



**NOT YET
ANOTHER
CHATBOT**

REIMAGINE PAYMENTS WITH AI

MATIAS UNDURRAGA & ANNA BARSKAYA

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The age of incremental enhancements is over. To lead in the payment's revolution, companies must reimagine processes entirely, not merely "sprinkle AI" on them. This means forging a future where AI isn't just a tool, but the transformative core of a new era of intelligent commerce, positioning payment service providers at the forefront of AI-driven commerce for the businesses of the future.

This whitepaper sets a vision to make payment service providers (PSP) the leader of the AI-driven commerce for the business of the future.

Matias Undurraga & Anna Barskaya

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Executive Summary

Not Yet Another Chatbot is a whitepaper that explores how the payments industry can innovate and transform by incorporating Artificial Intelligence (AI) into products and services—far beyond the traditional chatbot paradigm. While we aim to inspire you with diverse use cases, we also invite you to co-create this transformative journey with us.

Beyond Incremental AI: Redefining Intelligent Commerce

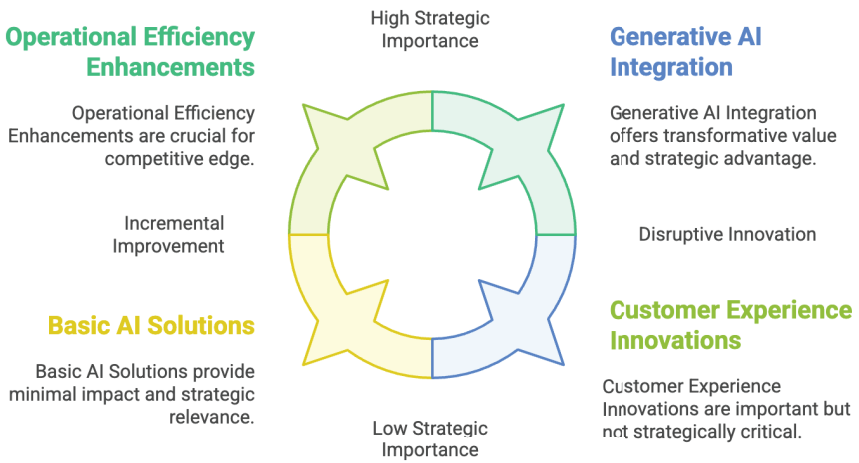
Incremental advancements in Artificial Intelligence are commonplace, but payment service providers (PSPs) have a unique opportunity to leapfrog the competition and position themselves as leaders in intelligent, AI-driven commerce. This vision extends beyond payment processing, reimagining the role of PSPs as dynamic revenue engines fueled by AI. This whitepaper is not about small, iterative improvements; it's about defining a new era for

payments, fundamentally changing how businesses interact with their customers and conduct transactions globally.

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The Imperative for Bold Action

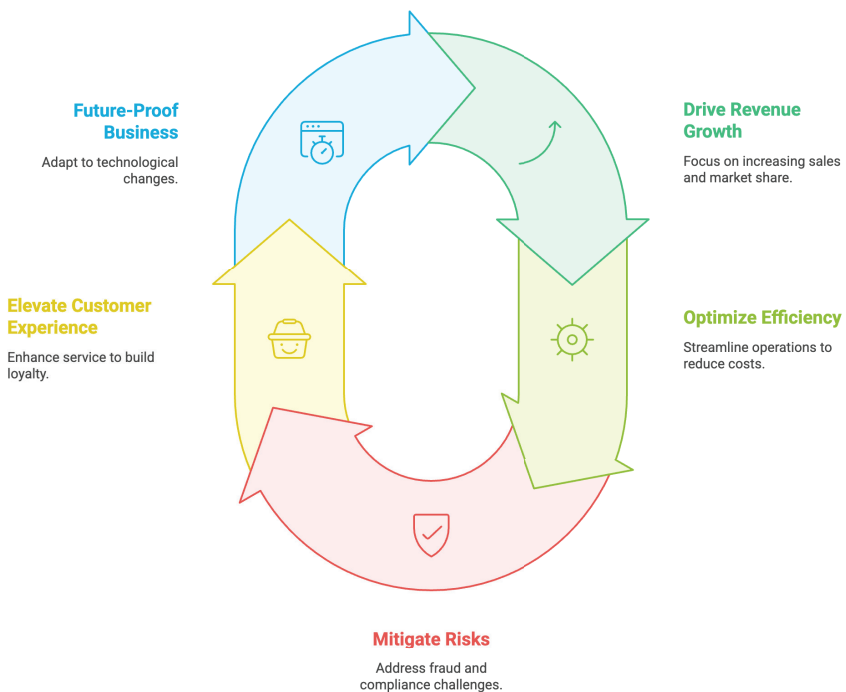
Strategic Prioritization in AI-Driven Commerce



The global digital payments market is accelerating... Capturing this growth, however, requires more than just keeping pace with technological trends, companies are facing increasing pressures to:

- ▶ **Drive top-line revenue growth** in a highly competitive landscape.
- ▶ **Optimize operational efficiency** and reduce costs.
- ▶ **Mitigate risk** associated with fraud, compliance, and evolving regulations.
- ▶ **Elevate the customer experience** to foster loyalty and drive lifetime value.
- ▶ **Future-proof their businesses** in the face of rapid technological advancements.

Strategic Cycle for Digital Payment Growth



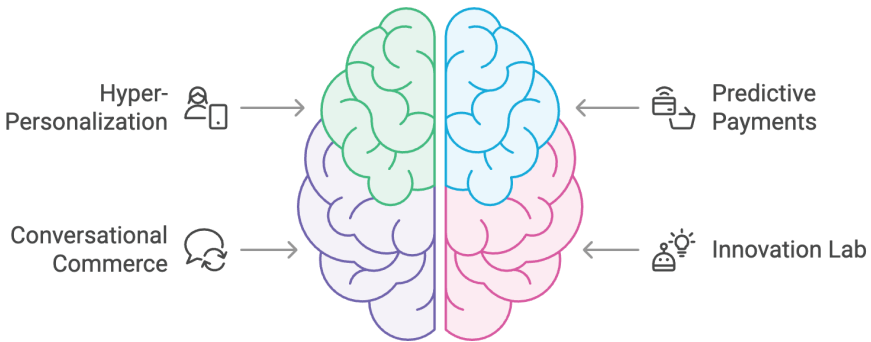
Traditional payment providers, while offering some AI solutions, are not always delivering the disruptive, value-creating innovations needed to address these challenges fully. This presents a pivotal opportunity for PSPs to move beyond incremental improvements and achieve strategic differentiation – with generative AI at its core.

A Vision: Beyond Payments, Towards Intelligent Commerce Orchestration

We envision a future where payment service providers (PSPs) are trusted partners for businesses worldwide, acting as AI-powered nexuses of commerce that seamlessly connect merchants and consumers in a dynamic and intelligent ecosystem. In this future, every transaction becomes an opportunity to gain a deeper understanding of customers, anticipate their evolving needs, personalize their journeys, and ultimately drive revenue growth for businesses of all sizes. PSPs should serve as the intelligent connective tissue, enabling frictionless, personalized, and secure commerce experiences on a global scale.

The power of generative AI is not merely a tool within this vision, but the very foundation upon which it is built. PSP's are not just processing payments; they are orchestrating the future of intelligent commerce, and leading the way into an era where every transaction is an insight, every interaction is personalized, and every opportunity is maximized.

Comprehensive AI Strategy Overview



Key Pillars of an AI Strategy

- 1. Hyper-Personalization at Scale:** Move beyond basic segmentation to dynamic, real-time tailoring of the entire commerce journey. Every customer interaction, every payment touchpoint, will be customized to individual preferences and behaviors.
- 2. Predictive an/d Pre-emptive Payments:** Anticipate payment needs, fraud risks, and market trends,

transforming PSPs from reactive service providers into proactive partners that drive business success.

- 3. Conversational Commerce Ecosystem:** Create frictionless payment experiences seamlessly integrated into natural language interactions across all touchpoints - web, mobile, voice, and even emerging technologies like Augmented Reality (AR) and Virtual Reality (VR).
- 4. AI-Driven Innovation Lab:** Continuously explore and develop cutting-edge use cases for generative AI, ensuring that PSPs remain at the forefront of the payment revolution for the next decade and beyond.

Generative AI for Supercharging Sales

Traditionally, many organizations, including payment service providers (PSPs), have relied heavily on expensive outsourced sales organizations to acquire new merchants, particularly in the long tail of small and medium-sized businesses (SMBs). While Key Account Managers manage larger accounts, this traditional model presents significant limitations in the current landscape. These external sales partnerships are often costly, leading to a high cost of acquisition for each new merchant. Additionally, the complex onboarding processes, which involve extensive documentation, validation, and Know Your Customer (KYC) procedures, can be time-consuming, resulting in a slow time-to-market for merchants eager to start processing payments.

Generative AI offers a transformative solution to these challenges, particularly in capturing the long-tail SMB market more efficiently

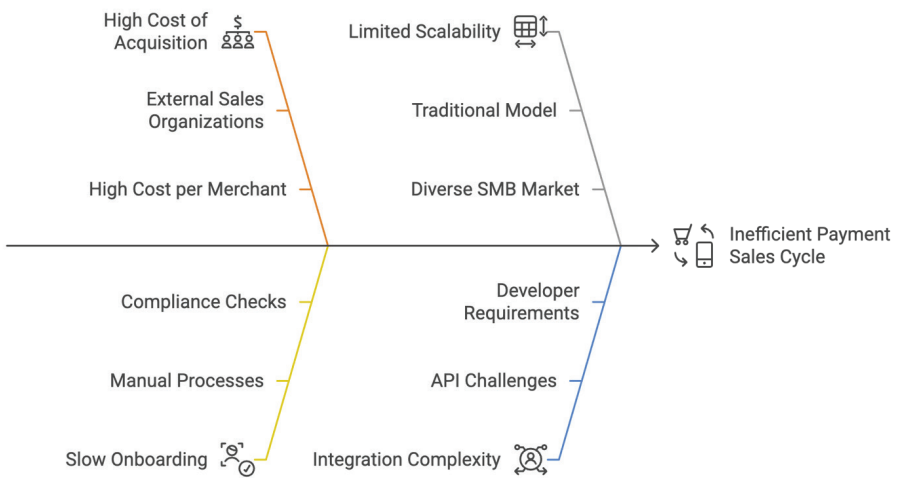
and profitably. The aim is to make onboarding, especially for small businesses, as seamless and swift as possible.

What are the challenges in the payment's sales cycle?

- ▶ **High Cost of Acquisition:** Relying on external sales organizations is expensive, leading to a high cost per acquired merchant.
- ▶ **Slow Onboarding:** Complex, manual processes involving document verification, KYC, and other compliance checks lead to delays in merchant activation.
- ▶ **Limited Scalability:** The traditional model is difficult and expensive to scale, especially when targeting the vast and diverse SMB market.
- ▶ **Lack of Personalization:** A one-size-fits-all approach often fails to address the unique needs of individual merchants, especially smaller businesses.
- ▶ **Increased Competition:** The payment landscape has become incredibly crowded and competitive, this competition not only challenges market share but also puts pressure on margins.
- ▶ **Technological Innovation:** Traditional payment providers are increasingly at risk of falling behind due to the outdated technology of many payment provider infrastructures and processes.

► **Integration Complexity:** The need for developers to integrate and utilize payment systems through APIs is crucial and presents several challenges. Integrating payment systems into a merchant’s existing platform is often seen as complex, especially when these systems are not flexible. Also, poorly documented or hard-to-use APIs deter developers, extending development timelines and potentially increasing development costs.

Challenges in the Payment Sales Cycle



How can Generative AI help?

► **Lower Cost of Acquisition:** By automating lead qualification, outreach, and even contract negotiation, AI drastically reduces the reliance on expensive external sales teams, thus lowering the cost per acquired merchant.

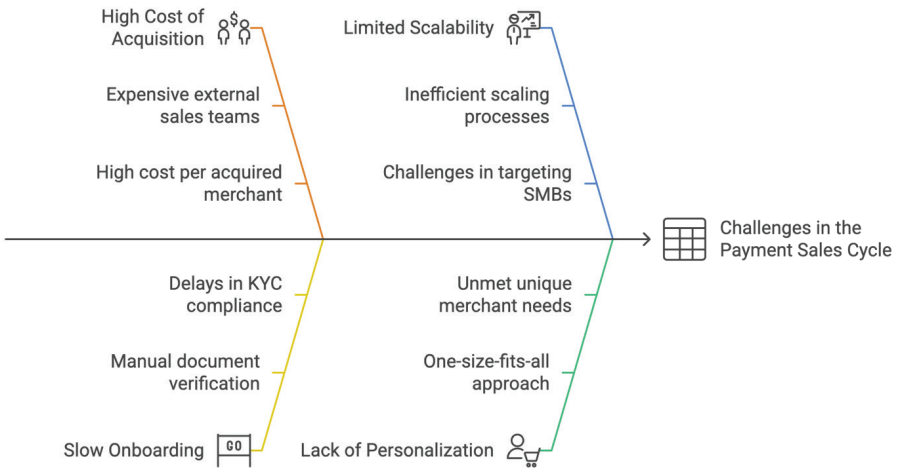
Automating the onboarding process is a big part of the strategy and value proposition of Generative AI for PSPs.

