



# Training Manual

## SECTION 1: UNDERSTANDING INTERCHANGE



**Merchant Service Group, Inc.**  
With every transaction, every service,  
every product, we put your needs first!

Merchant Service Group, Inc. | 6901 Jericho Turnpike, Suite 240, Syosset, NY 11791  
Toll Free: (866) 403-0294 | Fax: (800) 861-1442 | Email: [agents@gomsgagents.com](mailto:agents@gomsgagents.com)

# Understanding Interchange

## Interchange Overview

Interchange is a transfer fee between Issuers and Acquirers used to balance the costs of Visa card transactions. Every time a Visa card is used, both the Issuer and the Acquirer incur costs. Each also derives benefit. Interchange reimbursement fees compensate both parties for their role in providing a comprehensive payment service to cardholders and merchants.

In addition to reflecting Member costs, interchange fees also help maximize issuance, acceptance, and usage of Visa cards by recognizing Issuer and Acquirer interdependencies and the complex dynamics of the marketplace. The interchange reimbursement fee rate structure has proven to be a powerful strategic tool for increasing Visa card usage and migrating the bankcard industry to more efficient electronic transaction processing methods.

Interchange reimbursement fees help Issuers increase card issuance and usage, resulting in increased merchant sales. They help merchants reduce payment acceptance costs with advanced electronic transaction processing technologies. In addition, they enable Visa to penetrate new industries, which benefits merchants, cardholders, Issuers, and Acquirers. Visa's current interchange reimbursement fee rate structure includes rates that vary by card product, processing technology, and merchant category in order to reflect the economics and operational characteristics of a transaction. These include factors such as presence of card and cardholder at the merchant location at time of transaction; different transaction amounts, processing costs, credit losses, chargeback levels, fraud losses, and other performance-based metrics.

For the purpose of this guide, the term "program" is used to define the set of transaction characteristics that a transaction must meet to be qualified for an interchange fee category.

Qualification for a specific program typically correlates directly to the interchange rate available for that program. However, in certain circumstances, several programs can be used to qualify transactions for a particular rate.

Several qualification programs are available including the consumer Standard program, the consumer Electronic program, and various CPS programs.

# Understanding Interchange

## Interchange Basics

If you take credit cards, you have no doubt noticed the "discount fee" on your merchant statement. Bundled in with that fee is something called an "interchange fee" deducted from each transaction. According to the Electronic Clearing House Inc., a merchant's credit card discount rate is composed of several fees, the largest of which is the interchange fee. Typically, 70 to 89 percent of the discount rate goes to pay the interchange fee.

### What's the reason for the interchange fee?

Interchange compensates card issuing institutions for their risk and the expenses they incur to process transactions. The fee amount is based on the level of risk associated with funding a transaction, in hopes of encouraging small businesses to follow procedures that reduce fraud.

Think of it as the fee the acquiring bank pays to the credit card-issuing bank in order to process a credit card transaction involving a card holder's account. The conditions under which you accept credit cards and process transactions all affect how high the fee will be.

The interchange fee is determined by the nature of your business and the processing procedures you follow. Visa and MasterCard set these rates by assessing the level of risk associated with funding and expenses involved in processing a transaction.

Hence the interchange fee for a face-to-face transaction will be less -- usually -- than in a mail-order transaction, since the risk of fraud drops considerably if a merchant can swipe a card and compare signatures.

Card issuers assign merchants to certain interchange categories reflecting their processing environments. The discount rate set for each merchant assumes compliance with prescribed procedures, and failure to do so, like neglecting to obtain electronic authorization, results in higher fees.

For example, a customer makes a \$200 purchase, using a Visa card, at a retail store. The interchange category for this Visa transaction is CPS Retail. The discount rate is 3.75 percent. If all procedures are followed -- if the card is swiped, electronic authorization procured and transaction settled within two days -- there are no additional charges, and the fee is \$7.50 to the merchant. However, if the card is hand-keyed instead of swiped, there's a 0.09 percent penalty, plus an additional 0.5 percent "adjustment fee," making your bill \$8.59 instead. It would behoove merchants, therefore, to follow procedures as outlined in the merchant guide

## Interchange Overview

All payment card systems involve two sets of customers - those who offer payment and those who accept payment - and an entity that facilitates the exchange of value between those two sides. Some are three-party systems: the entity stands between the payer and payee. American Express deals directly with both its merchants and its cardholders. Other systems are four-party (or perhaps more accurately five-party): an issuer collects money from its cardholders, an acquirer collects money from merchants it services, and a system coordinates the transfer of payment between the issuers and acquirers that belong to its system. Visa and MasterCard fall into this category. Coordination is easy in three-party systems. One hand of American Express takes the money from merchants (having added a charge for its services) and gives it to the other hand of American

# Understanding Interchange

## Interchange Basics

Express for collecting from cardholders (perhaps adding in late fees or finance charges depending on the card type).

Coordination is more complex in four-party systems. Does the acquirer turn over all the money from the payee to the issuer? Or does it keep some for itself - after all, the issuer needed the acquirer for the transaction to happen? Or does it turn over all the money and pay a fee to the issuer - the acquirer needed the issuer for the transaction to happen? Should the acquirers and issuers just negotiate with each other, or should the system set a rule? And what should that rule be? Interchange is the fee that the issuer or acquirer pays each other. Almost all payment systems have rules for setting this fee. In the U.S., banking regulations long ago resulted in checks being exchanged at par - that means the interchange fee is zero. In most countries, associations of financial institutions that operate debit and credit card systems have rules that require the acquirer to pay the issuer a percent of the transaction. The rules for ATM systems vary. On ATM transactions, the issuer tends to pay the acquirer, but the reverse is generally true for debit transactions.

Interchange fees have generated controversy - they can be interpreted as a price set by competitors. Most payment card systems are run by associations, which have adopted a “co-competitive” model combining a small dose of cooperation with a large amount of competition. Members compete with each other for cardholders and merchants. The association does not set the prices the members charge to these customers. The members cooperate in operating a network for processing transactions - this includes the “railroad” for moving money, a brand name, and rules for managing the complex interplay among members and the system. The members, working through the association, cooperate on a rule for how much acquirers have to pay issuers for each transaction - that is, they “fix” the interchange fee.

The associations have defended that rule as based on necessity and efficiency. Necessity: there are too many combinations of issuers and acquirers for them to contract with each other, and too many possibilities for opportunism and free-riding. Efficiency: the interchange fee is necessary for balancing the relative demands of cardholders and merchants and optimizing the value of the system. Opponents - private parties, merchant associations, or competition agencies - argue that the interchange fee is just a collective price fix and just as bad as any other cartel price. Moreover, they say, the interchange fee gets passed on to the merchant; for various reasons, the merchant passes the cost on to all customers rather than just to cardholders. The result is that cash and check-paying customers end up subsidizing card-paying customers. A U.S. appeals court sided with the associations in a decision in the 1980s - the Supreme Court declined to consider the decision - and as a result, the interchange fee is recognized as a procompetitive device in the United States.

The Reserve Bank of Australia (RBA) concluded that a fix is a fix - since the associations could not establish that the interchange fee they set was the best one from the public’s standpoint, the RBA should set the fee instead of the associations. That decision was upheld in an appeal; MasterCard is further appealing the matter in the Australian courts. The European Commission also went the regulatory route - in a settlement, they agreed to permit the fee only if Visa lowered it and kept it under certain cost-based benchmarks. The Commission has now challenged MasterCard’s interchange fee, as has the Office of Fair Trading in the U.K.

Although interchange fees are unique to payment systems, the set of economic problems they raise

# Understanding Interchange

## Interchange Basics

are not. The payment card industry is an example of a two-sided market, one in which there are two classes of customers who need each other for a product to even exist. Other examples of two-sided markets include: video games systems which need game developers and game users; PC operating systems which need application developers and PC users; exchanges which need buyers and sellers; and advertising-supported media which need advertisers and readers. Payment card systems need to have customers who pay with cards and merchants who take those cards. The economic analysis of interchange fees has resulted in a deeper understanding of pricing and investment strategies in two-sided industries, as well as the competitive consequences of those strategies. The interchange fee is part of a general class of strategies used in two-sided markets to balance the demands of the two sides of the market.

## Interchange Timeline

### NaBanco

June 1979: National Bancard Corporation (NaBanco) sues Visa in the U.S. District Court for the Southern District of Florida, claiming that Visa's interchange fee violates Section 1 of the Sherman Antitrust Act.

May 1982: Trial by the district court, without a jury, begins.

September 1984: The district court decides in favor of Visa, ruling that the interchange fee is necessary to balance the issuing and acquiring sides of the business.

January 1986: The U.S. Court of Appeals for the Eleventh Circuit affirms the ruling of the district court.

October 1986: The U.S. Supreme Court declines to hear NaBanco's appeal.

### Wal-Mart

October 1996: Wal-Mart, The Limited, Sears, Safeway, Circuit City, the National Retail Federation, the International Mass Retail Association, the Food Marketing Institute, and other retailers sue Visa and MasterCard in the U.S. District Court for the Eastern District of New York.

February 2000: The case is certified as a class action suit of over four million merchants.

March 2000: Visa and MasterCard appeal the class action certification to the U.S. Court of Appeals for the Second Circuit.

June 2000: Both sides file for summary judgment.

October 2001: The appeals court rejects the class action certification appeal.

June 2002: The U.S. Supreme Court denies a request to hear an appeal on class action certification.

# Understanding Interchange

## Interchange Timeline

September 2002: Class members begin receiving notification of case.

December 2002: Both sides submit supplemental filings on their respective summary judgment motions.

January 2003: District court hears arguments on summary judgment motions.

March 2003: MasterCard files a motion asking to be tried separately from Visa.

April 2003: Trial before a jury scheduled to begin in district court. Motion filed by MasterCard to be tried separate from Visa is denied. MasterCard settles case ahead of trial. Soon after, Visa settles, too.

## RBA

September 1999: The Payments System Board of the Reserve Bank of Australia (RBA) and the Australian Competition and Consumer Commission (ACCC) announce a study into interchange fees for debit and credit cards, as well as membership criteria for credit card programs.

October 2000: The RBA and ACCC joint study is published concluding, among other things, that interchange fees are above cost-based levels and that they raise costs for consumers paying by cash or check.

December 2001: A report and consultation document, commissioned by the RBA, presenting an analysis of the economic aspects of the RBA and ACCC joint study, is released.

March 2002: The RBA receives responses to the consultation document from interested parties.

August 2002: The RBA releases its final reforms of payment card schemes in Australia. Among other things, the RBA concludes that credit card usage is too high and presents a regulatory plan that would significantly reduce interchange fees. The RBA's plan would also allow merchants to add surcharges for using credit cards and allow new types of financial institutions into the Visa and MasterCard networks.

September 2002: Visa and MasterCard file separate suits against the RBA, contending that the RBA had not used sound economic reasoning in developing its regulations.

January 2003: The RBA implements its plan to allow merchants in Australia to add surcharges for using credit cards.

May 2003: The appeals trial begins in front of a federal judge.

September 2003: Visa and MasterCard lose their appeal against the RBA reforms.

October 2003: Visa decides not to proceed with another appeal. Visa and MasterCard begin reducing their interchange fees to comply with the new RBA rules.

# Understanding Interchange

## Interchange Timeline

### UK Office of Fair Trading

September 2000: The British Retail Consortium files a complaint with the OFT, arguing that Visa and MasterCard's interchange fees are excessive.

February 2003: The OFT issues a preliminary report concluding, "that an agreement between MasterCard's UK members on a common fee charged on transactions made in the UK by credit and charge cards infringes the Competition Act 1998."

May 2003: The OFT releases another report on competition issues for payment systems in the UK. In it, the OFT states that it expects to conclude and publish its findings in the Competition Act investigation of MasterCard sometime in the summer of 2003.

### European Commission (Visa)

January 1977: Visa International notifies the European Commission of its rules and regulations and applies for an exemption from certain European competition laws.

April 1985: Visa is granted a comfort letter by the European Commission.

December 1992: Following a complaint by the British Retail Consortium, the European Commission withdraws its comfort letter after reopening its investigation into Visa's interchange fees in Europe.

May 1997: EuroCommerce, a retail and wholesale trade group, files a complaint over Visa's interchange fees.

October 2000: The European Commission reaches a preliminary determination that Visa's interchange fee violated European competition laws against collective price setting.

August 2001: The European Commission announces its intention, in light of modifications proposed by Visa, to adopt a favorable position regarding Visa's interchange fee.

July 2002: The European Commission issues its decision to exempt Visa's interchange fees under European competition laws. The Commission announces Visa's agreement to lower its interchange fees, rely on certain cost-based benchmarks for determining its interchange fees, and allow members to provide information on Visa's interchange fees to retailers.

### European Commission (MasterCard)

October 2003: The European Commission announces that it sent a confidential statement of objections to MasterCard citing concerns about the association's interchange fee levels and lack of transparency in pricing.

# Understanding Interchange

## What is an Interchange Fee

One important issue the cooperatives have to resolve is how to sort out payments among member banks. What if a customer uses a MasterCard issued by a California bank to pay a retailer that has signed on with a New York bank? Without some agreement, the New York bank has no confidence that it will be reimbursed for the transaction made by the California bank's cardholder. Thus, there must be some agreement in advance. But what should the terms be? Should the New York bank turn over the entire fee it receives from the merchant? Or does it keep some for itself - after all, it played a role in the transaction?

To address these issues, the cooperatives instituted an "interchange fee." A retailer's bank can charge its retailers whatever it wants, just as the cardholder's bank can charge its cardholders whatever it wants, but the retailer's bank has to pay the cardholder's bank an interchange fee set by the cooperative. This arrangement dramatically reduced uncertainty in the industry and provided incentives for banks to compete for both cardholders and merchants.

## Discount rates and Interchange Fees

Your standard monthly fee for credit card processing services is called a discount rate. The merchant discount is calculated as a percentage of merchant sales volume deposited during the month.

### Fixed Discount Rate

Most merchants are assessed a fixed discount rate, which is a fixed percentage of total sales. A fixed discount rate is based on your chosen processing method, your average sale and your average monthly volume.

### Interchange Fees

Your discount rate includes what are called "qualified" interchange fees. These fees are established by MasterCard® and Visa®, and constitute the majority of the processing expense reflected in your discount rate.

### Three Categories of Interchange Fees

Qualified -- Transactions that meet all required processing criteria; these are assessed the lowest interchange fees and are included in your discount rate

Partially Qualified -- Transactions that do not meet certain processing criteria

Non Qualified -- Transactions that do not meet additional processing criteria

# Understanding Interchange

## **Interchange Fees Total over US\$34 billion per year**

Interchange fees on card transactions amount to over US\$34 billion per year worldwide, around US\$26.5 billion for card payments at merchants and over US\$7.9 billion for ATM cash withdrawals. This massive transfer of funds between banks and other financial institutions has an important impact on the cards business, merchants and consumers.

Interchange fees account for up to 90% of issuers' card-related income on consumer debit and commercial cards, up to 35% of issuers' income on credit cards and up to 95% of acquirers' costs of accepting and processing point of sale transactions. Interchange fees in the United Kingdom total over £1 billion per year: on average they represent around 75% of the merchant service charges that are paid by UK merchants to their acquirers for credit card transactions.

## **Interchange Fees Are Coming Under Ever Increasing Scrutiny**

Interchange fees are currently under investigation by authorities in Australia, the European Union, the United Kingdom and the United States. Although regulatory and competition authorities have not yet forbidden interchange fees, the rationale for interchange and the level of fees are coming under increasing scrutiny.

Any changes to current interchange fee arrangements would have a dramatic impact on the profitability and strategies of different parts of the card business, as well as on the charges that are paid by merchants and consumers for the acceptance and use of payment cards.

