

# Tap and Grow? The Case For Contactless Payments In The U.S.

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**Karen Webster**

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2007 EPRG Contactless Forum  
Federal Reserve Bank of Boston



# First, A Story . . .



***MPD Reality Payments***

**icache**

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# Their Biggest Challenge?

**Consumer Adoption**

# Examining The Market For Contactless



***Fewer than 12% of the market for contactless had contactless readers and less than 0.5% of overall merchant locations overall did***

	New York	Boston	San Francisco
<b>Current contactless merchant locations</b>	<b>984</b>	<b>402</b>	<b>64</b>
<b>Total # of targeted/potential contactless merchant locations</b>	<b>10,872</b>	<b>3,230</b>	<b>2,407</b>
<b>Current contactless penetration (as a percentage of potential contactless merchant locations)</b>	<b>9%</b>	<b>12%</b>	<b>3%</b>
<b>Estimated total # of merchant locations</b>	<b>246,042</b>	<b>74,779</b>	<b>56,298</b>
<b>Current contactless penetration (as a percentage of all merchant locations)</b>	<b>0.40%</b>	<b>0.54%</b>	<b>0.11%</b>

# The Decision: Mag Stripe Now, Maybe Contactless Later



# The Contactless Value Proposition

**"This is really an innovative introduction that will fundamentally change how people use cards, as significant as when the magnetic stripe was introduced 30 years ago."**

*Chase Card Services*



**Blue with ExpressPay will help consumers and merchants reap substantial benefits in terms of speed and convenience."**

*American Express*

**"We're confident our customers will embrace the convenience and speed the cards offer, and enjoy the benefit of being able to track their smaller purchases for greater financial control."**

*Wells Fargo Card Services*

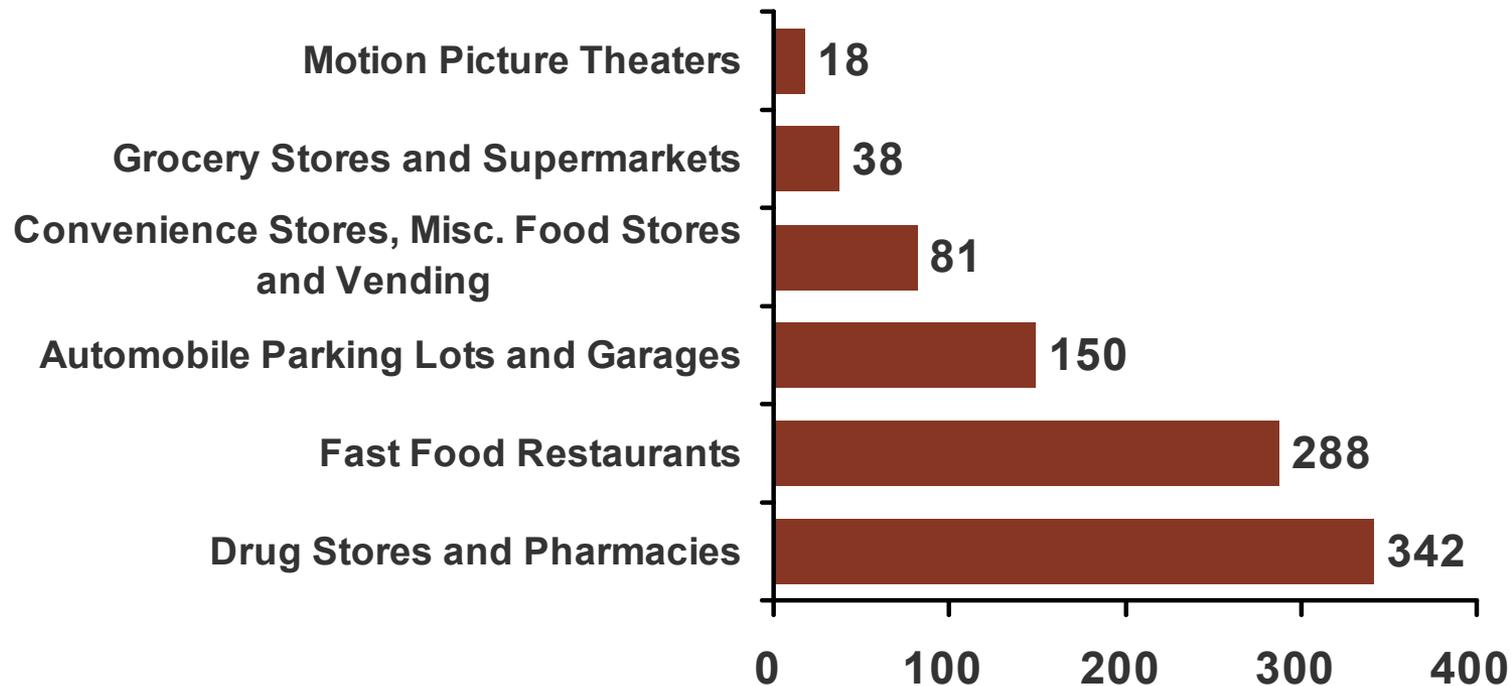


**Speed. Convenience. Higher spending levels.**

# Some Merchants Are Getting On Board



## PayPass Locations in the New York Metro Area (top 6 categories)



Source: MasterCard PayPass website.

**“Given that so many of our customers are all about speed of service and convenience, this is a perfect fit.” – McDonalds**

# And (So They Say) For Good Reason



Media Contacts: Jessica Iben, Chase Card Services, (302) 282-6150, jessica.iben@chase.com  
Nick Ragone, Ketchum, (646) 935-4046, nick.ragone@ketchum.com

## Chase Credit Cards with blink – Fact Sheet

### What is blink?

- ✓ Chase cards with blink are contactless credit cards that allow cardmembers to hold the card in front of a reader instead of swiping, signing or entering a pin.
- ✓ The new Chase cards with blink redefine the payment experience with increased speed and convenience, and increasing efficiency and security.
- ✓ Consumers who have Chase cards with blink are able to use the cards – anywhere Visa and MasterCard are accepted – and contactless payments are accepted.
- ✓ Using Chase cards with blink reduces transaction time by as much as 30-40 percent for both consumers and merchants.
- ✓ Chase cards with blink offer the same security and privacy protections that consumers and merchants have come to expect from Chase.

