AI-Driven Risk Management

Increase acceptance and decrease fraud with real-time, precision risk scoring

In the fast-paced world of eCommerce, staying ahead of payment fraud can be a **constant challenge**. Fraudsters are evolving, using advanced tactics that can quickly render traditional fraud systems. Meanwhile, fraud prevention teams are **under pressure** to do more with less, especially in rapidly growing businesses where the surge in transaction volumes often outpaces available resources. These teams face the **critical task** of helping to eliminate fraudulent transactions, reduce chargeback rates, help minimize false positives, and help ensure a seamless payment experience for customers.

The stakes are incredibly high. Global card-not-present fraud is expected to reach a staggering **$43.6 billion** by 2027[1]. Even more concerning is the potential loss of declining legitimate customers, which could amount to an estimated **$264 billion in global losses** by 2027[1].

Enter Visa's Decision Manager — our flagship AI-driven fraud detection solution. Combining advanced AI, global payments intelligence, and insights from our merchant community, it delivers automated, real-time risk scoring for every transaction.

In the pages ahead, we'll first take a closer look at Visa's AI capabilities that power Decision Manager, then explore what makes it unique and how it can help support your fraud strategy and business growth.

The power of Visa's AI-driven risk models

Artificial intelligence (AI) and machine learning (ML) are transforming risk detection by **automating** and **enhancing the accuracy of real-time risk scoring**. These models, trained on vast amounts of historical transaction insights, identify cause-and-effect relationships and **continuously improve their accuracy** with access to **high-quality data**.

The result: swift, data-driven assessments for each transaction, summarized in easy-to-use risk scores that feed into a rules-based risk management strategy. These same AI and ML capabilities directly power Visa's Decision Manager, enabling it to deliver accurate, real-time decision support that helps businesses balance fraud prevention with customer experience.

How Visa's AI-driven solutions can help empower your business

Accelerate decision-making:

Enable fast, accurate fraud detection and approval processes.

Focus on growth:

Concentrate on your core business strategies, enabling you to improve revenue and drive business growth.

Stay ahead of fraud:

Adapt to evolving fraud tactics and changing market conditions.

Reduce costs:

Help minimize fraud management expenses by lowering false positives and decrease the need for manual reviews.

Help optimize payment processing:

Implement advanced strategies that can reduce fraud and increase the acceptance of legitimate transactions right from the start.

AI and ML offer a **scalable, efficient,** and **highly effective** solution to modern fraud detection, helping you optimize your fraud management strategy and focus on growing your business.

VISA

Visa Predictive Modeling Team:
A world-class team driving world-class products

As one of the **world's largest payment networks,** Visa serves billions of consumers and tens of millions of merchants around the world daily[2]. Our modeling and data science teams are dedicated to unlocking the hidden value within the **vast, high-quality transaction data** we process. Their mission is to build a **powerful commerce intelligence engine that drives innovation** across the payment industry and beyond. Through applied research in AI and related fields, we deliver **unique insights and capabilities** to our partners and clients, helping them grow their businesses.

Our research spans deep learning in financial data, supervised and unsupervised representation learning, predictive modeling for fraud and risk management, consumer behavior modeling, recommendation systems, scalable machine learning systems, privacy-preserving data analytics, and more.

Key points considered by our risk model:

- Device information
- Device Identity Behavioral Analysis
- Geolocation
- Account activity
- Several other data points depending on the specific transaction

Leading the way in AI-driven fraud protection for over 20 years

For more than two decades, Cybersource, a Visa Solution, has been at the forefront of integrating AI into fraud and risk management solutions. As an **early pioneer in applying AI and ML** to fraud prevention, we have advanced our capabilities by using **Visa's global reach, payments network, and data science expertise**.

At the core is **VisaNet** — one of the world's largest and sophisticated payments data networks —processing more than 310 billion transactions annually[3]. This scale gives our AI models access to large, diverse, high-quality data, improving their ability to help detect patterns, adapt to new threats, and prevent fraud.

Our **risk experts** add the human insight that strengthens our ML-driven systems. By tracking global buying trends and emerging fraud patterns, they continuously refine our AI models for greater accuracy and adaptability.

The result is **Decision Manager** — a solution that learns automatically from vast data and is continually enhanced by expert analysis, helping keep it responsive evolving threats and tuned to each merchant's unique risk profile.

Meet Decision Manager: AI-powered precision in fraud risk management

Decision Manager analyzes **hundreds of data points** per transaction, comparing them against intelligence from Visa and Cybersource's rich dataset of **hundreds of billions of transaction insights**. This scale, combined with our decades of fraud expertise and AI technology, delivers **accurate, automated risk scores** that drive results.

The model is trained on a **comprehensive, validated dataset** that blends high-quality data and confirmed fraud markings from global merchants using Decision Manager with risk-signal feedback from across Visa's payment ecosystem. This combination strengthens the model's ability to accurately distinguish between fraudulent and legitimate transactions.

Focused on precision risk scoring, Decision Manager helps reduce false positives, improve your acceptance rates, and combat fraud — giving you access to:

- **Rapid resolution** through actionable fraud insights
- **Rapid reaction** to evolving market conditions and fraud trends
- **Rapid validation** of new strategies in real-world scenarios
- **Rapid improvement** in detection with fewer false positives and reduced manual review

This unique combination of capabilities gives us a **holistic view** of emerging commerce trends and direct insight into the most significant payments fraud challenges — visibility that most fraud solutions cannot match.

AI precision meets rules-based strategies for superior results

While AI is essential, Decision Manager also pairs **AI-generated risk scores** with a **robust rules engine**. This powerful combination enables businesses to tailor their fraud prevention strategies to meet **specific objectives** and swiftly adapt to **evolving market dynamics**.