## Understanding Interchange

### Visa USA Consumer Debit Interchange Rates Effective January 31, 2004

Visa Interchange Item	Pre-Settlement Rate	New Rate*
CPS/Retail Debit – Performance Threshold I	1.25% + 0.10	0.70% + 0.15
CPS/Retail Debit – Performance Threshold II	1.25% + 0.10	0.83% + 0.15
CPS/Retail Debit – Performance Threshold III	1.25% + 0.10	0.95% + 0.15
CPS/Retail Debit – All Other	1.25% + 0.10	1.05% + 0.15
CPS/Supermarket Debit – Performance Threshold I	\$0.40	0.70% + 0.15 (0.35 max)
CPS/Supermarket Debit – Performance Threshold II	\$0.40	0.83% + 0.15 (0.35 max)
CPS/Supermarket Debit – Performance Threshold III	\$0.40	0.95% + 0.15 (0.35 max)
CPS/Supermarket Debit – All Other	\$0.40	1.05% + 0.15 (0.35 max)
CPS/Retail 2 Debit	1.43% + 0.05	0.80% + 0.25
CPS/Retail Key Entry Debit	1.80% + 0.10	1.60% + 0.15
CPS/Card Not Present Debit	1.80% + 0.10	1.60% + 0.15
CPS/Retail Service Station, Debit	1.25% + 0.10/1.39% + 0.10	0.70% + 0.17
CPS/Automated Fuel Dispenser Debit	1.50% + 0.05	0.70% + 0.17
CPS/e-Commerce – Basic, Debit		1.80% + 0.10 1.60% + 0.15
CPS/e-Commerce – Preferred, Debit	1.80% + 0.10	1.55% + 0.15
CPS/Hotel and Car Rental Card Not Present, Debit		1.58% + 0.10 1.36% + 0.15
CPS/Hotel and Car Rental Card Present, Debit	1.58% + 0.10	1.36% + 0.15
CPS/e-Commerce Preferred – Hotel and Car Rental, Debit	1.58% + 0.10	1.36% + 0.15
CPS/Passenger Transport, Debit	1.70% + 0.05	1.60% + 0.15
CPS/e-Commerce Preferred – Passenger Transport, Debit	1.70% + 0.05	1.60% + 0.15
CPS/Small-Ticket, Debit	N/A	1.60% + 0.04
CPS/Restaurant, Debit	1.25% + 0.10/1.39% + 0.10	1.19% + 0.10
CPS/Account Funding Debit	2.00% + 0.10	1.75% + 0.20
Express Payment Service, Debit	2.00% + 0.02	1.95% + 0.02
EIRF, Debit	2.14% + 0.10	1.75% + 0.20
Standard, Debit		2.49% + 0.10 1.90% + 0.25
New Fee Program Name New Rate		
Credit Voucher – MOTO and e-Commerce, Consumer Debit	1.87%	
Credit Voucher – Non-Passenger Transport, Consumer Debit	1.31%	
Credit Voucher – Passenger Transport, All Card Types	1.94%	

## Understanding Interchange

### Mastercard Consumer Debit Interchange Rates Effective January 31, 2004

Visa Interchange Item	Pre-Settlement Rate	New Rate*Convenience
Purchases (23)	1.80% + 0.00	Eliminated
Small Ticket (25)	N/A	1.60% + 0.04
Petroleum – CAT/AFD (27)	N/A	0.70% + 0.17
Petroleum – Service Stations (28)	N/A	0.70% + 0.17
Merit III – Tier 1 (10)	N/A	0.70% + 0.15
Merit III – Tier 2 (11)	N/A	0.83% + 0.15
Merit III – Tier 3 (12)	N/A	0.95% + 0.15
Merit III – Base (70, 80)	1.40% + 0.10	1.05% + 0.15
Supermarket – Tier 1 (13)	N/A	0.70% + 0.15 (0.35 max)
Supermarket – Tier 2 (14)	N/A	0.83% + 0.15 (0.35 max)
Supermarket – Tier 3 (15)	N/A	0.95% + 0.15 (0.35 max)
Supermarket – Base (71, 81)	1.20% + 0.00	1.05% + 0.15 (0.35 max)
Warehouse Club – Tier 1 (16)	N/A	0.70% + 0.15 (0.35 max)
Warehouse Club – Tier 2 (17)	N/A	0.83% + 0.15 (0.35 max)
Warehouse Club – Tier 3 (18)	N/A	0.95% + 0.15 (0.35 max)
Warehouse Club – Base (91)	1.10% + 0.00	1.05% + 0.15 (0.35 max)
Consumer Standard (75, 85, 95)	2.65% + 0.10	1.90% + 0.25
Merit I (78, 88, 98)	1.90% + 0.10	1.64% + 0.16
Key-Entered (92)	1.80% + 0.10	1.64% + 0.16
Passenger Transport (93)	1.70% + 0.10	1.60% + 0.15
Restaurant (26) N/A	1.19% + 0.10	
Travel Industries Premier Service (97)	1.58% + 0.10	1.36% + 0.15
Public Sector (22)	1.50% + 0.10	Eliminated
Service Industries (90)	1.15% + 0.05	1.15% + 0.05
Emerging Markets (29)	N/A	0.80% + 0.25
Payment Transaction (20)	0.19% + 0.53	0.19% + 0.53

# Understanding Interchange

## Visa Interchange Item Definitions

### **CPS/Retail (Credit or Debit) Program Qualification**

In a CPS/Retail transaction, the card, the cardholder, the merchant, and the terminal are all present. The magnetic stripe or chip is read, the authorization request is approved, the receipt is signed, and the cardholder's signature is verified.

### **CPS/Restaurant (Credit or Debit) Program Qualification**

In a CPS/Restaurant transaction, the card, cardholder, merchant, and terminal are all present. The magnetic stripe or chip is read, the authorization request is approved, the receipt is signed, and the cardholder's signature is verified.

### **CPS/Supermarket (Credit or Debit) Program Qualification**

In a CPS/Supermarket transaction, the card, cardholder, merchant, and terminal are all present. The credit or debit card is presented, the magnetic stripe or chip is read, the authorization request is approved, the receipt is signed, and the cardholder's signature is verified.

### **CPS/Retail Service Station (Credit or Debit) Program Qualification**

In a CPS/Retail Service Station transaction, the card, cardholder, merchant, and terminal are all present. The magnetic stripe or chip is read, the authorization request is approved, the receipt is signed, and the cardholder's signature is verified.

### **CPS/Small-Ticket (Credit or Debit) Program Qualification**

In a CPS/Small-Ticket transaction, the cardholder and card are present at the merchant location. The magnetic stripe or chip is read, and the authorization request is approved. Signature is not required, and a receipt is required only upon cardholder request.

### **CPS/Retail Key Entry Program Qualification**

In a CPS/Retail Key Entry transaction, the card, cardholder, merchant, and terminal are all present. The magnetic stripe cannot be read, the authorization request is approved, the receipt is signed, and the cardholder's signature is verified.

### **CPS/Card Not Present (Credit or Debit) Program Qualification**

In a CPS/Card Not Present transaction, the card and the cardholder are not at the merchant location. The magnetic stripe or chip cannot be read, the authorization request is approved, the receipt is not signed, and the cardholder's address may need to be verified.

### **CPS/Account Funding (Credit or Debit) Program Qualification**

In an account funding transaction, the card and the cardholder are not at the merchant location and the cardholder is funding a host-based pre-paid product, a brokerage account, or escrow account with a Visa product in a secure Internet environment. The magnetic stripe cannot be read or the chip is not required to be read.

# Understanding Interchange

## Visa Interchange Item Definitions

### **CPS/Electronic Commerce Preferred—Retail (Credit or Debit) Program Qualification**

In a CPS/Electronic Commerce Preferred—Retail transaction, the card and the cardholder are not at the merchant location and the transaction takes place in a secure Internet environment utilizing Verified by Visa. The magnetic stripe cannot be read or the chip is not required to be read, the authorization request is approved, and the receipt is not signed.

### **CPS/Retail 2 (Credit or Debit) Program Qualification**

In a CPS/Retail 2 transaction, multiple scenarios are possible, depending on the CPS program used to qualify the transaction. To qualify for the CPS/Retail 2 rate, a select developing market transaction is not required to perform AVS but it is required to meet the fee edit criteria.

### **CPS/Hotel and Car Rental—Card Present (Credit or Debit) Program Qualification**

To qualify for the CPS/Hotel and Car Rental—Card Present (Credit or Debit) program, a transaction must have the following characteristics: Hotel or Car Rental transactions are conducted in a face-to-face environment; Hotel stay or length of rental is one or more days; POS terminal application is equipped to provide data; Multiple authorizations allowed with industry-specific data; Signature must be obtained; and Transaction must clear in two days.

### **CPS/Electronic Commerce Preferred—Hotel and Car Rental (Credit or Debit) Program Qualification**

In a CPS/Electronic Commerce Preferred—Hotel and Car Rental (Credit or Debit) transaction, the card and the cardholder are not at the merchant location and the transaction takes place in a secure Internet environment utilizing Verified by Visa. The magnetic stripe cannot be read or the chip is not required to be read, the authorization request is approved, and the receipt is not signed.

### **CPS/Electronic Commerce Preferred—Passenger Transport (Credit or Debit) Program Qualification**

In a CPS/Electronic Commerce Preferred—Passenger Transport (Credit or Debit) transaction, the card and the cardholder are not at the merchant location and the transaction takes place in a secure Internet environment utilizing Verified by Visa. The magnetic stripe cannot be read or the chip is not required to be read, the authorization request is approved, and the receipt is not signed.

**EQUIPMENT LEASING  
BENEFITS AND GUIDELINES**

# Understanding Interchange

## Equipment Leasing

Where can I find out about the latest equipment and equipment vendors?

Since 1998 our GSQ has published an annual report on the equipment market. Focusing on vendor profiles, technology trends and equipment benchmarking, these reports have revolutionized the industry. Check out all of our equipment reports in the GSQ archive: [www.greensheet.com/gsq](http://www.greensheet.com/gsq)

How does leasing work?

Leasing, simply put, is a three-party understanding among the leasing company, the Merchant Level Salesperson and the merchant. The leasing company agrees to pay the MLS or its up-stream acquirer, who pays the MLS immediately upon installation of the equipment at the merchant's point-of-sale.

In exchange for this payment, the merchant agrees to pay the leasing company a mutually agreed upon monthly payment over an extended period of time (one, two, three and four years). The leasing company is, in effect, granting a loan to the merchant. The leasing company pays a lump sum to the Merchant Level Salesperson that covers the costs of the equipment, marketing fees, installation fees and sales commissions.

What are the advantages of leasing for the merchant?

Rather than spend a larger lump-sum payment for equipment, it becomes a much more economically sound investment to lease the equipment for a much smaller monthly fee and use the cash savings to invest in inventory, advertising or anything that helps make the profit greater.

What are the advantages of leasing for the Merchant Level Salesperson?

There are three advantages:

1. Allowing the merchant to spread out small, monthly payments over an extended period of time through leasing enables the sales rep to upgrade the merchant's equipment from a cheaper model with a smaller commission to a state-of-the-art, more expensive model with a higher commission.
2. Allowing the merchant to spread out small payments over an extended period of time allows the sales rep to set the commission rate.
3. Upon verification of the installation of the equipment, the sales rep gets paid in full by the leasing company.

What are the most significant trends in equipment?

The key factors are reliability, customer service and ease of use. The major challenge for equipment manufacturers is building a box that incorporates new features such as smart cards, wireless, biometrics and IrDM while also keeping it functional.

What is the factor rate?

The factor rate is a monetary conversion table. This table allows the MLS to calculate monthly payments spread over the term of a given lease, for a specific dollar amount. The conversion affords

## Understanding Interchange

### Equipment Leasing

the MLS the ability to calculate base costs, sales expenses and marketing fees to create a value for the product or service. Then, using the factor rate, the MLS can convert these costs into the merchant's monthly fee and thereby project the commission.

Assume the term of the lease is 48 months and the factor rate is .0300:

1. If the ISO wishes to receive \$1,200, then to arrive at the merchant's monthly payment, simply multiply \$1,200 times the .0300 factor rate to arrive at \$36 – the \$36 being the merchant's base monthly payment.
2. Conversely, if the merchant can afford to pay only \$30 per month and the MLS needs to calculate the gross commission (which covers equipment, installation and profit) he or she would receive for the lease, simply divide \$30 by the .0300 factor rate to arrive at \$1,000. In this example, the MLS receives \$200 less.

Most leasing companies in our industry accept a "range" of prices for the different types of equipment. This enables the MLS to predetermine commission based upon what the market can bear.

I am considering becoming a distributor of POS terminals, software and supplies. Is it realistic of me to enter this field considering the competition of the mega-distributors?

With all of the distribution advancements and growth in recent years, it would be very difficult to compete with the mega-distributors.

**HISTORY OF THE BANKCARD  
PROCESSING INDUSTRY**

# Understanding Interchange

## History of Credit Card Processing - General Overview

### Payment Cards

Almost all significant financial institutions issue them. Most adults have one or more. Some kids now have them, too. It's hard to find a store that does not accept them. In 2001, general-purpose payment cards were responsible for over 30 percent of all personal consumption expenditures in the U.S., amounting to slightly over \$1,500 billion in sales or twice the GDP of Canada. In the U.S., alone, there are over 825 million payment cards issued by thousands of financial institutions and accepted by over four million retailers.

Payment cards have evolved to serve numerous purposes. There are charge cards, credit cards, debit cards, and prepaid cards. Need to make a purchase? Put it on your charge card and pay in 30 days. Or use your credit card to delay payment even longer. Or deduct the money directly from your checking account with your debit card. And for those who don't have a checking account, some employers will download your paycheck into a prepaid card that you can use to pay. How is it that payment cards have developed into such a gigantic industry?

### Payment Strides

Although payment cards originated with department store charge cards in the 1920s, the first general-purpose payment card was not introduced until 1950 when Francis McNamara pioneered the general-purpose charge card. The Diners Club card enabled diners to charge their tab at any one of several participating restaurants in Manhattan. It soon went national and beyond restaurants. Encouraged by Diners Club's success, American Express introduced its own charge card in 1958. In the same year, Joseph Williams at Bank of America began offering a credit card, called BankAmericard, giving qualified customers the option of carrying balances for purchases made over an extended period of time. But it was not until 1966 that another associate at Bank of America, Kenneth Larkin, suggested the bank begin franchising its cards to other states, taking the bank card national. Shortly thereafter, Karl Hinke and Dee Hock, as the leaders behind what became MasterCard and Visa, introduced the idea of a national bankcard system.

The 1970s and '80s saw numerous innovations in the payment card industry. Among them was the introduction of debit cards. While the use of debit cards to make purchases did not really take off until the 1990s, Visa and MasterCard were offering their customers debit cards by the mid-1970s. For Visa and MasterCard's debit cards, cardholders signed a receipt at the point-of-sale (known as signature debit or off-line debit) just as with any other Visa or MasterCard transaction. With the increased popularity of ATMs (Automated Teller Machines) in the 1980s, ATM systems began offering cardholders the ability to use ATM cards for payment at retailers by entering a PIN at the point-of-sale (known as a PIN debit or on-line debit) just as they did with ATM withdrawals.

Each of these payment innovations allowed retailers and customers to exchange value without resorting to checks or cash. In addition, it democratized the availability of credit, which hitherto had been restricted to an elite few, and the use of payment cards generally.

