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The Effects of Work Meaningfulness and Autonomy on Radically Innovative Behavior: A Neural Network Approach

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Editor	Reviewers
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:** Alinaghi Amiri Professor, Management Department, Tehran University, Tehran, Iran. Email: anamiri@ut.ac.ir

1. Round 1

1.1. Reviewer 1

Reviewer:

The theoretical narrative argues for synergy (meaningfulness as the "why," autonomy as the "how") and critiques linear assumptions (p.4), but the study does not present formal hypotheses or research questions in the retrieved sections. Converting the implied expectations into explicit, testable propositions (e.g., main effects, interaction/non-linear expectation, and relative importance claim) would sharpen the logic chain and make the ANN modeling choices easier to evaluate against pre-specified theory rather than post hoc interpretation (pp.4, 8–9).

The target population and purposive sampling rationale are described (Polish professionals in high-technology/engineering/manufacturing; innovation-relevant roles) (p.4), but the exact sample size is missing in the retrieved snippet ("exactly Polish employees…") (p.4). For methodological transparency, the manuscript should report the final *N*, inclusion criteria, recruitment channels, response rate, and any missing-data handling; otherwise, it is difficult to judge statistical power, representativeness, and the credibility of ANN generalization.

The paper positions ANN as superior for capturing thresholds/saturation and synergy (p.4), and the conclusion emphasizes normalized importance (p.8). Yet, normalized importance alone does not show *how* the relationship bends (e.g., diminishing returns, threshold regions, interaction surfaces). The manuscript would be stronger if it included partial dependence plots, interaction heatmaps/response surfaces, or simple scenario tables (high/low autonomy × high/low meaningfulness) that translate the ANN into actionable theoretical patterns consistent with the "why/how" argument (pp.4, 8–9).

Authors revised the manuscript and uploaded the new document.

1.2. Reviewer 2

Reviewer:

The limitations acknowledge self-report measurement error and mention "validated psychometric scales" (p.9), but the retrieved content does not provide scale sources, item counts, sample items, response anchors, or reliability/validity evidence. Given that ANN outputs are only as meaningful as the measurement model feeding them, the paper should document instrument provenance, translation/back-translation if applicable, internal consistency (e.g., α, ω), and construct validity checks, ideally including discriminant validity because meaningfulness and autonomy can correlate conceptually (pp.4, 9).

The authors implement anonymity/confidentiality to reduce social desirability and common method bias (p.4) and reiterate procedural remedies in limitations (p.9). This is good practice, but for a self-report, cross-sectional design, readers will expect at least some statistical diagnostics or robustness checks (even if imperfect) to assess inflation of associations; otherwise, the ANN's predictive "power" may partially reflect shared method variance rather than substantive relationships (pp.4, 9).

The MLP architecture and activation functions are specified (2 inputs; one hidden layer with four nodes; tanh/identity) (p.6), and performance is described via SSE and relative error (Table 2) (p.6). However, key numeric values are not visible in the retrieved excerpt (partition proportions, SSEs, relative errors, and the "variance explained" statement) (pp.6, 8). To support reproducibility and allow reviewers to judge overfitting risk, the manuscript should fully report train/test/holdout split ratios, random seed or resampling strategy, convergence criteria, and the exact performance metrics (and ideally compare against baselines such as linear regression/SEM).

Authors revised the manuscript and uploaded the new document.

2. Revised

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

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