- ▶ **Faster Time-to-Market:** AI-powered Intelligent Document Processing (IDP) streamlines the onboarding process. It automates the extraction, validation, and verification of information from various documents, including KYC and other compliance-related paperwork. This significantly reduces the time it takes to activate a new merchant, making *the PSP* a more attractive option for time-sensitive businesses.
- ▶ **Enhanced Scalability:** Generative AI can simultaneously engage with and onboard thousands of merchants, making it ideal for capturing the long-tail SMB market.
- ▶ **Personalized Merchant Experience:** AI tailors interactions, product recommendations, and pricing to each merchant's specific needs and profile. This creates a more engaging and relevant experience, increasing the likelihood of conversion and long-term loyalty.
- ▶ **Pricing and Value Articulation:** Implementing AI-pricing model that addresses these challenges directly by enabling the following:
 - **Automated Price Adjustments:** AI can adjust prices in real time based on a variety of factors including transaction volume, industry type, merchant revenue, merchant location, merchant average transaction value and even real-time demand and market conditions.
 - **Personalized Pricing for SMBs:** AI assesses the specific needs and transaction patterns of each small business

to offer customized pricing plans that align with their budget and usage.

- Enhanced Transparency with AI:** Generative AI can create detailed, easy-to-understand explanations for each pricing component, helping merchants understand exactly what they are paying for and how the fees are structured.

Overcoming Challenges in the Payment Sales Cycle



Specific Use Cases for AI in the sales cycle

We can use generative AI to create a fully automated, intelligent sales cycle driven by a virtual sales agent. This approach will not only enhance efficiency but also dramatically reduce customer acquisition costs, accelerate time-to-market, and enable PSPs to

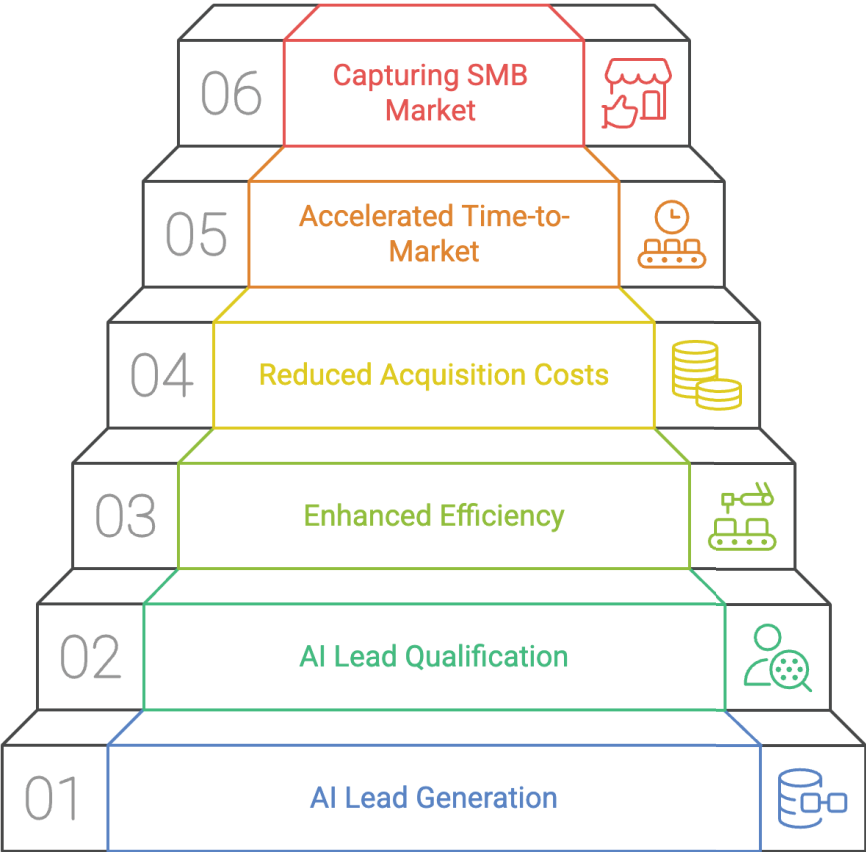
effectively capture the long-tail SMB market. Here is how we can implement it end to end:

1. **AI-Driven Lead Generation: The Intelligent Prospector**

Traditional lead generation methods are often time-consuming, inefficient, and rely on outdated information. Sales teams spend valuable time manually researching prospects, often missing out on key opportunities due to information gaps or slow reaction times. This inefficiency can lead to missed revenue targets and a slower pace of business growth. An AI-driven lead generation system addresses these challenges by automating the prospecting process, providing real-time insights, and enabling highly targeted outreach. This allows sales teams to focus on building relationships and closing deals, rather than spending countless hours sifting through data. Furthermore, in the fast-paced and competitive payments industry, early engagement with emerging businesses is crucial for securing market share. By proactively identifying and qualifying leads, Payment Service Providers (PSPs) can establish themselves as essential partners early in a business's lifecycle.

The "Intelligent Prospector" utilizes AI to dynamically identify and qualify leads, providing a continuous stream of high-potential prospects to the sales team. This system operates by actively scanning and analyzing a diverse range of data sources, including:

Building an AI-Driven Sales Cycle



- ▶ **Public Data Sources:** The AI will scrape and analyze data from the commerce registry, online directories, websites, social media platforms, and even digital yellow pages and classified ads to identify newly established businesses and emerging companies, ensuring no potential lead is overlooked. The AI is not just gathering information; it is also extracting meaning and context to build a richer profile of each potential client, constantly refining and enhancing it.
- ▶ **Social Listening:** By monitoring social media and online forums, the AI can identify trending companies, gauge market sentiment, and understand industry-specific needs and pain points, enriching the data profile for better outreach strategies. It will have a “social ear,” listening for mentions of new business ventures, product launches, or funding rounds that could signal a need for payment processing solutions, enabling early engagement and securing business ahead of competitors.
- ▶ **Real-Time News and Market Trends:** The AI will analyze news articles, press releases, and industry reports to identify potential leads based on real-time market events, ensuring timely and relevant interactions. This capability keeps the outreach strategy relevant and positions *the PSP* as an essential tool for business growth.

2. AI-Powered Lead Qualification and Scoring: The Discerning Eye

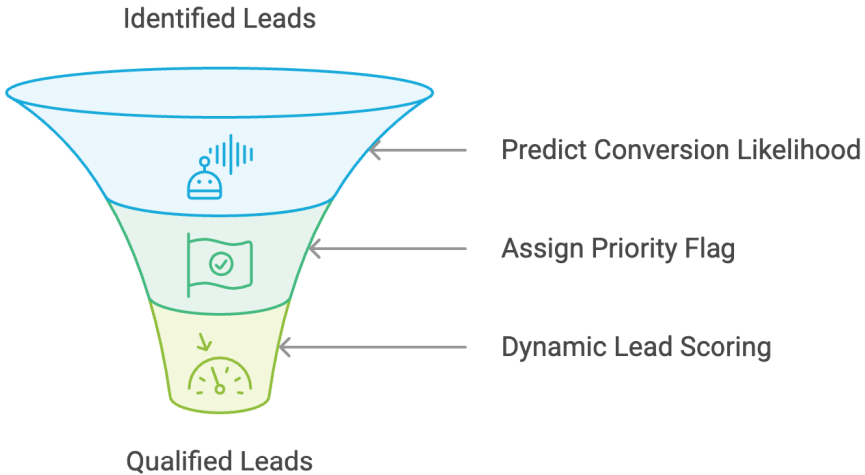
Not all leads are created equal. While generating a large volume of leads is important, it’s even more crucial to identify and prioritize

those with the highest potential to convert into paying customers. Manually qualifying leads is a laborious and often subjective process. An AI-powered lead qualification and scoring system addresses this challenge by objectively evaluating each lead based on a variety of data points and dynamically adjusting scores based on real-time interactions. This ensures that sales teams focus their efforts on the most promising prospects, maximizing their chances of closing deals and optimizing their time.

Once the Intelligent Prospector identifies potential leads, the “Discerning Eye” steps in to qualify and score them. This system employs advanced machine learning algorithms to:

- ▶ **Predict Conversion Likelihood:** The AI evaluates each lead’s potential to become a paying customer, using a scoring model that learns from a variety of sources. It assigns a score reflecting each lead’s potential based on an evaluation of their profile, and also assigns a priority flag indicating the urgency or importance of follow-up actions by the sales team or a virtual sales agent.
- ▶ **Dynamic Lead Scoring:** Lead scores are not static. The AI continuously updates them based on real-time interactions. This capability ensures the accuracy of the scoring over time. If a lead opens an email, visits the PSP’s website, or engages with social media content, their score increases, reflecting their growing interest. Conversely, it will adjust scores downward if, for example, an email bounces or a lead unsubscribes from a mailing list, reflecting a decreased likelihood of conversion.

AI-Driven Lead Qualification Funnel



3. The Virtual Sales Agent: The AI-Powered Sales Force

Human sales teams are often constrained by limited capacity, geographical boundaries, and the sheer volume of leads generated in today's digital landscape. This can lead to slow response times, inconsistent follow-up, and missed opportunities. A Virtual Sales Agent overcomes these limitations by automating and personalizing the entire sales process, from initial outreach to closing deals. This allows businesses to scale their sales efforts efficiently, engage with a larger number of leads, and provide consistent, high-quality interactions at every stage of the sales funnel. This 24/7 availability and personalized approach maximizes conversion rates and accelerates the sales cycle.

The Virtual Sales Agent acts as a tireless, AI-powered sales representative, capable of handling the entire sales process, including:

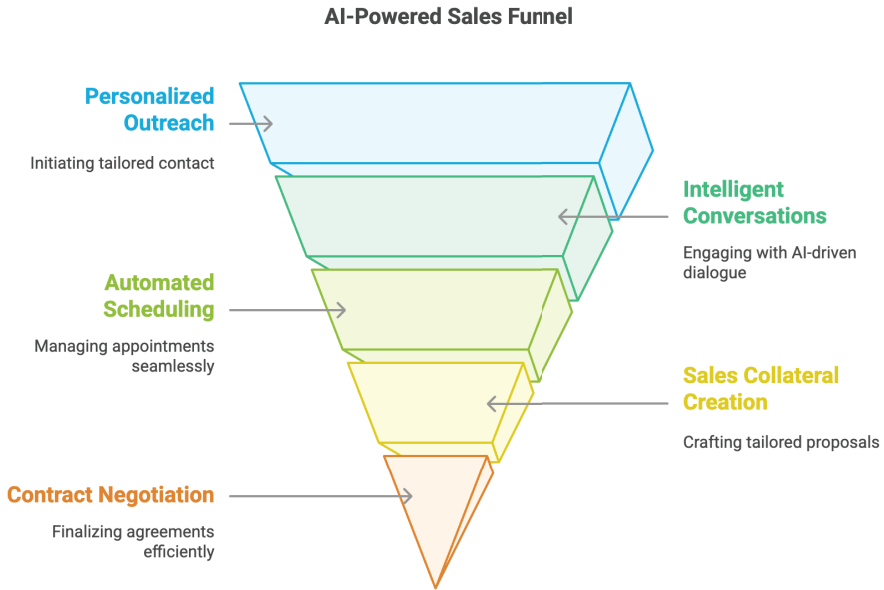
- ▶ **Automated, Personalized Outreach:** The Virtual Sales Agent will initiate contact with qualified leads through various channels:
 - **Personalized Emails and Direct Messages:** Tailored messages that address the specific customer needs to qualify the lead.
 - **Targeted Social Media Engagement:** Interact with prospects on relevant social media platforms, building brand awareness and establishing a rapport, laying the groundwork for a positive sales relationship.
 - **Physical Mail:** Where appropriate, the AI can trigger the sending of personalized physical mail, such as welcome packs or promotional offers, cutting through the digital noise.
- ▶ **Intelligent Sales Conversations:** The Virtual Sales Agent can engage in natural, human-like conversations using:
 - **On-Demand Sales Calls:** Powered by advanced generative AI voice technology, the Virtual Sales Agent can place and receive calls, handling initial inquiries, pitching solutions, and overcoming objections just like a human sales rep
 - **Multi-Channel:** The Virtual Sales Agent is also skilled in textual conversations. The Virtual Sales Agent will be able to conduct informative and persuasive

conversations through SMS, instant messaging, and even platforms like WhatsApp.

