

Payments 101

Introduction to Payments

Presenter • Date

History of Money and the evolution of Payments



History of Money

What is Money?

 It's something that is generally accepted as a medium of exchange of value.

What is currency?

- It is a generally accepted form of money. It can be a shell, salt, stone, metal, paper, coin etc.
- It is a recognized form of value exchange.
- Usually issued by a government or a trusted body.
- Current form of currency is in banknotes and coins.

When did the current form of currency started?

- Coins were first developed in 6th Centuries BC in Lydia, now part of modern Turkey.
- Banknotes were first used in 11th Centuries China during the Song Dynasty.



Trivia Quiz

What was the first charge card? When was it invented?

The Farrington Charga-Plate was invented around 1928 by the Charga-Plate Group, Inc. in New York City.

Why would a charge card be created right around the Great Depression?

It was the precursor to today's charge cards and was primarily a store bookkeeping system.





The Last 100 Years of Payment Systems

1920s-1940s 1960<u>s-1970s</u> 2000s-present Cash Society Suburban Explosion Mobile devices get and rise in malls and more powerful •Credit initially at a stores with many single-store level Mobile commerce locations in US. (m-commerce) is •Credit has to be growing faster than tracked as people traditional ebecome more commerce mobile. Internet created Banking becomes Networked 1950s 1980s-1990s • Diners Club releases •First e-commerce the world first site, CompuServe Universal credit card launched Electronic Mall in US and Rise of credit cards Canada in 1984 that can be used at multiple Computers enter households stores/restaurants/ etc. •Global e-commerce reaches U\$150B in • Early computers are room-sized 1999.

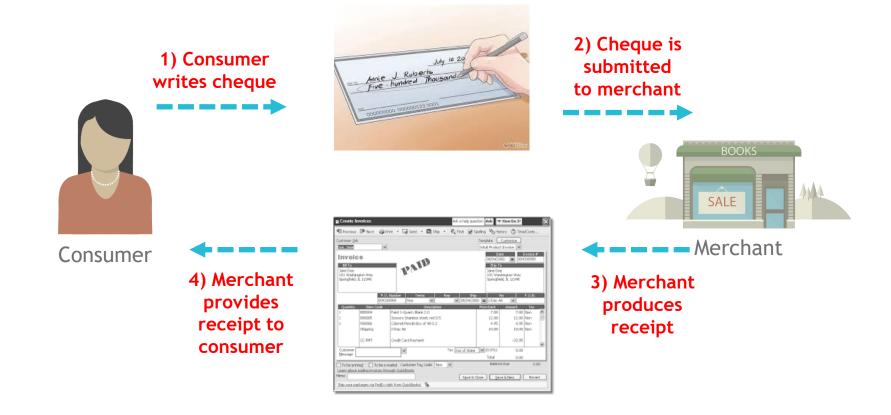


The card payment ecosystem





Paying By Cheque - Consumer view



Behind the Scenes of the Cheque Payment

The Singapore Automated Clearing House system processes money through banks



3. Merchant's Bank will scan the checks which will capture the info and transmits properly formatted and edited files to ACH



numbers

5. ACH send sorted

according to it's routing

cheques to banks





Bank

6. Customer bank deducts funds from customer's account



4. ACH will sort the cheques info according to it's routing numbers



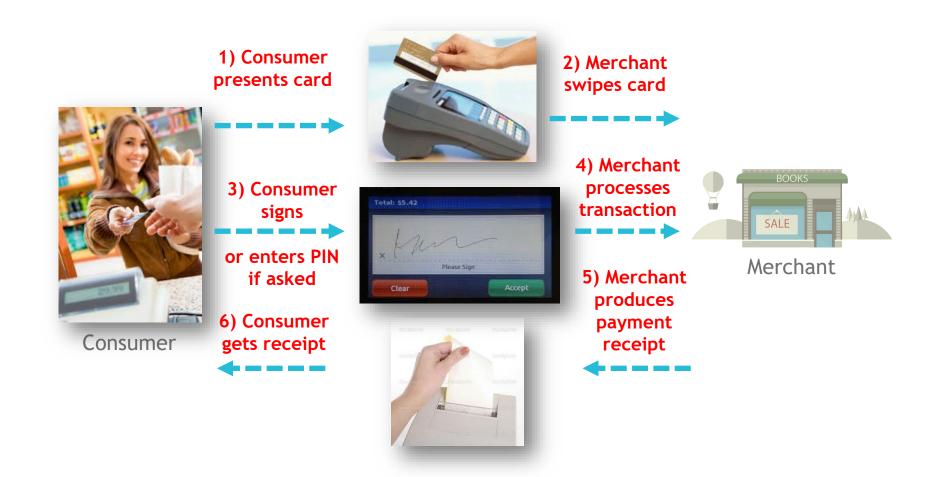
Merchant







Paying By Credit or Debit Card - Consumer View





The Card Payment Ecosystem

Two Common Models

Four Party (Open Loop) Model (Bankcards & EFT Networks)

