

# Cash to Electronic Payments

**Moderator – Michael L. Kasavana, Ph.D.**  
**Michigan State University**

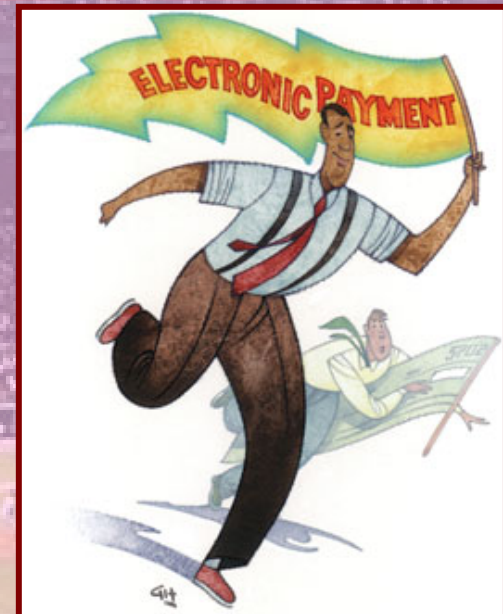
## Panelists

**Mark Friedman**  
**Peppercoin**

**Gregory Garback**  
**WMATA**

**Tim Hammonds**  
**FMI**

**Anne Layne-Farrar**  
**LECG, LLC**



# Payment Option Determinants

1. Consumers and merchants need to be convinced of advantages over existing payment alternatives;
2. Payment providers must convince consumers and merchants simultaneously of its benefits to achieve critical mass;
3. There must be an assurance that adequate safety and security measures have been implemented

Source: "Why Has Stored Value Not Caught On?"  
Sujit Chakravorti, Federal Reserve Bank of Chicago

FRB research highlights two key aspects of payment determination:

- consumer demographics (age, education, income, etc.)
- attributes of methodology (speed, safety, cost, ease of use, etc.)

Source: "The Choice at the Checkout", 2006 FEDS Series  
Borzekowski and Kiser, Federal Reserve Board, Washington DC

Your time is **important.**  
Spend less of it paying your bill.



ONLINE



NEIGHBORHOOD  
PAYMENT CENTER



AUTOMATIC  
PAYMENT



MAIL

# Did you know?

## 2005 IPSOS / MasterCard Consumers Payment Study Findings



- 📌 49% carry less cash than five years earlier
- 📌 60% carry less than \$20 cash
- 📌 62% use cash less often than five years earlier



## 2006 MC / PayPass Performance Study Findings



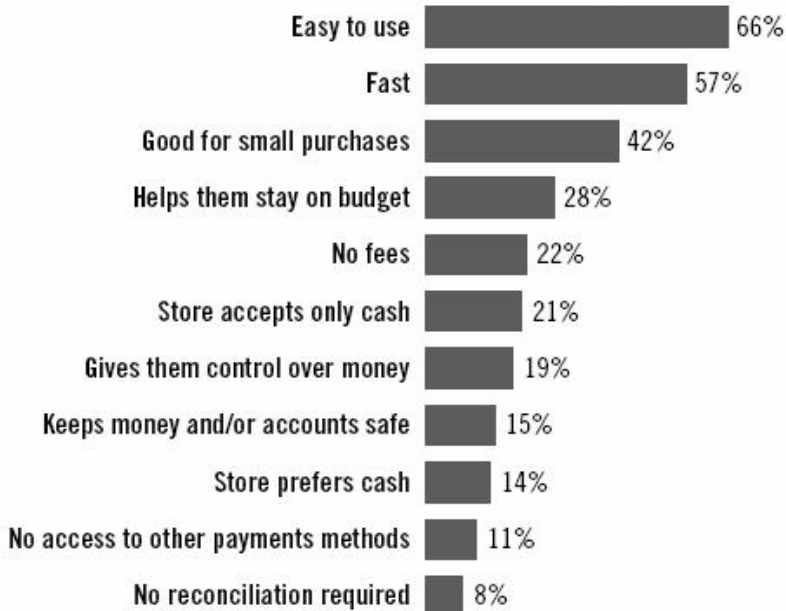
- ➡ average credit/debit transaction <\$20
- ➡ 75% of transactions <\$25
- ➡ 45% of transactions <\$10



