



2024 Special Report

Using AI for Fraud Detection

PT Nomura Research Institute Indonesia

NRI

Only 2% of Fraud in Southeast Asia is Detected Through Data Monitoring

Is AI the Key to Safeguarding Businesses from Fraud?
—The Answer is *Yes*.

Financial fraud is rising worldwide as the adoption of advanced technologies opens new avenues for online criminals, according to a recent INTERPOL report. Southeast Asian countries are also experiencing this trend, with many businesses falling victim to fraudsters. Yet, only 2% of companies in the region use technology to detect fraud. While AI can be misused for fraud, it also holds significant potential to protect businesses from becoming victims.

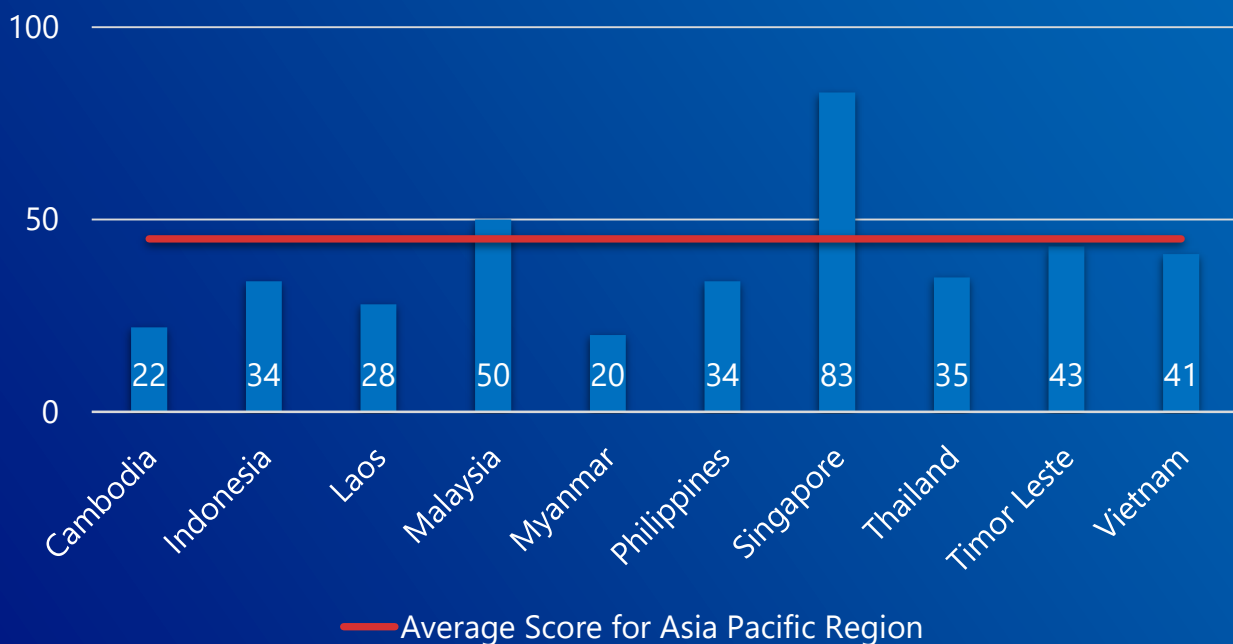


Fraud Cases in Southeast Asia (SEA)

Corruption Is A Big Issue

The Corruption Perceptions Index (CPI)*¹ is the world's most widely recognized ranking for measuring corruption. It assesses how corrupt the public and private sectors are perceived to be in each country, based on insights from experts and business leaders. Nearly 80% of Southeast Asian countries have a CPI score below the global average. In comparison, the Asia Pacific region's average score is 45 on a scale of 0 to 100, where 0 indicates severe corruption and 100 represents a corruption-free environment.

