Payments Trends & Disruptors

PRESENTED BY:  Tony DeSanctis, Senior Director
adesanctis@crnrstone.com
480-990-5705
What you need to think about in Payments

- How do you differentiate to your customers?
- How do you stay relevant and primary in digital commerce?
- What strategies can you deploy to drive engagement and growth?
- What investments do you make in technology and functionality?
- Do you have the right vendors and relationships?
- How do you build a payments roadmap to protect your payments business over the next 2-3 years?
The overarching goal is to offer “one-stop shops” for any number of devices, software and services for companies that give merchants and banks the ability to offer end consumers a range of (cashless) payment choices.

Source: Payments.com; Cornerstone Advisors
Digital Payments – Ecosystem

**Credit Unions & Banks**
- Zelle
- Apple Pay
- Visa Checkout
- Masterpass

**Merchants**
- Amazon Pay
- Walmart Pay
- CVS Pharmacy Pay
- Starbucks
- Kohl’s Pay

**Fintech**
- Apple Pay
- Google Pay
- Samsung Pay
- Venmo
- PayPal
- Alipay
- WeChat Pay
- Affirm

**Banking as a Service**
- Customers Bank
- The Bancorp Bank
- BankMobile
- Lincoln Savings Bank
- Green Dot
- Coastal Community Bank
- RADIUS Bank

CORNERSTONE ADVISORS
## Payments Instruments by the Numbers – Projection

<table>
<thead>
<tr>
<th>Type</th>
<th>2012 - 2017 Actuals</th>
<th>5 Year Change</th>
<th>2017 - 2022 Projections</th>
<th>5 Year Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volume</td>
<td>Transactions</td>
<td>Volume</td>
<td>Transactions</td>
</tr>
<tr>
<td>PAPER</td>
<td>-16%</td>
<td>-11%</td>
<td>PAPER</td>
<td>-16%</td>
</tr>
<tr>
<td>Cash</td>
<td>-2%</td>
<td>-4%</td>
<td>Cash</td>
<td>3%</td>
</tr>
<tr>
<td>Checks</td>
<td>-34%</td>
<td>-38%</td>
<td>Checks</td>
<td>-54%</td>
</tr>
<tr>
<td>Other (MO,CC,TC)</td>
<td>-35%</td>
<td>-34%</td>
<td>Other (MO,CC,TC)</td>
<td>-21%</td>
</tr>
<tr>
<td>CARDS</td>
<td>42%</td>
<td>39%</td>
<td>CARDS</td>
<td>41%</td>
</tr>
<tr>
<td>Credit Cards</td>
<td>48%</td>
<td>52%</td>
<td>Credit Cards</td>
<td>43%</td>
</tr>
<tr>
<td>Debit Cards</td>
<td>38%</td>
<td>37%</td>
<td>Debit Cards</td>
<td>40%</td>
</tr>
<tr>
<td>Prepaid</td>
<td>20%</td>
<td>11%</td>
<td>Prepaid</td>
<td>28%</td>
</tr>
<tr>
<td>ELECTRONIC</td>
<td>29%</td>
<td>47%</td>
<td>ELECTRONIC</td>
<td>20%</td>
</tr>
<tr>
<td>Preauthorized Payments</td>
<td>28%</td>
<td>47%</td>
<td>Preauthorized Payments</td>
<td>17%</td>
</tr>
<tr>
<td>Remote Payments</td>
<td>29%</td>
<td>46%</td>
<td>Remote Payments</td>
<td>24%</td>
</tr>
<tr>
<td>Total</td>
<td>21%</td>
<td>19%</td>
<td>Total</td>
<td>24%</td>
</tr>
</tbody>
</table>
Payment Mix – Digital and POS

North America eCom payment methods

<table>
<thead>
<tr>
<th>Method</th>
<th>2018*</th>
<th>2022**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Card</td>
<td>34%</td>
<td>27%</td>
</tr>
<tr>
<td>eWallet</td>
<td>20%</td>
<td>33%</td>
</tr>
<tr>
<td>Debit Card</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>Charge &amp; Deferred Debit Card</td>
<td>13%</td>
<td>11%</td>
</tr>
<tr>
<td>Bank Transfer</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Cash on Delivery</td>
<td>4%</td>
<td>2%</td>
</tr>
</tbody>
</table>