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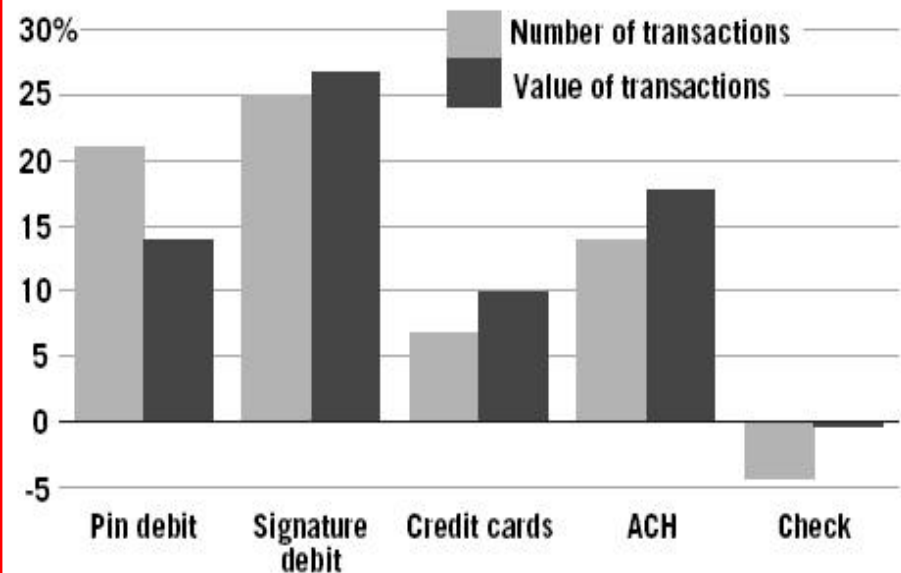
## Why Consumers Still Like Cash

A recent ABA/Dove Consulting survey found that more than half of consumers are using cash as much as or more than they were in 2003. The leading reasons they gave:



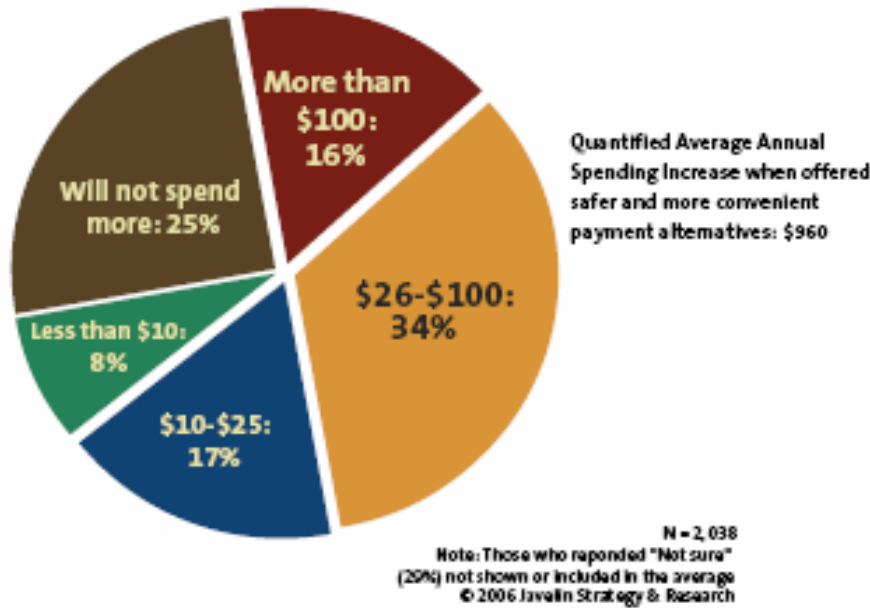
## Demand for Debit

Debit outstripped other payment types in average of annual growth rates, 2000-2003



Source: Mercator Advisory Group

If there were easier and more secure alternatives to using credit cards, how much more would you purchase online?



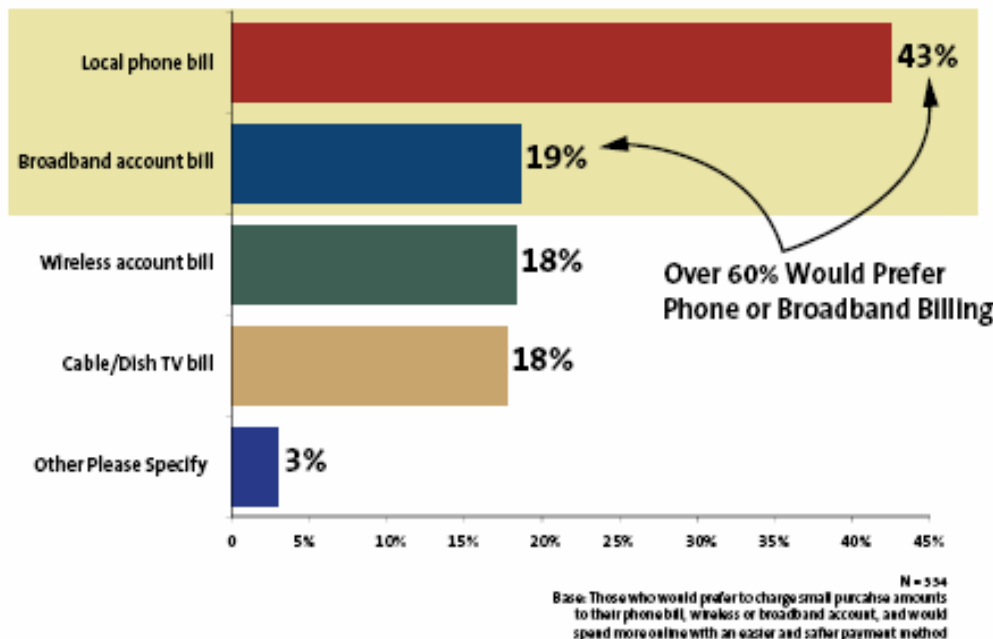
# Online Consumer Payment Poll 2006 Annual Survey



