses on two widely used baseline classifiers to provide a controlled comparative analysis. Rather than expanding the scope post hoc, additional classifiers are proposed as future research directions.

Author action: We updated the manuscript by explicitly positioning Naïve Bayes and K-NN as baseline classifiers and by adding advanced methods (e.g., Decision Trees, Random Forests, and Support Vector Machines) as part of the Future Work discussion.

Reviewer B – Concern #3:

The manuscript conflates algorithm suitability with dataset compatibility and presents results in overly general terms.

Author response: We agree that algorithm performance should be interpreted in relation to dataset characteristics. The revised manuscript avoids generalization and frames the findings as context-dependent.

Author action: We updated the manuscript by revising the Results, Discussion, and Conclusion sections to emphasize dataset-specific interpretation and to explicitly avoid claims of universal algorithmic superiority.

Reviewer B – Concern #4:

Preprocessing steps are described without justification for Naive Bayes.

Author response: *We appreciate this clarification. While Naïve Bayes does not require feature scaling, normalization was applied to ensure consistency across models, particularly for K-NN.*

Author action: *We updated the manuscript by adding justification in the Model Implementation section explaining that normalization was applied to support K-NN, while label encoding was necessary for categorical features in both models.*

Reviewer B – Concern #5:

The manuscript does not clearly state which Naive Bayes variant was used.

Author response: We agree and regret the lack of clarity in the earlier version.

Author action: We updated the manuscript by explicitly stating that Gaussian Naïve Bayes was used for all reported experimental results and clarifying this in the Model Implementation section.

Reviewer B – Concern #6:

The workflow diagrams provide limited analytical value.

Author response: We acknowledge that the diagrams primarily serve a transparency purpose rather than a methodological contribution.

Author action: We updated the manuscript by reframing the role of workflow figures as tools for methodological transparency and by removing any implication that they represent novel pipeline structures.

Reviewer B – Concern #7:

Performance metrics would benefit from confidence intervals or variance measures.

Author response: We agree that performance stability is important. While confidence intervals were not computed in this study, robustness was partially addressed through cross-validation and macro-averaged metrics.

Author action: We updated the manuscript by reporting average performance across cross-validation folds and explicitly acknowledging the absence of confidence intervals as a limitation and future research opportunity.

Reviewer B – Concern #8:

Some references are descriptive or practitioner-oriented.

Author response: We appreciate this recommendation and have strengthened the theoretical grounding of the manuscript.

Author action: We updated the manuscript by adding and prioritizing recent peer-reviewed journal articles in machine learning and SCM, while limiting practitioner-oriented sources to background context.

Reviewer B – Concern #9:

Grammar issues and repetition are present.

Author response: We agree and appreciate the reviewer's attention to language quality.

Author action: We updated the manuscript by performing careful language editing to reduce repetition, correct grammatical errors, and improve overall clarity and flow.

Reviewer B – Concern #10:

Strategic SCM implications are asserted rather than demonstrated.

Author response: We agree that implications should be grounded in analytical interpretation.

Author action: We updated the manuscript by strengthening the Discussion section to link misclassification patterns with concrete SCM decision-making contexts, such as customer segmentation overlap and service differentiation.

Reviewer B – Concern #11:

Ethical considerations and bias in customer segmentation are not discussed.

Author response: We acknowledge the importance of ethical considerations in applied machine learning.

Author action: We updated the manuscript by explicitly acknowledging ethical and bias considerations related to customer segmentation as a limitation and proposing them as directions for future research.

Reviewer B – Concern #12:

Overall positioning requires clearer focus, stronger rigor, and more controlled claims.

Author response: We appreciate this holistic assessment and have revised the manuscript accordingly.

Author action: We updated the manuscript by clarifying the study's positioning as an applied case study, strengthening methodological rigor, and moderating claims throughout the manuscript.

Note: *References suggested by reviewers should only be added if it is relevant to the article and makes it more complete. Excessive cases of recommending non-relevant articles should be reported to editor@journal.iistr.org*

Editor Decision – Response to editor - 30 December 2025

Original Manuscript ID: 1524

Original Article Title: "Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification"

To: IISTR Editorial Office

Re: Response to editor

Dear Editor,

Thank you for allowing us to resubmit our manuscript and for providing the opportunity to address the reviewers' and editor's comments. We sincerely appreciate the constructive feedback, which has helped us to substantially improve the clarity, rigor, and presentation of the manuscript.