### Payment Solutions

Most of the payment card innovations did not occur easily. Early on, payment card contemporaries like McNamara realized that in order to succeed, they had to overcome a fundamental industry

# Understanding Interchange

## History of Credit Card Processing - General Overview

obstacle: convincing customers to carry their cards and merchants to accept them. Seemingly simple, the problem was that customers would only carry the card if many retailers accepted them, while retailers would only accept the card if many customers carried them. In an effort to overcome this classic “chicken-and-egg” problem, payment card firms learned how to set customers’ and retailers’ prices carefully so that both groups had adequate incentives to participate.

One solution to the chicken-and-egg problem was to find ways to acquire an attractive base of the business to sell to the other side. For example, as American Express was starting its card program, even before the first transaction it had already acquired a cardholder base of 150,000 from a hotel card program (as well as the program’s 4,500 hotels for its merchant base) and another 40,000 cardholders from Gourmet magazine’s card program. It thus instantly had a cardholder base to sell to merchants. Of course, as with all business efforts to solve a chicken-and-egg problem, this process was iterative: a little chicken and a few eggs get more chickens and more eggs.

Another problem faced by the bankcard issuers was how to develop a national card program. Regulation restricted banking operations to, at most, a particular state. Since cardholders often came from depositors and since one of the goals was to cross-sell banking services to merchants that signed up for the card program, it was difficult for a bank to expand its card program by itself. The solution reached by the banks in the mid to late 1960s resulted in the establishment of two umbrella organizations, “cooperatives” of financial institutions.

The cooperatives were based on the idea that issuing institutions could cooperate and compete—sometimes referred to as “co-opetition.” Members of the cooperative, banks at first, issued cards, or entered into arrangements with merchants to take cards, or did both. Cards issued by members of the cooperative could be used at all the merchants serviced by member of the cooperative and vice versa. However, member banks each set their own rates and fees to cardholders and merchants. By doing so, financial institutions could cooperate in areas that generated efficiencies — such as technologies necessary to process transactions — and compete on everything else — such as prices and offerings.

This co-opetition model allowed financial institutions to establish a national network of retailers and cardholders. It also brought the benefits of competition to cardholders and merchants, especially given the open membership policies of the two cooperatives. By 1980, these cooperatives had become the well-known organizations, Visa and MasterCard.

# Understanding Interchange

## Historical Timeline

### How It All Began

Today, payment cards are ubiquitous. But that was not always the case. Although the concept of “buy now, pay later” dates back to Biblical times, it was not until the 1920s that charge cards were first introduced. Department stores allowed their best customers to make purchases by presenting a metal payment card, called the Shopper’s Plate, while oil companies issued “courtesy cards” for gas payments. These cards had their limitations. Retailers only accepted their own cards and cards could not be used at more than one establishment.

### Eat Now, Pay Later

The first general purpose payment card appeared in 1950. As the story goes, businessman Francis McNamara was frequenting one of his favorite restaurants when the bill came and he didn’t have enough cash on hand to pay it. A few months later, McNamara returned to the restaurant. This time he paid with a plastic card called Diners Club, a charge card which diners could use at any one of several participating restaurants in Manhattan. By 1955, Diners Club had reached 200,000 consumers and was accepted by retailers across the U.S. and Europe, not to mention countries like Australia, Egypt, and Iraq. Diners Club’s popularity prompted American Express and Carte Blanche to introduce their own charge cards in 1958.

### “Charge or Credit?”

Up until now, most banks had been reluctant to grant unsecured credit to anyone other than their wealthiest customers. But spurred by the success of the charge card, Chase Manhattan Bank and Bank of America introduced the credit card in 1958. Over time, Bank of America’s card, BankAmericard, was offered to customers and retailers throughout California. By 1966, Bank of America had signed up nearly two million cardholders and over 60,000 merchants. In an attempt to expand the card nationally, Bank of America recruited other banks to issue and acquire for BankAmericard. But the franchise system, called BankAmerica Service Corporation, ran into difficulties — there were substantial operational problems and franchisees did not fully trust Bank of America to watch out for their best interests.

### Getting Both Sides on Board

By the early 1960s, the payment card industry had expanded considerably. But every firm that entered the industry quickly encountered the same fundamental problem: a successful payment card needed both customers to use the card and retailers to accept the card, but customers wouldn’t want the card unless there were enough retailers and retailers wouldn’t accept the card unless there were enough cardholders. It was the classic chicken-and-egg problem. Payment card firms used innovative tactics to get both customers and retailers on board. Diners Club, for example, gave the charge card away to diners for free. Once an attractive customer base was established, the card was offered to restaurants in exchange for seven percent of each tab charged to the card. The restaurants paid the fee because Diners Club had so many cardholders that by accepting the card, they attracted more diners. Several years later, after a solid restaurant base was established, cardholders were charged an annual membership fee.

# Understanding Interchange

## Historical Timeline

Cooperation + Competition = Co-opetition

While BankAmericard built its franchise, another handful of banks, led by Karl Hinke, formed the Interbank Card Association in 1966. The idea was that financial institutions could compete under an umbrella organization that managed the transactions. The organization, or cooperative, would oversee the accounting systems and credits or debits to cardholder accounts but members would set their own prices to customers and retailers. Interbank charged member banks a small annual fee, and in exchange, the banks could issue the bank card adopted by the cooperative. Members also elected a board of directors to oversee the management of Interbank.

In 1970, under the leadership of Dee Hock, members of BankAmericard abandoned their franchise system and also adopted the model of “co-opetition” — cooperation plus competition. Members cooperated in areas that generate efficiencies for consumers and merchants — like sharing the operation of the vast computer networks that manage transactions — and competed in every other dimension — interest rates, fees, and customer services. By 1980, the two cooperatives had changed their names to MasterCard and Visa.

## Interchange Fees

With the introduction of the cooperative, the one issue in need of a resolution was how to sort out payments among member banks. What if a customer uses a Master Charge card issued by a California bank to pay a retailer that has signed on with a New York bank? Without some agreement, the New York bank has no confidence that it will be reimbursed for the transaction made by the California bank’s cardholder. Thus, there must be some agreement in advance. But what should the terms be? Should the New York bank turn over the entire fee it receives from the merchant? Or does it keep some for itself — after all, it played a role in the transaction?

To address these issues, the cooperatives instituted an “interchange fee.” A retailer’s bank could charge its retailers whatever it wanted, just as the cardholder’s bank could charge its cardholders whatever it wanted, but the retailer’s bank had to pay the cardholder’s bank a fee set by the cooperative. This arrangement dramatically reduced uncertainty in the industry and provided incentives for banks to compete for both cardholders and merchants.

## BASEline Support

In early to mid 1970s, payment card firms began to pursue computer systems that could automate both the authorization of transactions and bookkeeping among member banks. With the help of computer manufacturer Digital Equipment Corporation, Visa built BASE-I. BASE-I could transmit a retailer’s authorization request over phone lines to a cardholder’s bank. The speed of transactions rose dramatically. An exchange that previously took four minutes, BASE-I completed in forty seconds. BASE-I cost Visa \$10 million to build and saved member banks an estimated \$100 million in fraud prevention in its first year of operation alone. Shortly thereafter, Visa followed up with BASE-II that computerized the entire interchange system that had previously required charge slips to be shipped back to the issuer.

# Understanding Interchange

## Historical Timeline

### Duality

Until 1976, Visa and MasterCard were separate organizations. Member banks of one could not belong to the other. In 1971, one of Visa's member banks launched a lawsuit against the cooperative when Visa would not allow it to acquire Master Charge cards and still remain a Visa member. Although Visa maintained its exclusivity rule in settling that lawsuit, it was concerned with the prospect of further litigation and turned to the Department of Justice for help. But the U.S. antitrust agency was not supportive so Visa allowed its members to join MasterCard in 1976. What followed Visa's decision was a rush by member banks of each cooperative to join the other. The overlap of membership in the two cooperatives became known as "duality."

### Bad Credit

At the end of the 1970s and into the early 80s, the economy hit a standstill. The slowdown had huge implications for the payment card industry. High inflation and severe increases in interest rates significantly raised the cost of lending to issuers. At the same time, poor economic conditions affected cardholders as well. High unemployment rates meant more cardholder defaults and fewer bills paid on time. Several payment card firms admitted financial losses. It was not until the mid 1980s that the payment card industry, encouraged by economic recovery and revitalized by major changes in industry regulation, began to pick up again.

A particularly big boost came from a court decision in 1978. Many states had placed caps on interest charges — but with high inflation financial institutions had a hard time making money. The Marquette decision allowed banks to get around these caps by issuing cards in states that didn't have caps or had high ones. Cap-less states like Delaware and South Dakota became the home of some important issuers.

### From Paper to Electronic

Londoners will tell you that the first magnetic stripes appeared as early as the 1960s on London Underground cards. Cards with magnetic stripes could store small amounts of cardholder data magnetically. Clearly the capability to retain cardholder information on a card had important implications for the payment card industry, but magnetic stripes, dubbed magstripes, didn't catch on in the industry until several years later. In the 1970s, transactions were still paper-based. In the early 1980s, the card systems in the U.S. developed electronic terminals to accept magnetic stripe cards and reached an agreement to use the same standards for these cards and terminals. Following a major effort by the card systems to promote and provide incentives for merchants to install terminals, almost all card transactions in the U.S. card system are now electronic.

# Understanding Interchange

## Digital Directions

### Paper, Plastic or Electrons?

You're at a restaurant and you're short of cash. Rather than reaching for a credit card, you access your on-line savings account using your PDA and transfer \$35 into your checking account. The bill comes and you pay it with your debit card, confident that the money you transferred just minutes ago will be there in time to cover the shortfall.

It's payday and your pay envelope has just arrived. But instead of a paycheck or direct deposit advice, the envelope contains a plastic card that looks and operates just like a payment card. This card is different, though. It is a prepaid card, programmed in the amount of your paycheck. Accepted everywhere a credit or debit card is, it allows you to do anything you would ordinarily do with a payment card, up to the amount of the value programmed on the card, which will get replenished on your next payday.

You're shopping and it's time to check out. Taking your purchases to the register, you tap your wallet containing a smart card onto a card reader, never removing the card from your wallet. Within seconds, your identity is verified and the amount of your purchase is automatically deducted from the value stored on your card. At home later, you plug a smart card portal into your laptop and replenish your card's value via your bank account over the Internet.

While not yet commonplace, each of these scenes is an example of an electronic payment system in place today.

The last 4,000 years have seen an amazing evolution in the exchange of value. Once the domain of tangible assets like seashells and coins, the world is moving quickly towards a system dominated by electrons. Although we may be decades away from a truly "paperless" currency world, we are headed in that direction. Over the last 5 years, the percentage of all consumer spending paid for with payment cards has increased by almost 32 percent. At the same time, the percentage of spending using cash and checks declined by over 10 percent.

While predicting the future is always difficult, it is easy to forecast the continued popularity of payment cards and the increased popularity of prepaid cards. They are easy to use, widely accepted, and lower the risk of fraud for merchants and the risk of theft for consumers. But how close are we to a world dominated by smart cards that use retinal scanners to verify our identity, have microchips to keep track of and remind us of past purchases, and have online refill capabilities?

From a technology perspective, we're probably able to deliver that today, but technological capability alone is not enough. Smart cards in some fashion have been around in the U.S. for ten or more years, with limited acceptance. At the root of widespread use is a cost-value trade off. People have to want to use a new system, and merchants need incentives to invest in the equipment necessary to accept them. That is the challenge facing any firm in this two-sided industry. With high quality processing equipment, a stable telecommunications infrastructure, and reliable authorization procedures, the existing system of electronic payments in the U.S. is already fast, efficient and cost effective. In countries that cannot make that claim, and for transactions not already tied into efficient payment card networks, smart cards have made more headway.

# Understanding Interchange

## Digital Directions

The move beyond smart cards will require a similar value-cost comparison. The difficulty in moving beyond the kinds of payment methods popular today is illustrated by online payments. While radical, new currency schemes were tried in the early days of the Internet. Today's successful on-line payment methods are linked to well-established off-line systems, such as PayPal's reliance on checking accounts and credit cards. At least in the U.S., where there is little reason to alter the current efficient system dramatically, the move to the next step on the currency exchange evolutionary path is likely to be slow in coming.

## Industry Characteristics

A key feature of the payment card industry is that it operates in a "two-sided" market. Establishing networks of charge, credit, debit, and other types of payment cards requires wooing both consumers to carry the cards and merchants to accept those cards. Getting the right mix of those two types of customers can be difficult. As a result, two-sided market platforms generally offer differing prices to each side. In the payment card industry, it has been the merchant that provides the bulk of the revenue, while consumers typically pay relatively low fees.

Solving these pricing and cost issues and getting past the chicken-and-egg dilemma of establishing both sides of the market simultaneously has led to two different organizational structures in the U.S. payment card industry. A proprietary network, such as American Express, handles all card issuance and merchant signing by itself. The Visa and MasterCard cooperatives, on the other hand, handle only centralized activities such as running the network and brand advertising, leaving individual member banks to issue cards or sign-up merchants. The cooperative structure has been referred to as "co-opetition" because it combines cooperation in a handful of areas, such as technology and transaction processing, with competition for all other areas.

One result of the co-opetition model is stiff competition among banks for consumers and merchants. Essentially any bank can join the Visa and MasterCard systems, gaining access to the successful brands and infrastructures at a low cost. As a result, issuers include not only major national depository banks such as Citibank and Bank of America, but also small local banks and credit unions. Nor is being a traditional bank a prerequisite — major issuers include specialist card banks such as MBNA and Capital One, as well as nonfinancial firms such as GM and GE. Competition among these issuers has, in turn, significantly broadened the availability of payment cards and lines of credit for consumers ? even those with relatively lower incomes.

# Understanding Interchange

## Around The World

The payment card industry extends far beyond the United States. In 2001, consumers worldwide charged almost \$3.7 trillion on their payment cards. The U.S. accounted for only half of that total. MasterCard (also known as Europay in Europe) and Visa accounted for almost 85 percent of the global purchase volume. American Express accounted for more than 12 percent, while JCB (a Japan-based card) and Diners Club each contributed about 1.5 percent. And while Discover is a major brand in America, it is essentially unknown outside of the United States.

Though card use is common globally, the proportions of credit and debit vary across regions. For instance, payment card use is frequent in most western European nations, but credit cards are still uncommon there compared to the United States (where 71 percent of general purpose cards are credit and only 29 percent are debit).

In Europe, debit cards are more popular. Of the almost 34 million payment cards circulating in France in 2000, nearly all were debit cards. The prominence of debit holds true for most other European countries, except for the United Kingdom, Ireland, and Turkey, which together account for about half of Europe's credit cards.

Another difference among countries is the use of smart cards versus magnetic stripe cards. To date, smart payment cards have been used primarily to allow the cardholder to authenticate herself by entering a PIN that is checked against the PIN encrypted on the card. This was the motivation for the French, confronted with substantial fraud problems in the late 1980s, to move to smart cards.

The card associations in the U.S. had dealt with card fraud by promoting (and creating incentives for) installation of electronic terminals that would authorize virtually all transactions by connecting to the issuer. The U.S. approach was not an attractive option in France because telecommunications were costly and unreliable, making it infeasible to authorize all purchases centrally.

## FEATURED STAT

**In 2001, Americans spent \$5.5 trillion (2002 USD) on personal consumption of goods and services: 48% were made with checks, 20% with cash, and 32% with payment cards.**

# Understanding Interchange

## Stats and Facts

### Advertising and Marketing

American Express's card share had been roughly steady at just over 25% during the early 1980s. Since the "It's Everywhere You Want to Be" and "And They Don't Take American Express" Visa advertisements started airing in 1985, the American Express charge card share has fallen steadily.

