Mastercard Smart Payment Decisioning Tools

Leverage the power of open banking and multi-rail to enable a better payment experience for merchants and consumers

With accelerated consumer digital adoption, open banking represents a unique opportunity for merchants

80% of US consumers use mobile banking[1]

174% YOY GROWTH in consumer accounts using open banking[2]

82% YOY GROWTH in same-day ACH payment volume[3]

1. U.S. Federal Reserve
2. FDX
3. NACHA

A suboptimal ACH experience remains a struggle for merchants and consumers

Top 3 Merchant ACH Pain Points[1]

Insufficient Funds (NSF)

1-3%

of ACH payments across bill payment verticals result in an NSF. Up to 8% for merchants with customers in lower socio-economic segments[1]

ACH Fraud

33%

of organizations were victims to ACH Debit fraud[2]

Consumer Onboarding

#1 PRIORITY

improving CX and reducing consumer friction during payment is the #1 payment priority for merchants[1]

Leading to ACH Returns

Implications for Merchants

- ✕ **Return fees:** $5-20 per transaction[1]
- ✕ **Operational costs**: 30-60 minutes per employee per day dealing with ACH Returns[1]
- ✕ **Customer churn**[1]

Implications for Consumers

- ✕ **Merchant penalties:** Late payment fees and/or penalties
- ✕ **Bank penalties:** Overdraft fees (if payment is successful on low balance account)
- ✕ **Service suspension** on bill payments (utilities, rent, etc.)

Open banking capabilities can help solve top ACH pain points by removing friction, reducing fraud, and increase approvals

Improved data to increase transaction approvals

Insufficient funds returns are largely driven by the latency of ACH payments.

"Timing is the main issue with ACH because customers may not have funds in their accounts when the transaction actually settles"

– Large bill pay merchant[2]

Lower ACH fraud

53% of organizations cite verification of identity as the #1 challenge to their fraud prevention strategy[1]

89% of organizations cite address validation as very important to the identity verification process[1]

Simplify the experience

ACH onboarding through bank account login is a simpler process for consumers with reduced burden of remembering account/routing numbers.

"There's less to remember…"

– Bill pay consumer[3]

1. 8th Annual Fraud Survey, IDology, 2021
2. Kaiser ACH Research 2021
3. Mastercard Consumer Qualitative Interviews, ACH and Open Banking Research, 2021

Introducing Mastercard Smart Payment Decisioning Tools for account-based consumer payments

Mastercard optimizes the payment experience with open banking and multi-rail solutions so that merchants can take advantage of:

- Improved data quality: Leverage predictive insights for smarter payment decisions and increase transaction approvals.

- Lower ACH fraud: Reduce risk and relieve operational burden related to identity verification.

- Improved consumer experience: All consumers directly connect their bank accounts with a simple consent permissioning process for a seamless account-based payment.

Mastercard open banking solutions leverage robust payment intelligence that enables merchants to optimize their payment decisions

Account Owner

Verify details to protect against payment fraud:

- Account owner name
- Account owner address

Account Details
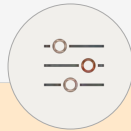
Retrieve bank information for payment initiation:

- Account number
- Routing number

Balances

Understand payment ability & avoid NSFs with account balance checks:

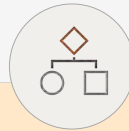- Real-time balance check
- Intra-day balance check

New

Payment Success Indicator

De-risk payments with predictive settlement insights:

- Machine learning models predict likelihood of settlement today and up to nine days in the future

New

Payment Routing Optimizer

Optimize payment success by using inputs across cost, speed and risk to determine payment scheduling & rail type:

- Same-day ACH
- Next-day ACH
- Debit*
- Real-time payments*

*Roadmap items

6

Our solution connects directly to a consumer's bank account and uses open banking data to power payment decisions
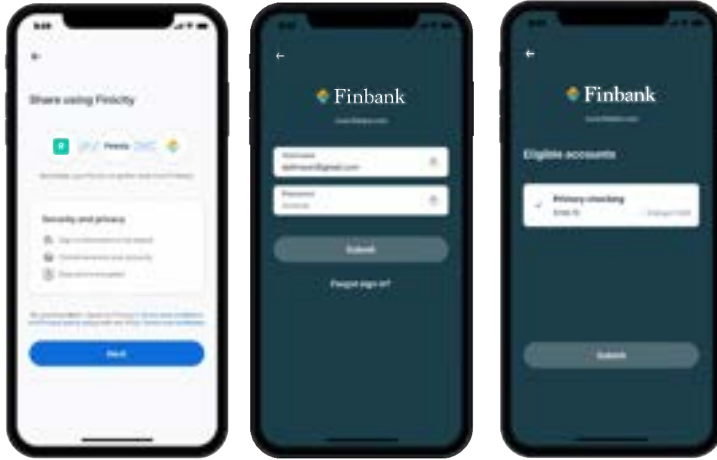
Merchant

