



Payments Industry 101

TSG EDUCATION SERIES

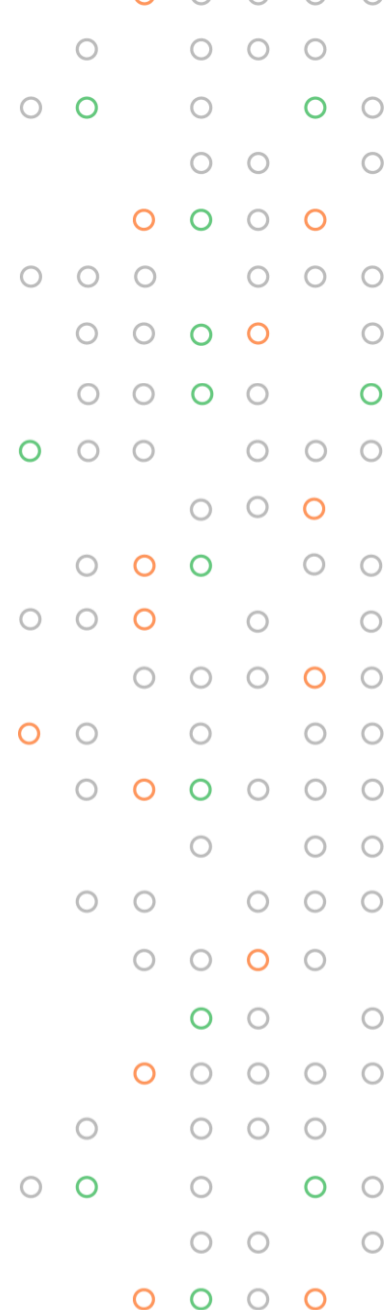
PREVIEW

TSG (The Strawhecker Group) is a globally recognized analytics and consulting firm that supports the entire payments ecosystem, serving over 1,000 clients from Fortune 500 leaders to dozens of the world's most valuable brands. Trusted by industry leaders, TSG's strategic services, market intelligence, and analytics merge to empower clients with actionable and accessible information.

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PREVIEW

TSG Payments Industry Education Series

TSG's Payments Industry Education Series offers an introductory overview on the core principles of the payments ecosystem, current trends within it, and potential future developments in payments. These reports are known as Payments 101, 201, and 301.

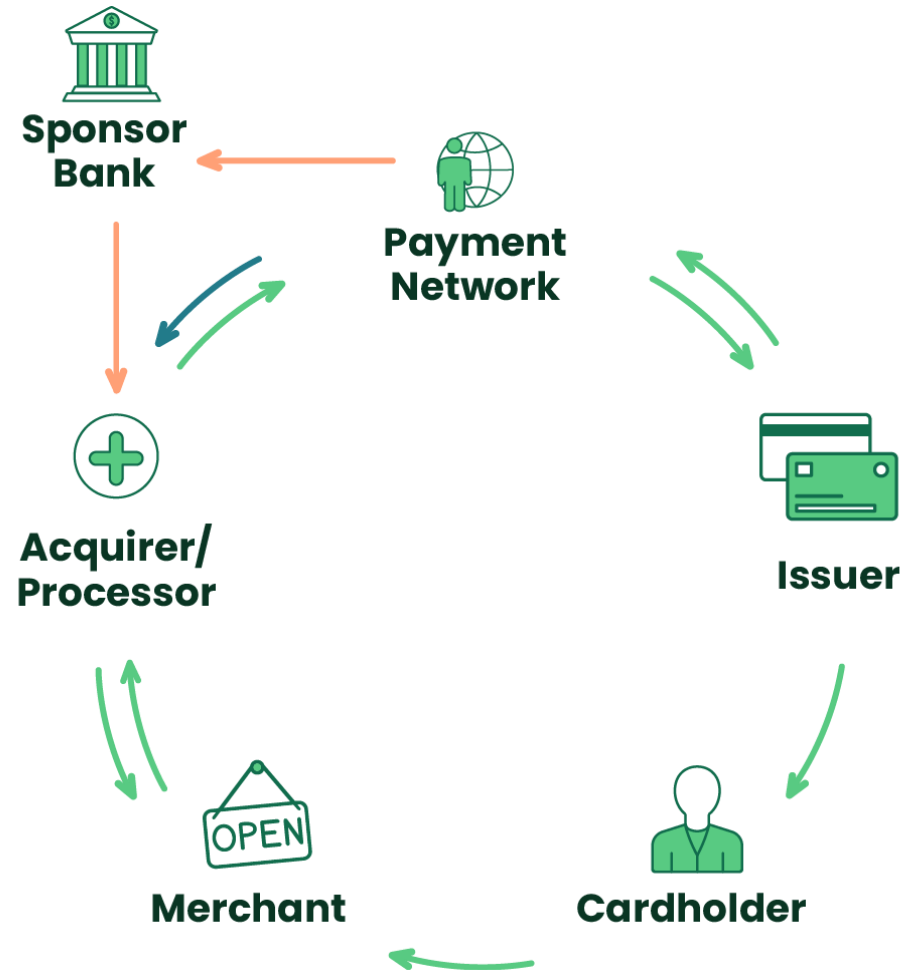
The way merchants and consumers initiate and receive payments continues to evolve as recent developments and advancements in emerging technologies affect the industry. These developments are driven by growing expectations from both merchants and consumers for payment interfaces that are faster, more secure, and easier to use.

