

Five-Star Airline Shields Rewards Program from Fraud, Prioritizing Loyal Customers

AI-Driven End-to-End Fraud Detection and Post-Detection Analysis Bring New Confidence to Security Decisions



96% true positive detection rate

achieved in just 3 months



1 month to deploy

within existing environment



0 website downtime or delays

during seamless integration & high traffic periods



Improved operations & communication

with data-backed insights

Transportation

Company Facts:



- National airline in Asia known for its leadership in seamless travel and transport
- Customer rewards program fuels ecosystem of hotels, airlines and financial services
- Recognized as a 5-star airline in 2024 and consistently over the past decade

Business Objectives:



- Reduce fraud in rewards programs without causing unnecessary friction
- Adopt a multi-faceted strategy to close security vulnerabilities across the entire customer journey
- Increase visibility and confidence within the organization

Use Cases:



1. Preventing rewards program fraud through account takeover
2. Preventing fraudulent account opening with stolen credentials

Why Transmit Security?



- AI-driven, real-time fraud detection supported by hundreds of detection methods
- Post-detection analysis enhances operations, enabling focused, insight-driven investigations
- Improved operation management through AI-based data labeling
- Built-in automation, requiring minimal expertise and manual work for small teams

Results:



- Outperformed during high traffic periods when fraud attempts are high
- Less time required chasing fraud and more to focus on other priorities
- Fostered a more informed and collaborative environment within the organization
- Continuous collaboration with Transmit Security fraud experts

Mission

Striving for Global Excellence

This airline is not just another carrier; it's an integral part of a broader vision to connect people and goods across the globe. With a commitment to becoming the leading airline that customers choose and trust, the company has set its sights on creating a world where travel and transport are effortless and accessible to all. Their mission is to be recognized as the top choice in the airline industry, known for providing exceptional value and making global movement smoother and more efficient.

A Legacy Beyond Aviation

Beyond its core operations, this national airline in Asia partners with other airlines, hotels, and travel agencies to create a large network of services for their customers. Central to its offerings is the use of reward points, which play a critical role in driving customer loyalty. This approach not only strengthens the airline's brand but also establishes a valuable ecosystem where reward points can be redeemed across multiple platforms, further enhancing customer engagement.

Challenges

Strategic Shift Toward Comprehensive Fraud Prevention

The airline's fraud team dedicated most of their time to extensive investigations, meticulously tracking down fraud patterns. Yet, obtaining a holistic view of fraudulent activities remained challenging, making it difficult to fully understand and address the broader scope of threats. Recognizing these gaps underscored the need to enhance their fraud detection capabilities to adapt to evolving threats.

Their investigations revealed that the airline's highly-valued reward points system—a cornerstone of its customer loyalty strategy—was a frequent target for fraudsters. Fraudsters exploited the airline's vulnerabilities through tactics like account takeovers with compromised credentials and the creation of fake memberships using stolen personal information.

The airline moved away from solely blocking IP addresses and requiring multiple security step-ups throughout the customer journey, as these measures inadvertently blocked legitimate customers and restricted access for those with impairments. To strengthen security while minimizing customer friction, the airline sought a solution that could enhance authentication at registration and login, and accurately distinguish between legitimate customers and fraudsters in order to respond appropriately.

Accelerating Decision-Making with Post-Detection Analysis

The second part of the airline's modernized fraud prevention strategy focused on enhancing their ability to swiftly analyze and respond to emerging threats. Their existing systems, which focused on isolated points in the customer journey, couldn't provide a comprehensive understanding of the fraud in their environment. As a result, the airline struggled to support decisions with clear, data-driven insights, leading to delays in both investigation and decision-making processes.

To overcome this, the airline aimed to deepen their understanding of the evolving fraud landscape by adopting a more integrated solution that would provide a holistic view of fraud patterns across the entire customer journey, along with robust post-detection analysis.