We are pleased to submit the revised version of our manuscript entitled "Performance Evaluation of Machine Learning Algorithms for Supply Chain Data Classification." Along with this resubmission, we have uploaded:
(a) a detailed point-by-point response to the comments (below),
(b) a revised manuscript with changes highlighted in yellow, and
(c) a clean version of the revised manuscript without highlights.

Below, we provide our responses to the comments and describe the corresponding revisions made in the manuscript.

Best regards,

Maniah

Editor's Comment #1:

While the dataset description has improved, please further strengthen reproducibility by clearly summarizing the dataset characteristics in the manuscript (e.g., number of instances, number and type of features, class distribution, and target variable). Where possible, explicitly identify the dataset source (repository name and dataset title or identifier).

Author response: We thank the editor for this valuable suggestion and fully agree that reproducibility is a critical aspect of empirical research.

Author action: We have strengthened the dataset description by adding a comprehensive summary of dataset characteristics, including the number of instances, number and types of features, target variable, and class distribution. These details are now explicitly presented in Table 1 (Characteristics of the Supply Chain Dataset). In addition, the dataset sources are clearly identified as publicly available repositories, namely Kaggle and the UCI Machine Learning Repository, to enhance transparency and reproducibility.

Editor's Comment #2:

Figures 2–4 appear to be simple screenshots of the dataset and do not add analytical value. Please remove these figures and replace them with a concise textual description or table summarizing dataset properties and characteristics.

Author response: We agree with the editor's assessment that dataset screenshots provide limited analytical value.

Author action:

Figures 2–4 have been removed from the manuscript. They have been replaced with a concise textual description and Table 1, which analytically summarizes dataset properties and characteristics. This revision improves clarity, reduces redundancy, and enhances the scientific value of the presentation.

Editor's Comment #3:

Figures 5 and 6 should be redrawn at high resolution to meet publication standards. In addition, please ensure that these figures are explicitly referenced and meaningfully discussed in the text, clarifying what insight they provide beyond illustrating standard machine-learning workflows.

Author response: We appreciate this comment and agree on the importance of figure quality and interpretive discussion.

Author action: Figures 5 and 6 have been redrawn in high-resolution format to meet publication standards. The manuscript now explicitly references and discusses these figures, explaining how they illustrate the conceptual and computational differences between probabilistic (Naïve Bayes) and distance-based (K-NN) classification approaches. The discussion clarifies the methodological insights provided by the figures beyond standard machine-learning workflow illustration.

Editor's Comment #4:

The manuscript notes that inter-feature correlations were examined, but the reporting remains largely qualitative. Please briefly summarize the correlation analysis results (e.g., representative ranges or overall patterns) in the text to better support the discussion of the Naïve Bayes independence assumption.

Author response: We acknowledge this point and agree that a concise quantitative summary strengthens the methodological discussion.

Author action: A brief summary of the correlation analysis has been added to the Results and Discussion section. The manuscript now reports that most pairwise correlations among numerical features were weak to moderate (approximately 0.3–0.4), with no strong multicollinearity patterns observed. This addition directly supports the discussion of the approximate validity of the Naïve Bayes conditional independence assumption.

Editor's Comment #5:

Although k-fold cross-validation has been adopted, performance robustness would be clearer if variability across folds were briefly summarized (e.g., ranges or standard deviations). If such statistics are not reported, please explicitly acknowledge this limitation in the manuscript.

Author response: We agree with the editor regarding the importance of reporting performance variability.

Author action: The manuscript clarifies that performance metrics were averaged across k-fold cross-validation folds. As fold-level variability statistics (e.g., standard deviations or confidence intervals) were not retained, this has now been explicitly acknowledged as a limitation in both the Results and Discussion and Conclusion sections.

Editor's Comment #6:

Please review the reference list to ensure that key methodological and comparative claims are primarily supported by peer-reviewed journal articles. Practitioner reports, theses, or non-refereed sources should be limited to background or contextual discussion where appropriate.

Author response: We fully agree with this recommendation.

Author action: The reference list has been thoroughly reviewed. Practitioner reports, theses, and non-refereed sources have been removed or restricted to background context, while key methodological and comparative claims are now supported by peer-reviewed journal articles, primarily indexed in Scopus and/or Sinta.