Our Solution

Merchant

1 **Select Payment**

Select

2 **Link Bank**

Account & owner verification, routing & account details

- Automatically fetch ACH account/routing number
- Verify account owner and their address
- Check balance

3 **Payment Decision**

Payment Success Indicator

- Uses open banking data to evaluate consumer's ability to pay now and in the future
- Indicator/scoring produced each day within a requested payment window
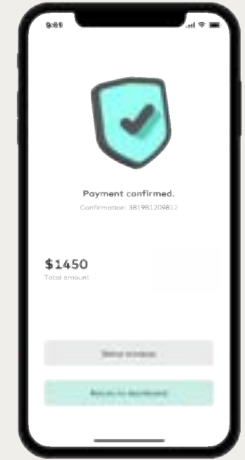
Payment Routing Optimizer

- Uses inputs across cost, speed, and risk to determine when to send a payment and which rail to use.
  - Same-day ACH
  - Next-day ACH
  - Debit card*
  - Real-time payments*

5 **Payment Origination**

Merchant initiates with PSP or ODFI

6 **Confirmation**

Functionality accessed via APIs

*Roadmap Items

Angela wants to pay her bill directly on the merchant's website or app

Angela wants to pay her bill. She selects her bank account as a payment method and gives her consent to share her banking data via the Mastercard open banking integrated consent and bank account linking experience (delivered through merchant's processor)

1

Merchant   **+**   **Processor**

With Mastercard's open banking connections, the merchant and their processor can now verify Angela's name and address on the bank account as well as pull account and routing number for an ACH payment

2

Payment Success Indicator

Payment Success Indicator leverages consumer **cash flow, balance information** and **other account indicators** to provide dynamic, real-time, risk information.

3

4

Payment Routing Optimizer takes the Payment Success Indicator score as an input as well as speed and cost considerations of available payment rails.

Since Angela has a high enough balance in her checking account today, but historic spending trends on her account tell us that in two or three days she may not have the money, **same-day ACH rail is selected which will debit the Angela's account sooner as to optimize success of the transaction**

The merchant and Angela reduce the risk of a returned ACH and the costs associated with it

5

ACH

User's bank account

Processor
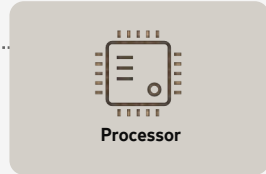
Payment Recommendation

Same-day ACH
Next-day ACH
Debit card*
Real-time payment*

Angela is notified by the merchant when the funds are expected to be withdrawn

Payment Routing Optimizer

*Roadmap Items

APIs provide a single integration point for customers to leverage the integrated solution

Request to Mastercard
- Link bank account
- Get account/routing numbers
- Get account owner verification
- Request Payment Success Indicator score
- Request Payment Routing Optimizer recommendation

Mastercard pulls consumer banking data
- Authenticate bank account
- Get account and routing numbers
- Get account owner details
- Evaluate Payment Success Indicator scores
- Evaluate Payment Routing Optimizer recommendation

Consumer

Payment request and consumer consent

Originator
(Merchant, fintech, bank, etc.)

Consumer's Bank

1

2

3

6

5

4

Payment confirmation and notification of payment decision details

Mastercard Response
- Account/routing number/owner verification
- Payment Success Indicator provides scores for each day in payment window
- Payment Routing Optimizer provides scheduling & rail recommendation

Bank account data

7

8

Payment to ODFI

Feedback loop from initiator
- Transaction ID
- Date/time/success of transaction
- Rail used

9

Our solution delivers value across the entire ecosystem, solving for the top ACH pain points

Consumers

Better onboarding experience: Simple ACH sign-up process leveraging bank account login credentials instead of manually entering account and routing number.

Improved financial value: Payment Success Indicator and Payment Routing Optimizer will enable consumers to avoid NSF, late payment, service disruptions and overdraft fees.

Improved security: Verification of account ownership and address reduces the potential of fraudulent use of bank account credentials.

Merchants

Improve checkout experience: Provide an innovative new ACH onboarding experience to improve the ACH onboarding process.

NACHA verification: Seamlessly verify ACH details to ensure successful payment and stay compliant with NACHA web debit.

Reduced fraud: Verify account owner and address to reduce fraudulent use of bank account credentials.

Reduce ACH returns: Leverage Payment Routing Optimizer and Payment Success Indicator to drastically improve the success of ACH payments, reducing risk of returns, optimizing cost and speeding up access to funds.