Between 1985 and 1996, American Express saw the share for its charge card gross volume drop from 24% to 16%. Consumer survey evidence suggests that this loss was partly attributable to the Visa advertisements. By 2001, American Express had recovered slightly to 17 percent of credit and charge card gross volume, although its overall share of payment cards was lower because of the recent growth in debit volume.

In 2001 Visa spent \$252 million on advertising; MasterCard, \$197 million; American Express, \$221 million; and Discover, \$82 million. In 2001 Capital One outspent all other bankcard issuers with advertising expenditures of almost \$170 million.

In 2001, 5 billion credit card offers were mailed to U.S. consumers. At the beginning of 2001, mail offers of platinum cards accounted for 81% of all mail solicitations of cards.

Sources: Paying with Plastic, 1999, pp. 186-187. "Card Industry Directory: 2002 Edition," Thompson Financial Media, 2001, p. 16; "Card Industry Directory: 2003 Edition," Thompson Financial Media, 2002, p. 14; Mark Schumann, "The 2002 Ad Age Megaband Report," Adage.com, July 24, 2002; W.A. Lee, "Poll: Lower Rates, Fewer Zero-Interest Offers," American Banker, July 9, 2002; and, Andrew Davidson, "One Man's Platinum Journey," Credit Card Management, September 2002.

### American Express Card

The American Express Green Card is the predominant charge card. The typical customer pays an annual fee of \$65 plus \$30 for each additional card for other family members. For account balances that are more than sixty days late, the customer pays at least \$30 and a total amount up to 2.9% of the balances. In 1987, American Express launched the Optima card, its first credit card. In 1999, American Express launched its smart card Blue and issued 2.2 million of them in its first 14 months. American Express encountered years of stagnant or declining growth during the 1990s until it started recovering toward the end of the decade. In 2001, American Express cards accounted for 14.8% of the transaction volume on all general-purpose payment cards.

Net profits at American Express Travel Related Services (TRS), the division of American Express that controls its card operations, as well as travelers cheques and the travel, merchant, and network businesses, increased from \$1.27 billion in 1995 to \$1.99 billion in 2000, an average annual growth of nearly 7.3% from 1995 to 2000, but dropped recently to 1.47 billion in 2001. (2002 USD)

### American Express Merchant Locations

At its inception in 1958, American Express had 17,500 merchant locations. By 1962 it had more than 80,000. By 1977 American Express had 6.3 million cardholders in the U.S. who generated \$20 billion in charge volume. The number of merchants that accept American Express cards more than doubled between 1995 and 2001, compared to only 48% for Visa and MasterCard. In 2001,

# Understanding Interchange

## Stats and Facts

American Express had 3.1 million merchant outlets.

Sources: *Paying with Plastic*, 1999, pp. 181-82; and *The Nilson Report*, No. 640, March 1997, No. 756, January 2002 and No. 760, March 2002.

## American Households & Payment Cards

About 73 percent of American households had at least one credit card in 2001. At the start of the 1960s, only 7 percent of households had either a credit or a charge card. Overall, between 1970 and 2001, the percentage of households with credit cards more than quadrupled: from about 16 percent to almost 73 percent.

By reducing the need for cash balances, general purpose charge and credit cards provide a benefit to consumers...On average, each of the households with credit cards reduced its checking account balances by 3.8 percentage points (as a percentage of total financial assets)...For households with credit cards (with median total financial assets of \$42,583), this 3.8 percentage point decrease translates to roughly \$125.2 billion in reduced checking account balances. With an average interest rate of 3.84 percent in 2001, they would have earned accumulated interest of \$5.8 billion in that year.

## Availability and Growth of Credit

In 2001, consumers used their payment cards for \$1,525 billion (2002 USD) worth of payment card purchases.

Between 1982 and 2000, the total amount of consumer credit outstanding rose from \$663 billion to \$1,611 billion, and average consumer credit outstanding per household increased from \$7,886 to \$15,273. (All in 2002 USD.) In that time, overall consumer spending rose as well, from \$3.5 trillion (\$42,565 per household) in 1982 to \$7.1 trillion (\$67,639 per household) in 2000. (All in 2002 USD.) In 2001, Americans spent \$5.5 trillion (2002 USD) on personal consumption of goods and services: 48% were made with checks, 20% with cash, and 32% with payment cards. Back in 1984, only 6% of personal consumption spending was made on payment cards compared to 58% with checks and 36% with cash.

Between 1971 and 2001, the number of cards in circulation increased by more than 1,285%, the total dollar volume of credit card transactions increased by 4,500%, personal consumption expenditures increased by 180%, outstanding balances increased by 3,300% and total consumer credit outstanding increased by 215%.

Sources: Visa U.S.A.; *The Nilson Report*, Nos. 759 and 760, March 2002, and No. 777, December 2002; "The Use of Cash and Transaction Accounts by American Families," *Federal Reserve Bulletin*, February 1986; *Current Population Survey*, U.S. Census Bureau; 2000 *Economic Report of the President*, Tables B-16 and B-77; Visa U.S.A.; and "Consumer Credit Outstanding," *Federal Reserve Statistical Release*, Bureau of Economic Consulting, Department of Commerce, 2002.

# Understanding Interchange

## Stats and Facts

### Banks

In 2001 there were almost 20,000 banks in the U.S. - 69 for every million residents. Of these, 8,080 were commercial banks and 11,518 were credit unions and savings institutions. Commercial banks accounted for more than three quarters of U.S. bank assets in 2001. Between 1994 and 2001, due primarily to consolidations, the number of commercial banks declined by more than 22%.

In 1995, 84% of credit cards were issued to cardholders by banks that had no other relationship with the cardholder.

In 1997, the four largest commercial banks held only 15.6% of total commercial banking deposits (including foreign and domestic), while the largest four firms in the brewing industry accounted for 90%, 85% in the aircraft industry, and 99% in the cigarette industry.

Sources: "Statistics on Payment and Settlement Systems in Selected Countries," Bank for International Settlements, July 2002, pp. 145, 147; "Historical Statistics on Banking," FDIC, 2001 and 2002; "Statistics on Depository Institutions," FDIC, 2002; "2001 Year-end Statistics," National Credit Union Association, p. 7; Survey of Consumer Finances, U.S. Census Bureau, 1998; and "Concentration Ratios in Manufacturing," U.S. Census Bureau, 1997.

### Checks

On average, American consumers each write more than 125 checks per year, and they account for 48% of the dollar value of consumer payments for all goods and services. In 2001, checks were used for over 31% of the purchase volume of all supermarket and grocery store purchases. In 2001, 0.6% of all checks written (by consumers and businesses) were bad checks.

Sources: The Nilson Report, No. 761, April 2002 and No. 777, December 2002; U.S. Census Bureau; and Visa U.S.A., Payment Systems Panel Study.

### Credit v. Debit Around the World

Credit cards are the most common type of payment card in the U.S., but debit cards are the most common type of payment card in Europe. In France, virtually all payment cards are debit cards. In 2000, over 83% of general-purpose payment cards in Germany were debit cards. However, 49% of payment cards used in the U.K. were credit cards in that same year.

Sources: Lavonne Kuykendall, "Card Companies Sell Euro's Convenience," American Banker, January 9, 2002; and "Statistics on Payment and Settlement Systems in Selected Countries," Bank for International Settlements, July 2002, pp. 42, 134.

### Debit Cards

In 2001 there were an estimated 242 million debit cards, 29% of the total 826 million payment cards. Debit cards accounted for 24% of the purchase volume charged on MasterCard and Visa cards in 2001. Between 1996 and 2001, both debit card purchase volume and the number of transactions for PIN and signature debit increased by 38%.

# Understanding Interchange

## Stats and Facts

Sources: The Nilson Report, No. 640, March 1997 and Nos. 759 and 760, March 2002.

**Discover Card** The first Discover card was issued in 1985. By 1987, less than two years after its release, there were already 22 million Discover cards in circulation - more than Citicorp had accomplished after two decades - and \$5 billion in receivables, ranking Discover third among all credit and charge cards in the U.S. By 1991, Discover had captured 6% of all credit and charge card volume. In 2001, Discover cards accounted for 4.7% of the purchase volume on general-purpose payment cards and 6.3% of the purchase volume on credit and charge cards.

In 2001, Discover spent \$82 million on advertising.

Sources: Paying with Plastic, 1999, pp. 75, 194; The Nilson Report, No. 760, March 2002; and Mark Schumann, "The 2002 Ad Age Megaband Report," Adage.com, July 24, 2002.

## Finance Charges

MasterCard and Visa issuers generate a substantial amount of revenue from finance charges. An estimated 69% of issuer revenues come from finance charges. Citibank MasterCard customers, for example, do not pay an annual fee. But if they don't pay their bill in full, they pay an interest rate—annual percentage rate (APR) — of 9.79% of the remaining balance (as of September 1, 2002). If they are tardy in paying their bills, the APR can go up to 24.79% (as of September 1, 2002). If they use the card to get a cash advance, they pay 3% of the cash amount (but at least \$5).

Sources: James J. Daly, "A Little Help from Uncle Sam," Credit Card Management, May 2002; and "CitiBusiness Business Credit Cards," Citibank, available at <http://www.citibusiness.citicards.com/us/cards/cardserv/citibiz/index.htm>.

## Household Income and Payment Cards

In 1970, only 16% of households had credit cards and half of them were among the top 25% of households in terms of income. The median household income of households with at least one credit card was 47% higher than the median household income of households overall. In 1970, less than 2% of all low-income households (those in the lowest income quintile) owned credit cards.

In 1998, 68% of households had credit cards. Those who did not were on the economic fringes of society, although many more low-income households had cards than in 1970. Over 25% of all low-income households owned credit cards by the late 1990s. Approximately 70% of households without cards had incomes under \$28,000 (2002 USD), and more than 35% fell below the poverty line.

Sources: Paying with Plastic, 1999, p. 87; and Survey of Consumer Finances, U.S. Census Bureau, 1998.

## Household Usage: The Past Thirty Years

Between 1971 and 2001, the number of cards per household grew from 0.8 to 7.6, while the total number of cards increased from almost 55 million to over 825 million. From 1970 to 1998, the percentage of households with at least one credit card more than quadrupled, from only 16% to

# Understanding Interchange

## Stats and Facts

more than 68%.

In 1971, the volume of purchases made on payment cards per household was \$49 each month (2002 USD), about 2% of the median monthly household income. In 2001, the volume of purchases per household was \$1,163 each month (2002 USD), about 33% of the median monthly household income.

Sources: Visa U.S.A.; The Nilson Report, No. 756, January 2002, Nos. 759 and 760, March 2002; "The Trick is Managing Money," BusinessWeek, June 6, 1970; Irwin Ross, "The Credit Card's Painful Coming-of-Age," Fortune, October 1971; Money Income in the United States, U.S. Census Bureau, 2001; Current Population Reports: Consumer Income, U.S. Census Bureau, 2002; and Survey of Consumer Finances, U.S. Census Bureau, 1998.

## Industry Shares (United States)

In 2001, Visa accounted for 46% of general-purpose payment card purchase volume; MasterCard, 25%; American Express, 15%; Discover, 5%; and Diners Club, 1%. The remaining 8% was accounted for by PIN debit cards, which include many brands of regional and national PIN debit card systems, the most prominent of which is STAR.

In 2001 American Express had the largest issuer share based on transaction volume of credit and charge cards; Citigroup and MBNA had the largest shares based on outstandings. Citigroup also had the largest share based on number of credit and charge cards.

Sources: The Nilson Report, No. 756, January 2002 and Nos. 759, 760, March 2002.

## Industry Shares (Worldwide)

In 2001 Visa and MasterCard accounted for 58 and 27%, respectively, of global payment card purchase volume at merchants. American Express accounted for 12% of global purchases; Diners Club and JCB each accounted for less than 1.5%. (Note: the shares are based on the worldwide general-purpose credit and debit purchase volume by major international brands.)

Sources: The Nilson Report, No. 762, April 2002.

## MasterCard and Visa Merchant Acceptance

By 1978 Visa and MasterCard had signed up more than 100 million cardholders and convinced more than 1.8 million merchants to take their cards. In that same year, consumers charged nearly \$100 billion worth of goods and services to their cards. By 1991, more than 2.5 million merchants accepted Visa cards. MasterCard experienced similar growth in merchant acceptance. Also by 1991, almost 90% of American Express cardholders had either a MasterCard or Visa card. In 2001, Visa and MasterCard cards were accepted at approximately 4.9 million outlets in the United States.

Sources: Paying with Plastic, 1999, pp. 74, 185; and The Nilson Report, No. 760, March 2002.

# Understanding Interchange

## Stats and Facts

### MasterCard and Visa Volume

In 2001 MasterCard and Visa accounted for about 72% of purchases on all payment cards, and 78% of purchases made on all credit, charge, and signature debit cards. Debit cards accounted for 29% of the total volume charged on MasterCard and Visa cards in 2001 in the U.S.

The compound annual growth rate in transaction volume for MasterCard and Visa was 17.9% in the 1970s, 11.9% in the 1980s, and 14.9% in the 1990s. The number of cards increased at an average annual rate of 12.4% in the 1970s, 6.1% in the 1980s, and 10.5% in the 1990s. The compound growth rate of outstanding balances was 17.3% in the 1970s, 15.2% in the 1980s, and 9.6% in the 1990s.

Sources: Visa U.S.A.; and The Nilson Report, No. 689, April 1999, No. 712, March 2000, and Nos. 759 and 760, March 2002.

### Merchant Discounts

Merchants have to pay a percentage on most purchases made with a payment card. (Fees for some debit transactions don't vary with the amount of the purchase.) These payments average only about 2% of transaction value on credit and charge cards, but they amounted to about \$28 billion in 2001. In 1950, when Diners Club was first introduced, its merchant discount was 7%. When American Express entered in 1958 its merchant discount was around 5%. At the start of the 1980s, American Express had a merchant discount of 3.6%, while MasterCard and Visa charged 2.5%. By the start of the 1990s, the merchant discount was 3.25% for American Express, 2% for MasterCard and Visa, and 1.6% for Discover. And in 1999, the American Express merchant discount was 2.73%, about 2% for MasterCard and Visa, and 1.5% for Discover.

Sources: Paying with Plastic, 1999, p. 129; U.S. v. Visa U.S.A et al., Brief for the United States, U.S. Court of Appeals for the Second Circuit, August 30, 2002, pp. 11-12; and The Nilson Report, No. 760, March 2002.

### Non-Financial Issuers of Visa and MasterCard

Several giant non-financial firms, including AT&T and General Motors, started card programs in the late 1980s and early 1990s. Within four years of its entry, AT&T had issued 22 million cards (it subsequently sold its card operation to Citicorp in 1998). After its first year, the GM MasterCard was labeled "the most successful launch in credit card history," attracting more than 5 million accounts. Major retailers such as Target and Sears now have Visa and MasterCard programs.

Sources: The Nilson Report, No. 588, January 1995 and No. 756, January 2002; and "Where Cobranding is Today," Credit Card Management, November 1993.

### Payment Instruments

Coins were first invented about 4,000 years ago. Checks appeared about 800 years ago. Paper money came a bit more than a century ago. The first general-purpose payment card was issued just over a half century ago. Today, the typical credit card (Visa and MC) purchase is slightly more than

# Understanding Interchange

## Stats and Facts

\$80 (in 2002 USD). One \$20 bill, three \$10 bills, and six \$5 bills weigh just over a quarter of an ounce. A credit card weighs only a fifth of an ounce. In 2001, Americans spent \$5.5 (in 2002 USD) trillion on personal consumption of goods and services: 48% were made with checks, 20% with cash, and 32% with payment cards.