### How it Works

- ✓ Chase cards with blink allow cardmembers to simply hold their card at checkout, instead of swiping their card or handing it to a salesperson.
- ✓ As cardmembers hold their Chase card with blink near the card reader, the card quickly emits a tone and light up – or blink to signal payment.
- ✓ Chase cards with blink include a technology that is embedded in the card. To enable quick and convenient payments, Chase cards with blink include data and security features that enable traditional credit card transactions.

### Benefits for Cardmembers

As of January 2006, over six million cardmembers in Connecticut, Georgia, New Jersey, New York, Pennsylvania and Texas are able to use their cards every day. Now accepted at nearly 22,000 locations nationwide, blink payments are where they might often use cash.

- ✓ **Get in and out faster.** Consumers can save on average 10 to 15 minutes because they no longer need to hand their card to the cashier. This is realized in quick service restaurants, drive-thrus, convenience stores, theatres, allowing consumers to pay faster and spend less time in line.
- ✓ **Enjoy greater convenience.** Keeps consumers from fumbling around looking for change or small bills.
- ✓ **Purchase with confidence.** Chase cards with blink offer the same security and privacy protections consumers and merchants have come to expect from Chase; plus, making payments with blink provides better record keeping than cash.
- ✓ **All the benefits of a Chase credit card.** Consumers can use the Chase cards with blink anywhere Visa and MasterCard are accepted and use the blink feature wherever contactless payments are accepted.

### Benefits For Merchants

Merchants currently accepting Chase cards with blink include 7-Eleven® stores, AMC Theatres®, Arby's, CVS/pharmacy, Duane Reade, KFC, RaceTrac, Regal Entertainment Group, Sheets, Sony Style stores, Walgreens and Wawa among many others. Initially, this payment approach is being adopted at locations where speed and convenience are critical.

- ✓ **Speed customers through checkout.** Merchants can reduce customers' time at the point of sale by 30 to 40 percent.
- ✓ **Increase consumer spending.** In one pilot, participating merchants realized a 20-30 percent increase in customer spending when using contactless cards as compared to customers paying by cash.
- ✓ **Attract new customers and increase customer loyalty.** The customer experience is enhanced by reducing the wait-in-line time, leaving more time to enjoy the purchase itself.

***“In one pilot, participating merchants realized a 20-30 percent increase in customer spending when using contactless cards as compared to customers paying by cash.”***

**Source: Chase Blink Fact Sheet**

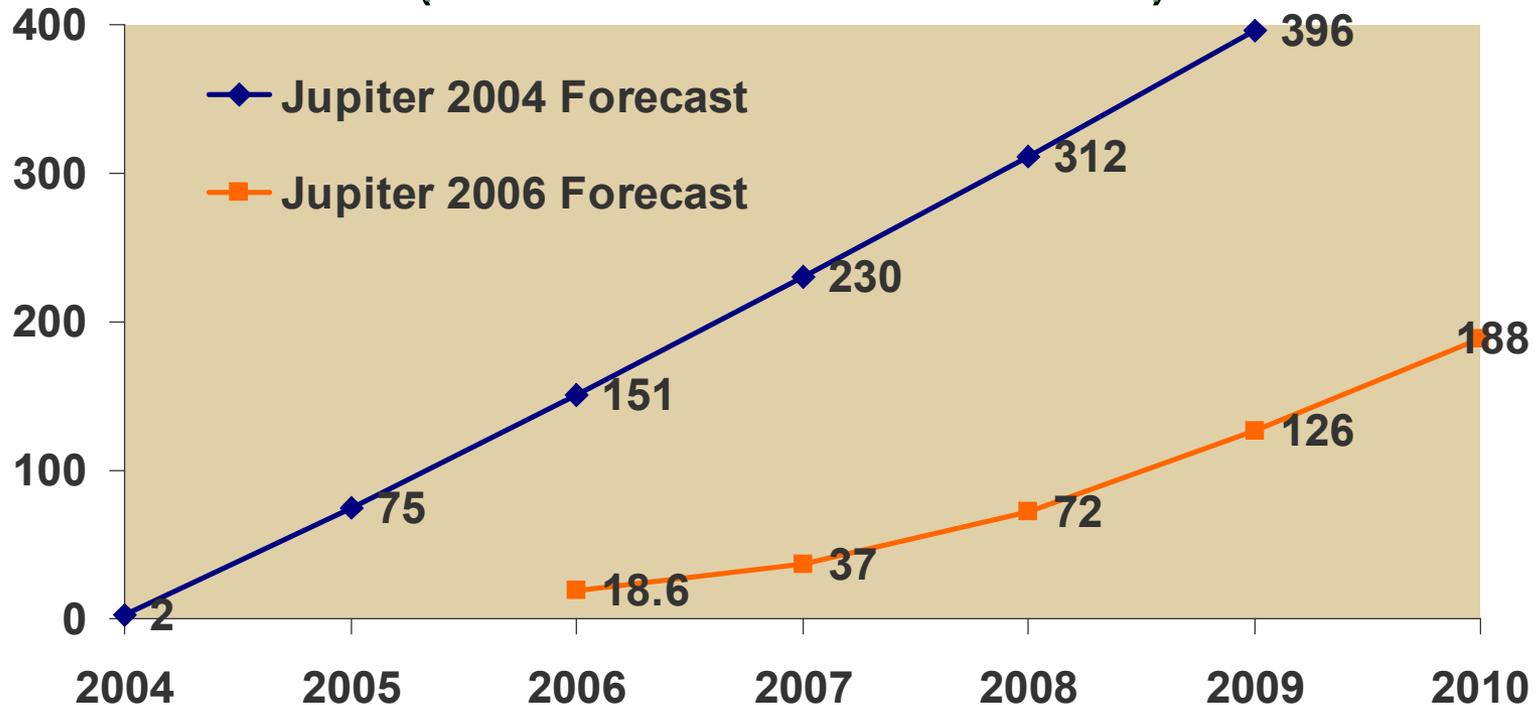
# But Others Continue To Sit On The Sidelines