- ▶ **Automated Scheduling and Follow-Up:** The AI will intelligently manage the sales pipeline:
 - **Meeting Scheduling:** The Virtual Sales Agent can schedule appointments with human sales reps for qualified leads, ensuring a smooth transition when a human touch is required or the customer needs an enterprise-level approach.
 - **Automated Follow-Ups:** The AI will send timely follow-up communications based on the lead's interaction history, ensuring that no opportunity slips through the cracks.
 - **Reminders and Nudges:** Gentle reminders and nudges will be employed to keep prospects engaged, maintaining their interest and progressing them through the sales funnel.
- ▶ **AI-Generated Sales Collateral:** The Virtual Sales Agent will tailor materials specifically to each merchant's profile, segment, industry, region, etc:
 - **Dynamic Sales Scripts:** The AI will adapt its sales scripts in real-time based on the conversation flow, the prospect's industry, and their expressed needs. For instance, if a prospect mentions specific concerns about fraud prevention, the script will pivot to emphasize *the PSP's* security solutions.
 - **Personalized Proposals (Automated RfP responses):** The Virtual Sales Agent will generate tailored

proposals that outline the specific benefits of *the PSP's* solutions for each prospect's unique business. This might involve creating a proposal showcasing various case studies and testimonials relevant to the industry or size of the prospective company, incorporating real-world examples that demonstrate clear benefits. Additionally, the Virtual Sales Agent will generate comparison tables that illustrate how the merchant's current payment provider compares to *the offering PSP* in terms of features, benefits, and pricing, effectively highlighting areas where *the PSP* offers superior value.

- **Contract Generation and Negotiation:** The Virtual Sales Agent can create initial drafts of sales contracts that consider the specifics of the transaction, the customer, and pre-approved terms. It can also manage amendments and basic negotiations, or identify when to escalate to legal experts, increasing both efficiency and compliance accuracy.



4. Closing and Onboarding: The Seamless Transition

Traditional closing and onboarding processes can be cumbersome and time-consuming, involving manual paperwork, multiple touchpoints, and potential delays. This can create friction for new customers and hinder their initial experience with the PSP. An automated and streamlined closing and onboarding process eliminates these pain points, providing a seamless and efficient transition for new merchants. This positive initial experience sets the stage for a long-term, mutually beneficial relationship.

Once a deal is reached, the Virtual Sales Agent facilitates a smooth and efficient transition for new merchants:

- ▶ **E-Signature Integration:** Once a deal is reached, the Virtual Sales Agent will facilitate the e-signature process, making it quick and easy for merchants to sign up. This integration allows merchants to review and sign contracts digitally from anywhere, at any time, directly through the interface provided by the Virtual Sales Agent.
- ▶ **Automated Onboarding:** The AI will trigger the onboarding process, guiding new merchants through the necessary steps, from document submission to account activation:
 - **Intelligent Document Processing (IDP):** The Virtual Sales Agent can collect, analyze, and validate all necessary documentation for KYC compliance and other requirements, and once all requirements are satisfied, it proceeds to create the merchant's account, including setting up necessary security parameters. The Virtual Sales Agent can extract information from these documents, populate the necessary fields, and flag any discrepancies or missing information, as part of this process.
 - **Guided Setup:** The AI will provide step-by-step instructions and support to merchants as they set up their payment processing systems, configuring their merchant account settings, such as payout schedules and currency preferences, setting up integrations with other *PSP* products. This personalized guidance will help merchants quickly configure their payment environment to their preferences.

By embracing generative AI, PSPs can transform their sales function, dramatically reducing customer acquisition costs, accelerating time-to-market, and capturing the long-tail SMB market more effectively. This is not just about enhancing existing processes; it's about reimagining the entire sales cycle for the age of AI. PSPs can maintain their position as leaders in AI-driven commerce, empowering businesses of all sizes to thrive in the new digital economy. The AI-driven approach ensures that every sales interaction is optimized, every merchant onboarded swiftly, and every opportunity maximized, propelling PSPs to the forefront of the payments industry. By adopting and deploying these advancements, PSPs are not merely participating in the digital transformation but are actively defining it, establishing new benchmarks for what's possible in the payments industry and ensuring they remain a step ahead in a rapidly evolving market.

Expanded Use Cases Across the Payment Lifecycle

The payment lifecycle, the journey a transaction takes from initiation to completion, is a clear candidate for disruption. Traditional processes are often fragmented, inefficient, and prone to errors, leading to lost revenue, frustrated customers, and security vulnerabilities. Generative AI offers a powerful suite of tools to address these challenges, empowering Payment Service Providers (PSPs) to create seamless, secure, and personalized payment experiences. This not only enhances efficiency and improves customer satisfaction but also unlocks new revenue streams and drives business growth. By leveraging the power of generative AI, PSPs can reimagine the entire payment lifecycle, gaining a competitive edge and establishing themselves as leaders in the landscape of

e-commerce. This transformation is not just about incremental improvements; it's about fundamentally rethinking how payments are processed, experienced, and optimized.

1. Initiation

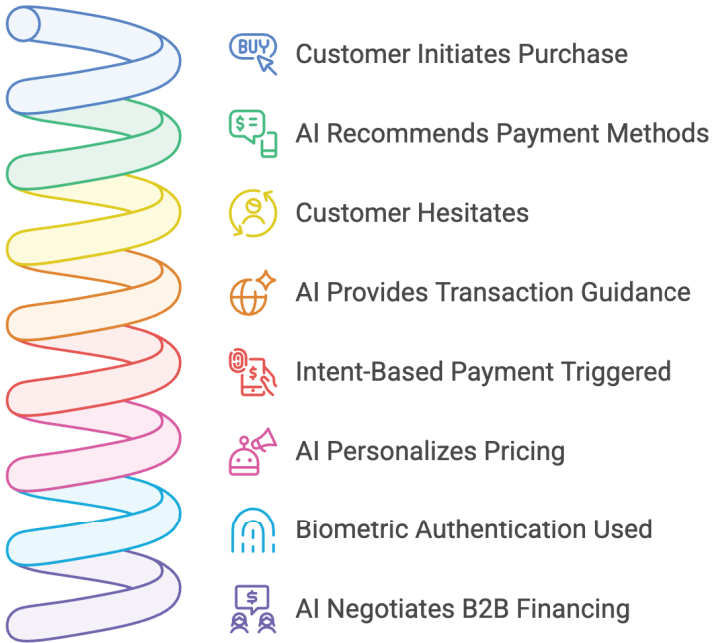
This is the first step where a customer's purchase journey begins, encompassing everything from initial product discovery and selection to adding items to a cart and proceeding to the checkout. Initiation involves multiple touchpoints and decisions, both conscious and subconscious, that ultimately determine whether a purchase will be completed or abandoned. It's an intersection between user experience, perceived value, ease of navigation, and trust. A smooth and engaging initiation process is crucial for capturing customer interest and converting intent into action/result. This phase can occur across various channels, including online stores, mobile apps, in-person point-of-sale systems, and even voice-activated shopping assistants.

Pain Points/Challenges:

Cart abandonment due to complex or lengthy checkout processes.

- ▶ Limited payment options that don't cater to customer preferences.
- ▶ Security concerns and lack of trust in sharing payment details.
- ▶ Difficulties in offering personalized experiences at scale.

AI-Enhanced Payment Process



Complex checkout processes, limited payment options, and security concerns can lead to cart abandonment and lost sales. AI can streamline and personalize the initiation phase, increasing conversions and improving customer satisfaction.

- Adaptive Payment Method Recommendation:** AI proactively suggests the most relevant and beneficial payment methods to customers in real-time. This could be based on their past behavior, location, the transaction amount, or even current promotions. This increases conversion rates by presenting customers with their preferred options upfront.

- ▶ **Transaction Guidance:** During a transaction, if the system detects a user's hesitation or frustration, the AI proactively intervenes, offering assistance, clarification, or alternative options.
- ▶ **Intent-Based Payment Triggers:** Businesses set up rules where customer actions or even verbal cues in-store (captured via advanced voice technology) trigger pre-authorized payments. It can also be used in hospitality industry. Imagine a customer in a restaurant saying "Split the bill 50/50" to the payments terminal and the payment is split accordingly. Or the customer reads a QR code from the terminal that opens a web page on the phone to execute a payment. This creates an incredibly seamless and convenient experience. For in-store shopping Amazon Go store is an example of a store which eliminated the checkout process.
- ▶ **Personalized Pricing Models:** AI dynamically generates customized pricing and discount options in real-time, based on factors like customer loyalty, purchase history, and even the current demand for a product. This allows businesses to maximize revenue while offering personalized value to their customers.
- ▶ **Biometric Authentication for Secure B2B Transactions:** Leverage facial, voice, or fingerprint recognition for high-value B2B transactions, adding an extra layer of security and streamlining the authorization process.
- ▶ **AI-Negotiated B2B Financing:** AI agents evaluate invoices and transaction data in real-time, then propose and

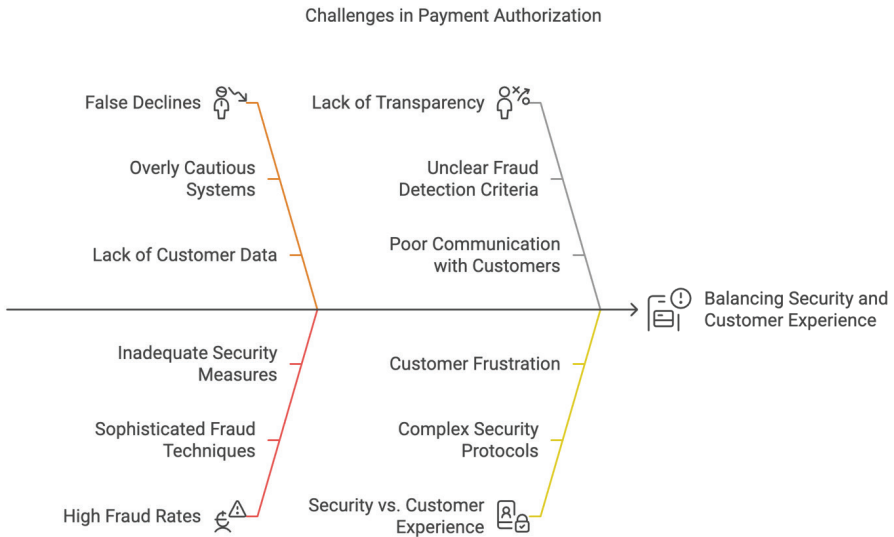
negotiate flexible payment plans with vendors and suppliers, facilitating smoother B2B transactions and improving payment options during checkout.

2. Authorization

Authorization is the stage where a transaction is either approved or declined. This decision depends on various factors, including the customer's available funds, the validity of the payment method, and the risk assessment of the transaction itself. It's a balancing act: ensuring legitimate transactions proceed smoothly while simultaneously safeguarding against fraud and minimizing financial risks for both the customer and the merchant. This process involves communication between multiple parties, including the merchant's payment gateway, the acquiring bank, the card network, and the issuing bank.

Pain Points/Challenges:

- ▶ False declines, leading to customer frustration and lost sales.
- ▶ High fraud rates, causing financial losses for businesses and customers.
- ▶ Lack of transparency in fraud detection decisions.
- ▶ Difficulty in balancing security with a seamless customer experience.

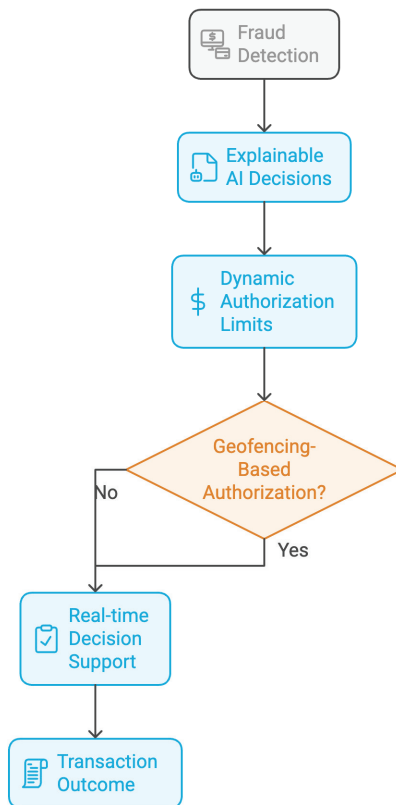


How AI Helps:

- Explainable AI Fraud Decisions for Businesses:** The PSP's AI not only blocks fraudulent transactions but also provides a detailed, transparent explanation of its reasoning. Businesses gain valuable insights into fraud patterns and can use these insights to refine their risk management strategies. It becomes a continuous learning system.
- AI-Driven Dynamic Authorization Limits:** Adjust authorization limits in real time based on a customer's current financial situation, purchase history, and risk profile, improving both security and customer experience.