Southeast Asian Corruption Perception Index





Occupational fraud—fraud committed by individuals against their own employers—is highly prevalent in Southeast Asia. Research from the Association of Certified Fraud Examiners (ACFE) reveals that the most common forms of occupational fraud in the region include false invoicing, fictitious expenses, and manipulated financial statements.*2

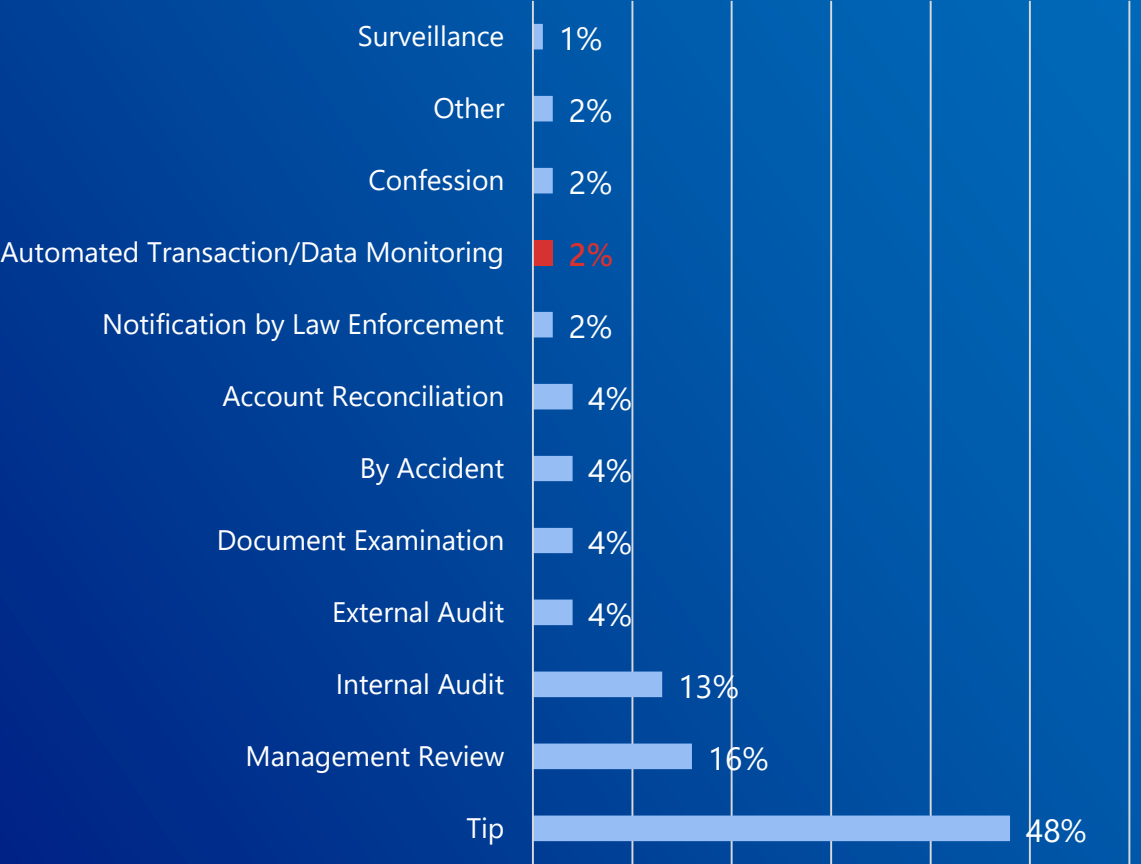
Occupational Fraud Cases in Asia-Pacific (2024)
(Research by Association of Certified Fraud Examiners/ACFE)

Country	Number of Cases	Country	Number of Cases	Country	Number of Cases
Southeast Asia		East Asia		Pacific Region	
Cambodia	1	China	33	Australia	29
Indonesia	25	Hongkong	7	New Zealand	8
Malaysia	17	Japan	4	Fiji	1
Myanmar	1	South Korea	1	Papua New Guinea	2
Philippines	12	Taiwan	10	Samoa	3
Singapore	15	Total Cases	55	Solomon Islands	1
Thailand	9			Total Cases	44
Vietnam	4				
Total Cases	84				

Total Occupational Fraud Cases in Asia-Pacific Region = 183

The research further indicates that many companies have yet to adopt technology and data analytics for fraud detection. Tips remain the most common method for uncovering fraud, accounting for 48% of cases, while **only 2% are detected through data monitoring**.^{*2} This highlights a significant opportunity for AI technology to address this gap, particularly in the Southeast Asian region.