**“We have to see where  
the market is going  
with this.”**

*Dunkin Donuts*



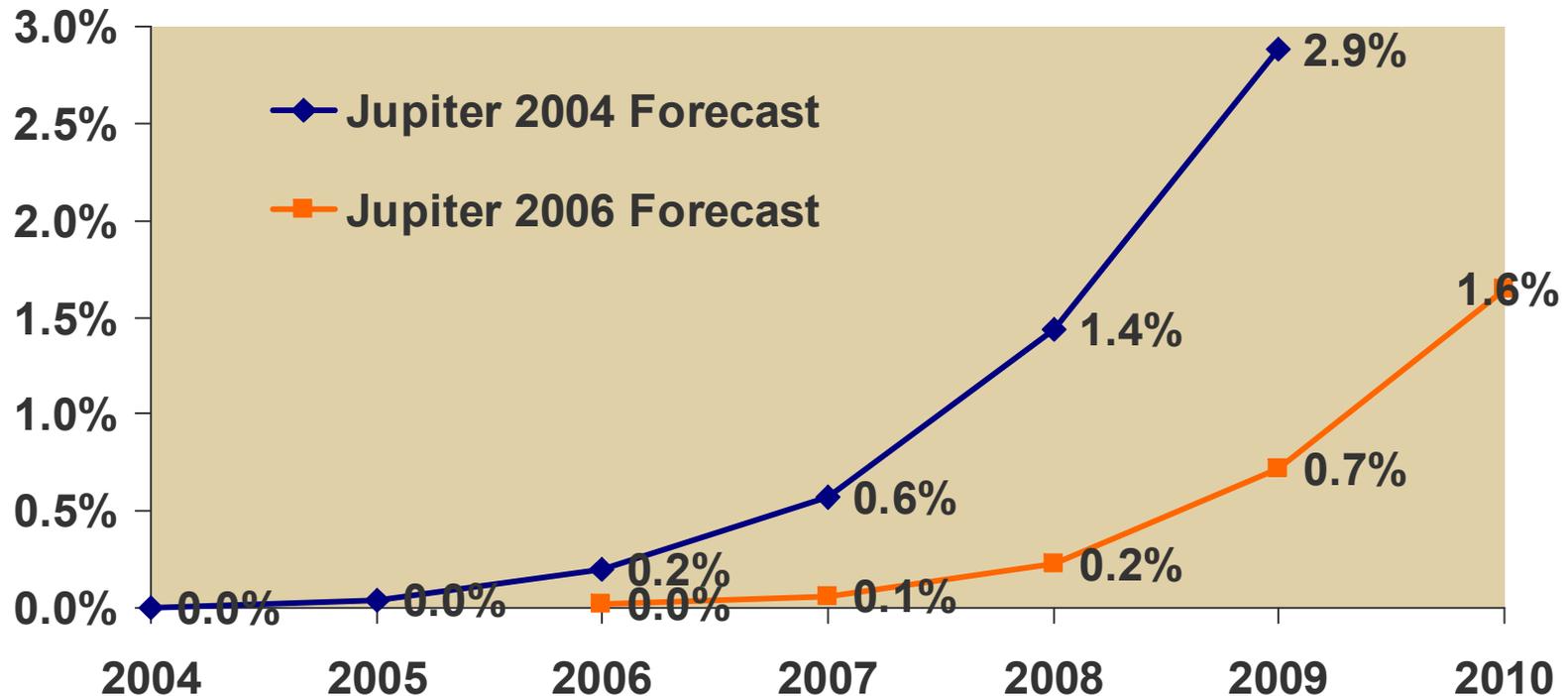
## Forecasts of Contactless Payments in the U.S. (Number of Contactless Cards)



Sources: Jupiter Research, *Proximity Payments* (2004) & *US Contactless Payments* (2006).

**Between 2004 and 2006, Jupiter cut its forecast for the number of contactless cards in circulation by 70%**

## Forecasts of Contactless Payments in the U.S. (Spending on Contactless Cards as a Percent of Total Purchase Volume)



Sources: Jupiter Research, *Proximity Payments* (2004) & *US Contactless Payments* (2006).

**Jupiter also cut their forecast of contactless as a percentage of all card purchasing by more than 75%**

# A “Real World” Snapshot



***MPD Reality Payments***

**MPD  
Generation XY  
Survey**

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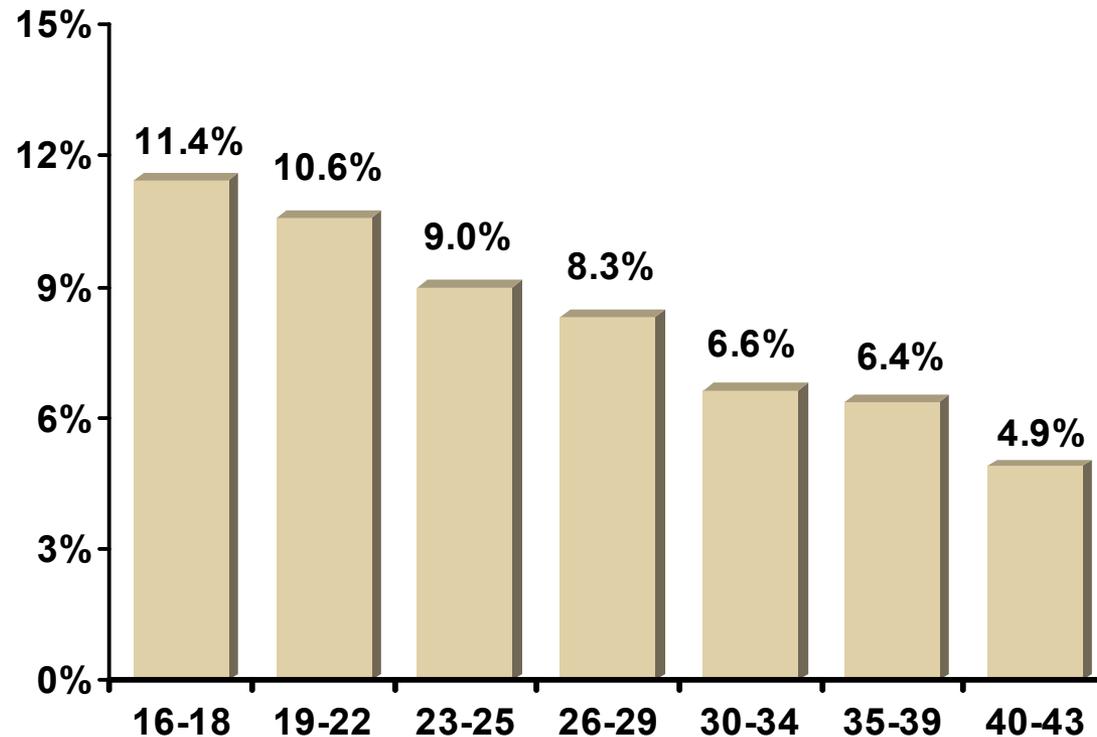
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# The Scoop On Contactless Penetration