JAVELIN STRATEGY & RESEARCH

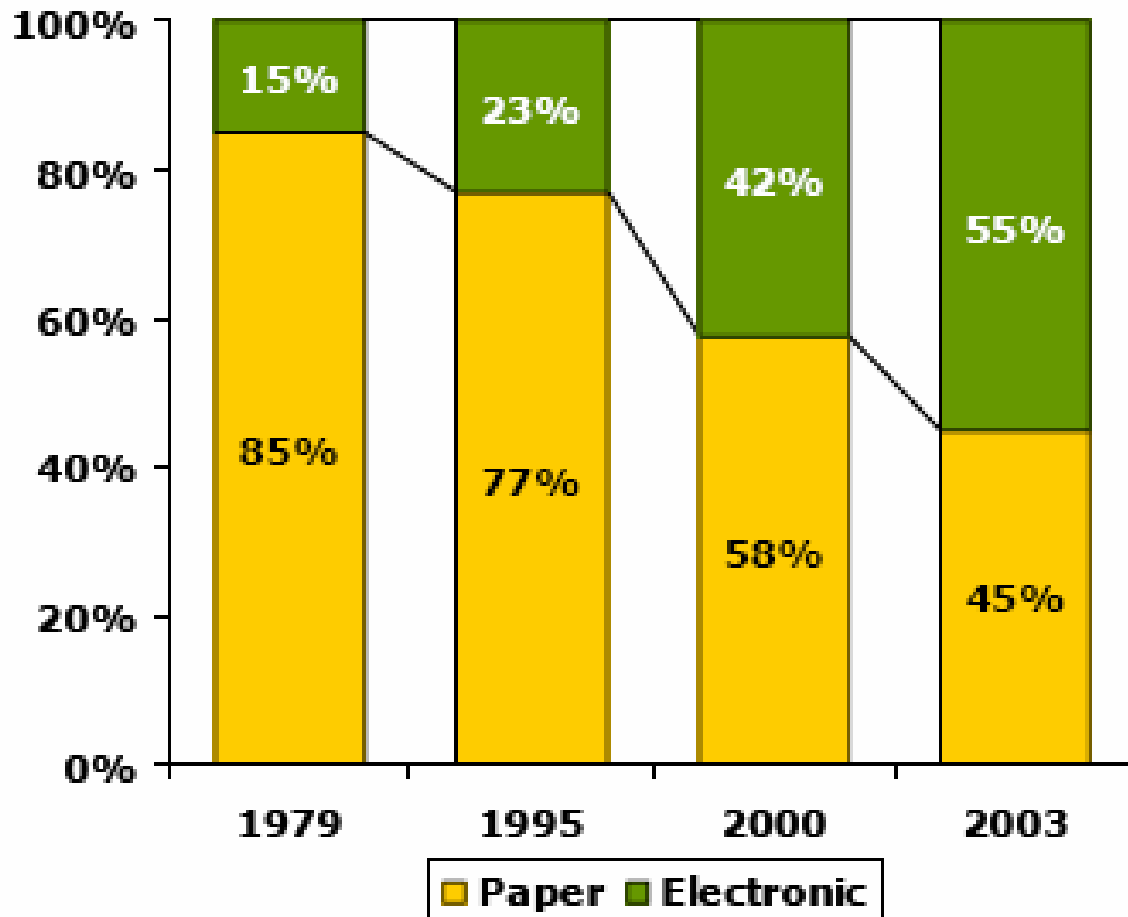
- The majority of online consumers would be inclined to purchase more if given easier and more secure payment options
- By a four-to-one ratio, more secure and more convenient payment options are the overwhelming drivers in motivating consumers to make more online content purchases
- Nearly two-thirds of all consumers would prefer to add small online purchases to their existing telephone or broadband bills

As an alternative to using your credit/debit card over the Internet for small purchases, to which of the following would you prefer the small purchases be billed?



