PUBLISHING INSTITUTE
Journal Website

Article history:
Received 08 November 2025
Revised 16 February 2026
Accepted 24 February 2026
Initial Published 14 April 2026
Final Publication 01May 2026

International Journal of Innovation Management and Organizational Behavior

Open Peer-Review Report

E-ISSN: 3041-8992

Predicting Employee Innovative Work Behavior from Psychological Safety and Proactive Personality Using Machine Learning Models

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Florence DiGennaro Reed Professor in the Department of Applied Behavioral Science, University of Kansas, US fdreed@ku.edu	**Reviewer 1:** Marco Yamba-Yugsi Unidad Académica de Posgrado, Universidad Católica de Cuenca, Azuay 010101, Ecuador Email: marco.yamba@ucacue.edu.ec **Reviewer 2:** Masoud Hoseinchari Associate Professor, Department of Educational Sciences, Shiraz University, Shiraz, Iran. Email: hchari@shirazu.ac.ir

1. Round 1

1.1. Reviewer 1

Reviewer:

The paper argues that prior IWB work relies “almost exclusively” on linear approaches and that the proactive personality–psychological safety relationship is “distinctly non-linear” and “underexplored in advanced predictive contexts” (p.3), which is a promising motivation; however, the manuscript should more precisely define what “non-linear interaction” means in measurable terms (e.g., moderation, threshold effects, monotonic nonlinearity) and how each model tested is expected to capture that structure.

The narrative references a broad ecosystem of antecedents and mechanisms (e.g., leadership/HRM/collaboration themes), yet the modeling framework described includes only psychological safety and proactive personality as predictors of IWB (p.5); the authors should explicitly justify this parsimonious feature set (theoretical boundary conditions, measurement constraints, or a deliberate minimal model) and clarify whether other controls/features were tested and excluded.

The paper reports KNN imputation for "minor missing values" (p.5) but does not report the proportion of missingness, missingness mechanism assessment (MCAR/MAR), chosen k, distance metric, or whether imputation was performed within training folds to avoid leakage; these details matter because KNN imputation can leak information and distort distributions if implemented improperly.

Authors revised the manuscript and uploaded the new document.

1.2. Reviewer 2

Reviewer:

In the extracted sections, instruments for IWB, psychological safety, and proactive personality are not described (scale sources, number of items, response anchors, sample items), and no reliability/validity evidence is presented; the paper should report at least internal consistency (e.g., Cronbach's alpha/omega), confirmatory evidence if applicable, and any steps taken for translation/adaptation given the Indonesian context.

The study appears to be a cross-sectional survey of Indonesian employees with self-reported IWB and predictors (pp.2–5), which raises substantial concerns about common method variance and inflated associations; the manuscript should add procedural or statistical remedies (e.g., temporal separation, multi-source ratings, marker variable tests) and temper any causal language to reflect correlational prediction rather than causal inference.

With (apparently) two focal predictors (psychological safety, proactive personality) and $N = 427$(Table 1; p.5), complex learners like Random Forest and Gradient Boosting may offer limited practical gains over linear regression; the paper should justify why these algorithms are necessary (e.g., explicit nonlinearity/interaction discovery) and quantify the incremental predictive improvement in a way that supports the methodological contribution claim.

The manuscript notes an 80/20 split and five-fold cross-validation for hyperparameter tuning (p.5), but it is unclear whether CV was nested within the training set only and whether the test set was kept fully untouched until final evaluation; please specify the exact workflow (including random seeds, repetitions, and whether CV was repeated) and consider reporting confidence intervals or repeated resampling results to demonstrate robustness.

Authors revised the manuscript and uploaded the new document.

2. Revised

Editor's decision after revisions: Accepted.
Editor in Chief's decision: Accepted.

IJIMOB
E-ISSN: 3041-8992