- ▶ **Geofencing-Based Authorization:** Enhance security by allowing customers to set geographic boundaries for authorized transactions.
- ▶ **Real-time Decision Support:** Analyze transaction patterns in real-time, assess risk levels based on multiple factors (location, device, amount, frequency) and suggest immediate actions (approve, decline, or request additional verification)

AI-Enhanced Fraud Prevention and Authorization



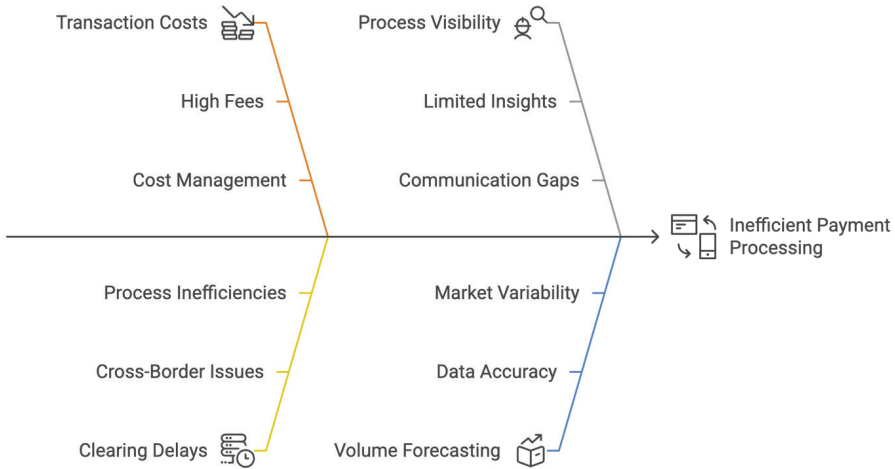
3. Clearing

Clearing is the often unseen stage where transaction details are exchanged and validated between the merchant's bank (the acquiring bank) and the customer's bank (the issuing bank). This process confirms the availability of funds, verifies the transaction details, and ensures that all necessary information is accurately relayed between the parties involved. Think of it as the backstage orchestration of a seamless payment performance, ensuring all the pieces align perfectly before the final transfer of funds. Clearing efficiency directly impacts how quickly merchants receive their payments and how smoothly the overall payment ecosystem functions. A streamlined clearing process is fundamental for maintaining financial stability, minimizing delays, and optimizing cash flow for businesses.

Pain Points/Challenges:

- ▶ High transaction processing fees.
- ▶ Slow clearing times, particularly for cross-border transactions.
- ▶ Lack of visibility into the clearing process.
- ▶ Difficulty in forecasting clearing volumes.

Analyzing Payment Processing Challenges



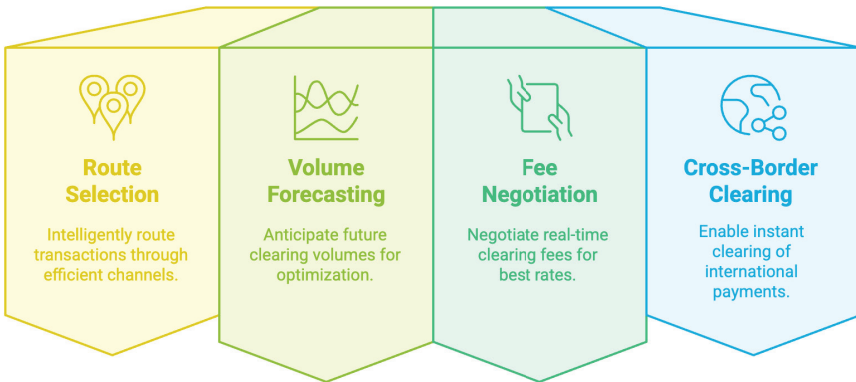
How AI Helps:

- AI-Optimized Clearing Route Selection:** Intelligently route transactions through the most efficient and cost-effective clearing channels in real-time, taking into account factors like processing fees, speed, and network availability. This minimizes transaction costs for businesses.
- Predictive Clearing Volume Forecasting:** Help businesses anticipate future clearing volumes based on historical data, seasonal trends, and external factors. This enables them to optimize their cash flow and resource allocation.
- Dynamic Clearing Fee Negotiation:** In high-volume scenarios, a PSP's AI agents can negotiate clearing fees in

real-time with different financial institutions, ensuring the best possible rates for its users.

- ▶ **Instant Cross-Border Clearing:** Develop partnerships and technologies to enable instant clearing of international payments, eliminating delays and reducing the costs associated with traditional cross-border settlement methods.

AI Clearing Solutions



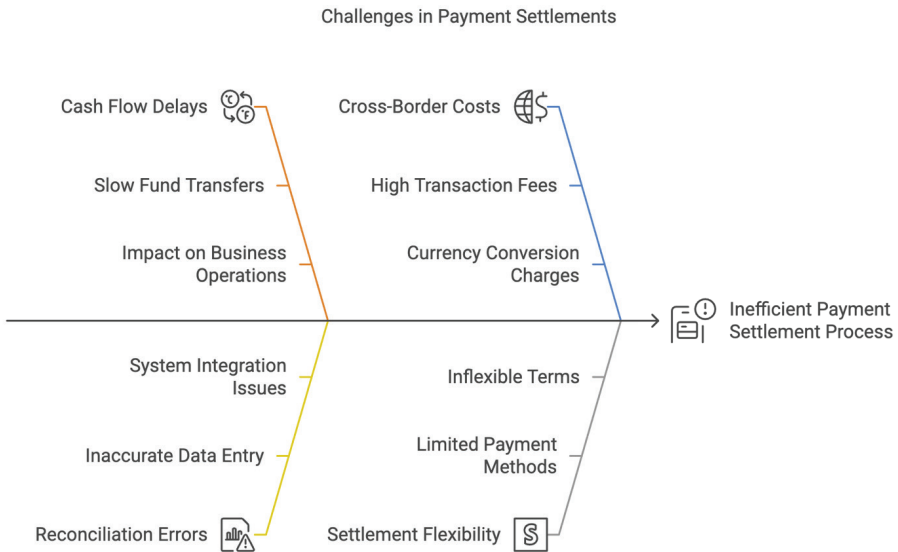
4. Settlement

Settlement represents the stage where funds are transferred from the customer’s account to the merchant’s account. This step is crucial for business operations, representing the realization of revenue and the culmination of the entire payment process. The efficiency and speed of settlement directly impact a merchant’s cash flow, their ability to reinvest funds, and their overall financial

health. A smooth and optimized settlement process is essential for maintaining healthy business operations and fostering financial stability.

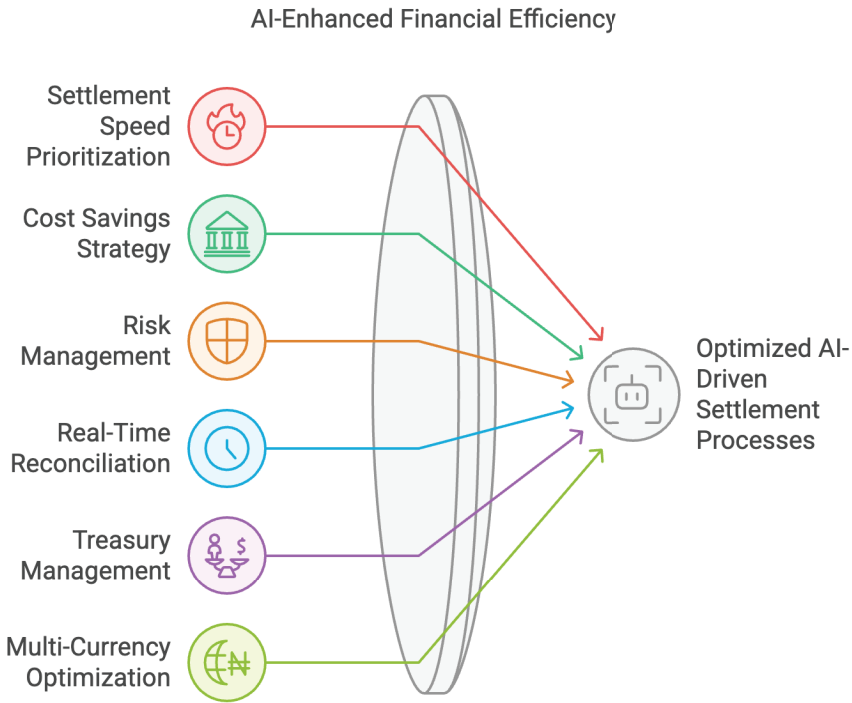
Pain Points/Challenges:

- ▶ Delays in receiving funds, impacting cash flow.
- ▶ Reconciliation errors and discrepancies.
- ▶ High costs associated with cross-border settlements.
- ▶ Lack of flexibility in managing settlement preferences.



How AI Helps:

- ▶ **AI-Driven Settlement Optimization:** Provide businesses with tools to manage their settlement preferences dynamically. They can choose the optimal balance between speed, cost, and risk based on their individual needs. For example, a small business might prioritize faster settlement to improve cash flow, while a larger enterprise might prioritize cost savings.
- ▶ **Real-Time Settlement Reconciliation:** Eliminate delays and discrepancies in the reconciliation process. Businesses can access their funds faster and with greater accuracy, improving their financial operations.
- ▶ **Smart Treasury Management:** APSP's AI can autonomously manage a business's settlement accounts, optimizing interest income, ensuring sufficient liquidity, and even automating the investment of excess funds in low-risk instruments.
- ▶ **Multi-Currency Settlement Optimization:** For businesses operating globally, the AI dynamically manages settlements across different currencies, maximizing returns from exchange rates and minimizing cross-border fees. This makes international commerce significantly more efficient.
- ▶ **AI-Optimized Cross-Currency Settlement Hedging:** Use AI to automatically hedge against currency fluctuations during cross-border settlements, minimizing financial risks for businesses.



5. Completion

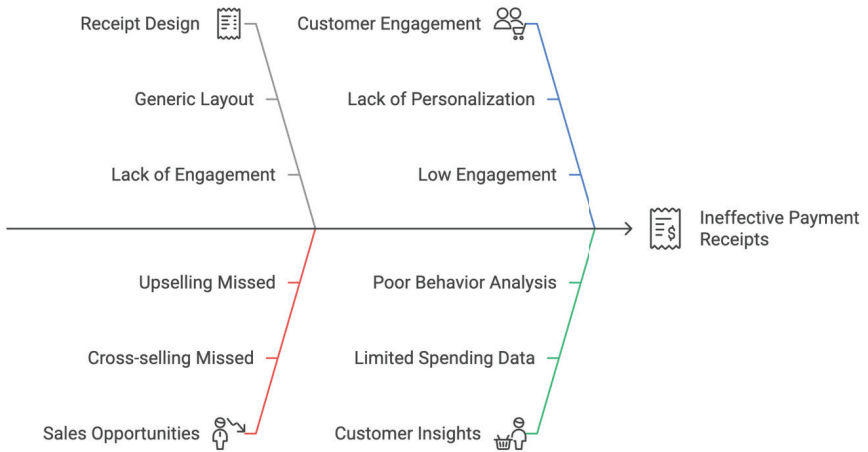
Completion marks the final stage of the payment process, where the customer receives confirmation of a successful transaction. While traditionally viewed as a purely functional step—simply providing a receipt—completion represents a valuable opportunity to enhance customer engagement, build brand loyalty, and drive additional revenue. It’s the last interaction a customer has with a business within a specific transaction, and therefore a chance to leave a lasting positive impression. Moving beyond a simple confirmation, the completion stage can be transformed into a personalized and

engaging experience that strengthens the customer-business relationship.

Pain Points/Challenges:

- ▶ Generic and unengaging receipts.
- ▶ Missed opportunities for cross-selling and upselling.
- ▶ Lack of personalization and customer engagement.
- ▶ Limited insights into customer spending behavior.