***“Do you have a contactless card?”***

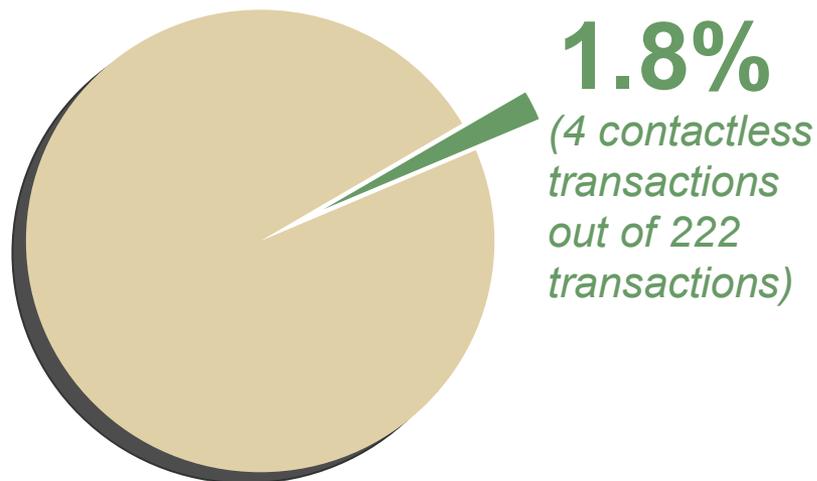
**Percent that  
said “Yes”**



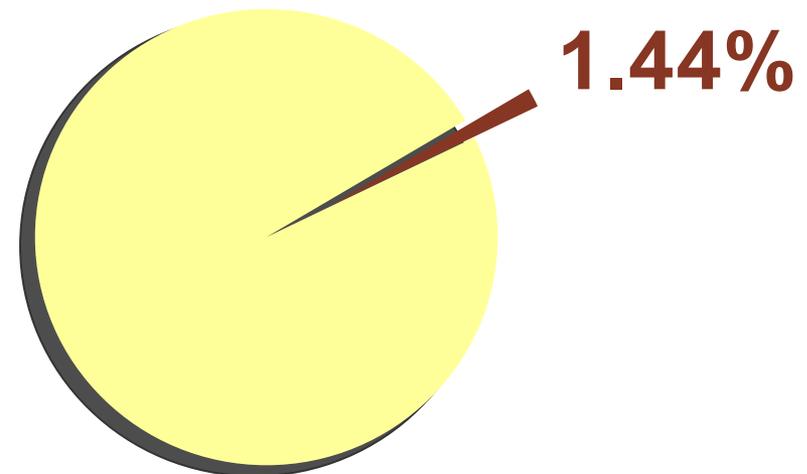
Notes: Based on Market Platform Dynamics Generation XY Survey. Internet-based survey administered quarterly (March, June, September and December) in 2006. 4,000 people between the ages of 16 and 43 surveyed in total.

## Contactless Transactions as a Percentage of All < \$25 Purchases

(Number of Transactions)



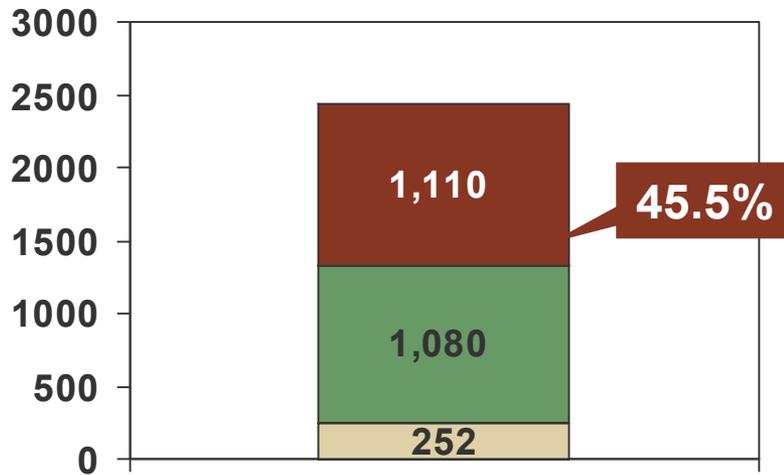
(Amount of Transactions)



**But fewer than 2% of all transactions take place on a contactless card and account for only slightly more than 1% of all spending**