- Member Banks act as "issuers" provide cards to consumers
- Member Banks act as "acquirers"
 & handle transaction processing for merchants
- Schemes set rules, provide processing switch, and manage brand promotion/image



Three Party (Closed Loop) Model

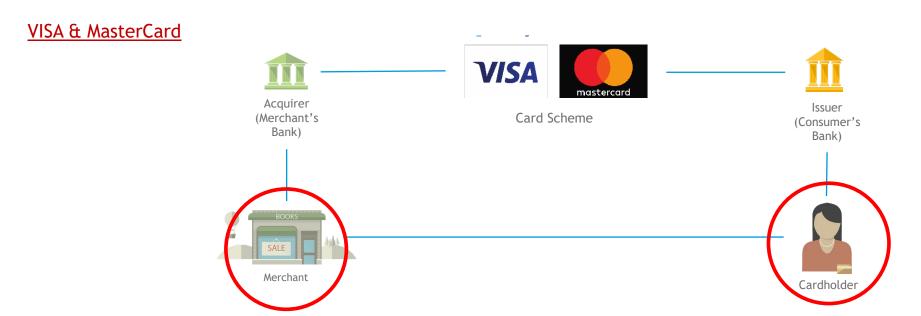
- Single entity issues cards, handles merchants, sets rules, provides switch and manages brand
- Original American Express approach; Discover, JCB