Editor's Comment #7:

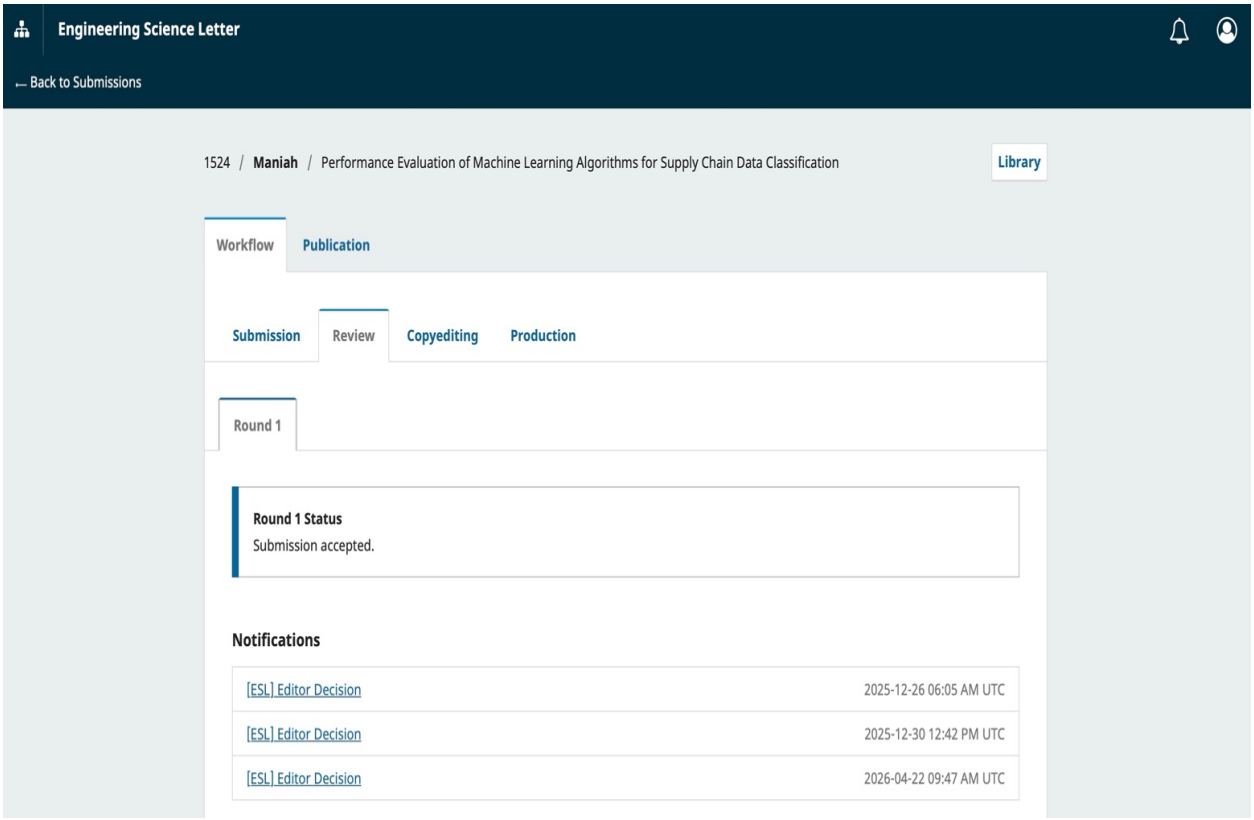
While the manuscript has improved, some grammatical issues and awkward phrasing remain. Please conduct a careful final language edit to improve clarity, consistency, and readability.