# What Is The Available Market For Contactless?

## Total Number of Transactions 2,442

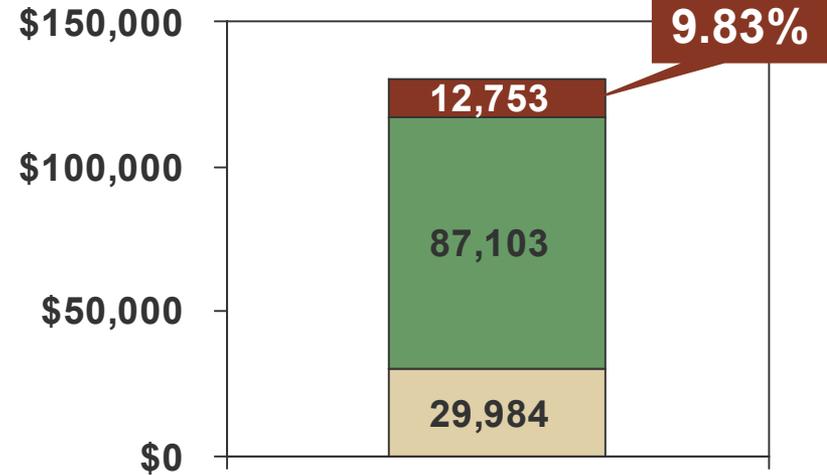


■ Greater than \$25

■ Less than \$25

■ Online

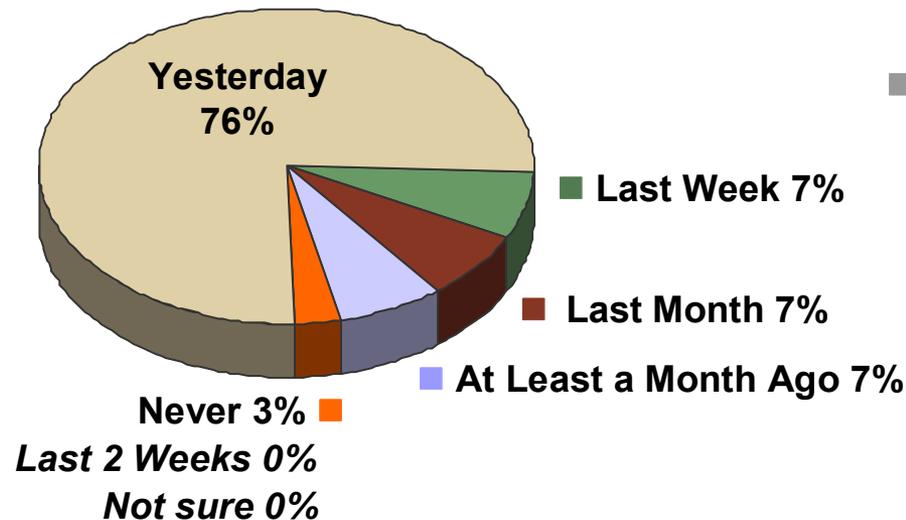
## Total Amount of Transactions \$129,750



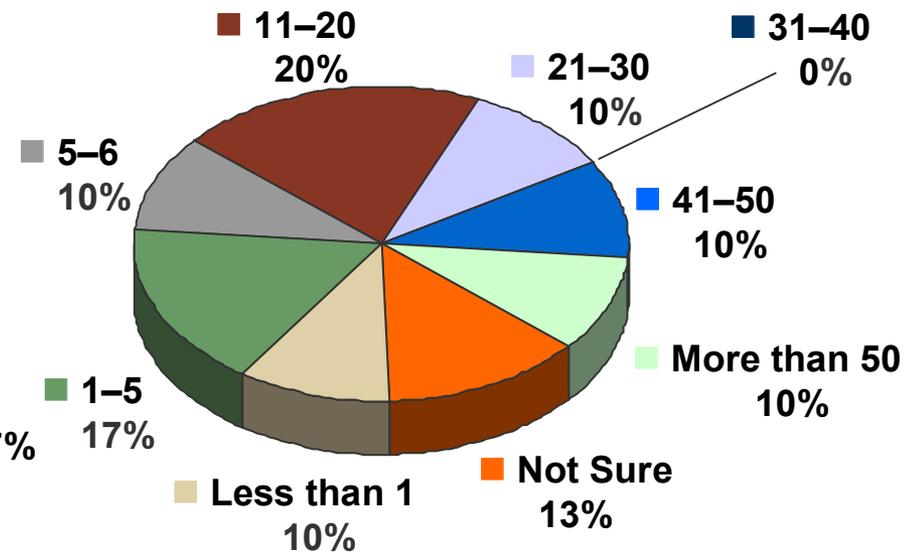
**< \$25 transactions account for 45.6% of all transactions but less than 10% of all spending**

# More From The Real World

When was the last time you saw anyone using a PayPass or contactless card?

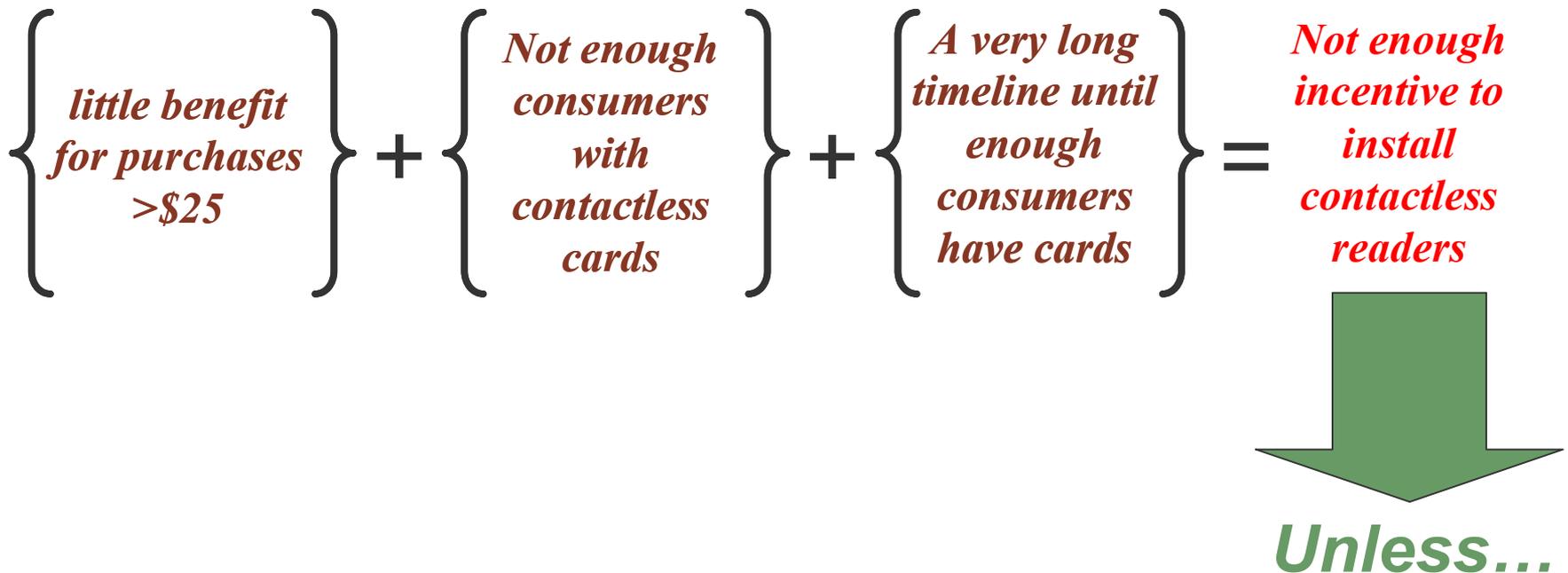


How many people do you see using it every week, on average, according to your best estimate?