Sources: *Paying with Plastic*, 1999, p. 19; and *The Nilson Report*, No. 760, March 2002 and No. 777, December 2002.

## Prices, Fees and Discounts

The price of credit card services declined by 20% from 1984 to 1999. This price index applies to MasterCard and Visa issuers, which account for 73% of all credit and charge card purchase volume, and includes only annual fees, service fees, and finance charges. The price index does not factor in benefits from card features such as frequent flyer mileage or insurance coverage.

Merchants have to pay a percentage on every purchase made with a credit or charge card. These payments average only about 2% of transaction value, but they amounted to \$28 billion in 2001. In 1950, when Diners Club was first introduced, its merchant discount was 7%. When American Express entered in 1958, its merchant discount was around 5%. In 1991, the American Express merchant discount was 3.25%, 2% for MasterCard and Visa, and 1.6% for Discover. In 1999, the American Express merchant discount was 2.73%, about 2% for MasterCard and Visa, and 1.5% for Discover.

American Express receives over four and a half times as much revenue from merchant discounts as from cardholder fees. At the start of the 1980s, American Express had a merchant discount that was almost 50% higher than that charged by Visa and MasterCard: 3.6% versus 2.5%. And it charged cardholders an annual fee of \$62 for its standard Green Card and \$89 for its Gold Card. By 1984, the Gold Card fee had been raised to \$101, and American Express' net profits from its charge card business alone were estimated to total \$390 million. American Express lowered its merchant discount from 3.22% in 1990 to 2.67% in 2001, though still higher than the rates charged by Visa, MasterCard, and Discover.

Sources: *Paying with Plastic*, 1999, p. 185; *U.S. v. Visa U.S.A et al.*, 163 F. Supp. 2d 322, 334 (2001); *The Nilson Report*, No. 760, March 2002; *U.S. v. Visa U.S.A et al.*, Brief for the United States, U.S. Court of Appeals for the Second Circuit, August 30, 2002, pp. 11-12; and 2001 American Express Company Annual Report, pp. 35, 37.

## Risky Business

Credit card losses plagued several commercial banks in the late 1960s and early 1970s. Wells Fargo lost nearly \$30 million between 1967 and 1970; Bankers Trust lost more than \$22 million in 1969 and nearly \$12 million in 1970; Citibank lost nearly \$12 million in 1970; Riggs National Bank lost more than \$4 million in 1970 (as always, these figures are in 2002 USD); losses, fraud, and theft forced Harvard Trust to leave the business the following year. One mail theft of about fifty cards cost Wells Fargo more than \$856,000 (2002 USD). In 1970, consumer payment card defaults amounted to \$455 million.

# Understanding Interchange

## Stats and Facts

Although issuers became better at screening for risks over time, unsecured lending on credit cards remained risky. Based on the financial analysis by Carlos Lapuerta and Stewart Myers, only about 4% of all industries included in Standard & Poor's industry surveys are riskier than credit card lending.

In 2000, the delinquency rate on credit card loans was 4.50%. This rate is high when compared to the rates on other types of loans, such as real estate (1.89%), commercial (2.22%), or personal (2.98%).

Sources: *Paying with Plastic*, 1999, pp. 68-69, 79, 215; and "2001 Statistical Abstract of the United States," U.S. Census Bureau, Table No. 1178.

## Small Businesses and Payment Cards

A 1998 survey found that 45% of small businesses used personal credit cards as a source of financing. The SSBF (Survey of Small Business Finances) reports that 46% of small businesses that same year used their owners' personal credit cards to finance the business.

Sources: National Survey of Small Business Finances, 1998; and Marianne P. Bitler, Alicia M. Robb, and John D. Wolken, "Financial Services Used by Small Businesses: Evidence from the 1998 National Survey of Small Business Finances," *Federal Reserve Bulletin*, April 2001.

## Visa Merchants and Issuers

In 2001 there were 24.3 million Visa Merchant locations worldwide, including 4.9 million in the United States. From 1980 to 1990 the number of U.S. merchants accepting Visa increased by nearly 40%. From 1990 to 2000 the number of U.S. merchants accepting Visa increased by 52%.

In 1971, the number of financial institutions issuing payment cards was approximately 600. Between 1981 and 1991 about 4,200 financial institutions became members of the Visa association. In 2001, Visa had nearly 9,000 issuers in the United States.

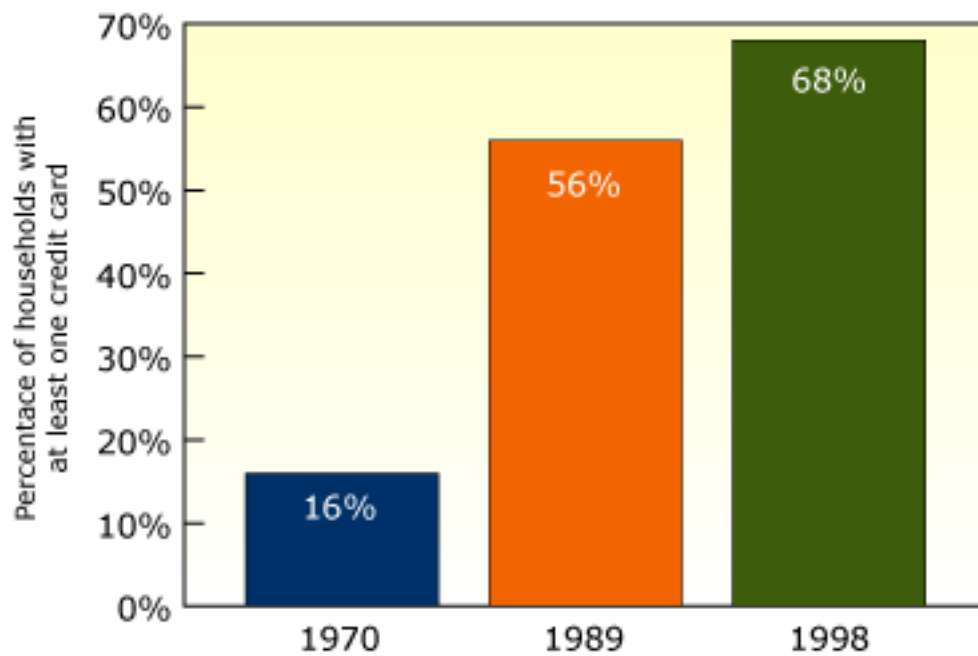
Sources: *Paying with Plastic*, 1999, pp. 74; *Visa U.S.A.*; and *The Nilson Report*, No. 285, June 1982 and No. 762, April 2002.

## Women and Payment Cards

Women hold 53% of general-purpose credit cards in the United States, including 52% of MasterCard accounts, 51.8% of Visa accounts, and 44.1% of American Express accounts. Women make up 46% of MasterCard business card holders, 44% of Visa business card holders, and 35% of American Express corporate account holders.

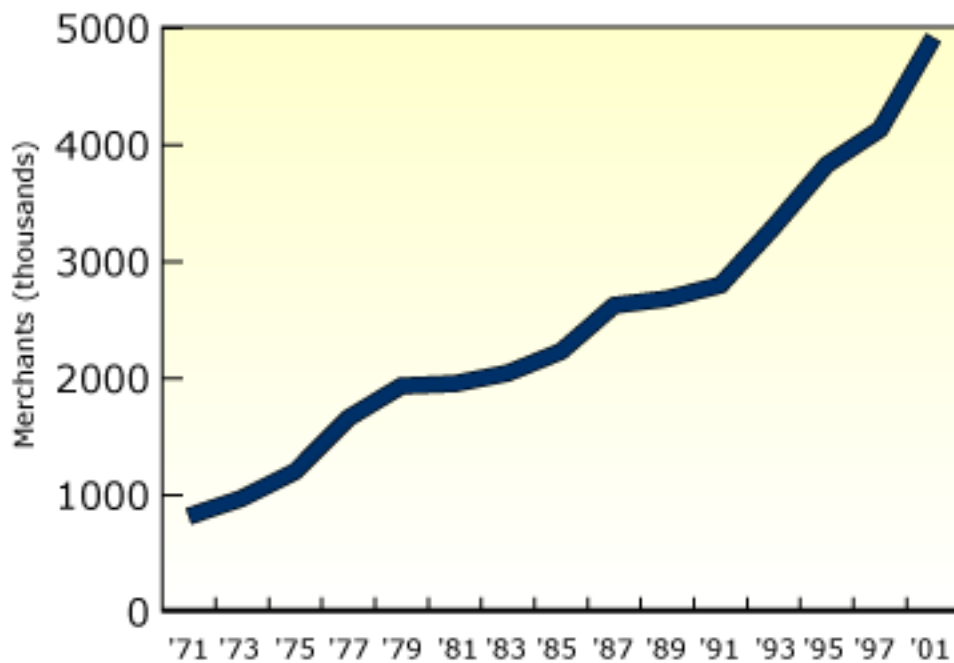
Source: W.A. Lee, "Study Says Biz Card Issuers Should Market More to Women," *American Banker*, October 2, 2001.

## Understanding Interchange



Source: Surveys of Consumer Finance, 1970-1998.

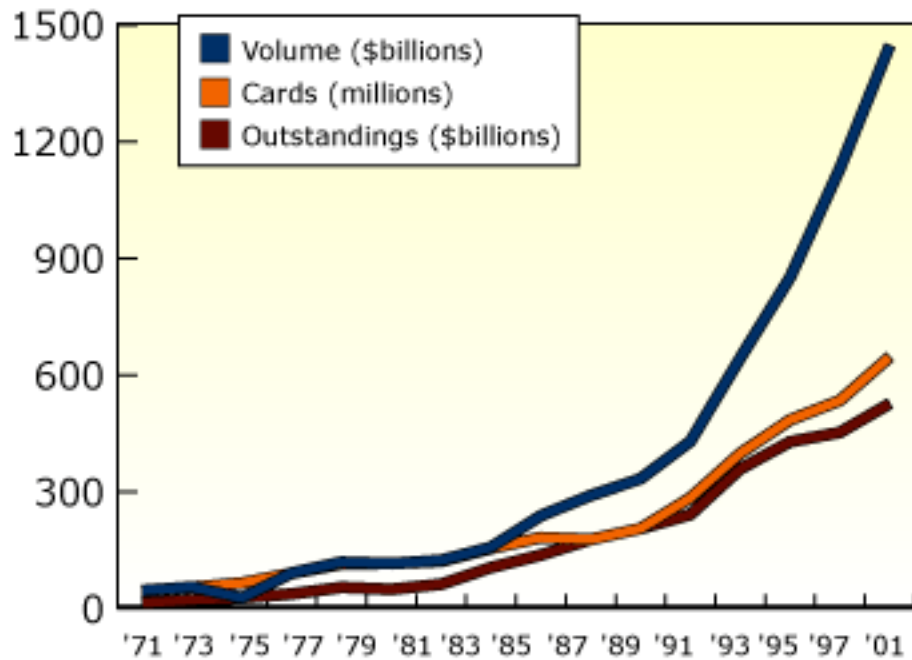
Visa Merchant Locations Increased Almost Sixfold Between 1971 and 2001



Source: Visa USA

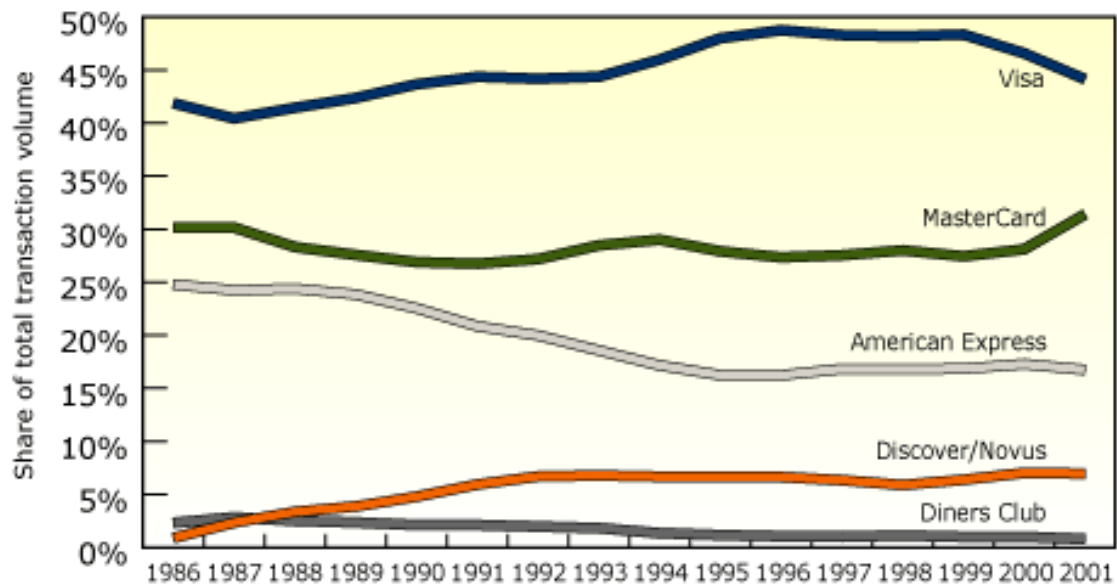
## Understanding Interchange

All Measures of Output for Visa and MasterCard Have Grown Substantially Over Time



Source: Visa USA

Major Credit and Charge Card Shares, 1986-2001



Source: 1999, 2002, 2003 Card Industry Directory and The Nilson Report, Numbers 689, 712, 738, 760.

## Understanding Interchange

The major players in the payment card backroom

	Acquiring/ Merchant Processing	Check Authorization	Cardholder Processing	ATM Processing	EFT Network Ownership	Money Transfers	Electronic Bill Payment
Alliance Data Systems	■		■				
Certegy	■	■	■				
CheckFree							■
Concord EFS	■			■	■		
Efunds		■		■			
FDC	■	■	■	■	■	■	
Global Payments	■	■				■	
Intercept	■			■			
National Processing	■						
Total Systems	■		■				

Note: Total Systems owns a 50 percent interest in merchant processor Vital Processing, a joint venture with Visa U.S.A.

Source: Merrill Lynch, "The Payment Processing Industry," November 15, 2002.

# Understanding Interchange

## Fast Facts About The Credit Card Industry

- First credit card--New York, 1946: Charge-It
- Early 1950's: Bank of America, Franklin National Bank
- First Bankcard Association formed in 1965 by Bank of America
- Now VISA International (1977)
- Competing MasterCharge Association formed in 1967
- Now MasterCard International (1979)
- VISA & MasterCard are non-profit associations of banks and financial institutions

## Types of Bankcard Processing Cards

### Bankcards

- Issued only by financial institutions that are members of VISA and/or MasterCard
- Allows revolving balance
- Online & Offline debit & check cards

### Travel & Entertainment Cards

- Usually not issued by financial institution
- Generally requires monthly payment in full
- Originally targeted to business customers

### Charge Cards & Other Non-Bankcards

- Either revolving or full payment
- Private labels
- ATM cards

<b>1Q 2003 PURCHASE TRANSACTIONS</b>				
<small>Includes VISA/MC Credit And Signature Debit Cards; Excludes Cash Advances</small>				
<b>3 Months: 4,696,995,000 transactions</b>	<b>Per Day: 52.2 million transactions</b>	<b>Per Hour: 2.17 million transactions</b>	<b>Per Minute: 36,242 transactions</b>	<b>Per Second: 604 transactions</b>

**Source: CardData ([www.carddata.com](http://www.carddata.com))**

**PARTICIPANTS IN  
PAYMENT PROCESSING**

# Understanding Interchange

## The Participants in Payment Processing

The Issuer:

The bank or other institution that issues a credit card or debit card to an individual.

The Cardholder:

The individual who is issued a credit card or debit card.