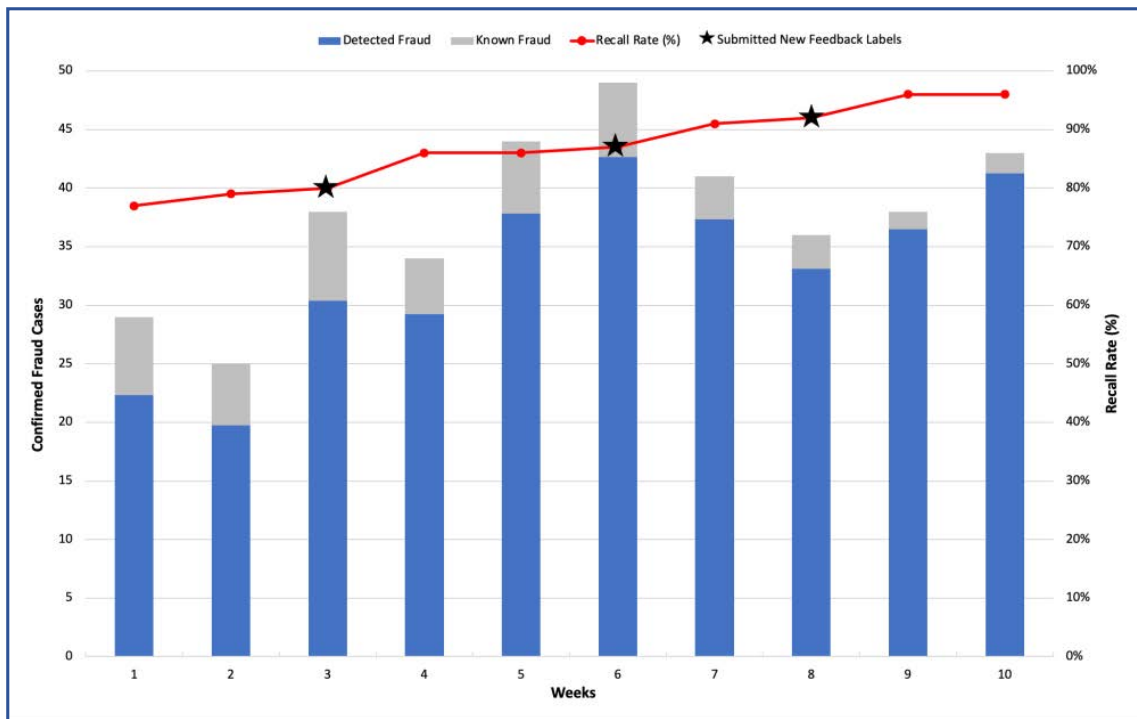
Solution

Tuning ML Algorithms for Efficient and Accurate Detection

[Mosaic by Transmit Security](#) analyzes actions across the entire customer journey and utilizes hundreds of advanced fraud detection methods throughout the airline's ecosystem, from network anomalies to behavioral irregularities. This approach constructs a complete profile of user behavior, enabling the system to detect fraud by identifying deviations from typical patterns. Unlike solutions that rely on a limited set of detection methods—enabling fraudsters to quickly adapt and bypass security—Transmit Security's robust strategy makes it significantly harder for fraud to succeed.

Mosaic integrates data from multiple sources, including SDKs and external feeds, to generate an in-depth analysis. It communicates actionable recommendations to fraud analysts, supported by hundreds of reasons and contextual insights that clarify the broader context of potential fraud. This process not only enhances trust in the system but also improves communication and provides effective tools for triaging cases, automating workflows, and conducting entity analysis.

A key factor in the solution's effectiveness is the tuning of Transmit Security's machine learning (ML) algorithms, using the airline's data on confirmed fraud cases. This tuning process optimizes the retraining of the ML models to efficiently detect similar fraudulent patterns, significantly enhancing both accuracy and efficiency. Consequently, the detection process becomes more proactive and less reliant on manual intervention, enabling the airline to stay ahead of evolving threats.