Enhancing Payment Receipt Effectiveness



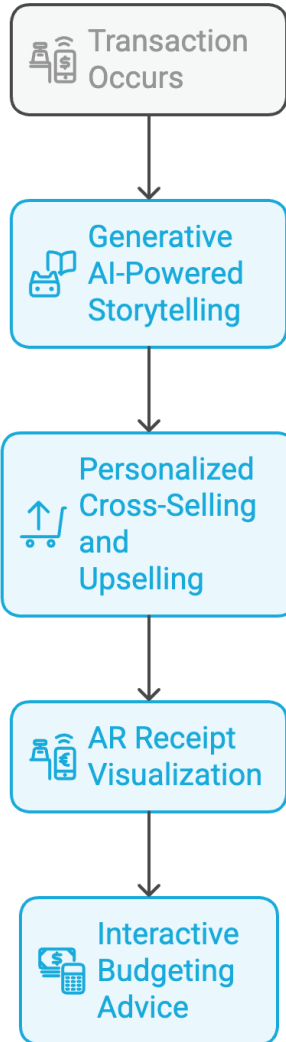
How AI Helps:

- ▶ **Generative AI-Powered Transaction Storytelling:** Instead of bland, transactional receipts, create personalized

narratives around each purchase. For example, «Sarah, your contribution will help plant 10 trees. Here's how your purchase with [Merchant] made a difference today.» These narratives transform a routine interaction into an engaging story, elevating customer experience and building brand loyalty.

- ▶ **Personalized Cross-Selling and Upselling in Receipts:** Intelligently embed targeted offers, product recommendations, and loyalty program updates within digital receipts, driving additional revenue opportunities.
- ▶ **AR Receipt Visualization:** Customers using augmented reality can see their transaction data overlaid onto the real world. They might visualize their spending patterns for the month, see loyalty rewards earned, or even visualize the environmental impact of their purchase (e.g., carbon offset).
- ▶ **Interactive Budgeting Advice:** Generate real-time spending insights, budgeting tips, and personalized financial advice based on the customer's transaction history. This transforms the receipt from a static document into an interactive financial wellness tool.

Enhancing Customer Engagement through AI in Receipts

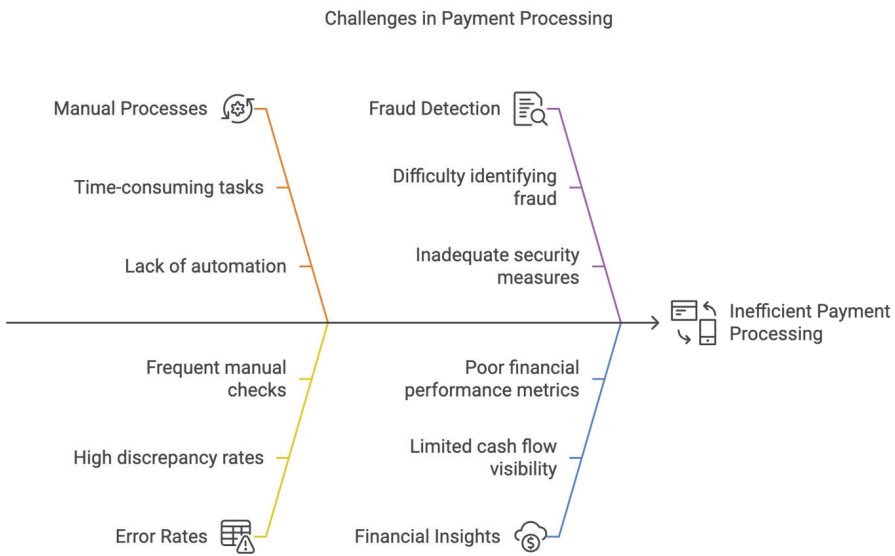


6. Reconciliation

Reconciliation is the process of comparing and verifying transaction records from multiple sources to ensure accuracy and identify any discrepancies. This involves matching data from the merchant's internal systems with records from payment gateways, banks, and other financial institutions. Reconciliation is essential for maintaining accurate financial records, identifying potential errors or fraudulent activities, and gaining valuable insights into cash flow and financial performance. A robust and efficient reconciliation process is the backbone of sound financial management for any business operating within the digital economy.

Pain Points/Challenges:

- ▶ Time-consuming and manual process.
- ▶ High risk of errors and discrepancies.
- ▶ Difficulty in identifying fraudulent transactions.
- ▶ Limited insights into cash flow and financial performance.




How AI Helps:

- ▶ **AI-Driven Automated Reconciliation with Anomaly Detection:** Automatically match transactions, identify and resolve discrepancies in real-time, and proactively flag potentially fraudulent activities.
- ▶ **Predictive Reconciliation Forecasting:** Forecast future reconciliation needs, anticipate potential issues, and optimize cash flow management based on AI-driven insights and analysis of business payment cycles. This allows for better financial planning and resource allocation.
- ▶ **AI-Mediated Dispute Resolution:** Facilitate automated negotiation and resolution of payment disputes with


customers. This reduces chargebacks, improves customer satisfaction, and frees up internal resources for more strategic initiatives.


AI in Payment Reconciliation and Dispute Resolution

 **AI-Driven Automated Reconciliation**

AI matches transactions and identifies discrepancies


AI detects and flags potential fraud

Anomaly Detection 

 **Predictive Reconciliation Forecasting**

AI forecasts future reconciliation needs


AI optimizes cash flow management


Cash Flow Optimization 

 **AI-Mediated Dispute Resolution**

AI facilitates automated negotiation of disputes

AI reduces chargebacks and improves satisfaction

Chargeback Reduction 

 **Resource Allocation**

AI frees up resources for strategic initiatives

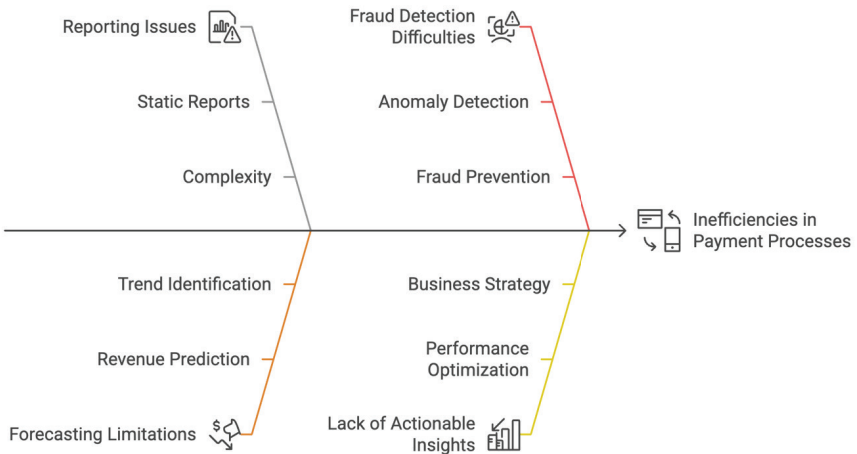
7. Settlement Reporting

Settlement reporting involves generating and analyzing reports on settled transactions, providing businesses with crucial insights into their sales, revenue, and other key financial metrics. These reports are essential for understanding performance, identifying trends, and making informed business decisions. Effective settlement reporting goes beyond simply presenting data; it transforms raw numbers into actionable intelligence that empowers businesses to optimize their operations and drive growth. The ability to quickly and easily understand complex financial data is paramount for success in today's fast-paced business environment.

Pain Points/Challenges:

- ▶ Static and difficult-to-understand reports.
- ▶ Limited ability to forecast future revenue and identify trends.
- ▶ Difficulty in detecting anomalies and potential fraud.
- ▶ Lack of actionable insights to optimize business performance.

Overcoming Payment Industry Challenges with AI



How AI Helps:

- Interactive Data Storytelling for Business Reviews:** Transform static financial reports into compelling narratives about the payment business journey. For instance, an AI could generate a story highlighting a successful product launch for a specific merchant, showcasing its revenue impact across different customer segments and payment channels. This makes data more engaging and easier to understand, leading to better-informed business decisions.
- Predictive Analytics for Revenue Optimization:** Use historical transaction data to forecast future revenue trends, identify potential risks, and proactively recommend strategies for optimizing pricing, promotions, and

customer engagement. This helps businesses maximize their revenue potential.

- ▶ **AI-Driven Anomaly Detection and Alerting:** Continuously monitor settlement reports for unusual patterns, potential errors, or fraudulent activities, alerting businesses in real-time to any critical issues requiring immediate attention.

AI Enhancements in Payment Business



Interactive Data Storytelling

AI transforms static reports into engaging narratives



Predictive Analytics

AI forecasts revenue trends and identifies risks



AI-Driven Anomaly Detection

AI monitors reports for unusual patterns and alerts



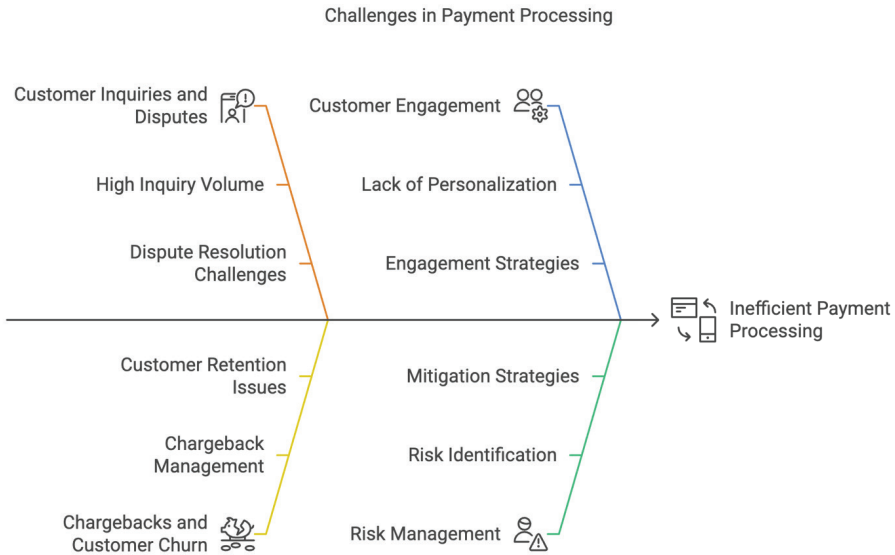
8. Post-Transaction Activities

Post-transaction activities encompass all the interactions and processes that occur after a payment has been settled and the customer has received confirmation. This stage, while often

overlooked, is crucial for building lasting customer relationships, managing potential disputes, and mitigating risks. It includes activities like customer support, dispute resolution, loyalty programs, fraud prevention, and ongoing risk management. A well-executed post-transaction strategy can significantly impact customer satisfaction, reduce churn, and protect a business's reputation and financial stability. It's an opportunity to turn a completed transaction into the foundation for future business.

Pain Points/Challenges:

- ▶ High volume of customer inquiries and disputes.
- ▶ Difficulty in managing chargebacks and preventing customer churn.
- ▶ Lack of personalized customer engagement.
- ▶ Limited ability to proactively identify and mitigate risks.



How AI Helps:

- ▶ **Arbitration Room to drive Refund Experiences:** Offer an arbitration room for merchants that can leverage sentiment analysis to understand the customer’s emotional state during a refund request and tailor the interaction accordingly.
- ▶ **Pre-emptive Churn Prevention:** AI detects patterns in transaction history and customer behavior that indicate a high risk of chargebacks or customer churn. It then triggers personalized interventions, such as inviting them to the arbitration room, targeted offers, loyalty rewards, or proactive customer support outreach, to prevent churn and protect revenue.

AI-Driven Customer Experience and Risk Management



Expanded Use Cases from Payment Industry Analysis

This section explores a range of use cases derived from a thorough analysis of the payment industry, highlighting opportunities to enhance productivity, bolster protection against fraud, and stimulate revenue growth through innovative payment solutions. These use cases demonstrate how AI-driven solutions can transform various aspects of the payment ecosystem, delivering tangible benefits to merchants, financial institutions, and consumers alike.

Productivity and Efficiency

Productivity and efficiency are no longer mere advantages; they are essential for survival and success. Businesses across all industries are constantly seeking ways to streamline operations, optimize resource allocation, and maximize output with minimal input. This pursuit of productivity and efficiency fuels innovation, drives growth, and empowers businesses to stay ahead of the competition.

► **Developer Productivity:**

Developer productivity plays a pivotal role in a PSP's ability to innovate, adapt, and thrive. The speed at which new features are developed, deployed, and iterated upon directly impacts a PSP's competitiveness and its ability to meet the evolving needs of merchants and consumers. Generative AI offers a powerful suite of tools to boost developer productivity, enabling them to write code faster, debug more efficiently, and focus on high-value tasks. This acceleration of development cycles translates to faster time-to-market for new products and features, giving PSPs a crucial edge in the competitive landscape.

- **Developer code assistants:** AI code assistants help developers with coding, testing, and transforming legacy code for integrating payment solutions. This accelerates development time and reduces the technical expertise needed for integration.
- **Autonomous API Integration:** AI agents can automatically integrate payment functionalities into a merchant's existing systems with minimal human intervention, further simplifying the onboarding

process. Imagine going to the Worldline Merchant portal and downloading a coding assistant that can integrate Worldline SDK in hours instead of weeks, on the customers ecommerce website.