**Contactless accounts for less than 0.5% of all weekly customers in an average CVS store**

# Calculating The ROI For Merchants NOW



**There's a killer app that  
drives consumer and  
merchant adoption.**

# Killer App #1: Closed Loops

## Octopus Cards

- 1997 joint venture of five major transport operators
- More than 14 million cards in circulation
- Accepted at 444 locations
- Generates nearly a quarter of its transactions from non-transit purchases



## Shanghai Public Transportation Card

- 1999 joint venture of major transport operators/companies
- More than 13 million cards in circulation
- Accepted for subway, taxi, ferry, tolls, stadiums, parking meters, garages, and gas stations.
- Compatible with public city transit systems in several cities nearby.



# A Quick Comparison



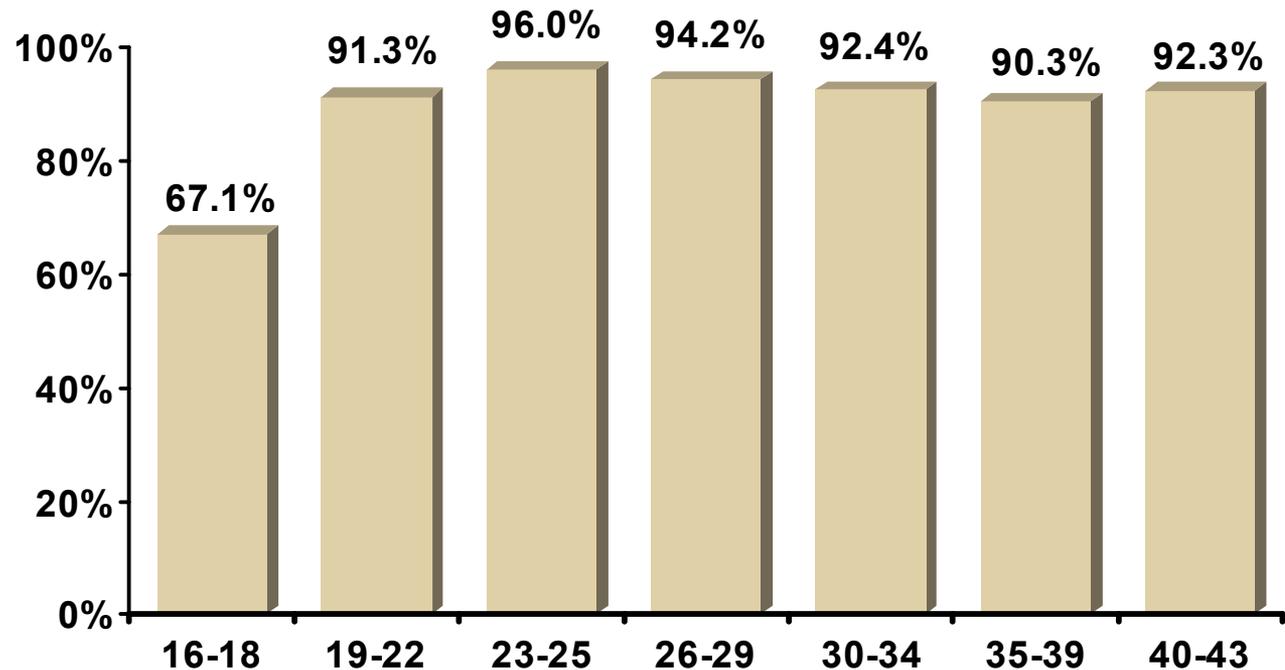
	<b>Octopus</b>	<b>SpeedPass</b>
<b><i>Target market</i></b>	Anyone using public transportation	Frequent Exxon Mobil users
<b><i>User penetration</i></b>	High – 95% of the population possess the card	Low – less than 2% penetration rate
<b><i>Leverage to force contactless to users</i></b>	High – monopoly in transit systems	Low – lots of ways to pay
<b><i>Attractiveness to merchants</i></b>	Very attractive due to the high user penetration	Low – too few SpeedPass holders. And most SpeedPass holders also carry mag stripe credit/debit cards
<b><i>Expansion into open systems</i></b>	Successfully expanded into non-transit payments	Unsuccessful trial in McDonald's; Now limited to Exxon Mobil stations

**How does a closed loop expand?  
Acceptance is the key.**

# Killer App #2: Mobile

*“Do you have a mobile phone?”*

**Percent that  
said “Yes”**



**Overall mobile phone penetration  
in the U.S. is 73.4 percent.**

# The NTT DoCoMo Wallet Phone Case Study



**High mobile phone penetration in Japan: 97.2 million subscribers or approx. 76% penetration rate.**



**Broad acceptance of advanced non-voice features of mobile phone: as of March 2007, 69% of NTT DoCoMo users subscribe to 3G services.**



**Proprietary FeliCa network (joint venture of NTT DoCoMo and Sony).**



**Ignited the market by offering customized solutions to targeted big stores, and putting phones into the hands of consumers.**



