




Predicting Open Innovation Success from Trust Networks, Communication Density, and Collaborative Behaviors Using Graph Neural Networks

Sophie. Williams¹, Chinedu. Okafor^{2*}, Mustafa. Al-Hadithi³


¹ Department of Entrepreneurship and Innovation, University of Melbourne, Melbourne, Australia

² Department of Business Administration, University of Lagos, Lagos, Nigeria


³ Department of Business Administration, University of Mosul, Mosul, Iraq

* Corresponding author email address: chinedu.okafor@unilag.edu.ng

Editor

Parthasarathy Karthikeyan
Associate Professor, School of
Management Studies, Kongu
Engineering College, Tamil Nadu,
India ptp_karthi@proton.me

Reviewers

Reviewer 1: Lourdes Atiaja Atiaja
Universidad de las Fuerzas Armadas ESPE, Ecuador.
Email: natiaja@espe.edu.ec

Reviewer 2: Marco Yamba-Yugsi
Unidad Académica de Posgrado, Universidad Católica de Cuenca, Azuay 010101,
Ecuador
Email: marco.yamba@ucacue.edu.ec

1. Round 1

1.1. Reviewer 1

Reviewer:

The paragraph asserts complexity but does not specify what forms of nonlinearity or interdependence motivate GNN usage. Clarify which network properties cannot be handled by conventional models.

Consider rewriting the aim as testable research objectives or hypotheses to improve scientific precision.

Please specify how clusters were defined (e.g., by sector, region, firm size) and provide the number of clusters at each stage.

The interpretation is valid, but consider discussing potential ceiling effects and implications for model sensitivity.

Include statistical significance tests (e.g., paired RMSE comparison, Diebold–Mariano test).

Clarify whether importance weights are normalized and how stability of importance was tested.

Discuss why team-level networks dominate theoretically; currently the explanation appears only in the discussion.

Expand this with cultural or institutional mechanisms unique to Nigeria.

Authors revised the manuscript and uploaded the new document.

1.2. Reviewer 2

Reviewer:

Report the response rate and clarify whether non-response bias was examined.

Please name the scale, provide sample items, and report reliability coefficients (α , CR, AVE).

Explain how discrepancies between subjective and objective measures were handled analytically.

Provide the weighting scheme or aggregation logic used to compute the composite index.

Please include a brief rationale explaining why these specific metrics were selected and how they relate to the theoretical model.

Provide hyperparameter settings and model architecture details to ensure reproducibility.

Authors revised the manuscript and uploaded the new document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.