# Non-Cash Payments Mix, 1979-2003

Source: Federal Reserve

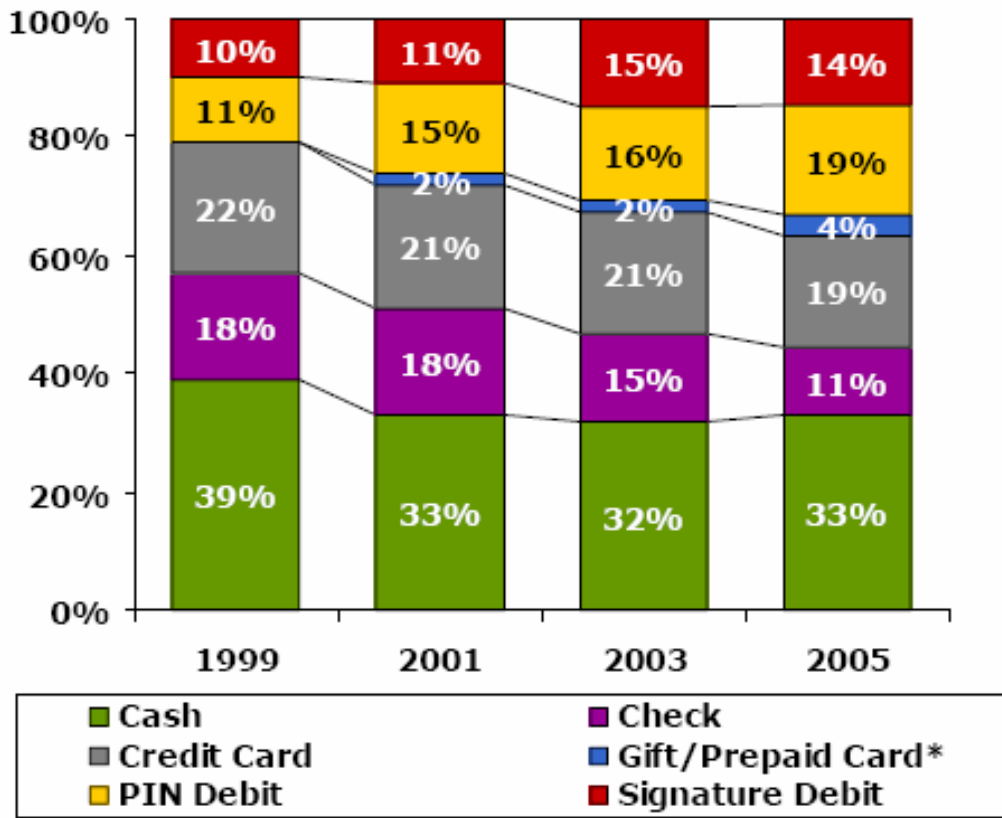


**Electronic Payments:  
Annualized Change in  
Percentage Points**

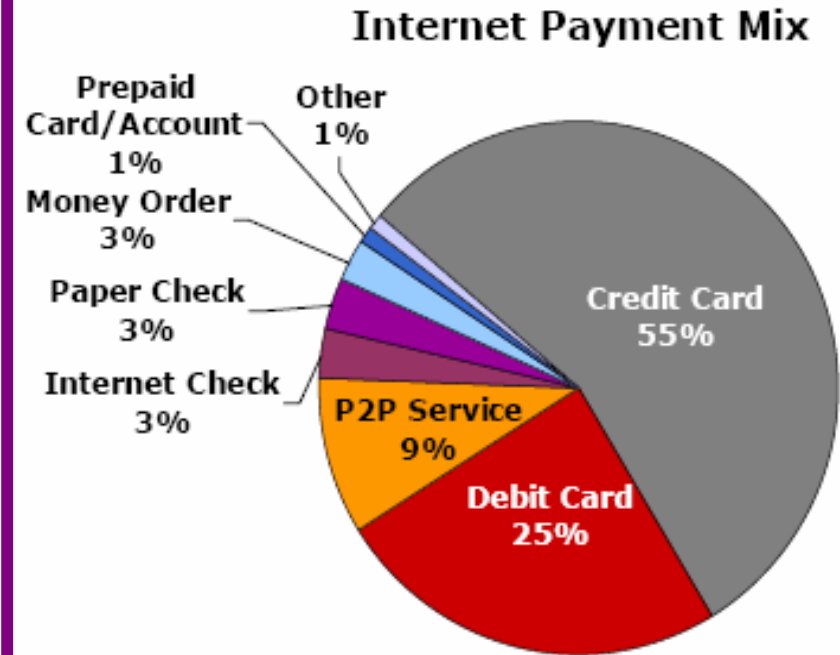
1979-1995	+0.5
1995-2000	+3.8
2000-2003	+4.3