North America POS payment methods

<table>
<thead>
<tr>
<th>Method</th>
<th>2018*</th>
<th>2022**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Card</td>
<td>41%</td>
<td>44%</td>
</tr>
<tr>
<td>Debit Card</td>
<td>34%</td>
<td>32%</td>
</tr>
<tr>
<td>Cash</td>
<td>16%</td>
<td>11%</td>
</tr>
<tr>
<td>Charge Card</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>eWallet</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>Pre-Paid Card</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Small Transaction Migration

![Bar Chart showing the percentage of rewards cardholders using cash, debit, and credit cards from 2014 to 2019.](source: CreditCards.com)
Debit Card
What Does the Debit Card Market Look Like?

- 47% owned by 10 FIs
- 66% owned by 50 FIs
- 34% owned by everyone else
- Many new players looking to gain ground in the market
- How do you grow your piece of the market
Chime Bank

Banking the way it should be.

Say goodbye to ridiculous bank fees. Get paid up to 2 days early with direct deposit. Grow your savings, automatically.

Get your paycheck early.

Set up direct deposit and receive your paycheck up to 2 days earlier than your co-workers!

Learn More About Early Direct Deposit

No hidden fees. Ever.

No overdraft. No minimum balance. No monthly service fees. No foreign transaction fees. No transfer fees. Over 38,000 fee-free MoneyPass® and Visa Plus Alliance ATMs, plus 30,000+ cash-back locations.

Learn More About No Hidden Fees
Square Debit for Business

“We now offer all sellers who use our point of sale a place to store their money, and a MasterCard to spend it instantly. No bank account needed.”

– Jack Dorsey, CEO of Square
New Mobile-First Banking Entrants / “Banking as a Service”

**Apple**
- Offering Digital Debit and Credit Card
- Apple has 1.3 billion+ active devices
- The banking engine behind the Apple Card is Goldman Sachs for credit and GreenDot for Apple Cash

**T-Mobile**
- Attractive Rates: 4.00% Annual Percentage Yield (APY)
- T-Mobile has 80 million+ mobile customers
- The banking engine behind T-Mobile Money is BankMobile
Relationship Based – Credit Union

3.00% Max Checking

You’ll earn **3.00% on balances up to $15,000**! We’ll also refund up to $15/month in surcharge fees if you use a non-LMCU ATM. And guess what? Max Checking was named the best checking account in the nation by Money Magazine!

**Features**
- 3.00% APY on balances of up to $15,000
- No minimum balance required
- Totally free – no monthly fees
- Free LMCU ATM usage
- Up to $15/month reimbursement for non-LMCU ATM use
- Free online banking
- Free Bill Pay, with direct deposit commitment

**Requirements**
To earn the most on a 3.00% Max Checking account, follow these requirements.

1. Direct deposit into any LMCU account
2. Minimum of 10 posted debit card or credit card purchases per month
3. Minimum of 4 logins to home banking per month
4. Sign up to receive eStatements/eNotices
## Relationship Based – Top 5

### Preferred Rewards

Get more rewards with your everyday banking.

### Gold

<table>
<thead>
<tr>
<th>Required balance</th>
<th>Rewards Savings Interest rate booster</th>
<th>Credit card rewards bonus</th>
<th>Non-Bank of America ATM Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20K to &lt; $50K</td>
<td>5% Interest rate booster¹ on a Rewards Savings Account</td>
<td>25% rewards bonus² on eligible Bank of America credit cards</td>
<td>up to 12/year no-fee ATM transactions — withdrawals, balance inquiries and balance transfers (one each per statement cycle) — with a Bank of America debit or ATM card at non-Bank of America ATMs in the U.S.³</td>
</tr>
</tbody>
</table>