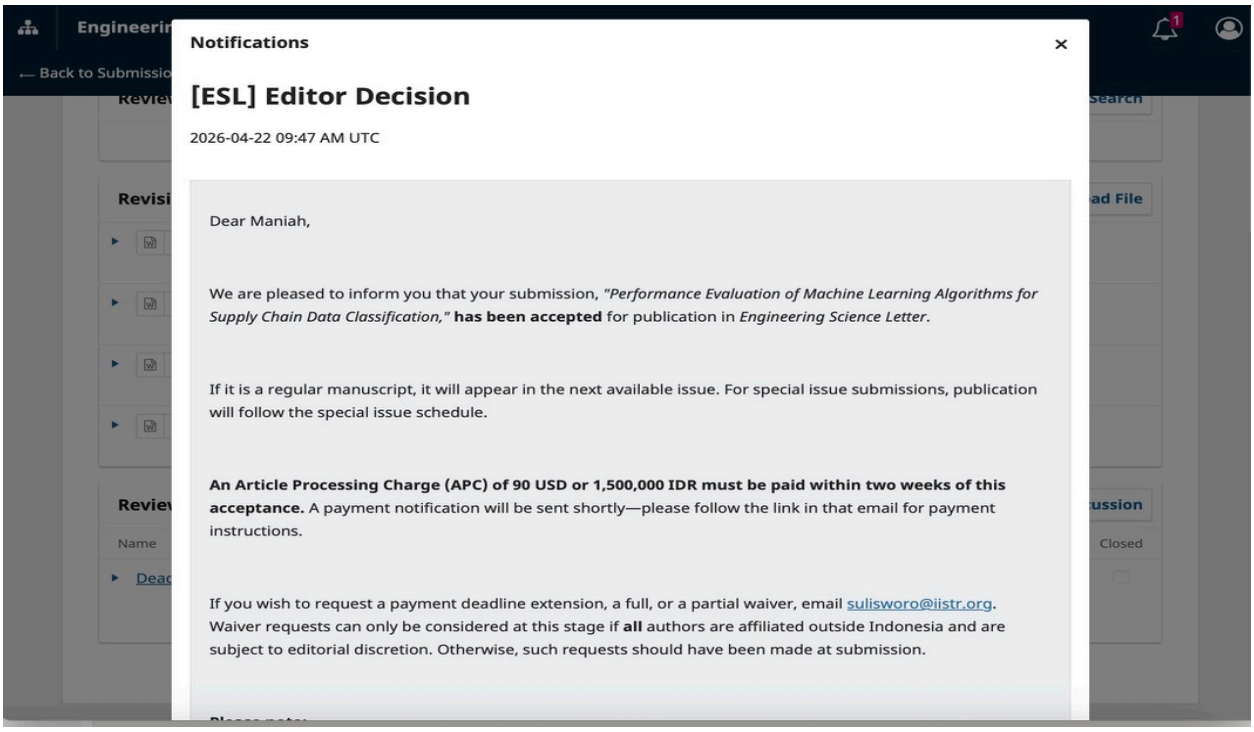
Author response: We appreciate this observation.

Author action: The manuscript has undergone a comprehensive final language edit to improve clarity, consistency, and readability. Sentence structures were refined, terminology standardized, and overall academic tone enhanced.