Configuration strategies incorporate human expertise and innovation, allowing for rapid adjustments to new trends and unexpected challenges in an ever-evolving landscape. By uniting the strengths of AI and human ingenuity, Decision Manager delivers a truly comprehensive approach to fraud detection.

Businesses can configure custom rules that align with their **unique risk tolerance** and **operational priorities**, ensuring the right **balance between security and customer experience**. This flexibility is critical as new technologies emerge and shopping behaviors shift, requiring fraud strategies to be both proactive and responsive.

Whether entering new markets or optimizing existing operations, Decision Manager helps empowers businesses to navigate the complexities of the modern economy with confidence.

Inside Decision Manager's fraud detection model

Designed specifically for enterprise businesses, Decision Manager's risk model stands out for its **strong accuracy** and **comprehensive data set**. Our research spans building scalable supervised and unsupervised deep learning models and recommendation systems with an emphasis on understanding fraud/risk management and consumer behavior, while preserving privacy.

Versatile consortium model

Decision Manager's Unified Consortium model is built to adapt across industries and transaction types. From retail and travel to digital goods and beyond, it helps deliver consistent, advanced risk management tailored to each client's needs. Its versatility ensures businesses have a fraud solution that aligns with their unique profile and evolving requirements.

Visa network data signals

Our model uses broad insights from Visa's payment network, including invaluable insights from the issuer side. By incorporating fraud signals from the issuer side, the model is trained to become more intelligent and precise in identifying fraud.

Depth of merchant data

Our model is powered by an extensive dataset drawn from a wide range of merchant transactions, offering deep insight into customer behavior. For every transaction, it analyzes numerous data points and dimensions, capturing details that help uncover purchasing patterns and detect fraud with precision. Using years of historical transaction data, it identifies evolving risk patterns and fraud trends. This comprehensive, nuanced analysis makes it possible to detect even the subtlest fraud signals, giving clients a valuable edge.

Together, these AI and ML-driven capabilities allow us to **quickly and automatically detect fraud** by analyzing a broader pool of transaction data while helping deliver **agile, accurate risk scoring** targeted to our client's industries, regions, and channels.

What sets Decision Manager's risk model apart

Visa goes beyond advanced AI and ML algorithms to address the **specific needs of clients** across industries and markets. Every sector faces distinct challenges, and Decision Manager is dynamically calibrated to deliver tailored fraud detection that helps **strengthen security and performance across all transaction types**.

Key innovations include:

Identity Behavior Analysis

Using historical customer identity data across multiple merchants as a core input to our ML models, we can recognize and validate new customers faster. This patented capability detects patterns in how identities are used over time, reducing false positives and enabling merchants to confidently approve more good orders from first-time buyers — even if the customer is new to their store.

Unified Consortium Model

One of the most powerful aspects of our risk platform, the Unified Consortium Model delivers results from day one. It takes a flexible approach to incorporating local transaction data into a global network, consolidating datasets across regional models to improve information sharing and risk-scoring accuracy. All data is anonymized to comply with privacy regulations, ensuring clients benefit from both the scale of global insights and the precision of local intelligence.

Rules Suggestion Engine

By analyzing historical transaction data, this engine detects patterns often missed by the human eye and recommends new fraud strategies and rule adjustments. With quick "what-if" testing, you can evaluate potential strategies against past data in minutes — giving you a clear view of their impact before implementation.

The **advantages** of Decision Manager and Visa's advanced **AI-driven risk models**

▶ Strength

Our AI-powered processing capabilities handle high-volume transaction data in near real time, continuously learning and optimizing fraud detection. This robust processing power helps protect your business from even the most sophisticated fraud attempts, delivering confidence and security at every transaction.

▶ Scale

Flexible and global, our platform adapts to the latest commerce and fraud trends, accurately adjusting risk determinations across multiple levels. Whether you operate locally or in multiple markets, you can rely on consistent, reliable fraud protection that scales as your business expands.

▶ Size

Trained on insights from one of the world's largest transaction datasets, our models are highly accurate, predictive, and stable. This extensive depth of data enables our AI models to learn from a diverse array of transactions, enhancing their ability to detect fraud patterns with remarkable precision.

What Visa's leading fraud management solutions can do for you

With **Visa Acceptance Risk Solutions**, you gain a **trusted partner** focused on helping you optimize your fraud strategy, increase transaction approvals, and focus on growing your business and revenue. Our advanced tools provide insight and control to help you **strike the right balance** between reducing fraud, improving approval rates, and lowering costs.

Support balance and revenue optimization: Accurate, data-driven risk scoring can guide smarter transaction decisions. With these insights, you can refine your broader risk strategies, help protect against losses, and increase approvals for legitimate customers — supporting both security and growth.

Confidence in performance: Our fraud management solutions work quietly behind the scenes, using powerful transaction data and global insights from our platform. This combination helps provide robust protection and actionable insights to help safeguard your business.

Tailored for diverse needs: Every business has its own risk profile. Decision Manager combines AI-driven insights with a flexible rules engine, enabling you to adapt fraud prevention strategies to your markets, customer base, and operational priorities.

Continuous innovation: We continually evaluate and integrate new technologies, methods, and strategies to address emerging fraud trends. This ongoing innovation helps keep our fraud management solutions effective, adaptive, and aligned with the evolving needs of your business.

Learn more

Visa's AI-driven fraud detection models help deliver the **innovation, flexibility, and precision** to meet your needs today and support your growth over time.

Contact your Visa representative to learn more about Decision Manager and Visa Acceptance Risk Solutions — and **explore how we can work together** to strengthen your fraud strategy, boost approvals, and support long-term success.