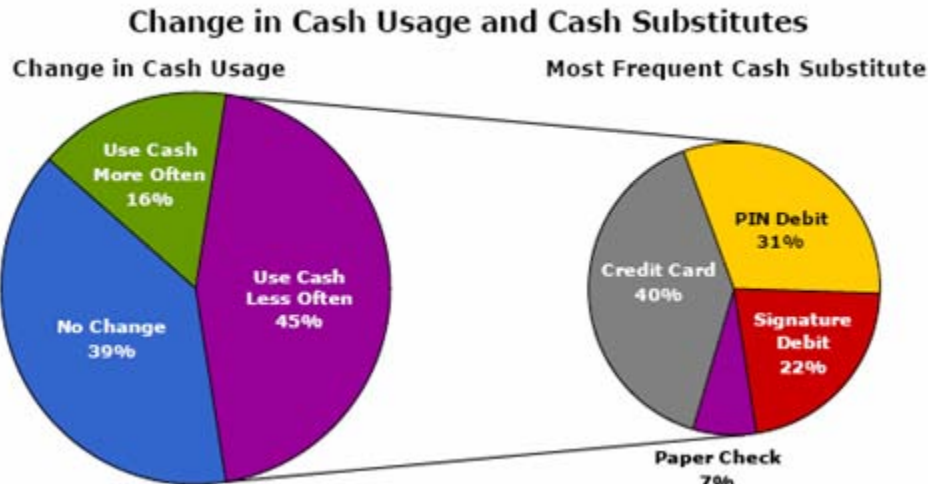
## In-Store Payment Mix, 1999-2005



## 2005-2006 Study of Consumer Payment Preferences -- ABA/Dove Consulting



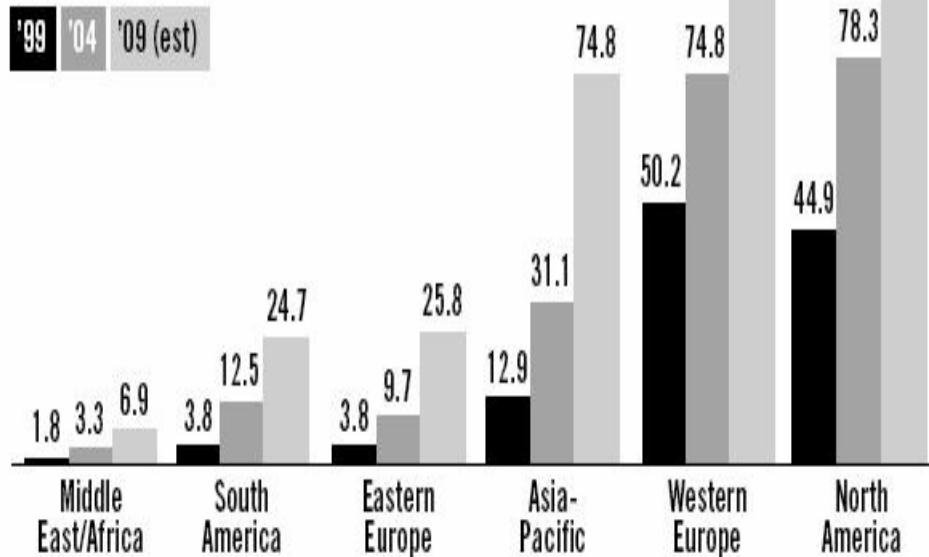
**65 percent of Internet users shopped online in 2005**  
[Jupiter Research]