**About 20.8 million e-wallet handsets in use as of May 2007.**

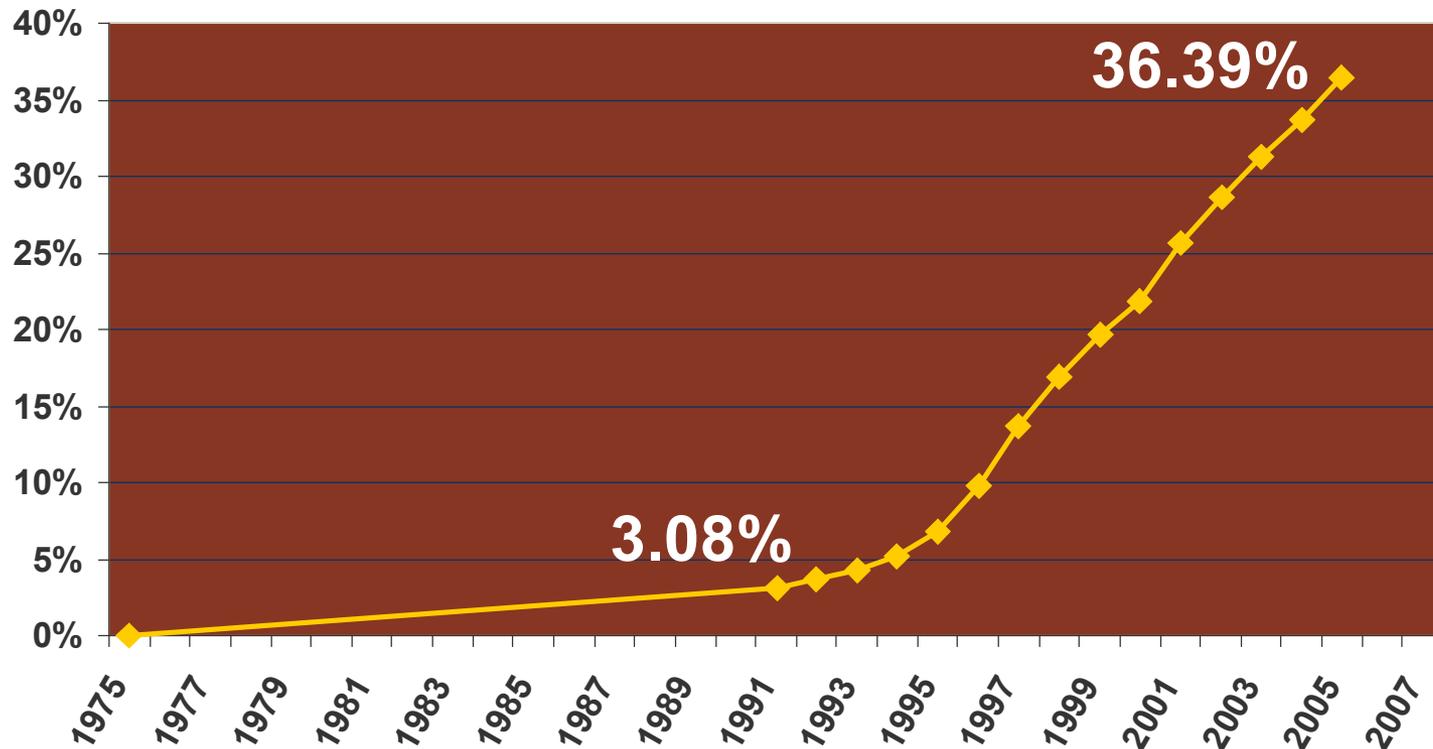


**More than 60,000 readers in place as of October 2006.**

**Broad use by consumers  
(and acceptance by  
merchants) will require  
eliminating the \$25 limit**

**Is personal biometrics a solution  
to the \$25 ceiling?**

## Debit Card's Historical Growth (Share of Total Purchase Volume in the U.S.)



**It took 16 years for debit cards to account for 3% of all card volume – plus an aggressive card distribution program.**

# The Dumb Silent Challenger?

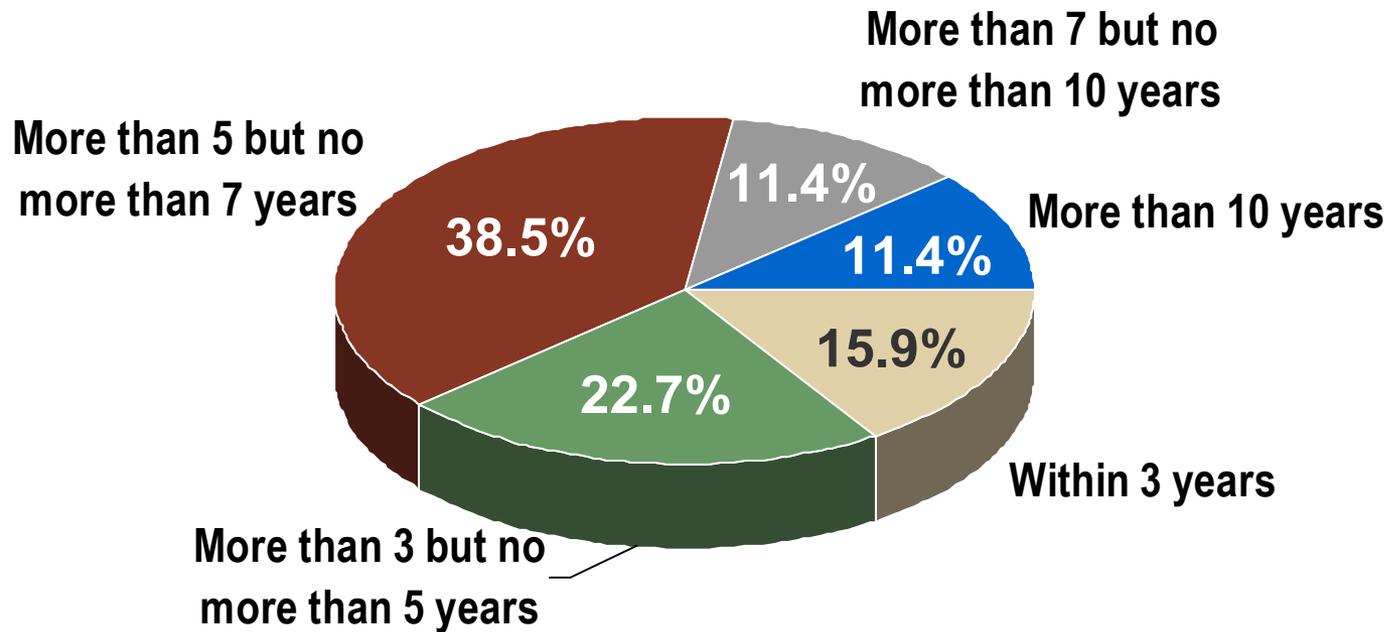


*Bar codes are ubiquitous for both end users and merchants.*

*Contactless chips need to use their intelligence to be superior to otherwise “dumb” solutions*