- **Java Upgrade:** with Amazon Q Developer automatically upgrade Java 8 applications in a significantly reduced timeframe by automating code changes and accelerating test/build phases. Update Java code that has reached End-of-Support (EOS) to Java 17 for improved compatibility and performance through the Code Transformation feature within IDE.
- **Simplify mainframe modernization using Amazon Q Developer generative AI agents:** use automated code analysis, understand complex mainframe applications and their dependencies, get guidance on modernization approaches, convert code from legacy languages like COBOL to modern languages. [Link to documentation.](#)

► **Merchant Onboarding:**

The merchant onboarding process is a critical first impression for any PSP. A slow, cumbersome, or confusing onboarding experience is a bad start of any relationship with your merchants. Generative AI can streamline and personalize the onboarding process, automating tasks, providing intuitive guidance, and ensuring a smooth and efficient transition for new merchants. This positive initial experience sets the stage for a long-term partnership.

- **Automated Merchant Vetting:** Use AI to analyze merchant documentation, online presence, and

compliance data to validate the nature of their business and expedite the onboarding process. This reduces manual effort and speeds up merchant activation.

- **Predictive Onboarding Success:** Identify potential drop-off points during the onboarding process and proactively intervene with tailored guidance or support to improve completion rates.
- **Automated KYC/AML Compliance for Micro-Merchants:** Streamline the onboarding process for very small businesses with simplified, AI-powered KYC/AML checks that balance compliance with ease of use.
- **Dynamic Risk Profiling:** Continuously update merchant risk profiles based on transaction patterns, market trends, and external data, enabling proactive risk mitigation.

► **Operations: Customer Agent Support:**

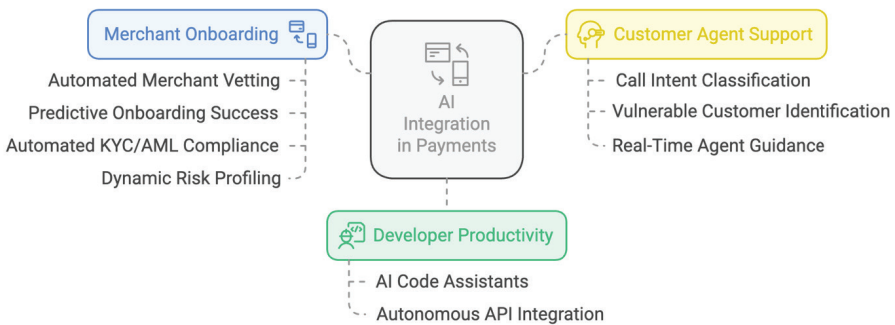
Providing exceptional customer support is crucial for building trust, fostering loyalty, and driving customer satisfaction. Generative AI can empower customer support agents to handle inquiries more efficiently, provide personalized assistance, and resolve issues quickly. By automating routine tasks, providing access to relevant information, and offering real-time guidance, AI enables support agents to focus on complex issues and deliver exceptional service, enhancing the overall customer experience.

- **Call Intent Classification and Routing:** Automatically categorize customer calls and route them to the most

qualified agents. This optimizes call center operations and improves customer satisfaction.

- **Vulnerable Customer Identification:** AI flags customers who might require specialized attention, allowing for more sensitive and empathetic service. This is particularly important in financial services, where customers might be facing difficult circumstances.
- **Real-Time Agent Guidance and Scripting:** AI provides agents with on-the-fly conversational prompts and responses tailored to the customer's emotional state and specific needs.

AI Integration in Payments: Enhancing Productivity and Efficiency



We are seeing a clear trend towards greater automation, personalization, and intelligence across all aspects of the payment lifecycle. As AI technology continues to mature, we can expect even more sophisticated applications that further enhance productivity, optimize efficiency, and transform the way payments are processed and experienced. The overarching goal is to create a payment

ecosystem that is seamless, secure, and intelligent, empowering businesses and consumers alike to thrive in the digital economy.

Protection (Fraud and Risk Management)

Protecting the payment ecosystem from fraud and managing risk is crucial for maintaining trust, ensuring financial stability, and developing a secure environment for both merchants and consumers. This involves fraud detection, prevention, authentication, regulatory compliance, and ongoing risk assessment. The increasing sophistication of fraud tactics and the high volume of transactions require advanced solutions that can effectively identify and mitigate risks in real-time. Protection mechanisms are not just a cost of doing business; they are an investment in building a sustainable and trustworthy payment environment.

Traditional rule-based systems often struggle to keep pace with the dynamic nature of fraud. Generative AI offers a transformative approach by leveraging the power of machine learning, data analysis, and intelligent automation to create a more robust and adaptable defense against evolving threats. Here's why generative AI is essential:

► Rule Generation and Reasoning:

- AI analyzes historical fraud patterns to create rules like “block transactions from high-risk countries (e.g., Russia, China)”
- Generate rules for new payment methods (e.g., “flag first-time virtual card transactions for additional verification”)

- Create geographic-based rules (e.g., “require 3D Secure for non-European IP addresses”)

► **Dynamic Rule Explanation and Exception Handling:**

- Provide clear explanations to customers when transactions are flagged
- Suggest alternative payment methods or verification steps
- Identify legitimate exceptions based on customer history and behavior

► **Order Recovery Flow:**

- Generate personalized communication for delayed transactions
- Provide step-by-step guidance for customer verification
- Recommend appropriate documentation needed for approval

► **Improving Transaction Risk/Fraud Models:**

- **Unstructured Data Integration for Fraud Scoring:** Leverage social media, news, and other unstructured data to enhance fraud models. This provides a more holistic view of potential fraud risks.
- **Cross-Border Fraud Intelligence Network:** A federated learning system where multiple financial institutions share anonymized fraud data to improve detection accuracy across borders. This creates a collective

defense against fraud and can be achieved using Amazon Clean Room where no PII data is shared – only hashed (tokenized) data and matching systems.

► **Screening for Scams:**

- **Pre-emptive Scam Intervention:** Before a customer even initiates a potentially fraudulent transaction, AI identifies risks based on their online behavior and proactively warns them. Example: A customer buying an iPhone 15 for 299 CHF, or buying an iPad for 99 CHF, based on product understanding it can flag a warning for a human or virtual agent to review the website where the transaction is happening.
- **Pre-emptive Website Crawls:** An AI virtual agent crawls website where the SDK or payment API is integrated, these crawls allow the AI virtual agent to notify if the website is trying to scam people by identifying fake items, low priced items or others.

► **Authentication:**

- **Deepfake Detection:** Implement robust algorithms in payment terminals and online systems to detect voice and video deepfakes during authentication processes. This is crucial as deepfake technology becomes increasingly sophisticated.
- **Context-Aware Adaptive Authentication:** Dynamically adjust authentication requirements based on real-time risk assessment, user behavior, and contextual factors. This creates a more seamless and secure authentication experience.

► **Transaction Reviews/Case Summaries:**

- **Automated Case Summarization:** Extract key data from alerts and generate concise summaries to help investigators quickly understand the situation.
- **Natural Language Querying for Investigations:** Allow investigators to use simple language to get insights from complex transaction data.
- **Predictive Investigation Prioritization:** AI prioritizes investigations based on their potential impact, likelihood of fraud, and regulatory importance, ensuring optimal resource allocation.

► **AML/Sanctions Screening:**

- **Advanced Pattern Analysis:** Detect complex money laundering schemes (e.g., layering) that might be missed by traditional rule-based systems.
- **Geopolitical Risk Assessment:** Integrate external data sources (news, social media, economic indicators) to assess geopolitical risks that could impact payment flows or merchant stability.
- **Anticipatory Fraud Detection:** Predict potential future fraudulent schemes based on emerging trends and patterns. This allows for proactive measures to be taken before new fraud typologies become widespread.

► **Compliance (e.g., SAR – Suspicious Activity Report):**

- **Automated SAR Report Generation:** Consolidate information from multiple data sources, auto-populate

fields, and assist analysts in generating SAR reports, improving both efficiency and accuracy.

- **Explainable AI for Compliance Audits:** Provide regulators with transparent explanations for how AI-driven compliance decisions are made, fostering trust and facilitating audits.

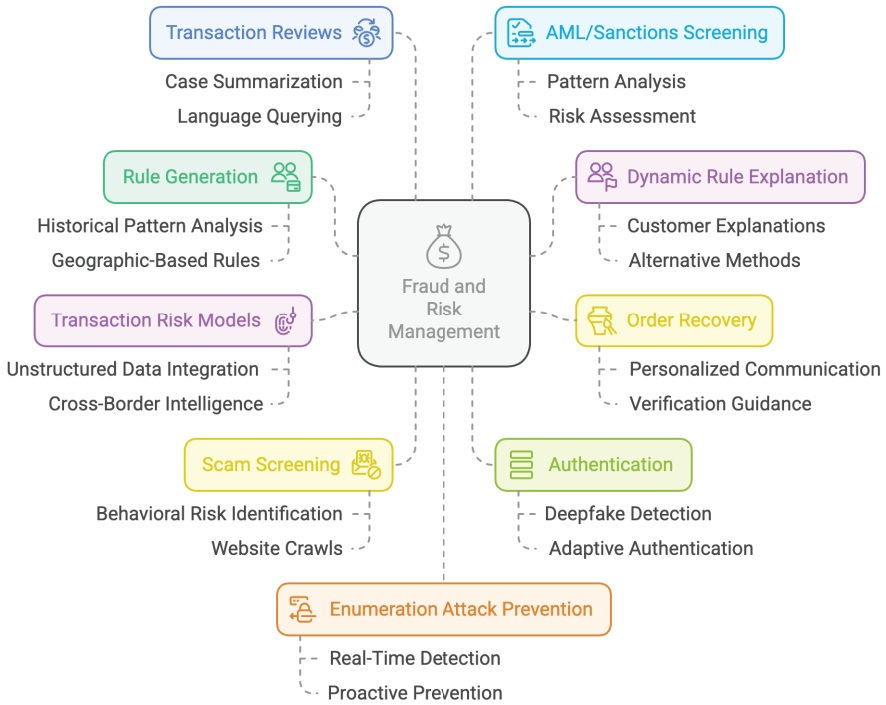
▶ **Stopping Enumeration Attacks:**

- **Real-Time Enumeration Detection:** AI algorithms identify and block enumeration attacks (brute-force attempts to guess card numbers) in real time based on anomalous transaction patterns.
- **Proactive Enumeration Attack Prevention:** Predict and prevent enumeration attacks before they occur by identifying vulnerabilities and proactively implementing countermeasures.

▶ **Identify Stolen Cards Early:**

- **Accelerated Stolen Card Identification:** Cross-reference data from multiple sources to quickly fill in the missing information of partially advertised stolen cards, enabling faster action.
- **Predictive Card Compromise Detection:** Identify patterns that indicate a card might be compromised even before it's used fraudulently, allowing for pre-emptive blocking.

Comprehensive Fraud and Risk Management Strategies



Revenue growth and value creation are the main objectives for any business, especially within the landscape of payments and commerce. This involves not only optimizing existing revenue streams but also identifying and capitalizing on new opportunities for growth. Generative AI offers a powerful toolkit for driving revenue growth and creating value by enhancing customer experiences, personalizing services, optimizing pricing strategies, and generating actionable insights from data.

Revenue Growth/Value Creation (Payments/Commerce Intelligence)

► **New Shopping Experiences:**

- **Enhanced Voice Commerce:** Create seamless and intuitive voice-activated payment experiences in various settings (e.g., in-car payments, smart home purchases).
- **Frictionless Checkout:** Integrate «Just Walk Out» style technology for various retail environments, improving customer convenience and reducing wait times.
- **Immersive Commerce in AR/VR:** Enable secure and intuitive payments within augmented and virtual reality experiences, opening up new avenues for commerce and customer engagement.

► **AI Assistants/Recommendations:**

- **Personalized Product Recommendations:** AI-powered recommendations tailored to individual customer preferences and purchase history, displayed on payment terminals, websites, or within apps. This increases the likelihood of upselling and cross-selling.
- **Context-Aware Conversational Commerce:** AI assistants that can guide customers through complex purchase decisions, answer their questions, and proactively offer relevant products and services. This creates a more engaging and personalized shopping experience.

► **Payment Initiation:**

- **Conversational Payment Assistant:** Allow customers to easily understand their transactions, send money, pay bills, schedule reminders, split payments, and manage their finances through natural language interactions with a virtual assistant. This simplifies the payment process and enhances customer engagement. Example: You are in a restaurant and you can ask the payment terminal to split the check in 3, or when you are in the checkout you might be ask “would you like to schedule a recurring payment”.
- **AI-Negotiated Payment Plans:** Customers can interact with an AI to create personalized payment plans or installment options in real-time during checkout. This increases flexibility for customers and can boost conversion rates for businesses. Example: in a payment terminal you might ask for 3 installments starting in June with a downpayment of 100 CHF.

