

## CASE STUDY

# AI-powered fraud management and payments intelligence



## BUILT FOR

## Security

## CHALLENGES

- Elevate fraud detection in the face of rising levels of sophisticated threats
- Enhance customer experiences using automation and richer profiles to reduce false positives
- Prioritize customer safety with leading-edge payment ecosystem and predictive modeling capabilities

## APPROACH

- Accelerate real-time contextual and self-adjusting fraud models using multilayered AI tools
- Create flexible risk orchestration and architecture
- Build customized dynamic features with minimal coding

## How KTC leveraged AI for precise fraud management

### KTC prioritizes customer safety with ACI intelligence

One of Thailand's largest non-banks and its best-known credit card provider, Krungthai Card PCL (KTC), is recognized across Southeast Asia for championing next-generation financial products and services. To protect its wide network of more than 3.3 million account holders, KTC leverages ACI payments intelligence integrated with AI to combat fraud, minimize costs, and deliver incremental revenue.

Southeast Asia's second-largest economy, Thailand, has experienced a dramatic rise in living standards and financial inclusion. With Infrastructure modernization and access to new real-time payment rails, businesses and consumers are switching to account-to-account, digital wallet, QR-code, and card payments. As more transactions go digital, the risk of fraud also increases.

### Cybercrime and scams increasingly threaten both domestic and cross-border CNP transactions

Prioritizing customer safety, KTC adopted AI models to combat new and increasingly sophisticated threats—from bad actors, high-risk merchants, and untrusted merchant category codes/countries (MCC)—in real time and at scale. The solution is needed to identify unusual customer activity to lower false-positive alerts.

The challenge was to build smarter safeguards without introducing more complexity, coding, or user friction. A smart solution offering an invisible layer of security was needed, one that could be rolled out quickly without requiring extra resources, new system integration, or additional skills training.

## RESULTS\*

- Achieved next-generation customer protection in just two weeks
- Exceeded KTC's >85% fraud detection target to reduce losses
- Safeguarded users with 1.5 times more effective cash-out scam detection
- 50 ready-to-use features that detect and adjust to new fraudulent patterns
- An efficient, AI-based fraud function that runs in real time and near real time

KTC chose to democratize access to AI with ACI to enrich decision-making capabilities.

The strategic decision to harness ACI's broader payments intelligence portfolio provided KTC with access to the latest multilayer AI technology for advanced, real-time contextual and behavioral decisions.

KTC could easily utilize ACI's model generator, which creates unlimited adaptive machine learning models quickly and intuitively in just a couple of hours. Offering an easy-to-use intuitive interface, ACI's model generator enables KTC fraud teams to pinpoint assertive and strong signals of fraud without any complex coding or advanced data engineering skills.

### To reduce operational costs and ensure data accuracy, ACI consultants worked onsite to build effective models

In collaboration with ACI, KTC developed a dynamic feature library for multiple use cases. Utilizing powerful tactical scoring models that can be analyzed, trained, tested, and compared within KTC's familiar proactive risk manager and ACI's model generator user interface, the library includes:

- **Transactional features:** Values of MCC, country, currency, amount, and hour of a transaction
- **Velocity features:** Time since last fraud at this merchant, time since last transaction at this card, transaction count at the card in the previous X hours, sum of purchase amounts at the card in several hours
- **Habitually (aka familiarity or trust) indicators:** Genuine customer profiling to reduce false-positive rate: merchant binary checks if the customer has used this merchant in the past, and similarly: MCC/currency/country/postcode familiarity features
- **Fraud profiling:** To increase fraud detection rates—for example, the merchant fraud rate feature is defined as the number of fraudulent transactions divided by the number of all transactions at this merchant in several days—fraud rates could be constructed at the MCC, acquirer, country, currency, and postcode levels

These features reduce the effort required of the KTC fraud team. The resulting models automatically score and flag transactions above particular thresholds. As a result, ACI's model generator rules reduced false-positive rates by filtering out the previously established and trusted spending patterns of genuine customers.

ACI payments intelligence has strengthened KTC's fraud fighting capabilities, resulting in:\*



**Outpaced 85% fraud detection**

**rates:** KTC has exceeded its goals and created a more secure payments experience for KTC customers.



**Delivered a 3:1 precise false positive**

**ratio:** Enhanced consumer profiles have resulted in fewer false positives, improved operational efficiency, and smoother customer experiences.