**71 percent of Internet users will buy online in 2010**  
[Forrester Research]

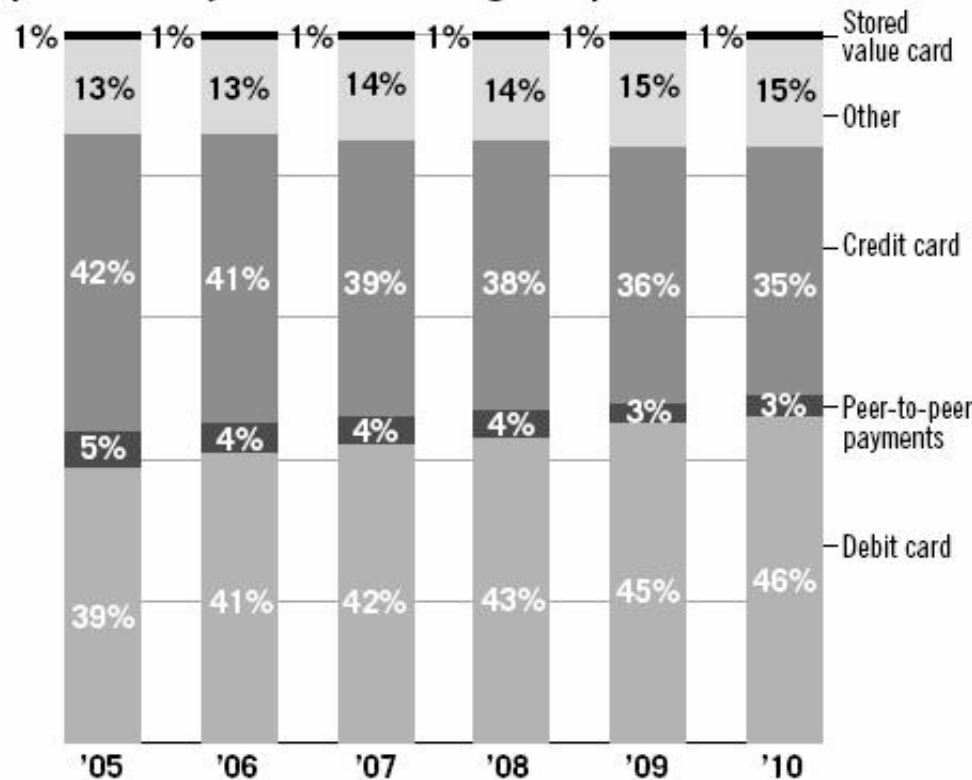
# E-Payments Surging Worldwide

There are more electronic transactions in Europe and North America, but they are growing the fastest in Eastern Europe and Asia. Transactions in billions

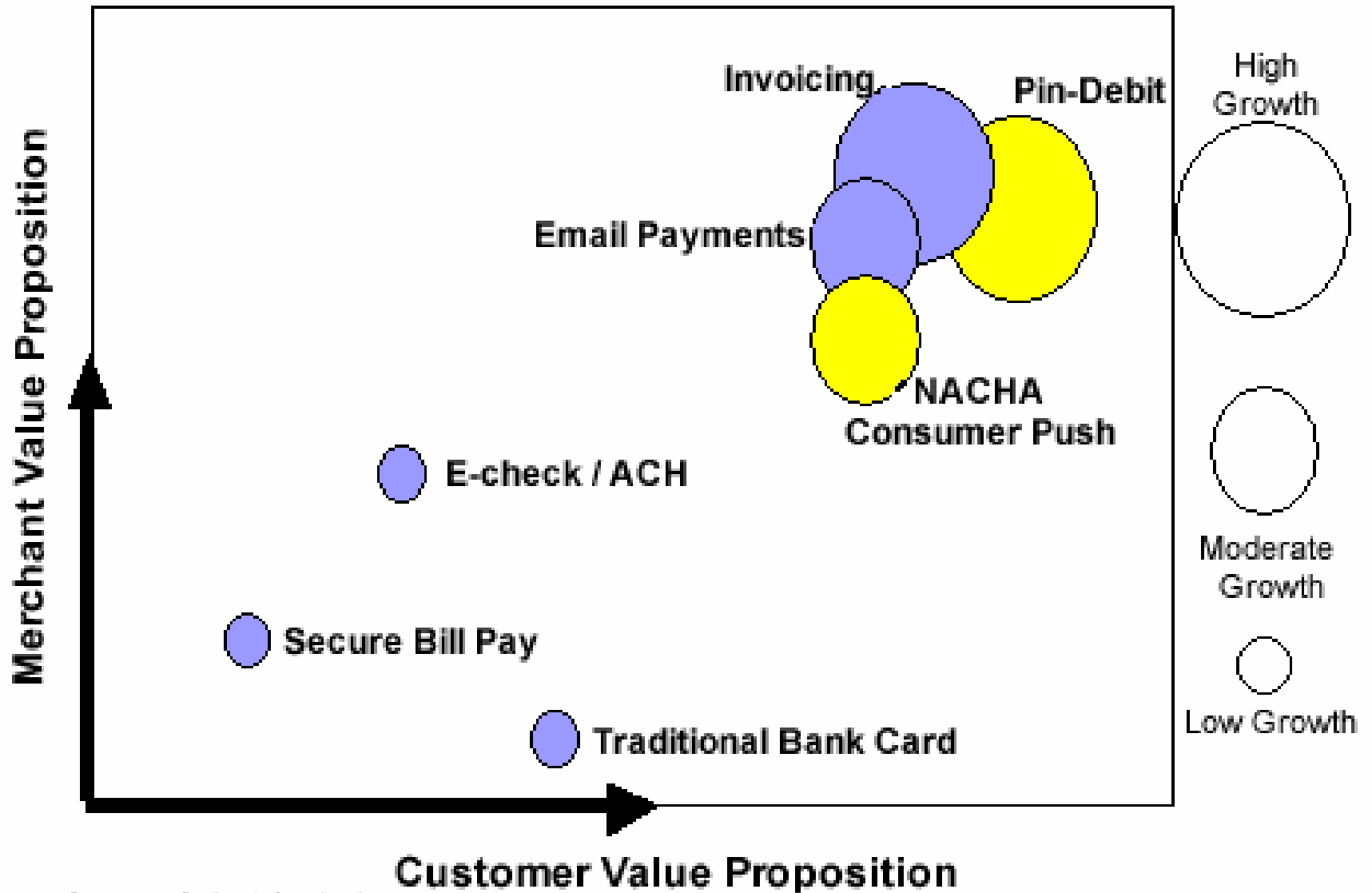


## Debit on the Net

Consumers will use debit for almost half of all online purchases by 2010, according to Jupiter Research