- ✓ Reduced ACH return fees
- ✓ Reduced operational burden and human capital costs
- ✓ Reduced consumer friction, leading to lower customer churn

Mastercard offers flexible integration models to meet the unique needs of our customers
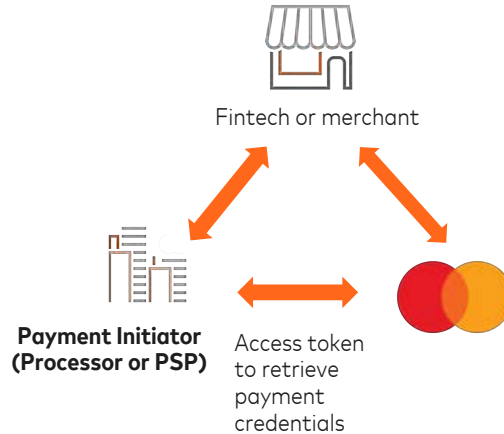
Direct Integration

Customers can integrate directly to Mastercard and receive all data directly via Mastercard's APIs

Fintech or merchant

Payment initiator (Processor or PSP)
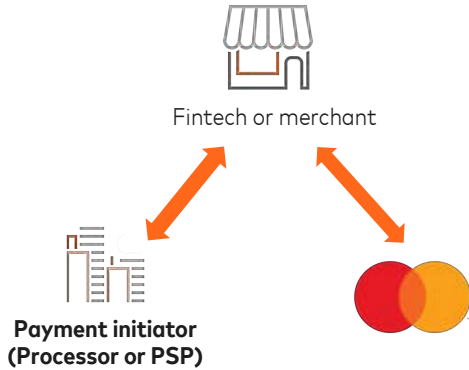
Consented third party access

Customers can directly integrate to Mastercard, but can use a Mastercard supplied access token (a key) to their processor if they don't want to handle PCI/PII data

Fintech or merchant

Payment Initiator (Processor or PSP)

Access token to retrieve payment credentials

Indirect integration

PSPs can consume Mastercard APIs and bundles with their SDKs to provide customers with a single integration for all open banking and payment services

Customer: Fintech or Merchant

Payment Initiator: Processor, PSP or acquiring bank
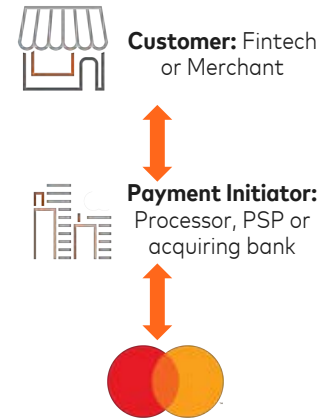
Mastercard will support implementation throughout every step of the onboarding process

Integration Timing

~60 days

Prerequisites for Smart Payment Decisioning Tools:

- Ability to action same day or next day ACH directly or with processor
- Consumer payment notifications to ensure consumers know when money is being debited
- Ability to send resulting transaction feedback to Mastercard

Enrollment & Onboarding

1

1. **Review pricing**
2. **Sign Mastercard MSA & enrollment form**
3. **Security review:** Provide third party audit report or evidence of InfoSec policies, anti-malware, vulnerability scan, MFA, encryption

Integration & Development

2

1. **Select integration method**
2. **API docs overview** with Mastercard
3. **Create developer account**
4. **Test the API** in developer portal
5. **Send in branding** for Connect Experience
6. **Customer development** to code to the Mastercard API endpoints
7. **Customer UX updates** to accommodate user experience

Launch

3

1. **Determine production launch** date
2. **Continued support from Mastercard** technical teams to monitor launch
3. **Monitor consumer usage and transaction results** data to be provided back to Mastercard for model training

* Typical Integrations take about 60 days depending on the customer.

With the expansion of open banking and multi-rail capabilities, Mastercard can help to overcome significant challenges when migrating to digital payments:

Improve Digital Experience & Security
Deliver a simple, low-cost digital payments experience for consumers through open banking assets that enable credential management and secure connectivity through Oauth-based APIs

Optimize Merchant Risk, Cost and Speed
Combine merchant preferences and open banking data to reduce transaction risk (such as ACH returns), while optimizing across cost and speed across all available payment rails.

Improve Operational Efficiency
Provide access to multiple forms of digital payments to improve cash flows and use flexible integration models to simplify implementations

Let's get started

For more information, please contact your account representative

- ✓ **Evaluate** current digital payments roadmap and customer satisfaction
- ✓ **Discuss** Mastercard open banking solutions for merchants
- ✓ **Determine** partnership model
- ✓ **Establish** an implementation timeline