**Research Topic**

**“Strategic Adoption of Advanced AI Models for Credit Card Fraud Detection: A Managerial Perspective on Risk, Innovation, and Organizational Impact”**

New Relevant Research Papers (Discovered via Connected Papers/ResearchRabbit)

1. **“detectGNN: Harnessing Graph Neural Networks for Enhanced Fraud Detection in Credit Card Transactions” (2025)**

This paper introduces a GNN-based approach that models relationships across accounts, devices, and merchants. It provides real-time detection and outperforms traditional ML models, particularly under data imbalance conditions.

➤ Management Insight: Demonstrates the value of investing in advanced fraud detection technology that can adapt in real-time, improving operational efficiency and customer trust.

2. **“Detecting Credit Card Fraud via Heterogeneous Graph Neural Networks with Graph Attention” (2025)**

This study employs graph attention mechanisms and temporal features to model complex, evolving fraud patterns in financial networks. It emphasizes scalability and practical application.

➤ Management Insight: Highlights the need for decision-makers to evaluate not just accuracy, but scalability, implementation complexity, and interpretability of AI solutions.

**Reflection: How This Expands Strategic Understanding**

1. Strategic Risk Management

These papers broaden the traditional managerial view of fraud detection as purely an IT responsibility. They present fraud detection as a strategic risk management issue, requiring top-down support, cross-functional collaboration, and significant resource allocation.

2. Technology Investment Decisions

From a management standpoint, the evolution from rules-based systems to GNNs requires not just technical readiness, but organizational readiness—including staff training, vendor selection, and cost-benefit analysis. Managers must evaluate ROI, long-term scalability, and integration potential with existing systems.

3. Data-Driven Culture

These studies encourage leaders to foster a culture of data-driven decision-making. The complexity of GNNs requires better understanding between data science teams and management to ensure that models are interpretable, auditable, and aligned with compliance regulations.

Conclusion

Exploring these papers through tools like ResearchRabbit reshaped the focus from purely technical solutions to holistic strategic adoption. For managers, the key takeaway is clear: adopting AI for fraud detection is not just a tech upgrade—it's a strategic enabler of trust, efficiency, and competitive advantage in the financial services industry.