How Is Occupational Fraud Initially Detected in the Asia-Pacific Region?



The Role of AI in Fraud Detection

What AI Can Do?

1. Procurement

Common procurement fraud schemes include vendor collusion, bid rigging, bribery, and false invoicing. AI can play a critical role in combating these issues by analyzing vendor data from various sources, including legal documents, contracts, email correspondence, historical transactions, and other relevant data. Through advanced algorithms and machine learning, AI can detect patterns and anomalies that may signal suspicious activity or potential collusion. This enables the early detection of fraud, helping organizations mitigate risks and maintain the integrity of their procurement processes.

2. Claim & Reimbursement

Fraud frequently occurs in claims and reimbursements involving forged documents or fictitious expenses. The manual process of verifying supporting documents can be both time-consuming and labor-intensive. AI offers a powerful solution by automating the analysis and verification of claim data. By scrutinizing each claim, AI can detect irregularities or suspicious documentation, automatically flagging them for further investigation. This streamlines the verification process and significantly improves the accuracy and efficiency of fraud detection.

3. Accounting

Traditional fraud detection in accounting typically relies on manual auditing, a process that is time-consuming and prone to human error. In contrast, AI can quickly analyze vast amounts of financial data with greater accuracy. By training AI to establish a baseline of normal financial activities, it can detect patterns and identify deviations in real-time. Incoming transactions are continuously monitored and compared against these established baselines, with any irregularities flagged for further investigation by fraud analysts. This approach significantly improves both speed and accuracy while reducing the risk of oversight.

4. Security & Identity Verification

Phishing, malware attacks, and hacking are some of the most common threats to identity verification. AI can play a key role in preventing identity theft and mitigating unauthorized transactions caused by scams. For example, AI models can be trained to cross-check data across multiple platforms or channels to verify the authenticity of a transaction and detect abnormal patterns that may signal fraud.

A real-world example is Singtel's solution, SingVerify, a network-based authentication system designed to prevent fraud.*³ Unlike traditional methods such as MFA or 2FA, SingVerify operates in real-time without human intervention, verifying identities by matching users' device data with telco network data in the background. Transactions are automatically denied if the data doesn't match. This AI-driven process reduces fraud risks while providing users with enhanced security and a seamless experience.





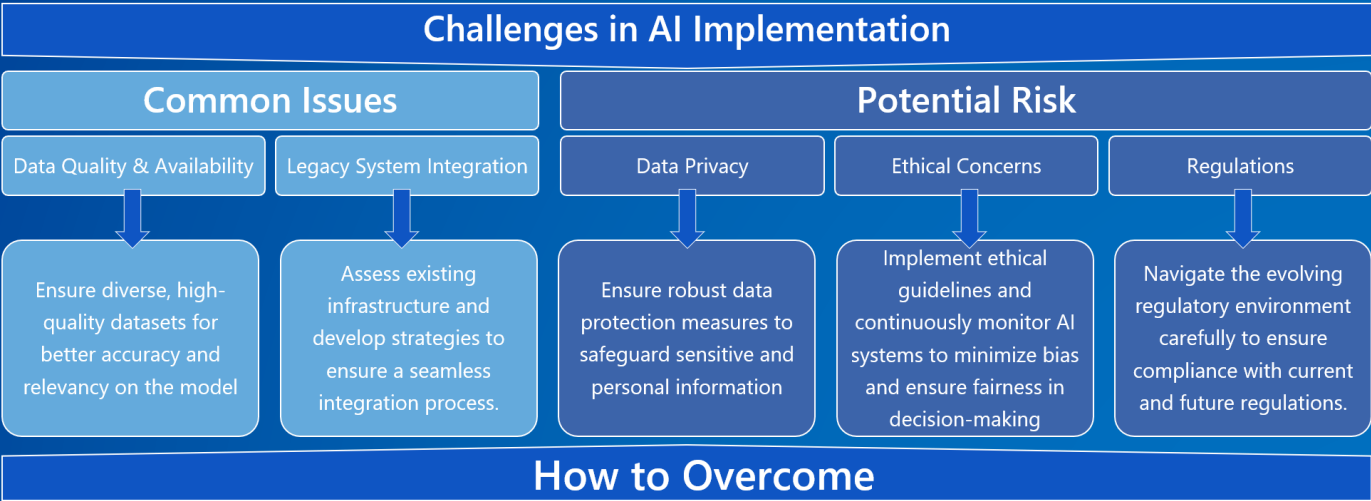
The Role of AI in Fraud Detection

Common Challenges in AI Implementation

Implementing new technological solutions, especially AI, is rarely straightforward. It often comes with challenges and risks, ranging from technical issues and human factors to external variables beyond the organization's control. Recognizing these potential hurdles early on is crucial for successful AI adoption.