► **AI Agents:**

- **Task Delegation to AI Agents:** Enable customers to delegate tasks like making reservations, booking travel, or managing subscriptions to AI agents that can securely handle payments on their behalf. This simplifies complex tasks for customers and creates new opportunities for automation. This feature is currently developed by Stripe: <https://stripe.dev/blog/adding-payments-to-your-agentic-workflows>

According to Gartner by 2030 executives believe at least 25% of all consumer purchases and business replenishment requests will be substantially delegated to machines¹

► **Autonomous Financial Management:** Customers authorize AI agents to proactively manage their finances, optimizing spending, saving, and investments based on personalized goals.

► **Proactive Business Insights:**

- **Customer-Level Predictions:** Provide businesses with insights like customer lifetime value, churn propensity, and purchase likelihood to enable targeted marketing and retention efforts.
- **Ecommerce Fraud:** Provide ecommerce with persistent token to avoid first time customer voucher abuse. Example: A customer creates several accounts to take advantage of “onboarding promo”, by having a persistent token you can identify that this customer has several account and group by “Token (PAN)”. You might be able to generate several emails, phone number but it’s more difficult to generate several payment methods.
- **Predictive Market Trend Analysis:** Use payment data to forecast emerging market trends, identify new business opportunities, and proactively advise merchants on

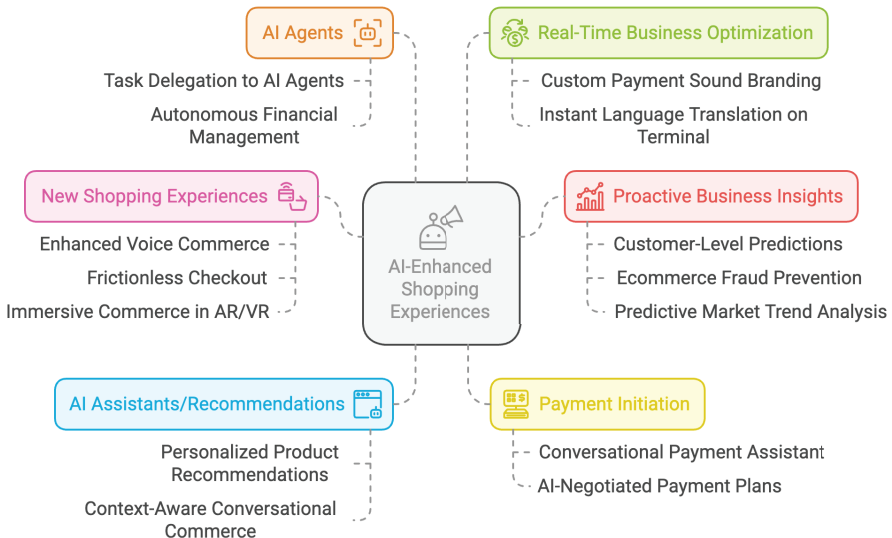
¹ <https://www.gartner.com/en/newsroom/press-releases/03-16-2023-gartner-says-machine-customers-represent-one-of-the-biggest-new-growth-opportunities-of-the-decade>

growth strategies or by analyzing your competitors and understanding their product launches.

► Real-Time Business Optimization:

- **Custom Payment Sound Branding:** Generative AI creates unique audio cues associated with successful payments that are brand specific to a merchant or chain store to be played in the payment terminal.
- **Instant Language Translation on Terminal:** In tourist heavy areas the terminal could offer real-time language translation for payment processes.

AI-Enhanced Shopping and Payment Experiences



The Rise of Agentic Payments: A New Era of Intelligent Transactions

Imagine a world where your AI assistant seamlessly handles your purchases, negotiates the best deals, and manages your subscriptions, all while keeping your financial information secure. This is the promise of agentic payments - a transformative shift in how we interact with commerce, empowering AI-driven agents to take a more active role in our transactions. This evolution offers unprecedented convenience, personalized experiences, and streamlined purchasing processes. This is the reality of today, we have seen this in action from the launch of Alexa+ and Anthropic Claude models.



Example of Anthropic Claude integration with Stripe Agents.

Understanding the Spectrum of Agentic Payments

We have several ways of implementing Agentic payment, each with varying degrees of automation and user involvement. Visualize these methods as ranging from fully automated transactions to those requiring explicit user authorization at every step.

R Hey! I have an existing client john@smith.com. I need to bill him for working 14 hours this week at a rate of 90 dollars an hour. Can you please create an invoice link for me so that I can send it to him?

I'll help you create an invoice link for John Smith. First, let's check if this client already exists in Stripe, then create the necessary elements for the invoice.

View result from `list_customers` from `stripe` (local) >

Great! I found John Smith in your client list. Now I'll create a product for your services, then a price for your hourly rate, and finally generate the invoice.

View result from `create_product` from `stripe` (local) >

Now I'll create a price for your hourly rate (\$90):

View result from `create_price` from `stripe` (local) >

Now I'll create an invoice for John Smith:

View result from `create_invoice` from `stripe` (local) >

I'll add the invoice item for 14 hours of work:

View result from `create_invoice_item` from `stripe` (local) >

Now I'll finalize the invoice:

View result from `finalize_invoice` from `stripe` (local) >

I've created an invoice for John Smith for 14 hours of consulting work at \$90/hour (total: \$1,260).

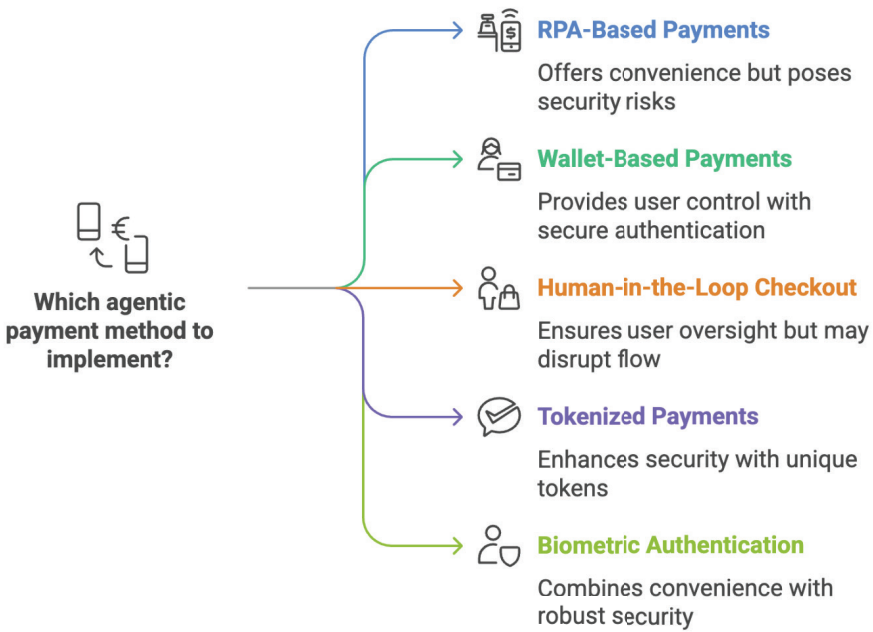
Here's the invoice link you can send to him:

https://invoice.stripe.com/i/acct_1QmwqgAGkdQ2Glu2/test_YWNjdF8xUW13cXFBR2tkUT_JHSXUyLF9Sb2dtNEFvc2J6NVRESHJWOFBnnpjdklyZGc0aVI2LDEzMdDcxMjcxOA0200amVeqcw?s=ap

The invoice has been created with the following details:

- Client: John Smith (john@smith.com)
- Service: Consulting Services (14 hours at \$90/hour)
- Total amount: \$1,260
- Status: Open (ready to be paid)

You can simply copy this link and send it to John via email.



1. RPA-Based Payments: Your Digital Clerk

Picture a tireless software robot, meticulously mimicking your actions online. This is the essence of RPA-based payments. Your AI assistant, acting as your personal digital clerk, navigates to your favorite online store, adds items to your cart with precision, and smoothly proceeds to checkout. It diligently fills in your credit card details, just as you would, and even retrieves those pesky one-time passwords (OTPs) from your email or phone if granted access. While remarkably convenient, this approach presents security vulnerabilities. Handling sensitive card data directly exposes it to potential breaches. To mitigate this risk, envision your financial information stored not within the robot’s easy reach, but secured

within a fortified vault—a tokenization service—accessible only with special authorization.

2. Wallet-Based Payments: Your Digital Concierge

Imagine your AI assistant as a trusted digital concierge, holding your digital wallets—Apple Pay, Google Pay, PayPal—at the ready, awaiting your command. When you're ready to make a purchase, the AI seamlessly accesses your chosen wallet, but not without your explicit consent. It's like handing your physical wallet to a concierge with specific instructions. For enhanced security, particularly for high-value transactions, envision the concierge requesting your fingerprint or a voice confirmation before proceeding. This two-factor authentication ensures that only you, the rightful owner, can authorize the transaction, providing peace of mind in a world of digital transactions.

3. Human-in-the-Loop Checkout: The Collaborative Approach

This method represents a blend of AI assistance and human oversight. Think of your AI assistant as a personal shopper, carefully curating the items you desire and preparing them for checkout. However, instead of completing the purchase autonomously, it presents you, the customer, with a checkout link, placing you firmly in control. While this collaborative approach offers greater control and transparency, it introduces a degree of friction, potentially disrupting the seamless flow of an automated purchase. To minimize this disruption, envision receiving a timely mobile notification with a prominent one-click checkout button. This allows you to

swiftly approve the purchase without the tedium of manual data entry, maintaining the convenience of AI assistance while retaining ultimate control.

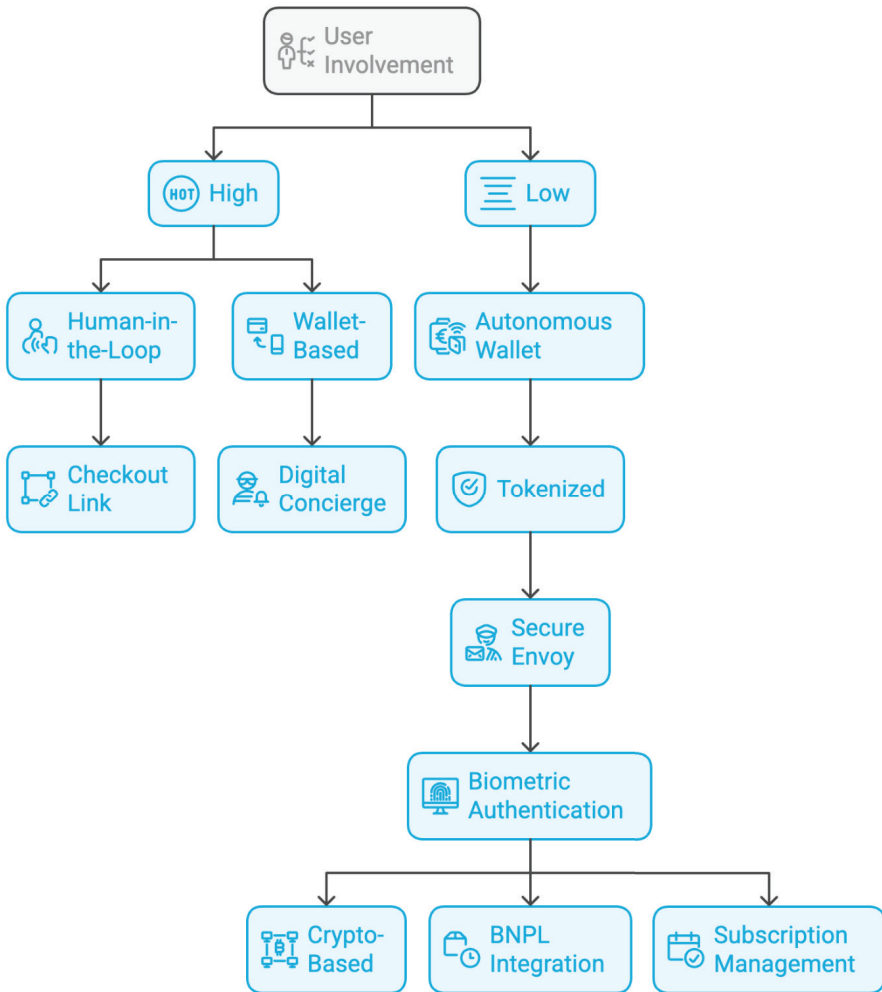
4. Tokenized Payments: The Secure Envoy

Imagine dispatching a trusted envoy with a unique token instead of your entire wallet. This is the underlying principle of tokenized payments. Your AI assistant uses a secure, individualized token, representing your payment method, to authorize the transaction. For an added layer of security, envision a system where your AI assistant must first verify your identity, perhaps through a quick voice confirmation or facial recognition, before utilizing the token or using one-time tokens. This crucial step thwarts unauthorized payments, guaranteeing that only you, the rightful owner, can initiate transactions.