# The Wisdom Of The (Optimistic) Crowds

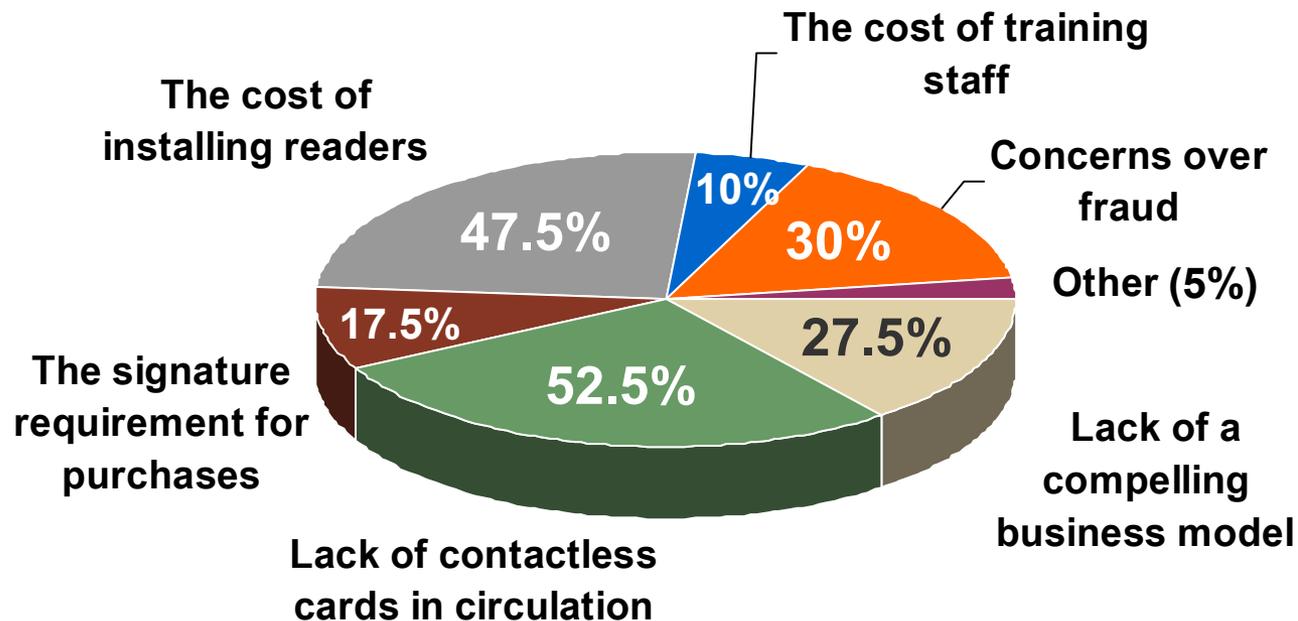
***“How long will it take before half of all card spend takes place at merchants that have contactless readers?”***



**At least half of you think it will be between 5 and 10 years before contactless hits a critical point.**

# Your View Of The Obstacles

***“What are the TWO biggest factors that hinder adoption of contactless by merchants?”***



**Lack of a compelling business model is a gating factor.**

# Igniting the Market: Getting Both Sides On Board



**Leverage the intelligence of chip-based cards**

Create rich software ecosystems with apps that rely on chips (security issues...)



**Establish a meaningful value proposition for end users.**

Speed and convenience can only be part of the value delivered



**Use closed loops to drive open acceptance**

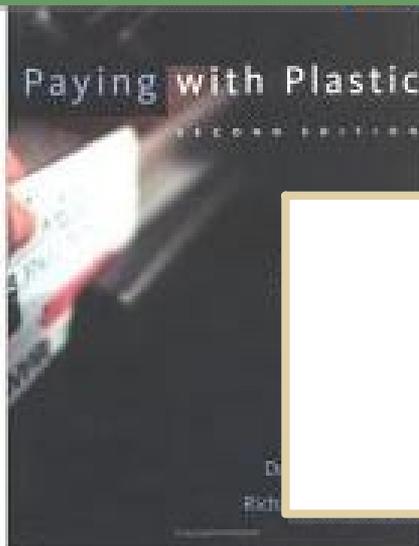
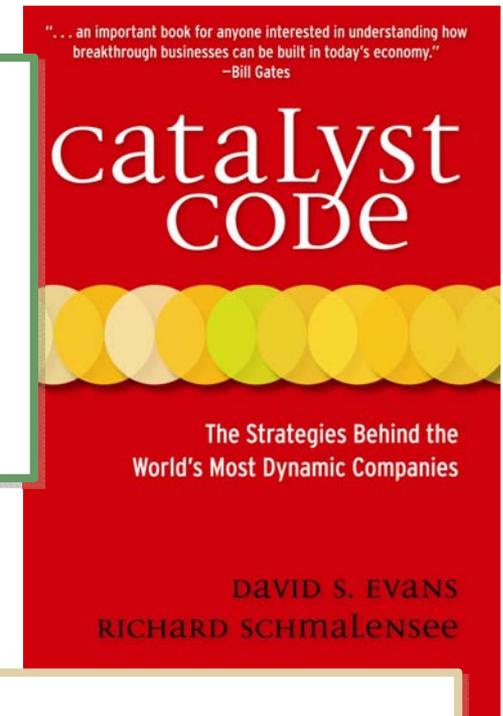
Popularize in closed loops before expanding into open loops

**Catalyst Code:  
The Strategies Behind The World's Most Dynamic Companies**

**David S. Evans and Richard Schmalensee**

*Harvard Business School Press, May 2007*

[www.catalystcode.com](http://www.catalystcode.com)



**Paying with Plastic:  
The Digital Revolution in Buying and Borrowing**

**David S. Evans and Richard Schmalensee**

*MIT Press, 2<sup>nd</sup> ed., 2006*

**Thanks!**

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**Karen Webster**

**[Karen.webster@marketplatforms.com](mailto:Karen.webster@marketplatforms.com)**

**[www.marketplatforms.com](http://www.marketplatforms.com)**