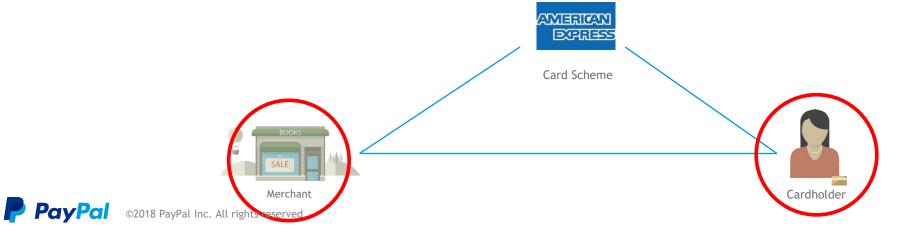




Processing Three Party and Four Party Transactions - In-store

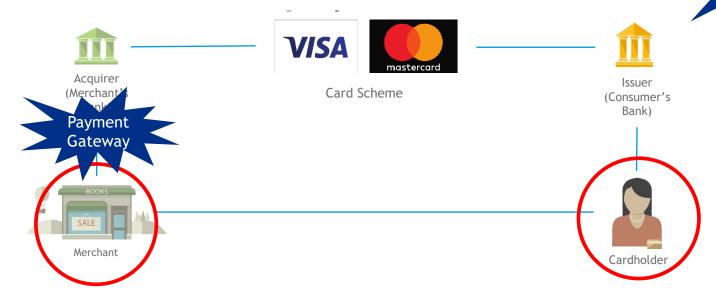


American Express



Processing Three Party and Four Party Transactions - Le Commerce

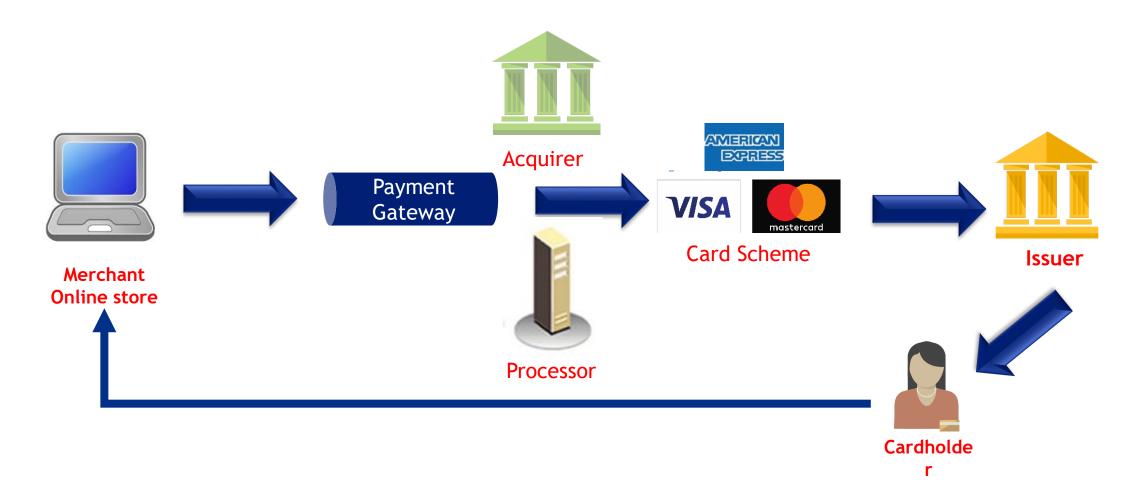




American Express



Payment ecosystem - online payment





Payment Gateway

What Is It?

- The payment gateway is the card-not-present version of the point-of-sale terminal.
- The gateway service provider relays information from the merchant to the processor
- The payment gateway is responsible for acquiring transaction authorization and data encryption.

What Does It Do?

Securely authorizes your card payments.



Payment Processor



What Is It?

• A payment processor is a company (often a third party) appointed by a merchant to handle transactions from various channels such as credit cards and debit cards.

What Does It Do?

• The merchant processor handles the transaction authorization and routes the transaction from the point of sale to the card network.



Acquiring Bank ("Acquirer")

What Is It?

- An acquiring bank (or "merchant bank" or "acquirer") is a bank or financial institution that
 processes credit or debit card payments on behalf of a merchant. The term acquirer indicates
 that the bank accepts or acquires credit or debit card payments from the card-issuing banks.
 The merchant's account is held at the acquiring bank.
- The merchant acquirer takes on the risk of the card transaction

What Does It Do?

• The merchant acquirer signs up merchants to take payment cards for the card network. Acquirers also arrange processing services for merchants.



Card Schemes/Network

What Is It?

An organization of financial institutions that licenses bank credit and debit card programs.

What Does It Do?

• The network performs operational functions for its members, including transaction processing and authorizations, interchange settlements and fee processing.

Who Are the Players?

• Differs depending on region but globally includes Visa, MasterCard, Discover, American Express, JCB.









Issuer

What Is It?

A bank or other financial institution that issues credit or debit cards.

What Does It Do?

• They provide a credit line and limit to cardholders. They send payments to merchants for purchases made with their credit cards.

Who Are the Players?

Most banks, credit unions, and financial institutions.



The card payment transaction cycle





Card Transactions

What goes on behinds the scenes?

1. Authorization

• Purpose - to validate funds availability.

2. Settlement

• Purpose - to move cardholder funds to merchant.



Authorization: The Entities Involved





Card Schemes

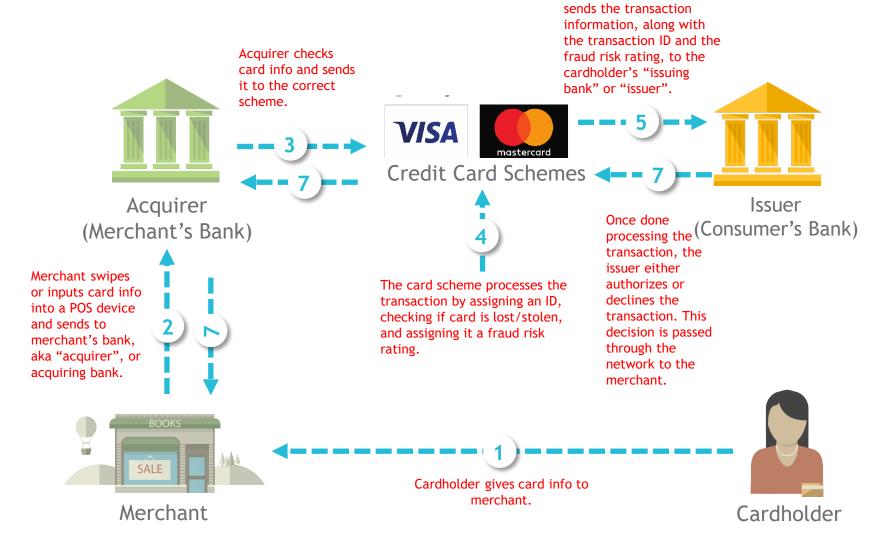








Authorizing a Transaction



The card company then



The issuer processes the transaction by running a second fraud check, checking the transaction patterns for abnormalities and checking available balances.