The Acceptor:

A business that has qualified to accept credit or debit cards as payment.

The Acquirer:

An organization licensed as a member of Visa and/or MasterCard that maintains a relationship with an Acceptor and receives all bankcard transactions from the Acceptor.

The Processor:

A third-party organization that provides authorization and/or clearing and settlement services on behalf of Issuers, Acquirers, and Acceptors.

# Understanding Interchange

## The Players

MasterCard and Visa are worldwide payment service organizations composed of Member institutions. They do not:

- Issue credit cards
- Create policies for solicitation of new cardholders or merchants
- Establish criteria for evaluating applicants
- Set credit limits offered to cardholders
- Determine procedures for billing customers

MasterCard and Visa are managers of their respective brand. As such, they:

- Create advertising and promotion programs to support their brand
- Develop new products
- Conduct clearing and settlement processing of transactions(Interchange)
- Set and enforce rules and regulations governing their bankcards, such as operational procedures, interchange procedures, and graphic design approval of their cards.

Upon becoming a member of MC/Visa, a bank is licensed to issue cards to its members. These banks are also required to provide cash advances on MC/Visa cards at their teller windows. As a Member, banks are issued a Bank Identification Number(BIN) and pay membership dues and assessments to fund Card Associations.

## The Acquirer

The acquirer is a member of MasterCard and Visa, and is contracted with merchants to accept merchant sales drafts, provide authorization terminals, instructions, and support, and handle the processing of credit card transactions.

The key responsibilities of the acquirer are:

- Sales
- Investigation Procedures
- Pricing
- Merchant Acceptance
- Support Services
- Risk Management

The acquirer usually charges a fee or "discount rate" for handling the transactions. The acquirer is licensed by MC/Visa and agrees to follow the association rules and regulations.

Some financial institutions are both issuers and acquirers. MC/Visa both require that the merchant be financially responsible and of good repute. The merchant has a written agreement with the acquirer to accept the bankcards as payment and to abide by the terms of the agreement.

# Understanding Interchange

## The Players

### The Issuer

The issuer is responsible for the cardholder account program which encompasses nearly all aspects of cardholder account activities ranging from acquiring new customers to billing current ones.

The Issuer's responsibilities include:

- Acquisition and marketing of new accounts
- Processing application; establishing credit limits and policies
- Overseeing design, manufacturing, and embossing of inventory cards
- Handling of issuing and reissuing of cards
- Overseeing PIN Numbers
- Maintaining authorization file
- Providing customer service
- Processing payments and handling settlement and income Interchange
- Establishing collections operations.

Managing a credit card program is expensive. Smaller banks can issue cards without becoming an issuing member by being an agent. The issuer usually keeps most of the income from the cardholder account: the agent receives a small compensation for providing the application. This allows small banks to retain customers who want a credit card program.

# Understanding Interchange

## The Steps of Payment Processing

### Acceptance:

The credit cards and/or debit cards that an Acceptor can have processed vary according to the specific services their Acquirer and Processor provide. We enable Acceptors to receive all major credit cards as well as debit and ATM cards for payment.

### Authorization:

The Acceptor contacts the Processor for authorization, typically by swiping the magnetic stripe on the card and transmitting the transaction electronically. The Processor's data center contacts the card's Issuer and retrieves the Cardholder's account information. If the card is valid and the Cardholder has sufficient credit, the Processor authorizes the transaction and returns a numerical approval code to the

### Acceptor.

If the card is not valid or the Cardholder is over his credit limit, the Processor declines the sale and the Acceptor asks for another form of payment. In some cases, the Acceptor may be instructed to call the Processor, if there has been unusual activity on the card or the credit limit is close to being exceeded.

### Purchase:

After receiving authorization, the Acceptor records the sale and issues a sales slip to the customer.

### Submission & Deposit:

On a daily basis, the Acceptor submits batches of card transactions to the Acquirer, either in electronic form or as paper sales slips. The Acquirer essentially buys the Acceptor's card transactions and credits their value to the Acceptor's account, minus a processing fee, which is called the "discount rate."

# Understanding Interchange

## Basic Transaction Guidelines

Reduce your risk of accepting a counterfeit Visa card by being alert at the point of sale. If you know that a card is invalid, don't accept it. These simple steps can help you prevent fraud:

### Step 1

When you first obtain the customer's Visa card, be sure to inspect the front of the card. Make sure the Visa account number begins with a "4," and that the first four digits match the first four digits of the embossed account number. If so, proceed to the next step.

If not, call your voice authorization center and request a Code 10, a procedure for suspect cards. During a Code 10 call, keep the card in your hand and follow the operator's instructions. If the operator instructs you to keep the card, do so only if you can do so by peaceful means. (If not, return the card to the customer immediately.) Cut recovered cards in half lengthwise without cutting through the magnetic stripe, the account number, or the hologram. Notify your merchant bank that the card has been recovered and ask for further instructions.

### Step 2

Swipe the card only once, in one direction, through the terminal. The last four digits of the account number shown on the terminal or sales draft should match the last four digits of the embossed account number. If they do, go to Step 3. If they don't, make a Code 10 call.

After you swipe the card, you may get a "Call" message, which means you should call your voice authorization center. Tell the operator you are responding to a "Call" message and follow the operator's instructions.

### Step 3

Check the back of the Visa card while the customer is signing his or her sales draft. The panel should have the repeated word "Visa" printed at an angle in blue, or blue and yellow, letters on a white background. Also, verify that the signature on the back of the card matches the signature on the sales draft.

If the panel on the card seems suspicious, and/or the signatures do not match, make a Code 10 call.

### Step 4

If the signature panel is not signed, ask the customer to sign the card, then ask to see a government ID such as a driver's license or passport. When the customer signs the card, compare the signatures of the card and the ID.

If the signatures match, give the card back to the customer. You've successfully completed a transaction.

If the customer refuses to sign the card or the signatures between the card and sales draft do not match, make a Code 10 call.

### Step 5

After you've completed the transaction, be sure to file your sales slips. Follow these additional procedures for added security:

# Understanding Interchange

## Basic Transaction Guidelines

### Store Level

Sales drafts stored at an individual store location should be organized into daily, weekly, and monthly packets. You should ensure that a draft is refiled in its original location once a copy is made. Most sales draft requests are delivered and managed via e-mail, a spreadsheet database, or fax.

### Close-Out Reports

Daily, at the close of business, management will review and match sales drafts to the register tapes to identify any missing documentation. If a document is absent, you should attempt to find it. If you cannot locate it, that may be an indication that something is wrong.

### Audits

You should randomly compare sales drafts to the register tape to ensure they match. This approach is a good way to identify problems associated with a specific register or sales associate. You can change the register ribbon or paper to ensure the legibility of all sales drafts. You can also address any needed education issues with your sales associates.

**COMPONENTS OF BANKCARD  
PROCESSING FEES**

# Understanding Interchange

## Components of Bankcard Fees

- Interchange
- Assessments
- Authorization Fees
- Processing Fees
- Processor Optional Fees
- Chargeback and Retrieval Fees
- T & E Authorization and Processing Fees
- Ancillary Communication and Network Fees
- Hardware and Software Fees

## Interchange

MC/Visa are at the center of the transaction process, maintaining the flow of funds between issuers and acquirers. Clearing refers to the exchange of financial information. Settlement refers to the exchange of the actual funds for the transaction and the associated fees.

## Clearing and Settlement Occur Simultaneously.

- The acquirer credits the merchant's deposit account for the dollar amount of the sale (less the merchant discount).
- The acquirer sends the transaction, through a data transport network, to INET (for MasterCard transactions) or Base II (for Visa transactions). A financial institution can be both an issuer and an acquirer.

MasterCard and Visa send the transaction to the issuer overnight, credits the acquirer and debits the issuer for the transaction. In essence, the issuer pays the acquirer for the transaction, via the Mastercard or Visa interchange system.

Interchange makes it possible for the issuing banks and acquiring banks to exchange information, transactions and money on a standardized basis. During Interchange, fees are deducted by the issuer from the transaction amount and the net amount is paid by the issuer to the acquirer. These are called interchange fees.

MasterCard and Visa each own and operate their own international processing system. These systems connect thousands of banks around the world. Member Institutions use these networks to transmit information about bankcard transactions.

## Transaction Process Overview

- The cardholder purchases goods or services from the merchant.
- The merchant transmits the transaction to the acquirer.
- The acquirer then submits the ticket to the issuer for payment, via the MasterCard or Visa clearing and settlement systems.
- The acquirer credits the merchant for deposits (net of chargebacks, returns, and agreed to fees the merchant discount).
- The issuer funds its cardholders' purchases (net of chargebacks, returns, and agreed to fees).
- The issuer bills the cardholder.

# Understanding Interchange

## Components of Bankcard Fees

- Finally, the cardholder repays the issuer for the goods or services originally purchased from the merchant. The issuer, via the MasterCard or Visa clearing and settlement system, has already paid the acquirer transaction amount, less the interchange fee.

From the cardholder's point of view, it seems as if he or she is paying the issuer for the goods or services originally purchased from the merchant. In fact, the cardholder is actually repaying a loan from the issuer.

- MasterCard's data processing network is called Banknet.
- Banknet handles MasterCard's Authorization System.
- The Banknet settlement system is INET.
- Visa's data transport network is called VisaNet.
- The VisaNet authorization system is BASE I.
- The VisaNet settlement system is BASE II.

# Understanding Interchange

## Transaction Flow for Merchant

### Retrievals

#### Functions:

- Storage of paper(hardcopy) sales drafts and film cartridges
- Retrieval of items in the hardcopy retrieval and chargeback process
- Request Fulfillment

### Sales Draft Storage

Both merchants and acquirer store hardcopy sales drafts or POS tape. Acquirers and merchants typically hold drafts on-site for 3 years, and hold them off-site for 7 years.

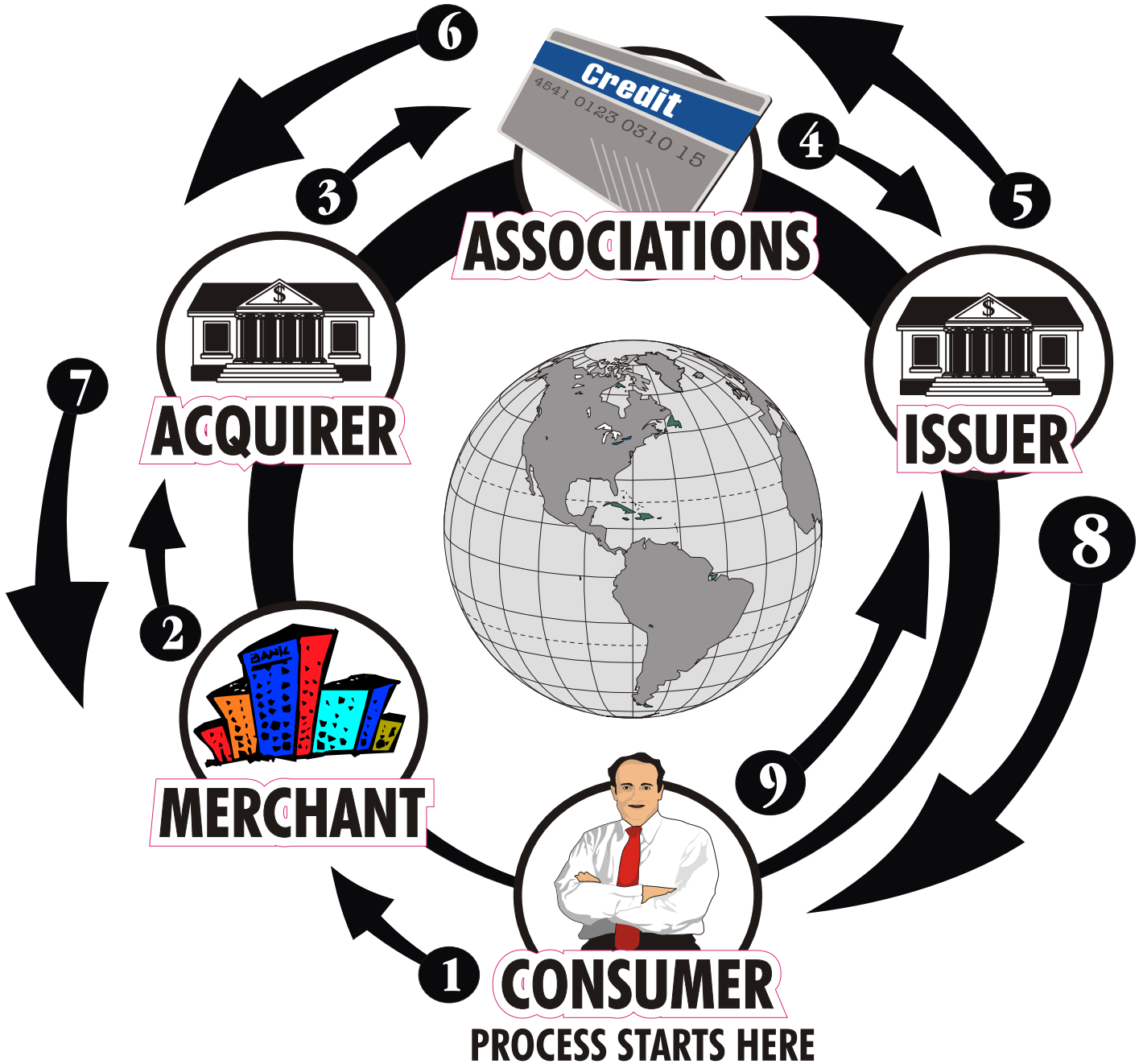
### Sales Draft Retrieval

Retrieval areas receive requests from issuing banks. MC/Visa regulations stipulate that a request must be fulfilled within 30 days from the date of receipt. Any request not fulfilled within that time frame can be charged back to the merchant.

### Request Fulfillment

Request for all hardcopy sales drafts are fulfilled as quickly as possible for disbursement to the issuing bank. MC requires all retrieval requests be fulfilled electronically through the MasterCom electronic image process system, while Visa will allow requests to be fulfilled through the mail along with Visa's Copy Request Manager System.

# Understanding Interchange



**UNDERSTANDING  
UNDERWRITING, RISK MANAGEMENT  
AND FRAUD PREVENTION**

# Understanding Interchange

## Understanding Underwriting

Bankcard Sales Reps work very hard to get a merchant to sign on the dotted line. But that's only half the battle! Getting the deal approved by the processor is another.

Simple things, including unreadable or incomplete applications, unverifiable street addresses or the type of business applying for the account, will factor into the processor's decision whether or not to underwrite that merchant.

Before their feet ever hit the street, Salespeople must understand what underwriting is and everything processors take into consideration to determine if a merchant's business is legitimate. The submitted application is just the first step. Salesperson should make sure the application is legible and completed in its entirety along with all the required materials that need to be submitted with the application. This also prevents the Salesperson from having to go back to the merchant to request more information. Get it right the first time and the approval will go through faster.

Most underwriting departments typically follow a process to review the following:

- The type of business the merchant operates
- Projected sales volumes and processing methods
- Whether the merchant has ever been terminated by the processor or reported to the bank through MasterCard's Member Alert to Control High-Risk (MATCH) system, previously known as the Combined Terminated Merchant File (CTMF or TMF)
- Whether the personal guarantor's (owner, officer or principal) credit is not considered excessively derogatory based on projected volume and historical product risk
- Whether the merchant's premises have been inspected per MasterCard and Visa requirements
- That all paperwork is properly completed and all required signatures are properly affixed
- That all required documentation is filled out and submitted with the application
- That verification of the submitted documentation has been completed

It's important to make the underwriter's decision easier by supplying information that answers questions about the merchant, including:

- How does the merchant make money?
- How are customers directed to the merchant's Web site?
- How is credit card information captured and handled?
- What is the fulfillment process? ("The greater the time, the greater the risk.")
- What are the order and return policies?
- How long will it take to process refunds?
- If customer service is phone-based, how long is the wait on hold before calls are answered?
- Is there adequate disclosure of Terms and Conditions?
- Are customers subjected to aggressive 'save' programs?
- Are there available quality trade references applicable to the product or service?
- Does the product or service represent a reasonable value?