# The Relative Value Propositions of Online Alternative Payments



Source: Celent Analysis

Note: Blue = Live; Yellow = In Pilot



# Online Payment Alternatives

Consumer concerns: privacy, security, flexibility, and control (nacha.com)

**Email Payments** – customers pay online using a credit card, bank account or other form of payment; an email invoice is sent as verification

**NACHA Credit Push** -- consumers are authenticated by own bank and initiate private, secure electronic payments for online fund transfers, bill payment, and purchases via online banking web sites; consumers view a billing statement using online banking and authorize bill settlement with ACH credit.

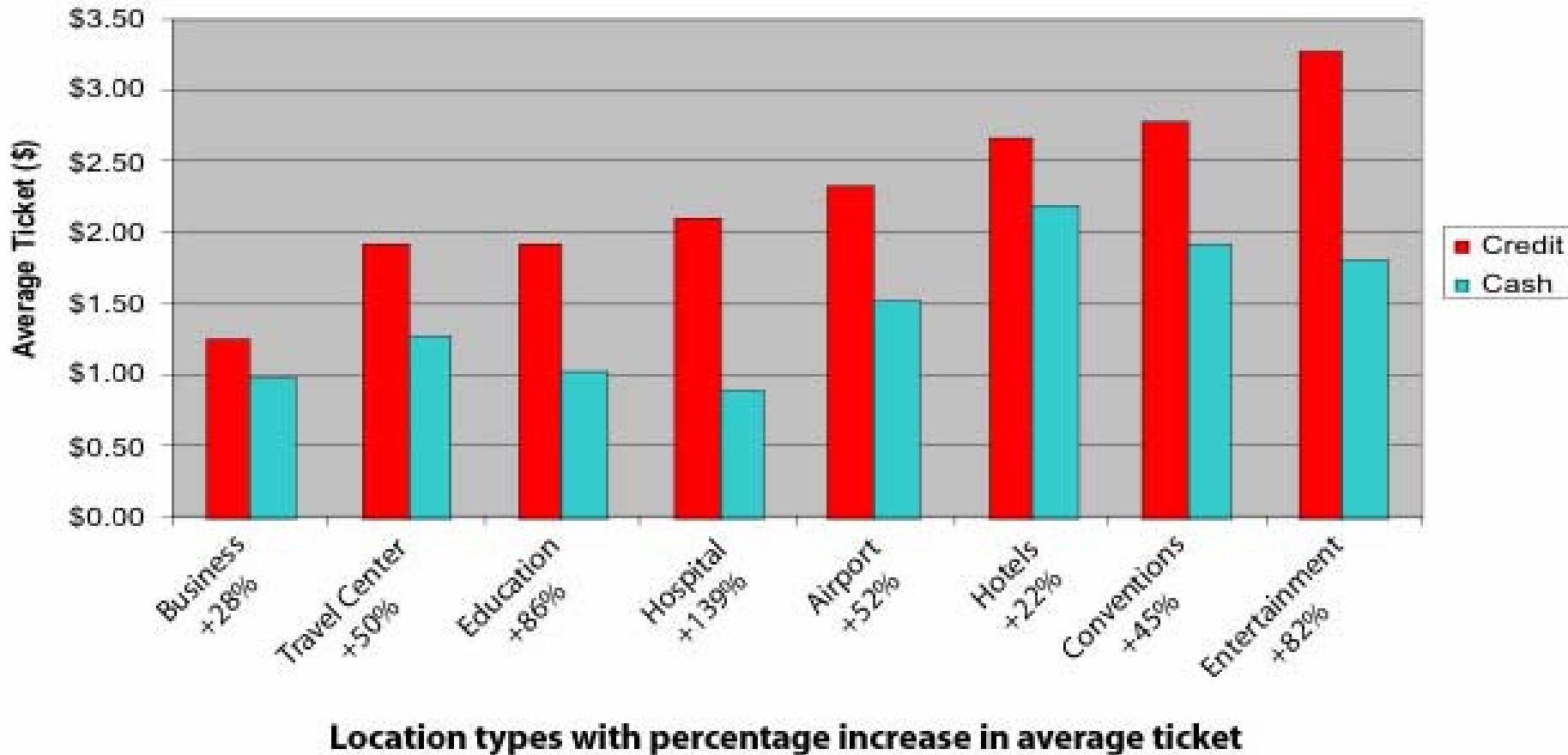
**PIN Debit** – consumer enters basic contact information, swipes an ATM or Debit card and enters a PIN code