### Platinum

<table>
<thead>
<tr>
<th>Required balance</th>
<th>Rewards Savings Interest rate booster</th>
<th>Credit card rewards bonus</th>
<th>Non-Bank of America ATM Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50K to &lt; $100K</td>
<td>10% Interest rate booster¹ on a Rewards Savings Account</td>
<td>50% rewards bonus² on eligible Bank of America credit cards</td>
<td>unlimited no-fee ATM transactions — withdrawals, balance inquiries and balance transfers — with a Bank of America debit or ATM card at non-Bank of America ATMs in the U.S.³</td>
</tr>
</tbody>
</table>

### Platinum Honors

<table>
<thead>
<tr>
<th>Required balance</th>
<th>Rewards Savings Interest rate booster</th>
<th>Credit card rewards bonus</th>
<th>Non-Bank of America ATM Transactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100K+</td>
<td>20% Interest rate booster¹ on a Rewards Savings Account</td>
<td>75% rewards bonus² on eligible Bank of America credit cards</td>
<td>up to 100/month 50 online stock and ETF trades⁴ on a Merrill Edge online investment account</td>
</tr>
</tbody>
</table>

¹Interest rate booster applied as a percentage of your average monthly balance on qualified cash balance, deposited balances, and certain investments with Bank of America. ²Rewards bonus applied to eligible Bank of America credit cards. ³Subject to APY and balance requirements. ⁴Subject to account and purchase requirements. ⁵Subject to account and financial requirements.

---

**CORNERSTONE ADVISORS**
Debit Interchange Trends

Average Debit Card Interchange Fee

Year


$0.70 $0.60 $0.50 $0.40 $0.30 $0.20 $0.10 $0.00

Single-message, covered transactions  Dual-message, covered transactions
Single-message, exempt transactions  Dual-message, exempt transactions

CORNERSTONE ADVISORS
Debit Revenue

Merchant Network Deals
Fintech Disruptors

Merchant Steering
PINless Debit

DEBIT INTERCHANGE
Credit Card
What Does the Credit Card Market Look Like?

- 83% owned by 10 FIs
- 93% owned by 20 FIs
- 7% owned by everyone else
- Primary bank market share?
- Drivers of card selection
- Functionality that drives usage
- Acquisition channels

Shares of Outstandings for U.S. Credit Card Issuers* 2018

- Chase: 16.1%
- Amex: 11.4%
- Citibank: 11.4%
- BofA: 11.2%
- CapitalOne: 10.3%
- Discover: 7.5%
- Wells Fargo: 4.3%
- Synchrony: 2.4%
- Barclays: 2.7%
- U.S. Bank: 4.1%

*Does not include private label cards. © 2019 The Nilson Report
Petal – Starter Card

Credit from the future.

We're using modern technology to help more people build credit with a card that has higher limits, competitive rates and no fees whatsoever.

Link your accounts
Our clever algorithm analyzes more than just your credit score.

See if you're pre-approved
Get a decision in seconds without impacting your credit.

Build your credit score
Pay on time and grow your score.

Rewards that grow with you.

1%
Cash back right away

1.25%
After 6 on-time payments

1.5%
After 12 on-time payments

An app built by a tech company, not a bank.

We make it effortless to track your spending and manage your money, with all of your checking, credit, and other accounts in one place.
Zero Card – Hybrid Debit & Credit

Carbon 3.0%
The highest level Zero card, Carbon earns an industry-leading 3.0% cash back on purchases and 2.00% in rewards annually on average Current Position. Requires referring 4 friends to become Zero customers or $100,000 in annual spending to qualify.*

Magnesium 2.0%
The second-highest level Zero card, Magnesium earns 2.0% cash back on purchases and 1.00% in rewards annually on average Current Position. Requires referring 2 friends to become Zero customers or $50,000 in annual spending to qualify.*

Graphite 1.5%
one step up from the entry-level Zero card, Graphite earns 1.5% cash back on purchases and 0.50% in rewards annually on average Current Position. Requires referring 1 friend to become a Zero customer or $25,000 in annual spending to qualify.*

Quartz 1.0%
The entry-level Zero card, Quartz earns 1.0% cash back, still a game-changing rewards rate for a product that works with a Debit-style Experience.