**Targeted scope for CNP overseas**

**fraud:** Customized models successfully address the challenge of detecting cross-border fraud as consumers shift more of their online spending to global merchants.



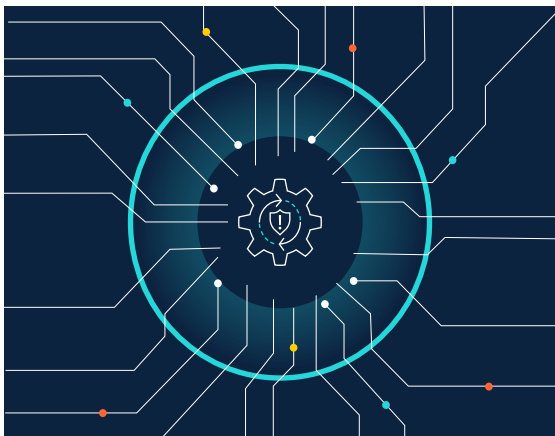
**1.5 times more effective cash-out scam detection:**

Combining transactional, behavioral and contextual data has increased cash-out scam initial detection rates from 33% to 50%.



**Modern, agile and responsive fraud**

**operations:** Dynamic features enhance fraud prevention and provide invaluable insights into genuine customer behavior.



**Existing ACI assets accelerated next-generation fraud capability with minimal investment**

No extra hardware, software or complex integrations were required, as KTC was able to use its established ACI fraud platform to implement payments intelligence solutions. This led to the rapid adoption of machine learning models without the cost and effort typically associated with risk management transformation.

In just two weeks, ACI's team developed multiple machine learning models and a comprehensive library within ACI's model generator of 50 dynamic features to detect and learn emerging threats, and significantly improve KTC's fraud detection capabilities.

By reducing manual coding and processes, ACI payments intelligence has freed KTC's fraud team to focus on developing new detection logic and adjusting existing strategies.

A key advantage of the ACI solution is the high levels of automation, including:

- **Ready-to-use features:** Speeding fraud detection and updating models—every merchant now has its self-adjusting false-positive rate, eliminating the need to maintain merchant risk lists or set manual rule thresholds.
- **On-going refresh:** Spotting fraudulent patterns and ready for retraining features daily, eliminating time-consuming manual processes.
- **Feature and logic threshold adjustment:** Accelerating changes across all functional layers—KTC can adjust parameters to improve risk management and operational control.

**Data aggregation delivers greater insight, agility, and customer centricity across KTC's enterprise**

Model development can be managed by both internal business owners, without the involvement of data scientists. Test results are easier to understand, analyze, and act on, speeding up KTC's ability to implement new features and manage fraud and customer services more effectively.

The real-time fraud platform provides KTC with an accurate single source of truth about customers and their typical behavior to determine the best course of action to keep user experiences optimized with fewer false positives. By creating separate scopes and models for major merchants, KTC can also more effectively combat overseas CNP fraud.

“

ACI's multilayer AI platform revolutionizes our fraud detection without overburdening our fraud team. Payments intelligence provides ready-to-go tools to tackle the most sophisticated CNP and scam attacks. We are already detecting 1.5 times more cash-out scams than before, and we can detect fraudulent transactions with optimal false-positive and high detection rates.”

**Rywin Voravongsatit**

Vice President - Head of Operations Control & Merchant Operations Business Unit  
KTC

**By partnering with ACI, KTC now has a robust, future-ready fraud detection system that exceeds industry benchmarks and increases operational efficiency.**

KTC has achieved its ambition of accelerating AI-powered, dynamic, and generative models to fight new fraud patterns as they happen, creating more effective fraud strategies to mitigate risks and safeguard brand reputation and profit.

With the support of ACI, KTC has streamlined its data processes and transformed its fraud management function into a strategic enterprise asset. This enhancement enables KTC to maintain a competitive edge while elevating user experiences across both current and future products and services.

\*KTC internal data

**BUILT FOR**

**Security**

Our AI-powered payments intelligence and data security solutions serve peace of mind to thousands of banks, intermediaries, and merchants and deliver compliance and security you can count on.

**Discover how ACI payments intelligence can benefit your business and more.**



ACI Worldwide, an original innovator in global payments technology, delivers transformative software solutions that power intelligent payments orchestration in real time so banks, billers, and merchants can drive growth, while continuously modernizing their payment infrastructures, simply and securely. With 50 years of trusted payments expertise, we combine our global footprint with a local presence to offer enhanced payment experiences to stay ahead of constantly changing payment challenges and opportunities.

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