Graph comparing total confirmed fraud cases (blue+gray) to Transmit Security's 'Challenge' and 'Deny' recommendations (blue). The increasing recall rate, with large jumps after new feedback labels are submitted, highlights the enhanced accuracy of the ML models after tuning.

Making Smarter Decisions, Faster

Successful fraud prevention doesn't end with detection. [Mosaic by Transmit Security](#) takes it a step further by analyzing all fraud data to provide immediate, data-backed recommendations on how to respond to potential threats, complete with clear reasoning behind each suggestion. This level of transparency empowers the airline's fraud experts to act quickly and confidently, fostering a dynamic and informed decision-making process.

In addition to these recommendations, fraud experts can use Conversational Analytics, an AI-driven chatbot, to collect data and answer queries such as 'How many fraud attempts are linked to this IP address?' or 'Show me a graph of blocked fraud attempts over the last 30 days.'

Unlike other solutions, Mosaic goes beyond real-time detection by performing comprehensive post-detection analysis of activities that may not be immediately apparent. For instance, Mosaic automatically identifies Fraud Rings, providing graphical visualizations that map connections between entities like devices, IPs, and user accounts.

When these Fraud Rings are linked to fraud campaigns, revealing patterns over the same period, they can expose organized attacks. This deeper insight empowers the airline's fraud team to fully comprehend the extent of fraudulent activities and communicate their findings more effectively within the organization.

Results

96% True Positive Detection Rate in 3 Months

The implementation process was seamless, with no issues related to website downtime or page loading delays, thanks to the close collaboration between the airline's fraud team and Transmit Security's experts. This team ensured a smooth integration into existing processes and precise tuning of the ML models to deliver optimal results.

The combination of a strong partnership, automated fraud detection, real-time recommendations, and post-detection analysis provided the airline with a powerful toolset to combat fraud, resulting in detection rates that exceeded their expectations. To verify the solution's accuracy, the airline's fraud team compared confirmed cases of fraud with the solution's "challenge" and "deny" recommendations.

After the first month, the true positive (recall) rate reached 86%, and by the third month, it had improved to 96%. Since then, the true positive accuracy rate has consistently remained between 96% and 100%, highlighting the effectiveness of the integrated solution.

Auto-Scaled During High Traffic Periods

Since implementing [Mosaic by Transmit Security](#), the airline has launched several marketing campaigns aimed at expanding their customer base and boosting engagement with their rewards program. In the past, these campaigns often led to increased fraud, as fraudsters took advantage of the high volume of legitimate customers creating accounts and accessing the website to slip through security defenses.

Mosaic has proven invaluable during these peak periods. It seamlessly auto-scaled to manage the high traffic without any downtime or delays, all while maintaining exceptional effectiveness and accuracy.

Enhanced Business Operations and Internal Communication

Beyond the quantitative success, Transmit Security provided the airline with invaluable raw data and detailed reasoning behind each detection, greatly enhancing their trust in the solution and their accountability to internal stakeholders.

With Transmit Security's support, the airline could now deliver clearer, more in-depth explanations behind fraud decisions, which significantly improved business operations and communication. This transparency strengthened confidence in their fraud prevention strategies and fostered a more informed and collaborative environment within the organization.

Fraud and Identity in One Partner

Ultimately, the airline's goal extended beyond detecting fraud; they aimed to respond effectively in a way that provided the best security for their customers without introducing unnecessary friction.

By gaining a deeper understanding of the broader scope of identity services inherently integrated within Mosaic, the airline recognized Transmit Security as a valuable business partner. This partnership offers them the flexibility to adopt additional capabilities, such as identity verification or authentication, with the simplicity of a drag-and-drop interface, should the need arise in the future. This holistic approach ensures that the airline can address both fraud and identity objectives seamlessly.

The collaboration between this airline and Transmit Security is a testament to the power of modern fraud prevention solutions, continuous feedback, and strategic partnerships.

To learn more about how Transmit Security can help transform your organization's fraud strategy with accurate, AI-driven detection, contextual analysis and data-backed recommendations, **book a meeting** with us or visit transmitsecurity.com.