When making determinations, underwriters are often faced with situations in which the applications and materials submitted gave no clue as to what the merchant was really doing. Some of those applications are intentionally misleading and hide the true nature of the business. However, most of the time, the Salesperson is just too lazy to explain the business fully.

# Understanding Interchange

## Understanding Underwriting

Underwriters need a clear understanding of what a merchant does in order to approve an application, so as a result, the response in these situations is to either ask the Salesperson to provide more information or to simply decline the application.

Certainly there are exceptions to the approval rules of thumb, but think 'exceptional'-it takes an exceptional merchant to be approved from the non-acceptable merchant list. For example, an industry leader, a merchant selling products with true value, or one with a financially fixed guarantor might fit the qualifications necessary for approval.

Some underwriting departments insist on reviewing copies of the original Articles of Incorporation. If you are asked to provide them, there are several places to access them. Some states make these documents available on their Web sites; some states also include information on limited liability corporations, partnerships, assumed names and other types of listings online.

Sometimes businesses are incorporated in one state and are actually located in another; you can still find information on these corporations. For example, a business incorporated in Nevada or Delaware, but doing business in California, should be listed in California as a "foreign" corporation, as active and in good standing.

Through the state links, you should be able to locate current incorporation status, including the names and addresses of current officers and/or registered agents, which are usually listed on the state sites.

Some processors don't place as much importance on Articles of Incorporation as others do, however. They find them to be of limited use because attorneys, CPAs and other agents are often involved in filing the original documents as incorporators.

Applications for online merchants have to include additional information. For example, Visa requires that e-commerce merchants' Web sites provide the following:

- A thorough description of the goods or services offered
- A clear explanation of the returned merchandise and refund policies
- A customer service contact, including e-mail address and/or telephone number
- Transaction currency (e.g., U.S. dollars, Canadian dollars) accepted
- Export or legal restrictions (if known)
- Delivery policy
- Consumer data privacy policy
- Security method used for the transmission of payment data

Some merchants such as telephone order, mail order, Internet and other high-risk category merchants may be acceptable if there is a way to minimize the risk exposure to the bank or processor.

# Understanding Interchange

## Understanding Underwriting

Here is a list of creative approaches that may be available to make a deal acceptable to the underwriters:

- Assignment of service or databases
- Use of pre-funded reserves and/or irrevocable letter of credit
- Capital retention agreements
- Lengthening of settlement timeframes
- Mandate acceptance criteria (i.e. Fraud Scrubbing Services, AVS, CVV2/CVC2, Verified by Visa, etc.)
- Re-working of fulfillment arrangements or return policies
- Third-party indemnity
- Requirement of special administrative reserve accounts at acquiring bank
- Use of personal indemnity or personal guarantees
- Surety and insurance products

Accurately and completely fill out the Merchant Site Survey Report. Through these reports, you are verifying that the application and inspection of the merchant premises are true and correct to the best of your knowledge and belief. You don't want to spend time at "Club Fed" for a fraudulent application you submitted, as has happened to some salespeople.

Remember it is important to take the time to completely and accurately fill out the merchant application and provide all the required paperwork. Give the underwriters a clear understanding of the merchant's business. If needed, be creative and obtain additional information through other sources, including advertisements, brochures, phone book listings, business licenses, photographs, samples of products, previous processor statements or financial statements.

# Understanding Interchange

## Understanding Risk Management

As a core department, risk management is an equilibrium between profitability and exposure to potential loss. The acquiring and issuing side of banking is limited by risk; however, Merchant Level Salespersons (MLS) often are not educated on the purpose and importance of risk management. This is unfortunate and has several negative ramifications.

Knowledge of risk management ultimately will enable sales professionals to better understand underwriting, profitability, pricing, attrition and the resale value of a merchant portfolio. Other topics that will be covered in detail include definitions and explanations of the TMF (Terminated Merchant File)/MATCH (Member Alert to Control High-risk), and what to do if actively involved in a risk investigation with a processor.

### What is Underwriting?

Accurate completion of the merchant application is critical because it ultimately will serve as a legal contract upon approval of the merchant to accept credit cards. Average ticket, monthly volume, merchandise and/or service sold are extremely important, requiring precise attention. Underwriting approves a merchant based on the parameters indicated; if those parameters shift significantly, a merchant may be placed under review.

The higher the average ticket, the greater the potential risk exposure. A chargeback of \$2,000 is more likely not to clear a merchant's checking account than a \$100 chargeback. It is not uncommon that a merchant with high average ticket is asked to submit recent copies of recent checking account statements in addition to the application. The merchant should always have sufficient funds available for a chargeback or processing fees to clear.

### What is the TMF/MATCH List?

Although TMF is a word from the past and "MATCH" is the more diplomatic terminology, all the terminated merchant accounts remain documented. Visa and MasterCard members both contribute to the combined MATCH list; however, MasterCard hosts and regulates the use and access of the system.

Regulations state that only the member bank may administer and add/remove merchants from this system, but in some circumstances MSPs are permitted to use it. MATCH has become the first line of defense for acquirers and processors.

The system works by manually entering or batching data through MasterCard's online system for inquiry. When a merchant is identified on the system, there is one of two replies: Exact Match or Partial Match.

- Exact Match: Business Name, Tax ID#, Phone Number, Owner Name, SS#.
- Partial Match: Business Address, Owner Address

It has become widely accepted that merchants will not be approved if an Exact Match is the result, and merchants will be investigated for a Partial Match. Although member banks are not prohibited from approving merchants on the MATCH system, it is highly discouraged and regarded as an unnecessary risk.

# Understanding Interchange

## Understanding Risk Management

The acquirer who places a merchant on the file has the sole ability to remove the merchant. This is uncommon yet happens more than one would expect. Placing a merchant on MATCH may seem excessive in some circumstances, but it is mandated that a merchant terminated for one of the reason codes listed below is placed on the MATCH file. If the acquirer fails to do so, and the merchant causes another member bank monetary losses, the original member can be liable for those damages.

Merchants can be added to MATCH for any one of the following reason codes:

- Excessive Counterfeit
- Unauthorized Cardholder Charges
- Laundering/Factoring
- Excessive Chargebacks
- Excessive Fraud (8% violation rate)
- Violation of Merchant Agreement
- Fraud Conviction

Most reason codes are very specific; some leave room for interpretation. The possibility of a good merchant or otherwise not deserving merchant being placed on MATCH cannot be denied. The ratio still makes MATCH a necessary defense for the acquiring industry.

What are the Do's and Don'ts of Risk Investigation?

Being involved in a risk investigation can be a good thing. The bank or processor is requesting assistance to eliminate a potential loss and maintain the merchant account. In most instances an invoice, signed sales slip or imprint could resolve the issue. Risk managers do not intend to lose a merchant account; the concept is to eliminate the risk and maintain the relationship. Cooperating with risk management to accomplish that goal ensures a lower attrition rate.

Merchants should always be willing to work with risk management. Although a merchant may become frustrated, the primary reason signed sales slips and imprint cards are required is in the event the bank or processor should request them. Typically, once the requested paperwork is received, a validation from the issuing bank can resolve the situation entirely. Other variables can delay the process, including issuers who are extremely uncooperative with acquirers.

Never try to convert a merchant while in the middle of a risk investigation. This will jeopardize the merchant's ability to process bankcards, with the recourse being a 180 day delay on the settlement of funds being held. The risk manager has the responsibility to decrease the risk exposure and retain the merchant account. Interference may place the merchant on the MATCH file. Always make sure a merchant has satisfied obligations to the processor or bank before attempting to convert an account.

# Understanding Interchange

## Chargebacks and Collections

What is a chargeback?

A chargeback is a reversal of a sale transaction, typically initiated by the card issuer at the cardholder's request. Chargebacks can occur for any number of reasons, including customer disputes, potential or actual fraud (on the part of merchants, sales associates and/or customers), processing errors and authorization issues. Chargebacks are governed by a complex set of rules and time limits that can be costly to acquirers and their merchant customers if disregarded.

How do I ensure against merchant defaults?

Your best defense against merchant defaults is appropriate underwriting procedures that properly assess risks. Also, be sure your merchants follow the transaction authorization and settlement guidelines that are provided by the card companies. In other words, your primary wall of defense against defaults is to have good merchant customers who play by the rules. If that fails, there are some insurance companies that offer policies and/or surety bonds related to merchant card acceptance.

These products can provide payouts arising from merchant non-delivery of products, unauthorized transactions, deceptive and misleading practices, misrepresentations by merchants and other matters. It's best to check with your insurance agency and bank sponsor to determine if any of these products are right for your business.

When an issuer disputes a transactions (either at the request of the cardholder or for reasons of its own), the matter is handled through a chargeback or compliance case.

In a chargeback, the issuer returns a transaction to the acquirer, and the acquirer returns the payment previously made in interchange. Chargebacks result either from cardholder disputes or from rules violations by the merchant or acquirer; they help enforce operating rules and correct transaction errors.

The initial, or first, chargeback is always initiated by the issuer. It can result from the issuer finding an error in the transaction, or it may result from a cardholder complaint.

MasterCard and Visa have developed standard procedures and time frames for submitting and processing chargebacks.

### The Chargeback Process

The chargeback process begins when an issuer, on its own behalf or in defense of a cardholder, returns a presentment from the acquirer.

Presentment is the stage of interchange when the acquirer, via the MasterCard/Visa system, presents the issuer with the transaction information. The issuer is automatically charged for the transaction during settlement, which takes place at the same time as clearing.

# Understanding Interchange

## Chargebacks and Collections

In other words, the issuer receives information about a transaction, for which it has already paid, and realizes that the transaction may be invalid. At this point, the issuer wishes to charge the transaction back to the acquirer.

### Functions of the Acquirers

- Determine legitimacy of Chargebacks presented by issuers
- Represent all "representable" items on behalf of our merchants
- Handle Arbitration Chargebacks if the representment is disputed by the Issuer
- Forward paperwork to the appropriate area for crediting/debiting of accounts

### Collection Functions

- Acceptance of incoming collections cases from Issuers
- Acceptance of outgoing collection cases from merchants
- Submit Arbitration/Compliance issues to Card Associations
- Reversal of inaccurate merchant transactions

# Understanding Interchange

## Fraud Protection

Fraud is a fact in this day and age. Especially with the birth and growth of the online purchase, but not all fraud is limited to the card-not-present transaction. We have to be careful of full-blown identity theft as well as credit card number theft. Consumers are very concerned about someone obtaining their credit, debit or check card numbers, and with good reason. But new fraud-protection services offered by Paymentech are helping to decrease the incidence of identity theft and credit card fraud.

Purchases of goods and services by mail, telephone, and Internet are increasing. It's fast and easy, but is it safe? That's typically the question both merchants and consumers ask. Merchants want tools and resources that confirm transactions are legitimate. Consumers want assurance that their account information is being guarded.

As the nation's leading processor of ecommerce and direct marketing payment transactions, processors understands the nuances of potential transaction fraud. We have made it our business to become fraud management experts and we put our knowledge to work for our merchants, delivering powerful products and offering third-party fraud solutions.

## Practices to Avoid

- Re-keying Electronic Transactions - Once a transaction has received an electronic authorization, never delete the transaction and re-key it. This will cause the transaction to be downgraded and will significantly increase your discount rate for that transaction and your ability to respond to a charge back will be diminished.
- Using "Made-Up" Authorization Codes - When an authorization attempt is responded to by a Decline or a Referral, do not make up an authorization code and enter it. Transactions with made up authorization codes will receive the highest possible discount rate and will have no charge back defense. That means that if an authorization code is made up, and the cardholder disputes the charge, the amount of the transaction will be charged back. That is a large price to pay for not calling the voice authorization center.
- Settling Transactions Late - With credit card transactions, you can't put off 'til tomorrow what you should do today. Timely settlement of transactions is necessary to assure the lowest possible discount rate. If you put off settlement, you may pay more.

## Behavior to Watch Out For

To control fraud, you need to recognize the signs. Be alert for transactions with several of these characteristics:

- First-time shopper. Criminals usually hit a merchant once and don't return.
- Larger-than-normal orders. (This requires knowledge of what a "normal-sized" order is.)
- Because they may be using stolen cards or bogus account numbers that have a limited life span, crooks need to maximize the size of their fraudulent purchase.
- Orders consisting of several of the same item. As these items are intended for resale, having more of them increases the criminal's profits.
- Orders made up of "big-ticket" items. These items have maximum resale value and therefore maximum profit potential.

# Understanding Interchange

## Fraud Protection

- Orders shipped "rush" or "overnight". Crooks want these items in their hands as soon as possible for the quickest possible resale and aren't concerned about extra delivery charges.
- Orders from Internet addresses making use of free e-mail services. For these services, there's no billing relationship and often no audit trail or verification that a legitimate cardholder has opened the account.
- Orders shipped to an international address. A significant number of fraudulent transactions are shipped to bogus cardholders outside of the U.S. And the Visa Address Verification Service can't validate non-U.S. addresses.
- Transactions on similar account numbers. This is particularly popular among criminals who are using account numbers generated by a CreditMaster-type scheme.
- Orders shipped to a single address but made on multiple cards. This is characteristic of a scheme based on Credit Master-generated account numbers or a batch of stolen cards.
- Multiple transactions on one card over a very short period of time. Sometimes this is an attempt to "run" a card until the account is closed.
- Remember, none of these by itself means you're being scammed?but several of them together might. Check everything. Never ship a valuable order unless it checks out and you've received a valid authorization.

## Card Not Present Transactions

Ask for the card expiration date. The Visa U.S.A. Operating Regulations states that where possible, card-not-present merchants should ask customers for the card expiration, or Good Thru, date. Including the date in your authorization request helps to verify that the card and transaction are legitimate. A MO/TO or Internet order containing an invalid or missing expiration date may indicate counterfeit or other unauthorized use.

Ask for CVV2 to confirm the cardholder has a genuine Visa card. The Card Verification Value Service (CVV2) is a three-digit security number indent-printed on the back of Visa cards to help validate two things:

- The customer has a genuine Visa card in his/her possession.
- The card account is legitimate.

Train your employees to recognize suspicious orders and customer behavior. Being able to recognize suspicious orders may be particularly important for merchants involved in telephone sales, and employees should be given clear instructions on the steps to verify these transactions. Read more about CVV2 below.

## What to Do if You Are Suspicious

If you are suspicious about an order, try to verify the transaction by asking the customer for additional information. These requests should be made in a conversational tone so as not to arouse the customer's suspicions. If the customer balks or asks why the information is needed, simply say that you are trying to protect cardholders from the high cost of fraud.

Ask for a Code 10 authorization. A separate phone call to your authorization center asking for a Code 10 authorization lets the center know you have concerns about a transaction. Ask for the

# Understanding Interchange

## Fraud Protection

name of the financial institution on the front of the card. Separately confirm the order with the customer. Send a note to his/her billing address, rather than the "ship to" address.

## Online Transaction Safety

Look for SSL Use - Many online transactions are now protected by what's called SSL, which is short for Secure Sockets Layer.

SSL provides you with sound privacy protection by encrypting the channel of communication between you and the consumer. Using a mathematical formula, SSL puts the information you exchange into a complex code. Think of it as a kind of armor over the information. Even if intercepted, your data would be extremely difficult to read.