Authorizing a Transaction

How long is a card authorization hold valid?

- Up to 7 days, but it depends on the processor
- Some processors may take 30 days for the hold to expire.





Settlement: Same Entities Involved











Settling a Transaction

The acquirer sorts the transactions by the card type and creates a batch file for each one. Then sends them to the appropriate card scheme.

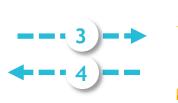
The card scheme calculates how much each issuer owes them and notifies the issuer of its bill.











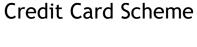


Cardholder

Acquirer



The merchant creates a batch of transactions for the day and sends them to the acquirer.

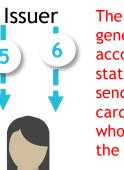




The scheme sends the funds to the Acquirer to send to the merchant.

The issuer wires fund to the card scheme to pay their bill.

The issuer posts transactions to the card holder's account.



The issuer generates an account statement and sends it to the card holder, who then pays the bill.



Merchant



Settling a Transaction

When does settlement occur?

• Merchants typically settle a batch of authorized transactions at the close of each business day





Cost of Payment





Fees to Merchant

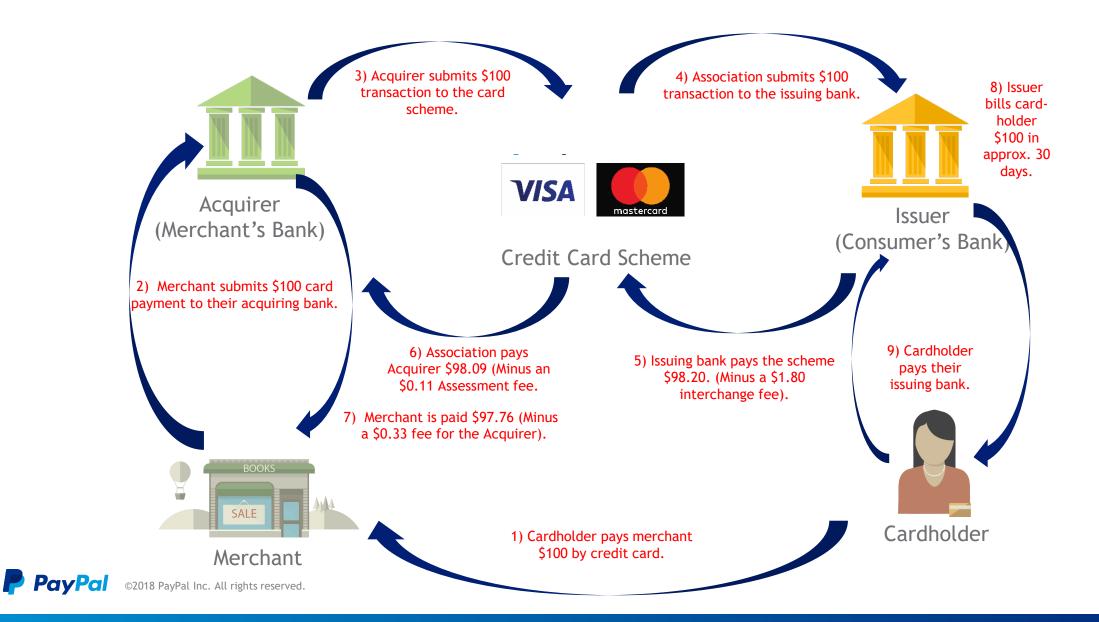
Every card and merchant account provider has a different set of costs associated with its services:

- Interchange Reimbursement Fees & Assessments
- Terminal Fees
- Payment Gateway Fees

Other fees can include statement fees, early termination fees, monthly fees, and, network fees.



The Fees in a Credit Card Transaction



Payment Landscape and Trends





Payment Landscape

QR Code Payments P2P payments **Biometric Payments** M-Commerce - InApps Payments



Future Payments Trends

Social Media Commerce Facial Recognition Vision Tech Shops