Banking has never been so rewarding.

Introducing Zero. A mobile banking experience consisting of an app, a credit card called Zerocard, and a checking account called Zero Checking.

Zero is the first modern banking experience to combine the simplicity of a debit card with the rewards of a credit card, featuring unlimited 1.0% to 3.0% cash back on spending and 0% to 2.00% annually on average Current Position (daily Zero Checking minus Zerocard balance)* with zero of the most annoying fees of typical bank accounts.
BREX – Small Business Credit Card

The first corporate card for startups

No personal guarantee, instant card access, and game-changing rewards—all on the Mastercard network. Now that's disruptive.

SIGN UP

Signing up will not affect your credit score.

Net 60 terms

Take a full 60 days to pay to better manage your cash flow. See how it works.

Interest-free

No interest, no fees, no catch. See how we compare and how Brex makes money.

Instant approvals

Apply in as little as 5 minutes, and get your virtual card instantly upon approval. See how to get started.

BREX EXCLUSIVE REWARDS MULTIPLIERS

STARTUPS SPEND ON DIFFERENT CATEGORIES

Brex customers spend a lot on software subscriptions, travel and restaurants, and ridesharing services — so Brex crafted industry-leading multipliers in each of these categories.

7x RIDESHARE

4x BREX TRAVEL

3x RESTAURANTS

2x RECURRING SOFTWARE
Loyalty & Rewards Drive Consumer Behavior

Rewards Remain Top Credit Card Feature When Asked About Most Attractive Features on Consumers’ Preferred Credit Card

<table>
<thead>
<tr>
<th>Year</th>
<th>Rewards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>79%</td>
</tr>
<tr>
<td>2017</td>
<td>68%</td>
</tr>
<tr>
<td>2016</td>
<td>59%</td>
</tr>
<tr>
<td>2015</td>
<td>55%</td>
</tr>
<tr>
<td>2014</td>
<td>52%</td>
</tr>
</tbody>
</table>

Redeemers are 2X more likely to be highly satisfied with a loyalty program than non-redeemers

Source: Bond Brand Loyalty Report 2017, survey on 28,000 North American consumers

Rewards Remain Top Credit Card Feature – by Income

<table>
<thead>
<tr>
<th>Income</th>
<th>Rewards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $25,000</td>
<td>55%</td>
</tr>
<tr>
<td>$25,000 to less than $50,000</td>
<td>62%</td>
</tr>
<tr>
<td>$50,000 to less than $75,000</td>
<td>71%</td>
</tr>
<tr>
<td>$75,000 to less than $100,000</td>
<td>80%</td>
</tr>
<tr>
<td>$100,000 to less than $150,000</td>
<td>80%</td>
</tr>
<tr>
<td>$150,000 or more</td>
<td>78%</td>
</tr>
</tbody>
</table>

TSYS 2017 US Consumers Payment Study
Loyalty & Rewards – Cash Back is King

Reward Types: Have on Preferred Card & Have Redeemed

- Cash-back: 80%
- Gift cards: 47%
- Merchandise: 38%
- Travel: 33%
- Experiences: 21%

How Frequently Cash Back is Redeemed

- Once a month or more: 15% (2016), 24% (2017)
- A few times a year: 30% (2016), 32% (2017)
- Once a year or less: 20% (2016), 25% (2017)
- Infrequently or never: 35% (2016), 19% (2017)

TSYS 2018 US Consumers Payment Study
Rewards Paradox

Average Rewards Cost

Source: VisaNet data, July 2009 to June 2017, Visa analysis

YOY spend growth by rewards value

Source: VisaNet 2016-2017
Loss Trends

- Delinquency and Losses have been at a 15-year low
- Recent quarters have been trending upward and leading to pull back in lending

Federal Reserve Data
Margin Pressure

- Historically low cost of funds has led to higher margins
- The increasing trend in losses and the higher costs of funds will put significant pressure on credit card profitability
Music Industry – A sign of things to come?