This first report, *Payments Industry 101*, offers a foundational introduction to the payments ecosystem. It presents a high-level overview on how the industry operates and provides key concepts for building a solid understanding of the space.



Participants & Transaction Flows – PREVIEW

The core participants in a transaction, from authorization to settlement



Participants & Transaction Flows – PREVIEW

Credit card numbers defined: breaking down the numbers behind every card

CREDIT CARD NUMBER

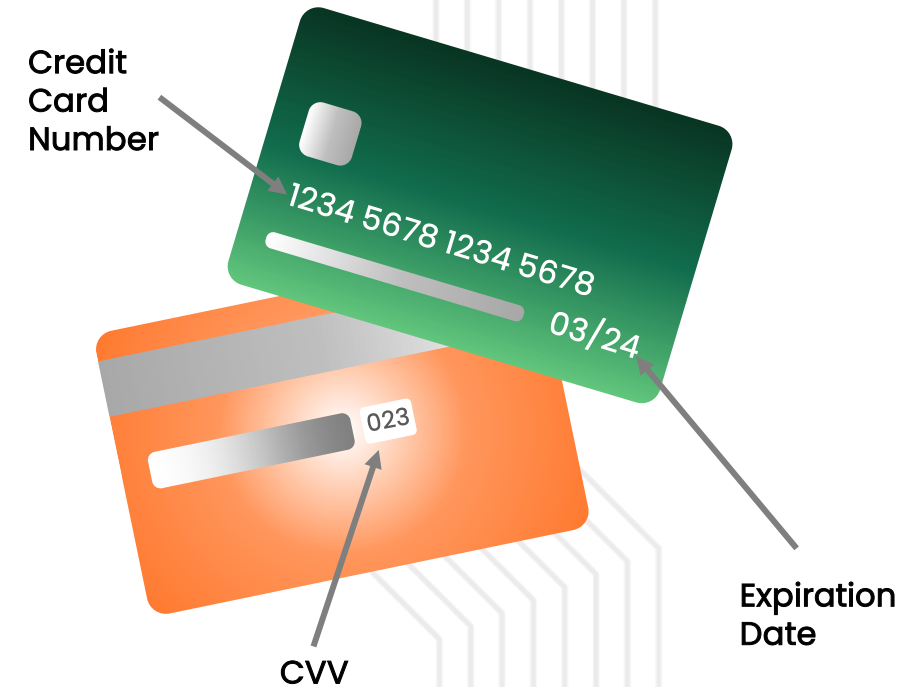
- The first digit of a credit card number identifies the card network: 2 or 5 for Mastercard, 3 for American Express or Diner's Club, 4 for Visa, and 6 for Discover.
- The first six to eight digits form the Bank Identification Number (BIN), which identifies the issuer and card type, and is used to route the transaction.
- The remaining digits, except for the last digit, are the cardholder's credit card account number.
- The final digit serves as a check digit and is used to verify the card's validity and reduce errors from mistyped numbers. It is generated using the Luhn algorithm, also known as the Mod 10 algorithm, which is a widely used checksum formula designed to detect errors such as mistyped or invalid card numbers.

EXPIRATION DATE

- Provides a date in which the card expires.
- Acquirers sometimes offer account updater tools that automatically refresh stored card details when a customer's card is reissued or updated. This helps reduce failed payments and keeps recurring billing running smoothly.