**Invoicing** – emailing of customer invoices (often with an embedded payment Button); customer receives invoice and clicks button to pay

The market for e-commerce is growing between 14-25% annually (nacha.com)

# USA Technologies Cashless Survey

## Comparison Volume Cashless Sales



Survey: analysis of 633,120 cashless transactions (\$1.2 M) through 500 vending machines equipped with an e-Port cashless transaction reader

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# Cashless Vending Considerations

## TEN FACTORS

1. **Self-Service Economy** – pay at the pump, ATM machines, self-checkout kiosks, and e-commerce exert positive influence on the move to cashless. “The Internet has become the world’s largest vending machine.”
2. **Machine Interface** – implementation of MDB technology that simplifies the connection of peripheral equipment to a machine controller board enables less expensive hardware/software for transaction processing.
3. **Competitive Influences** – the ability to conduct cashless transactions at convenience stores and quick service restaurants conditions consumers to expect to use credit/debit cards to complete simple transactions.
4. **Processing Fees** – the implementation of fixed transaction fees (5 percent) helps smooth the cost of transaction processing across a diverse collection of micro-transactions.
5. **Communication Fees** – the ability to transfer data from machine to ACH or similar processing centers at a cost of \$7-10 per machine per month has also helped facilitate the attractiveness of cashless payments via wireless communications.
6. **Remote Machine Monitoring** – the fact that data is being moved from the machine to a remote processing center will enable the movement of other machine captured data for minimal or no additional expense.
7. **Combination Readers** – reduction in cost of hardware for electronic data capture through a combination reader and/or contactless RFID reader. Given the dedicated bevel location and applications, a combo unit solves much of the concern for hardware accessibility.
8. **Cashless Purchase Habits** – with cashless purchasing consumers tend to spend more and make multiple purchases. Units can be programmed to secure pre-specified credit limits, number of items purchased, or number of transactions per card per machine.
9. **MC and Visa Incentives** – micro-payment options for credit and debit transactions at lower costs, without PIN code or signature are further incentives driving implementation.
10. **Security** – no cash, minimal auditing, reduced fraud, and no stored proprietary data.



# Infamous Quotes

**“The revolution waiting in the woods is smartcards!”**

Walter Wriston, Formerly of Citicorp/Citibank, 1996

**“Cash is dirty, inefficient and obsolete!”**

James Gleick, New York Times Magazine, 1996

**“Until you change the way money works, you change nothing!”**

Bernard Lietaer, The Future of Money, 2001

**“Only ten percent of transactions will be cash by 2020...”**

AC Nielsen Research, FastCompany.com, 2006

**“Digitized money will eventually be embedded in everything from clothes to people!”**

Richard Watson, Global Innovation, The Future of Money, 2006

**“PayPass was specifically designed to replace cash payments and our data shows that goal is being met!”**

Art Kranzley, Advanced Payments, MasterCard Worldwide, 2006

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# Points to Ponder



**Which cashless payment option do consumers prefer most often for small dollar (<\$25) transactions?**

**Do consumers want availability of identical payment options at all POS locations?**

**How has consumer purchase behavior at self-service, unattended points of sale changed relative to small dollar (\$25) transactions?**

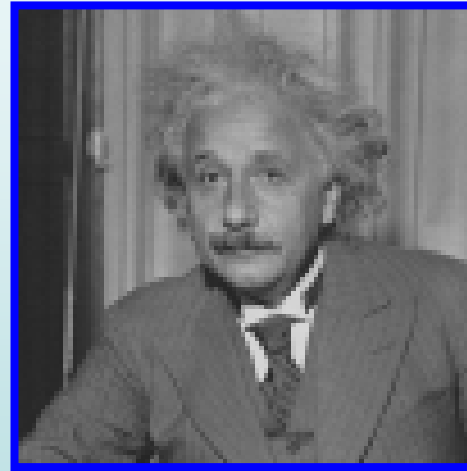
**What differences exist between consumer settlement behavior at physical POS (retail) and virtual POS (e-tail) locations?**

**Do consumers modify their choice of payment option based on dollar value and/or number of products purchased?**

**Which demographics are most likely to influence consumer adoption of a cashless payment option for small dollar transactions?**

**“You can’t  
solve current  
problems with  
current thinking.  
Current problems  
are the result of  
current thinking.”**

**- Albert Einstein**



**Thank You!**