U.S. music industry retail revenue from 1999-2016

*Inflation adjusted to 2016 dollars; 2004 is the first year streaming and digital data was collected.*

Source: Recording Industry Association of America • Created with Datawrapper
P2P
P2P Adoption and Demographics

Race to the top
Zelle and PayPal both show quarterly growth, reflecting popularity of P2P payments

$ Billions Payments Volume

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Total PayPal</th>
<th>Venmo Only</th>
<th>Zelle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4 2017</td>
<td>$27</td>
<td>$10.4</td>
<td>$17</td>
</tr>
<tr>
<td>Q1 2018</td>
<td>$30</td>
<td>$12</td>
<td>$17</td>
</tr>
<tr>
<td>Q2 2018</td>
<td>$33</td>
<td>$14</td>
<td>$17</td>
</tr>
<tr>
<td>Q3 2018</td>
<td>$36</td>
<td>$17</td>
<td>$32</td>
</tr>
</tbody>
</table>

Source: Early Warning and PayPal company financial reports

Note: ages 18+; mobile phone users who have made at least one peer-to-peer (P2P) transaction via a mobile phone in the past month
Source: eMarketer, May 2018
Are We Talking About the Same Thing?

We do see people use the Cash App fundamentally as you would expect them to use a bank account," "They store money with us, it's accepted anywhere Visa is accepted. They can send and receive money from friends and family."

– Jack Dorsey, CEO of Square

Most Zelle transactions don’t leave the sender’s bank. More than 70% of transfers are between two customers who have accounts at the same institution.

– Lou Anne Alexander, Group President for Payments, Early Warning Services LLC
Venmo and Square Debit Products

Wallet, meet Venmo card

A real debit card. For the real world. Take your Venmo balance shopping.

Card perks...

Re-up your balance
Big purchase but low Venmo balance? Turn on Reloads to use a linked funding source when your balance doesn’t cover it.
How to enable Reloads

ATM access
Need cash? Get no-cost withdrawals from MoneyPass® ATMs in the U.S.* (Other ATMs might cost you.)
Find no-cost ATMs near you
Learn about Venmo card fees

Swipe-free shopping
Tired of inserting chips and swiping cards? Just tap your card and go.
About contactless payments

Cash App

It’s Friday. You wake up to a $15 Cash App notification. A pal paid you back for that pizza you shared. Your balance now reads $172.30.

You use your new money to get $1 off coffee with your personalized Cash Card. You even hit up the ATM after.

5PM. Direct deposit hits. Do you buy Bitcoin, or do you cash out instantly to another bank? With Cash App, you decide.

App Store
Google Play

DEPOSITS

Auto Cash Out
Send incoming payments to my bank account

Standard (1-3 Days)

† Instant (1% Fee)
P2P Adoption and Demographics

Awareness/Use of P2P Services

- Yes, I have used P2P payments: 44% (2018), 29% (2017)
- No, but I was aware of this method: 37% (2018), 44% (2017)
- I have never heard of P2P payments: 25% (2018), 19% (2017)

Age Breakdown: Those Who Have Used a P2P Service

- 25-34: 61% (2018), 45% (2017)
- 35-44: 57% (2018), 37% (2017)
- 45-54: 38% (2018), 27% (2017)
- 55-64: 32% (2018), 16% (2017)
- 65+: 22% (2018), 12% (2017)
Digital Wallets & Payments
Mobile Wallet Adoption

- Mobile Wallets have not been the boon to digital payments many predicted
- Wal-Mart Pay is the highest usage wallet at 6%
Digital Payments – More than Wallets

**Payment Type Used Most Often – Online Shopping**

- Credit card: 48% in 2016, 47% in 2017, 44% in 2018
- Debit card: 25% in 2016, 28% in 2017, 32% in 2018
- PayPal: 12% in 2016, 14% in 2017, 12% in 2018

**Safest Online Payment Type – Top 3**

- Credit card: 38% in 2018
- PayPal: 25% in 2018
- Debit card: 18% in 2018

**Digital Payments in million US$**

- 2016: 692,600
- 2017: 801,674
- 2018: 927,070
- 2019: 1,059,644
- 2020: 1,189,485
- 2021: 1,308,570
- 2022: 1,412,295
Digital Payments - Trends

- In-App Payment awareness is static
- Awareness is much higher in younger demographics
- In-App Payment growth is happening online more so than in store
Other Payment Considerations
Global Fraud is projected to decline from $0.072 per $100 to $0.063 per $100 over the next 2 years.