CVV (Card Verification Value)

- A security code used to help verify card-not-present transactions, such as eCommerce. While "CVV" is commonly used as a general term, card networks use different names: Visa uses CVV, Mastercard uses CVC2, and American Express and Discover use CID. American Express displays a four-digit CID on the front of the card and also includes a separate three-digit code on the back. The three-digit code is not used in transactions; it is used only when the cardholder contacts the issuer directly.



Participants & Transaction Flows – **PREVIEW**

Whether a card is physically present during a transaction impacts how it's processed, priced, and risk-assessed

There are two general types of transactions – **card-present** and **card-not-present**



CARD-PRESENT TRANSACTION

Card-present refers to in-person payments made using a physical card or digital wallet, via magnetic strip (swipe), chip (dip), or Near Field Communication (NFC) tap.

While both card-present and card-not-present transactions involve the same core participants, the flow and risk profile differ. The following pages illustrate each transaction type.



CARD-NOT-PRESENT TRANSACTIONS

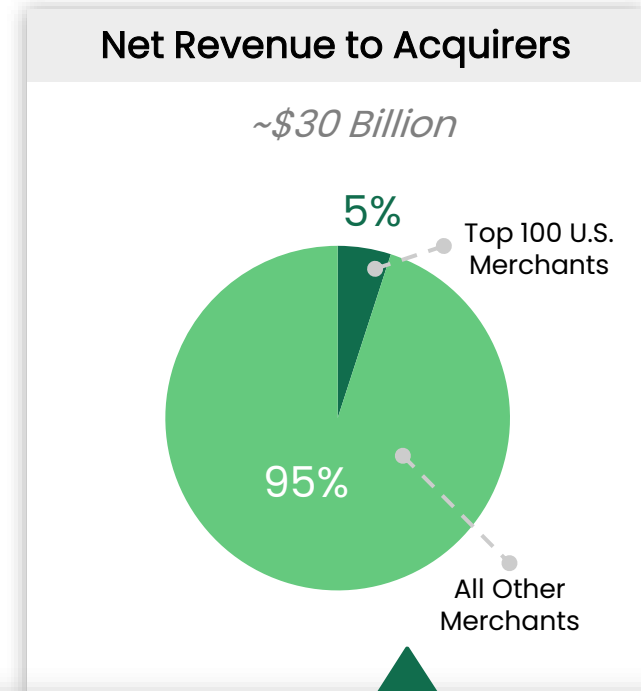
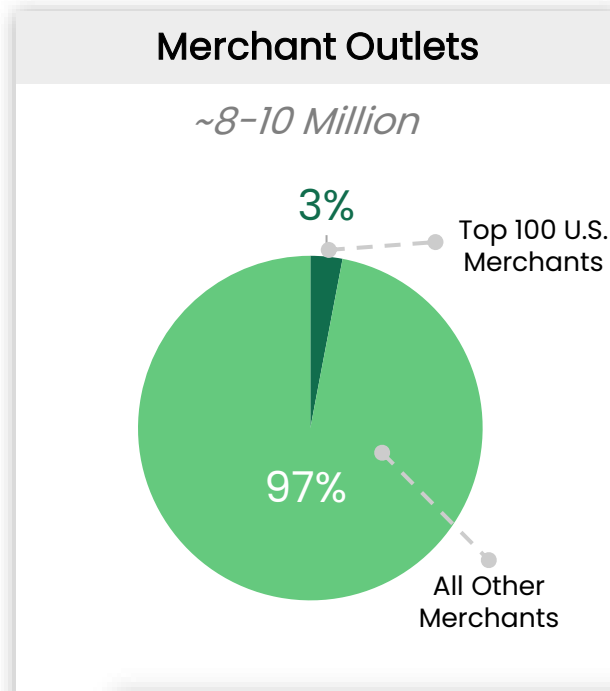
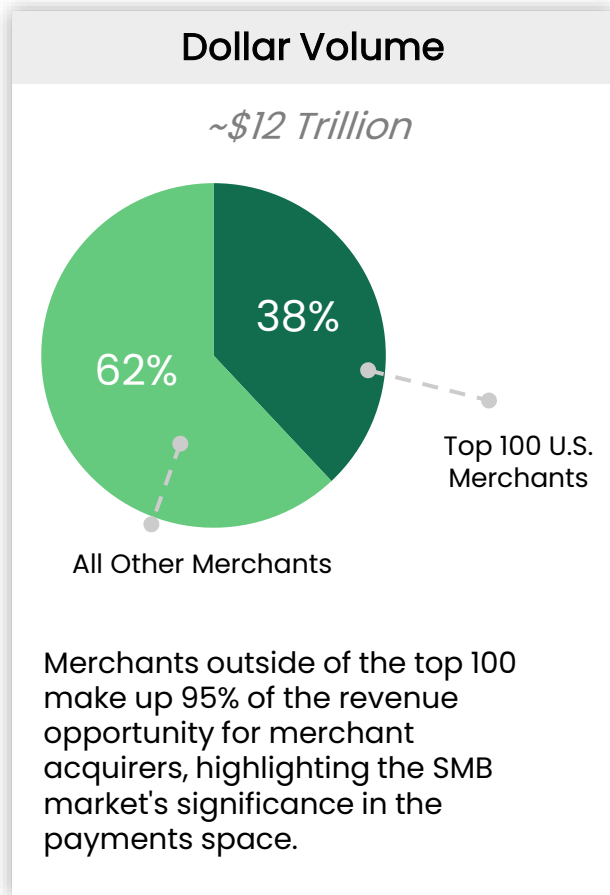
Card-not-present refers to transactions that are not completed using a physical card reader or POS. Card details (e.g., card number, expiration date) may be provided via phone, website (eCommerce), or mobile (mCommerce). In some cases, a merchant may manually key in card details at a physical location, which is still considered card-not-present.