5. Agent-Powered Biometric Authentication: Your Personalized Guardian

This innovative method combines the convenience of agentic payments with the robust security of biometrics. Visualize your AI assistant as your personalized guardian, vigilantly protecting your financial interests by recognizing your unique voice or face before authorizing any transactions. Before completing a purchase, the AI seamlessly requests a brief voice sample or a quick face scan. Once your identity is confirmed, the payment proceeds smoothly and securely. This personalized security measure ensures that only you can authorize payments through your AI assistant, safeguarding your finances and maintaining your control in the digital realm.

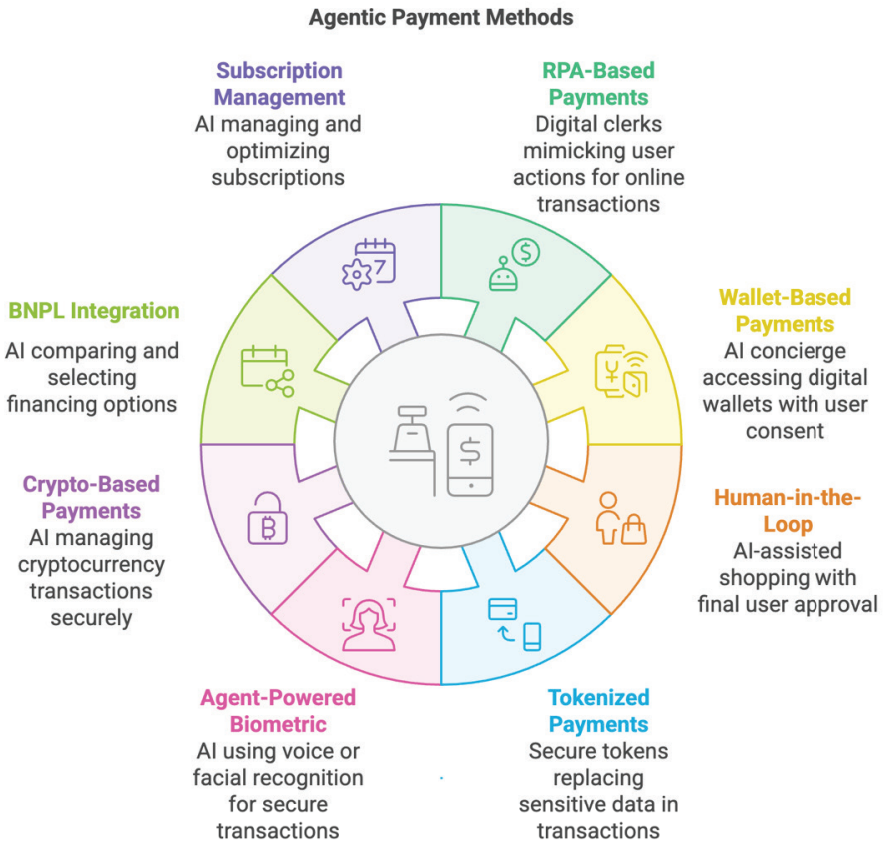
Spectrum of Agentic Payment Methods



Additional Potential Methods: Expanding the Horizon of Agentic Payments

Beyond these core methods, new and innovative approaches are constantly emerging, expanding the possibilities of agentic payments and shaping the future of commerce:

- ▶ **Crypto-Based Payments:** Envision your AI effortlessly managing your cryptocurrency transactions, securely signing payments on your behalf using your designated digital wallet, simplifying the complexities of blockchain-based commerce.
- ▶ **BNPL Integration:** Imagine your AI swiftly comparing Buy Now, Pay Later (BNPL) offers from various providers, intelligently selecting the optimal financing option tailored to your specific purchase and financial preferences, all within a matter of seconds.
- ▶ **Subscription Management:** Picture your AI diligently managing your subscriptions, ensuring timely renewals so you never miss a beat, while simultaneously providing you with effortless control to cancel or modify subscriptions as needed, eliminating the hassle of manual management.



The Future of Agentic Payments: A Seamless Fusion of Intelligence and Security

These evolving methods, while promising great convenience and personalization, demand careful consideration of security and compliance. By prioritizing security practices, implementing

authentication mechanisms, and transparent user consent, we can unlock agentic payments while effectively mitigating the inherent risks. The future of payments is not simply about automation; it is about empowering users with intelligent, secure, and personalized control over their financial interactions in a world increasingly shaped by the power of AI.

Mini Case Studies: Already implemented

▶ **Customer Self-Help:**

- **AI-Powered Payment FAQs (Stripe):** A searchable knowledge base and chatbot that can answer customer questions about payments, refunds, and other issues. This reduces the burden on customer support teams.
- **Proactive Issue Resolution (Adyen):** AI anticipates potential customer problems and offers solutions before they need to ask for help. This creates a more seamless and user-friendly experience.

▶ **Agent Support:**

- **Productivity Tools and Consistency Guidance (Adyen):** AI assists agents with responses, ensuring consistent service and adherence to best practices.

- **Emotional Intelligence for Agents (Adyen):** AI analyzes customer sentiment and guides agents on how to best respond to challenging or emotional situations. This leads to improved customer satisfaction and better outcomes in difficult interactions.

► **Employee Productivity:**

- **LLM-Based Interface for Analytical Queries (Stripe):** Employees can use natural language to query internal databases and get quick answers. This democratizes access to data and empowers employees to make data-driven decisions.
- **Automated Reporting and Insights (Stripe):** AI generates regular reports and dashboards, highlighting key trends and providing actionable insights for different teams. This streamlines the reporting process and ensures that everyone has access to the information they need.

► **Developer Tools:**

- **Code Generation for Payment Integrations (Stripe/Adyen):** Generate code snippets for integrating payment APIs, simplifying the development process for merchants.
- **AI-Driven API Optimization (Stripe/Adyen):** Automatically suggest improvements to a merchant's API integration to enhance performance and reduce errors.

Source:

<https://dev.to/stripe/using-stripe-docs-in-your-rag-pipeline-with-llamaindex-2j23>

<https://stripe.com/en-ch/newsroom/news/sessions-2024>

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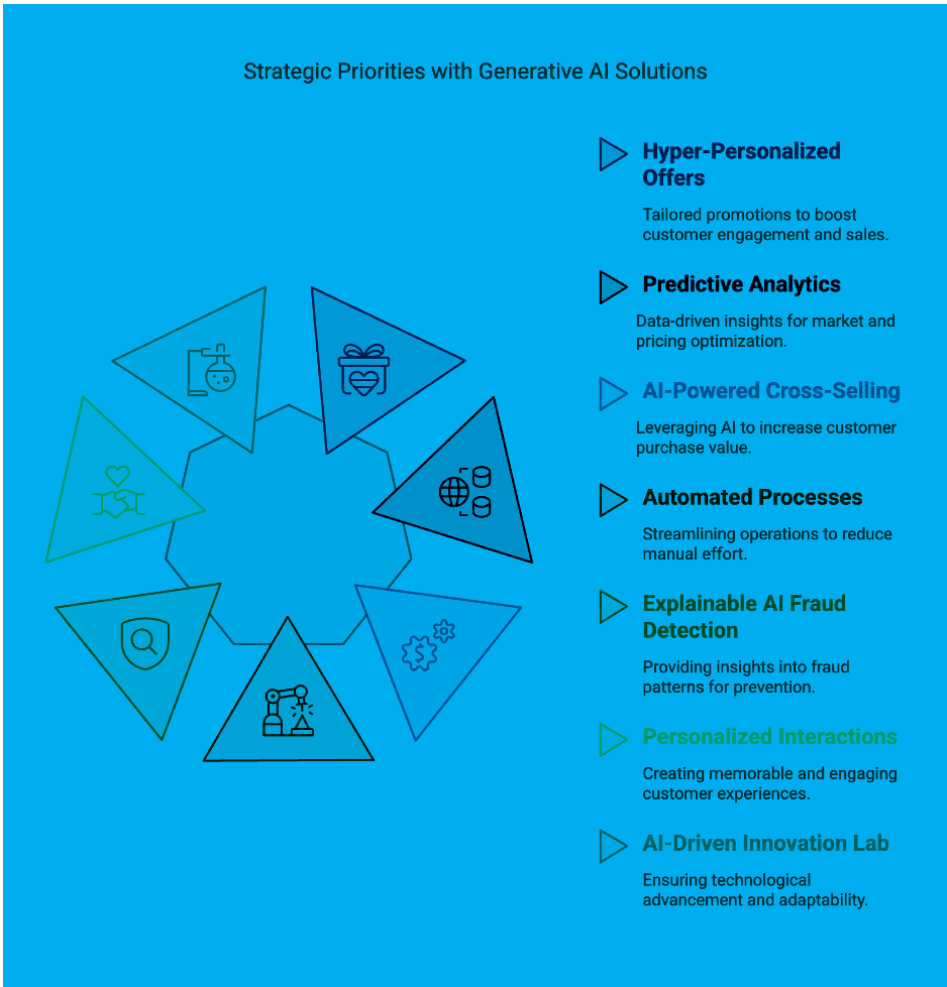
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Addressing Strategic Priorities with Generative AI

Many organizations, regardless of industry or size, face a complex array of challenges in achieving their strategic goals. These challenges can range from evolving market dynamics and competitive pressures to internal inefficiencies and resource constraints. Generative AI, with its ability to automate tasks, generate novel content, and provide data-driven insights, provides a powerful toolkit for tackling these challenges head-on. This table presents a structured overview of common strategic priorities, carefully coupled with actionable Generative AI solutions specifically designed to overcome obstacles, streamline processes, and ultimately achieve desired business outcomes. The solutions presented consider both immediate impact and long-term strategic alignment

Priority	How the Solutions Deliver Value
<p>Revenue Growth</p>	<ul style="list-style-type: none"> ▶ Build a system to offer merchants hyper-personalized offers, pricing, and payment experiences drive conversion rates and increase average transaction value. ▶ AI-powered cross-selling and upselling opportunities maximize revenue per customer. ▶ Predictive analytics identify new market opportunities and optimize pricing strategies. ▶ AI-driven lead qualification and sales assistants boost sales team performance. ▶ Dynamic pricing and discounting based on real-time factors.
<p>Operational Efficiency</p>	<ul style="list-style-type: none"> ▶ Automated reconciliation, settlement, and reporting processes reduce manual effort and free up finance teams. ▶ AI-driven fraud prevention minimizes chargebacks and associated costs. ▶ Optimized clearing and settlement processes reduce transaction fees and improve cash flow. ▶ Developer copilots and automation tools accelerate development and integration of payment solutions.

Risk Management	<ul style="list-style-type: none"> ▶ Explainable AI fraud detection provides deep insights into fraud patterns, enabling proactive risk mitigation. ▶ Predictive dispute prevention reduces chargebacks and improves customer satisfaction. ▶ Real-time compliance monitoring and reporting ensure adherence to evolving regulations. ▶ Advanced pattern analysis and predictive modeling enhance AML and anti-fraud capabilities. ▶ Geopolitical risk assessment and AI-driven cybersecurity threat intelligence.
Elevated Customer Experience	<ul style="list-style-type: none"> ▶ Personalized, context-aware interactions create seamless and engaging payment experiences. ▶ Data-driven refund and dispute resolution processes foster customer loyalty. ▶ Transaction storytelling transforms mundane interactions into memorable brand moments. ▶ Frictionless checkout and voice commerce enhance convenience and accessibility.
Future-Proofing	<ul style="list-style-type: none"> ▶ The AI-Driven Innovation Lab ensures that PSP's solutions remain at the forefront of payment technology. ▶ Predictive analytics enable businesses to anticipate and adapt to changing market trends. ▶ Focus on developer experience and open-source mentality.



Payment service providers (PSPs) have a unique opportunity to redefine the future of payments. By embracing these bold innovations and fostering a partnership with technology providers like Amazon Web Services, PSP's can:

- ▶ **Deliver unparalleled value to businesses:** Drive revenue growth, optimize operations, manage risk, and elevate the customer experience.
- ▶ **Achieve strategic differentiation:** Move beyond the limitations of traditional payment providers and establish a clear leadership position in the market.
- ▶ **Shape the future of commerce:** Create a world of intelligent, personalized, and frictionless payment experiences that power global economic growth.

“Not Yet Another Chatbot” is more than a tagline. It’s a commitment to a fundamentally different, more intelligent, and ultimately more profitable future for payments. It is the future of payments and can be the key to Open Banking for business users. We encourage PSP leadership to seize this opportunity and embark on this transformative journey – not tomorrow, but today. The future of payments is intelligent, and the future is now with Amazon Web Services.E