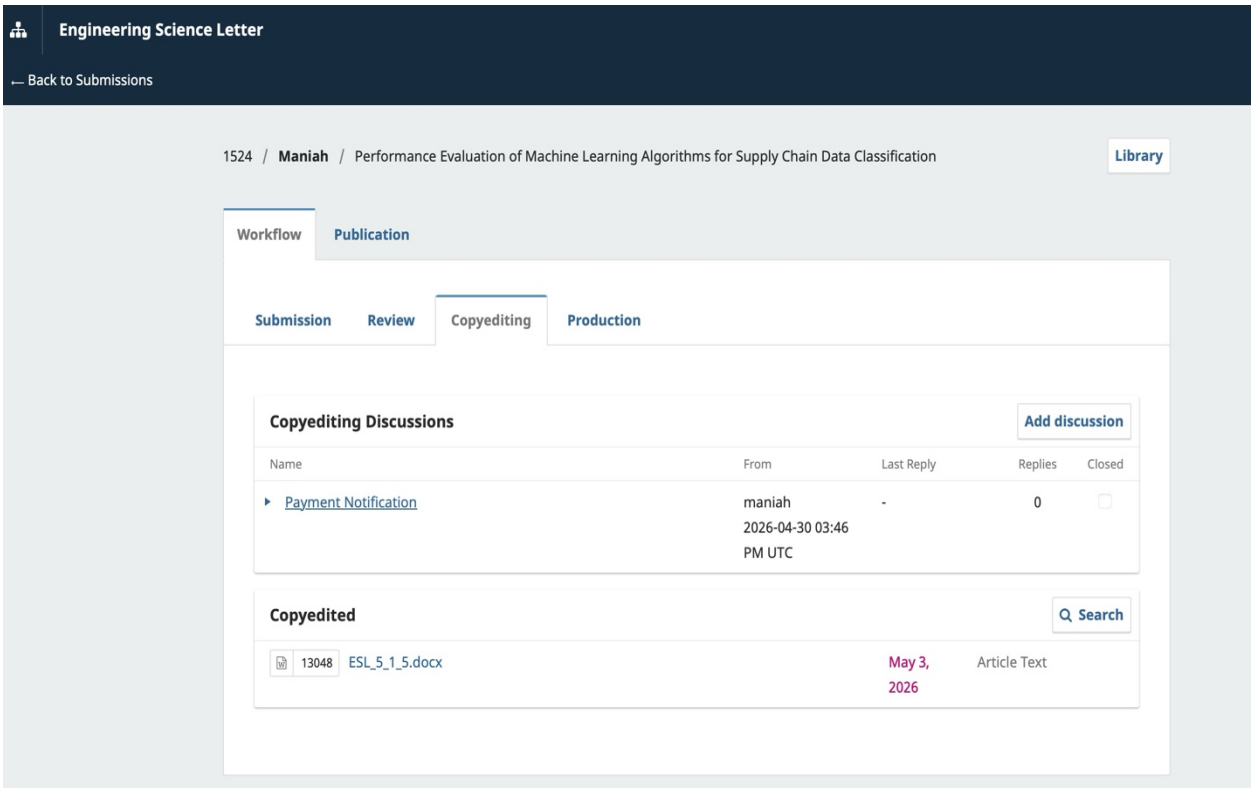
Note: *References suggested by reviewers should only be added if it is relevant to the article and makes it more complete. Excessive cases of recommending non-relevant articles should be reported to editor@journal.iistr.org*