Market Sizing – PREVIEW

Large merchants drive volume, but smaller merchants drive revenue

Est. Merchant Share in the U.S.: Top 100 Versus All Others

Figures represent estimated data for 2024



Net Revenue = Gross Processing Revenue + Other Income – Cost of Sales

Other Income	Cost of Sales:
<ul style="list-style-type: none">• Equipment revenue• Lease revenue	<ul style="list-style-type: none">• Interchange• Assessments and network fees• Third Party Processing Costs
<ul style="list-style-type: none">• Additional services revenue• Monthly fees	

The Role of ISVs in Payments – **PREVIEW**

ISVs are considered a lucrative sales channel partner with positive and negative considerations for acquirer partnership

STRENGTHS OF ISV PARTNERSHIPS



Better Retention

Merchants using an ISV have an average account lifespan 6 months longer than non-integrated merchants



Financially Attractive

Value-added solutions offered by ISVs drive acquirer revenue rates 36 BPS higher than non-integrated merchants



Market Opportunity

The ISV market may seem fragmented, but its size is significant: there are tens of thousands of ISVs in the U.S. Market alone

WEAKNESSES OF ISV PARTNERSHIPS



Integration Complexity

Varying technical requirements of ISVs can make integration a time-consuming process and impact the ability for acquirers to sell to ISVs at scale



Reducing Margins

As the ISV market increasingly matures, ISVs are recognizing their value to the payments ecosystem and gaining leverage to negotiate more favorable agreements



Brand Dilution

The ISV often manages the merchant relationship, which can obscure the acquirer's role and reduce opportunities for direct engagement or upsell



TSG is a fast-growing analytics and consulting firm. The company serves the entire payments ecosystem, from fintech startups to Fortune 500 companies. The firm provides its clients with advisory services, research and analytics to help them plan and execute their strategic initiatives. Based in Omaha, a recognized payments industry hub, TSG is an established leader in this high-growth, ever-evolving space.



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20+

YEARS AVERAGE ASSOCIATE EXPERIENCE IN THE PAYMENTS INDUSTRY



1000+

CLIENTS ADVISED, INCLUDING MANY IN THE FORTUNE 500

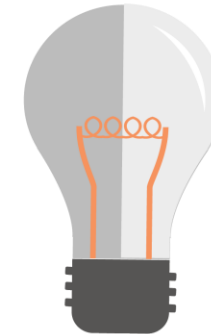
~4M

CARD-ACCEPTING MERCHANTS IN TSG'S AIM ANALYTICS PLATFORM, DRIVING MILLIONS OF DOLLARS IN ROI FOR ITS USERS



250+

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OF THE TOP 50 MERCHANT ACQUIRERS SERVED, INCLUDING 9 OF THE TOP 10



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