In plain English, SSL helps the consumer's browser automatically scramble his information, such as a credit card number?before it gets sent to the merchant. After that, SSL allows only the merchant's software to unscramble this data. Through SSL, you and your customers can complete transactions with the confidence that no one else can read, change, or fool with their payment information as it travels over the Internet.

Since the data sent is secure, SSL is now considered more than enough security for consumers to do business with merchants they know and trust.

To find out if your transaction is guarded by SSL, look for the picture of the unbroken key or closed lock in your browser window (both the Netscape Navigator/Communicator and Microsoft Internet Explorer browsers use SSL). Either indicator means SSL is hard at work. (If you don't see either one, or if you see a broken key or an open lock, that means SSL is definitely not hard at work protecting your transaction.)

The easy way you can tell if SSL is guarding your transaction, though, is to check the URL of the site you are visiting. It should change from "http" to "https" when processing secure transactions.

## Don't Send or Accept Payment Info Via E-mail

E-mail works independently of any security software, such as SSL or SET, and is not protected by them. E-mail is vulnerable and should probably never be used to send or receive sensitive personal information. When accepting payment information from a customer, always make sure to use a secure browser, such as Netscape Navigator (2.0 or higher), Microsoft Internet Explorer, or AOL. Also make sure the that your site uses a secure Internet technology such as SSL or SET.

**INDUSTRY TERMS**

# Understanding Interchange

## Industry Terms

This glossary provides definitions for many of the terms used in the bankcard industry.

**Account number** - A unique sequence of numbers assigned to a cardholder account that identifies the issuer and type of financial transaction card.

**Acquirer** - A licensed member that maintains the merchant relationship and acquires the data relating to a transaction from the merchant or card acceptor and submits that data into interchange, either directly or indirectly.

**Authorization** - A process defined in operations regulations whereby a transaction is approved by or on behalf of an issuer; commonly understood to be receiving of a sales validation by the merchant, by telephone, or authorization terminal.

**Authorization Code** - A code that notifies you that you have obtained the authorization for a specific Visa card transaction. Note: You should print this on the sales draft.

**Automated Teller Machine (ATM)** - An unattended, magnetic stripe-reading terminal that dispenses cash; accepts deposits and loan payments; enables a bank customer to order transfers among accounts and make account inquiries.

**AVS (Address Verification System)** - In 1996, Visa/MasterCard headquarters introduced a new regulation requiring all businesses who manually key in the majority of their credit card transactions to have a special fraud prevention feature on their credit card processing equipment. This feature is referred to as an address verification system (it checks to see that the billing address given by the customer matches the credit card). If you opt not to use AVS, VISA and MasterCard will not support your transactions and will charge you an additional 1.25% on those sales.

**Bankcard** - A debit or credit card issued by a bank or other financial institution, such as a MasterCard® or Maestro card.

**Bank Rate** - Also known as "Discount Rate." This is a percentage of each sale that the bank charges as per Visa and MasterCard Rate requirements. All banks are required to have at least 3 rate structures. Face to face retail (usually the lowest rate e.g.. 1.49%). Phone, Mail and Internet rates (usually higher e.g.. 2.24%). And a rate for imprinted or phone authorized rates (highest rate e.g.. 2.62%). It is very important to correctly classify the way you will accept credit cards so that you can achieve the best rate structure.

**Batch** - A collection of credit card transactions saved for submitting at one time, usually each day. Merchants who do not have real-time verification systems must submit their transactions manually through a POS terminal. Batch fees are charged to encourage a merchant to submit his or her transactions at one time, rather than throughout the day.

**Cancellation Code** - The code that a lodging or car rental merchant gives to a cardholder. The cancellation code confirms that the cardholder did, indeed, cancel a reservation.

**Capture** - The submission of a credit card transaction for processing and settlement. POS terminals and real-time processing software capture transactions to submit to merchant account providers or credit card processors.

# Understanding Interchange

## Industry Terms

**Cardholder** -The customer to whom a card has been issued or the individual authorized to use the card.

**Cash disbursement** - A transaction that is posted to a cardholder's MasterCard card account in which the cardholder receives cash at an ATM, or cash or travelers checks at a branch of a member financial institution or at a qualified and approved agent of a member financial institution.

**Chargeback** - A chargeback occurs when a card holder disputes a credit card transaction with his or her credit card issuer. The card issuer initiates a chargeback against the merchant account. The amount of the disputed transaction is immediately withdrawn from the merchant's bank account, and the merchant has 10 days in which to dispute the chargeback with proof of purchase, signature, proof of delivery, etc. A chargeback fee is usually assessed to the merchant on top of the actual transaction. See also retrieval request.

**Chargeback defense** - A customer who does not receive his goods or services, or says he did not place an order, can ask his issuing bank to charge back the merchant. The Issuing Bank sends the chargeback request to the merchant bank, which forwards it to the merchant asking to validate the charge. Information such as the amount, an invoice or folio, customer signature, or shipping documents, and the shipping address (used in AVS during the authorization) are needed to defend against a chargeback.

**Clearing** - The process of exchanging financial transaction details between an acquirer and an issuer to facilitate posting of a cardholder's account and reconciliation of a customer's settlement position.

**Cobranded card** - A credit card issued jointly by a member bank and a merchant, bearing the "brand" of both.

**"Code 10" Authorization** - This is a voice authorization code that you might initiate when you suspect a card is stolen or fake, or when a customer is acting suspiciously.

**Commerce server** - A Web server that contains the software necessary for processing customer orders via the Web, including shopping cart programs, dynamic inventory databases, and online payment systems. Commerce servers are usually also secure servers.

**Corporate card** - A bankcard issued to companies for use by company employees. The liability for abuse of the card typically rests with the company and not with the employee.

**Credit card** - A plastic card bearing an account number assigned to a cardholder with a credit limit that can be used to purchase goods and services and to obtain cash disbursements on credit, for which a cardholder is subsequently billed by an issuer for repayment of the credit extended at once or on an installment basis.

**Credit card processors (or third-party processors)** - Merchant services providers that handle the details of processing credit card transactions between merchants, issuing banks, and merchant account providers. Web site operators usually must first establish their own merchant account before contracting for credit card processing services.

# Understanding Interchange

## Industry Terms

Currency conversion - The process by which the transaction currency is converted into the currency of settlement or the currency of the issuer for the purpose of facilitating transaction authorization, clearing and settlement reporting. The currency of transaction is determined by the acquirer; the currency of the issuer is the preferred currency used by the issuer, and most often, the currency in which the cardholder will be billed.

DDS (digital data storage) debit card - A financial instrument used by consumers in place of cash. Unlike a credit card, debit card purchases are deducted automatically from the cardholder's account, like a check. Visa and MasterCard now offer debit cards through banks and other financial institutions.

Debit card - A plastic card used to initiate a debit transaction. In general, these transactions are used primarily to purchase goods and services and to obtain cash, for which the cardholder's asset account is debited by the issuer.

Digital wallet - A consumer account set up to allow e-commerce transactions through a particular credit card processing system. Before the consumer can make a purchase, he or she must first establish an account with the credit card processor, who provides an ID and password. These can then be used to make purchases at any Web site that supports that transaction system.

Discount Rate - See "Bank Rate."

Draft/Sales draft - A record (usually paper) used to document that a good or service was purchased.

Electronic Commerce Indicator (ECI) - A system in which the transaction data from an Internet transaction is tagged with this indicator and sent on to Visa or MasterCard. It is a requirement (October 1st, 2000) for all merchants with a majority of sales via the Internet to use an approved and ECI compliant payment gateway. Hand keying of credit card numbers in to standard credit card terminals would not capture and pass on the ECI, therefore this method is not compliant.

Electronic draft capture (EDC) - A system in which the transaction data is captured at the merchant location for processing and storage.

Electronic funds transfer (EFT) - A paperless transfer of funds initiated from a terminal, computer, telephone instrument, or magnetic tape.

Emboss - The process of printing identifying data on a bankcard in the form of raised characters.

Equipment - Most credit card transactions are conducted electronically by using Electronic Draft Capture (see EDC). Typically this is performed by terminal (like the Verifone Tranz 330), Software or via the Internet.

# Understanding Interchange

## Industry Terms

**Factoring** - The purchase of debts owed, or "accounts receivable," in exchange for immediate payment at a discount. In e-commerce, the term is often applied to ISOs that offer to process credit card transactions through their own merchant account rather than through an account established by the merchant, in exchange for a percentage of the transaction or other fee. Factoring of credit card debt is illegal.

**Floor limit** - A specific dollar limit used to determine which Visa card transactions you must authorize. If your business has a floor limit \$1,000?you must get authorization for any transaction over that amount. Note: All airline, telephone, and mail order transactions must be authorized, even if the amount is under your floor limit.

**Holdback** - A portion of the revenue from a merchant's credit card transactions, held in reserve by the merchant account provider to cover possible disputed charges, chargeback fees, and other expenses. After a predetermined time, holdbacks are turned over to the merchant. Note: Merchant account providers almost never pay interest on holdbacks.

**Imprint** - A physical impression you make from a customer's card which appears on the draft. This proves that the card was present when the sale was made. Note: An imprint can be created electronically if you use a magnetic-stripe-reading terminal that includes the correct point-of-sale (POS) entry code.

**Imprinter** -A device to produce an image of the embossed characters of the bankcard on all copies of sales drafts and credit slips.

**Interchange fee** - The fee that the Card Association charges the merchant to get the funds into his bank (merchant bank) and to get the billing information to the cardholder's bank (issuing bank). Interchange fees are based on following credit card regulations and capturing appropriate data including card swipe, address, and electronic signature as needed. These fees are also based on the timeliness of the settlement of transactions.

**ISO (independent service organization)** - A firm or organization that offers to process online credit card transactions, usually in exchange for transaction fees or a percentage of sales. Merchants must generally establish a merchant account before contracting for ISO services, although some ISOs claim not to require separate merchant accounts. See also factoring.

**Issuer** - The member that enters into a contractual agreement with MasterCard to issue MasterCard® cards.

**Issuing bank** - The bank that maintains the consumer's credit card account and must pay out to the merchant's account in a credit card purchase. The issuing bank then bills the customer for the debt.

**Magnetic stripe** - The magnetically encoded stripe on the bankcard plastic that contains information pertinent to the cardholder account. The physical and magnetic characteristics of the magnetic stripe are specified in ISO Standards 7810, 7811, and 7813.

**Magnetic stripe reader** - A device that reads information recorded on the magnetic stripe of a card. Also known as a card swipe reader.

# Understanding Interchange

## Industry Terms

Mail Order/Telephone Order (MO/TO) - A transaction initiated by mail or telephone to be debited or credited to a bankcard account.

Member - An institution that participates in the program Applied Merchant Systems offered by MasterCard International Incorporated.

Merchant - A retailer, or any other person, firm, or corporation that (pursuant to a merchant agreement) agrees to accept credit cards, debit cards, or both, when properly presented.

Merchant Account - A specialized bank approved and issued account to process credit card transactions. One of three parts needed to accept credit cards. Other parts required, a local bank checking account (to deposit funds) and a Processing Solution (to access your merchant account).

Merchant bank - A bank that has entered into an agreement with a merchant to accept deposits generated by bankcard transactions; also called the acquirer or acquiring bank.

Merchant Identification Number - The number a financial institution assigns to a merchant to identify your business.

Monthly minimum - This is a fee that is imposed if your credit card charges (Discount Rate) do not add up to their monthly minimum amount. For example, your monthly minimum is \$25 a month. If your discount rate was 2.25% and you processed \$1000.00 in credit card volume, \$22.50 is charged to the account plus an additional \$2.50 (the difference of the \$25.00 minimum and actual discount fees).

also: The minimum amount in fees and percentages charged by a merchant services provider in a given month. If account activity does not generate the monthly minimum, the account holder must make up the difference.

MOTO (mail order/ telephone order) discount rate - The discount rate charged by the merchant account provider for credit card transaction in which the actual credit card was not available to the merchant. MOTO discount rates are generally higher than swipe discount rates to account for the increased chance of fraud or nonpayment.

Payment gateway - The code that transmits a customer's order to and from a merchant's bank's transaction-authorizing agent ? usually a MAP (merchant account provider). See also payment gateway provider.

Payment gateway provider - A company that provides code and/or software for an e-commerce site to enable it to transfer information from its shopping cart to the acquiring bank, and on through the rest of the credit card transaction. See also payment gateway.

Personal Identification Number (PIN) - A four-to-twelve character secret code that allows an issuer to positively authenticate the cardholder for the purpose of approving an ATM or terminal transaction occurring at a point-of-interaction device.

# Understanding Interchange

## Industry Terms

**Point of Sale (POS) terminal** - A small device that allows you to slide the credit card through to make a charge. This is what most retail stores have. It is fast, easy and accurate to make a charge on a customer's credit card within seconds. It is also known as a terminal machine.

**Processing Solution** - A device, software or virtual product that allows you to connect to a Merchant Account. Without a processing solution, like a credit card terminal, there would be no way to verify, approve and deposit credit card transactions.

**Purchasing card** - Designed to help companies maintain control of purchases while reducing the administrative cost associated with authorizing, tracking, paying, and reconciling those purchases.

**Real-time processing** - Having your customer's credit card information validated and processed for you automatically. The credit card will be charged and the money will be deposited into your bank account all automatically. This is perfect for an internet-based business.

**Receipt** - A hardcopy document representing a transaction that took place at the point of sale, with a description that usually includes: date, merchant name/location, primary account number, amount and reference number.

**Recurring fees** - Regular, usually monthly, charges for maintaining a merchant account. Recurring fees include the discount rate, transaction fees, statement fee, and monthly minimum.

**Reserve account** - See "Holdback."

**Retrieval request** - A retrieval request is what happens when a cardholder cannot remember a credit card transaction, or the bank wants order information for some reason. The card issuer initiates a retrieval request, in which the merchant has 10 days to respond with the order information or the retrieval request will turn into a chargeback. There is usually a retrieval request fee issued against the merchant also in these cases.

**SSL (secure socket layer)** - A system for encrypting data sent over the Internet, including e-commerce transactions and passwords. With SSL, client and server computers exchange public keys, allowing them to encode and decode their communication.

**Settlement** - The process by which merchant and cardholder banks exchange financial data and value resulting from sales transactions, cash disbursements and merchandise credits.

**Setup fees** - Fees charged for establishing a merchant account, including application fees, software licensing fees, and equipment purchases.

**Smart card** - A plastic card containing a computer chip that can store electronic "money." Unlike a credit card, a smart card can only spend out the dollar amount its owner has already put into the card account. It's similar in function to a prepaid calling card but is available for all purchases.

**Swipe discount rate** - The discount rate charged by a merchant account provider for transactions in which a credit card is available for inspection by the merchant. Swipe discount rates are generally lower than MOTO discount rates because the merchant can match signatures and perform other checks for fraud or misuse.

# Understanding Interchange

## Industry Terms

Swipe discount rate - The discount rate charged by a merchant account provider for transactions in which a credit card is available for inspection by the merchant. Swipe discount rates are generally lower than MOTO discount rates because the merchant can match signatures and perform other checks for fraud or misuse.

Third-party processing - Processing of transactions by parties acting under contract to issuers or acquirers.

Transaction - Action between a cardholder and a merchant or a cardholder and a member that results in activity on the cardholder account.

Transaction date - The date a cardholder effects a card purchase of goods, services, or other things of value, or effects a cash disbursement.

Transaction fee - A charge for each credit card transaction, collected by the MAP (merchant account provider) or ISO.

Transaction fees usually fall between \$0.20 and \$1 (U.S.).