4. Submission Accepted – Editor Decision – 22 April 2026

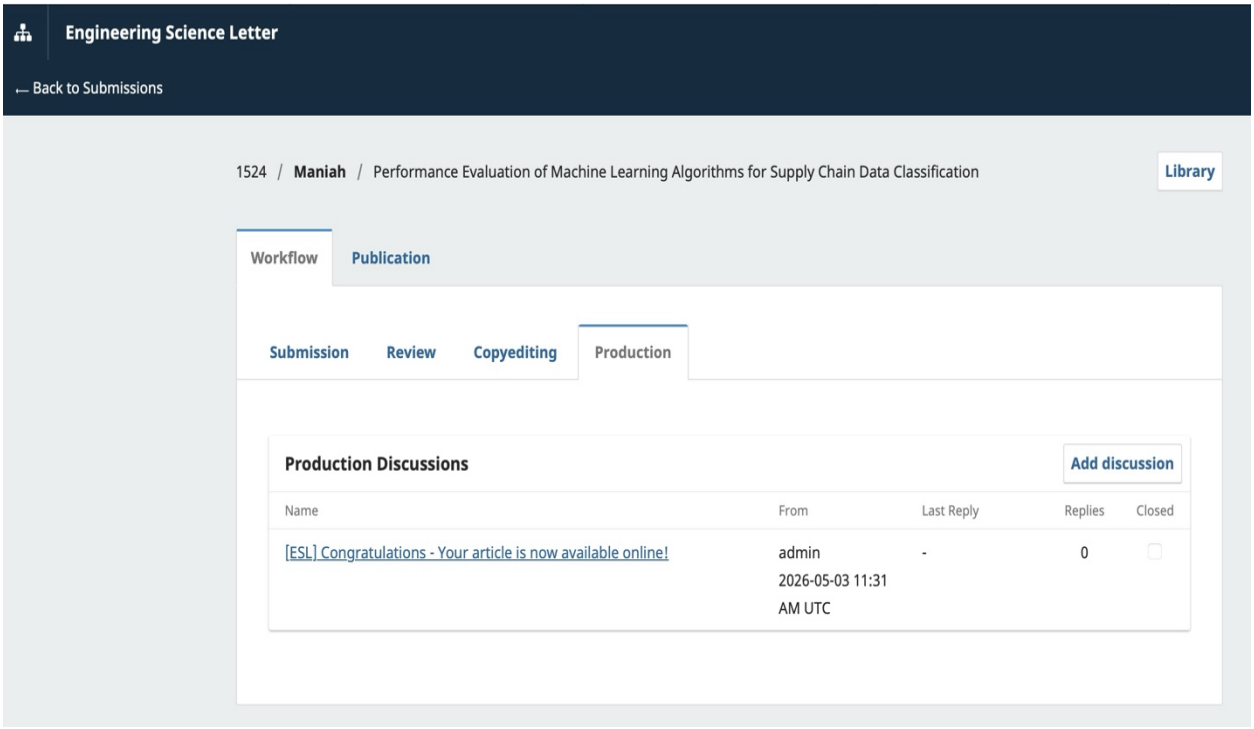


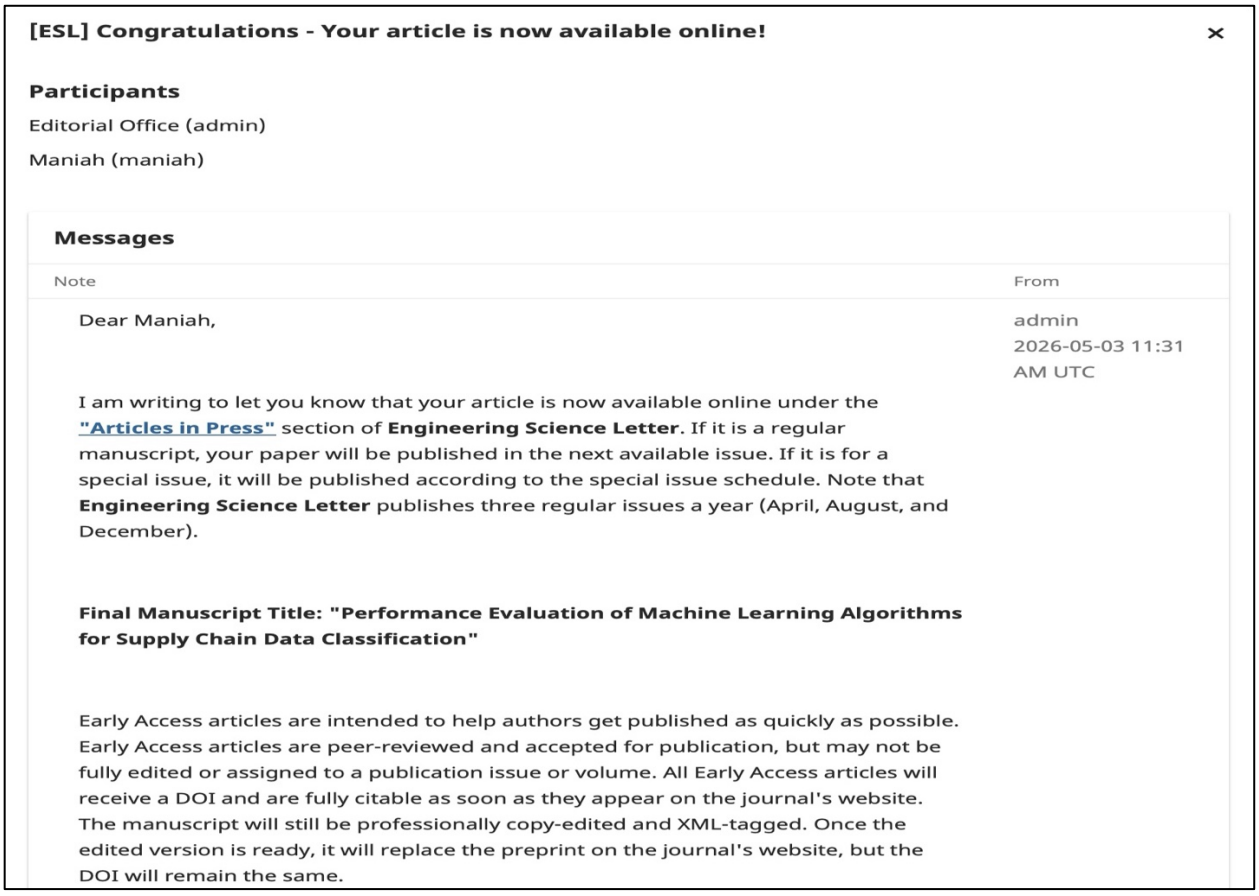


5. Copyediting



6. Production





7. Article Publish – in Press

