

Review Form 3

Journal Name:	Asian Journal of Probability and Statistics
Manuscript Number:	Ms_AJPAS_125274
Title of the Manuscript:	Bayesian Network Modelling of Detecting Bank Fraudulent Transaction in Nigeria
Type of the Article	

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript addresses a issue in modern financial systems—bank fraud detection—by applying Bayesian network modeling. Its focus on Nigerian banking systems adds relevance for regions grappling with rising online fraud. The study's contribution is valuable as it evaluates advanced fraud detection techniques that can benefit both researchers and practitioners in the financial sector. I appreciate the manuscript for its application of probabilistic graphical models, which effectively capture the complexity of fraud-related data. However, I believe the performance metrics could be improved to ensure more robust practical implementation.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title "Bayesian Network Modelling of Detecting Bank Fraudulent Transaction in Nigeria" is descriptive but could be more precise and engaging. I suggest revising it to: "Applying Bayesian Networks for Detecting Bank Fraudulent Transactions in Nigeria". This title is more concise and clearly indicates the study's methodology and focus.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is comprehensive and provides a clear overview of the study's objectives, methodology, and results. However, it could benefit from a more concise explanation of the model's performance metrics. Additionally, the term "Bayesian Estimation" is used multiple times, but it would be helpful to specify what kind of Bayesian estimation (e.g., maximum likelihood, EM) is employed early in the abstract for clarity. Including a brief statement on the practical implications of the study, such as potential deployment in real-world banking systems, would also improve the abstract.	
Are subsections and structure of the manuscript appropriate?	The subsections and structure are generally appropriate, covering all essential aspects like methodology, results, and discussion. The flow from the introduction to the conclusion is logical. However, the "Results and Discussion" section could benefit from being split into two distinct parts to allow for a clearer focus on both data analysis and the interpretation of findings.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The manuscript appears scientifically robust, with a sound approach to addressing the issue of bank fraud detection. The choice of using a Bayesian Network model is well justified, given its ability to handle uncertainties and complex dependencies within financial data. The study employs proper estimation techniques, such as Maximum Likelihood and Expectation Maximization, and the performance metrics used (e.g., accuracy, precision, recall, ROC-AUC) are appropriate for evaluating classification models. However, the reported accuracy of around 66-67% suggests that the model has room for improvement, particularly in minimizing false negatives, which is critical in fraud detection.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. =	The references are generally sufficient and include both recent and relevant literature on fraud detection techniques and Bayesian networks. However, some of the references, particularly those related to machine learning and fraud detection in other contexts, could be updated to include more recent developments in deep learning and hybrid techniques for fraud detection. For example, integrating literature on the use of deep neural networks in fraud detection might enrich the study.	

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Minor REVISION comments Is the language/English quality of the article suitable for scholarly communications?	The language and English quality of the article are generally suitable for scholarly communication, but there are some areas where the phrasing could be improved. For example, the introduction and methodology sections could be made more concise, and the use of technical jargon could be clarified in some instances for a broader audience. Additionally, some grammatical improvements are needed, such as ensuring subject-verb agreement and eliminating overly complex sentence structures to improve readability.	
Optional/General comments		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

Reviewer Details:

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