Implementing new technological solutions, especially AI, is rarely a straightforward process. It often comes with various challenges and risks, ranging from technical issues and human factors to external variables beyond the organization’s control. Recognizing these potential hurdles early on is crucial for successful AI adoption.

- **Data Quality & Availability:** AI’s effectiveness relies on high-quality, well-structured data. Without this, AI capabilities cannot be fully leveraged.
- **Integration with Legacy Systems:** Incorporating AI into existing enterprise systems can be difficult due to compatibility issues with legacy infrastructure. Thorough planning is required to ensure a smooth integration.
- **Data Privacy:** AI systems process vast amounts of data, including sensitive or personally identifiable information. This raises serious concerns about data privacy and the potential for breaches.
- **Ethical Concerns:** If not carefully managed, the data used to train AI models could introduce bias, leading to stereotyping or discrimination in decision-making processes.
- **Regulatory Compliance:** The regulatory framework for AI is still evolving, particularly in Southeast Asia. While the ASEAN organization has developed the ASEAN Guide on AI Governance and Ethics*4, AI policy maturity varies across the region, with most countries in the early stages of AI adoption.



The Role of AI in Fraud Detection

Find the Right AI for Your Business

With thousands of AI solutions on the market, choosing the most suitable one for your organization can be challenging. To make an informed decision, consider the following factors:

AI Literacy

Understand the capabilities of AI and how it will benefit the business.

Learn about different types of AI technologies and its application in the industry.

Start Small

Identify pain points by focusing on the actual business & operational challenges.

Implement AI solution in a manageable scope to test their effectiveness before scaling up.

Prioritize

Optimize the efforts on solving issues that have significant impact and feasibility.

Prioritize the case that will deliver the highest value.

AI Roadmap

Define clear goals and objectives of what to achieve with AI. Break down the goals into actionable items and establish timeline for the implementation.

Use the roadmap to guide the AI adoption journey and help measure its progress

Budget

Consider the budget when looking for the AI solutions. Find one that offer the best value for money.

Evaluate the total cost of ownership, including implementation, maintenance, and potential return on investment.

By considering these factors, organizations can narrow down the options and choose an AI solution that is not only effective but also aligns with the business needs and financial resources.

Summary

Fraud and corruption threaten businesses, leading to financial losses, reputational damage, and legal consequences. Adopting AI for fraud detection is a critical step toward addressing these issues effectively. AI brings powerful capabilities, such as precise and efficient transaction analysis, behavior-based analytics, anomaly detection, and real-time alerts for high-priority issues. By harnessing AI technology, organizations can proactively monitor risks and minimize financial damage caused by fraud and corruption. However, implementing AI for fraud detection comes with its own set of challenges. Despite these hurdles, the benefits of AI-enhanced detection, faster response, and greater accuracy make it a worthwhile investment for organizations committed to safeguarding their assets and reputation.

[Learn More About Our IT System Consulting Services](#)

Author

Riska Salam
IT System Consultant,
Nomura Research Institute Indonesia

Contact

nri-syscon-linkedin@nri.co.jp

References

- [1] Corruption Perception Index: www.transparency.org/cpi
- [2] Occupational Fraud 2024: A Report to the Nations: <https://www.acfe.com/-/media/files/acfe/pdfs/rtnn/2024/2024-report-to-the-nations.pdf>
- [3] What is SingVerify?: <https://www.singtel.com/business/products-services/mobility/singverify>
- [4] ASEAN Guide on AI Governance and Ethics: https://asean.org/wp-content/uploads/2024/02/ASEAN-Guide-on-AI-Governance-and-Ethics-beautified_201223_v2.pdf