False Positive impact on card usage can be as much as 25%.

False positives hurt card usage:
More than one in five cardholders stop using their card after the second decline.

Source: Fiserv.
Bill Pay

Where the checks stop

Americans paid 8.2 billion bills online in 2016. Here is a breakdown of where they paid them:

- Biller website, 72.6%
- Bank website, 26.9%
- Third-party website, 0.5%

Source: Aite Group

10% of checking account users are active Bill Pay
47% of Bill Pay users are active
Average about 2 transactions per month
Transaction costs the bank or credit union
Opportunity to migrate Bill Pay volume to Card based transactions
P2P rails could be leveraged to displace Bill Pay transactions

Preferred Payment Type for Bill Payments

- Paying bills: one time
  - Debit: 20%
  - Credit: 12%
  - Check: 11%

- Paying bills: recurring
  - Debit: 51%
  - Credit: 21%
  - Check: 0%

2018 US Consumer Payment Study TSYS

TSYS 2017 U.S. CONSUMER PAYMENT STUDY
Real Time Payments

![Real Time Payments Diagram](image)

### Consumer ACH Transactions in the U.S. 2018

<table>
<thead>
<tr>
<th>Category of Payment</th>
<th>Transactions (ml.)</th>
<th>Change</th>
<th>Value (btl.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Deposit</td>
<td>6,759.6</td>
<td>4.44%</td>
<td>$9,682.38</td>
</tr>
<tr>
<td>Direct Payment</td>
<td>12,525.6</td>
<td>7.60%</td>
<td>$6,520.48</td>
</tr>
<tr>
<td>Internet ¹</td>
<td>6,179.8</td>
<td>13.80%</td>
<td>$3,226.29</td>
</tr>
<tr>
<td>Lockbox Check Conversion</td>
<td>1,115.4</td>
<td>-8.52%</td>
<td>$335.04</td>
</tr>
<tr>
<td>Telephone</td>
<td>598.7</td>
<td>10.20%</td>
<td>$238.67</td>
</tr>
<tr>
<td>Merchant Debit Cards</td>
<td>251.7</td>
<td>5.70%</td>
<td>$17.31</td>
</tr>
<tr>
<td>POS Check Conversion</td>
<td>196.7</td>
<td>-15.16%</td>
<td>$21.87</td>
</tr>
<tr>
<td>Back-Office Check Conversion</td>
<td>96.1</td>
<td>-8.10%</td>
<td>$14.04</td>
</tr>
<tr>
<td>Re-Presented Checks</td>
<td>1.8</td>
<td>-18.60%</td>
<td>$0.52</td>
</tr>
<tr>
<td>Other</td>
<td>4,085.3</td>
<td>5.60%</td>
<td>$2,666.75</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>19,285.2</strong></td>
<td><strong>6.5%</strong></td>
<td><strong>$16,202.85</strong></td>
</tr>
</tbody>
</table>

¹Person-to-person and bill payment transactions (from online banking sites) are counted in the Internet category. © 2019 The Nilson Report

---

The Clearing House, Deloitte Real Time Payments Study
FedNow – Federal Reserve Real – Time Payments

Fed’s move into faster payments

| Name: FedNow |
| Key feature: Will process payments 24 hours a day |
| Transaction size: Up to $25,000 |
| Eligible institutions: All those with Fed accounts |
| Launch date: 2023/2024 |

Source: Federal Reserve
So What Now?

- How do you differentiate to your customers?
- How do you stay relevant and primary in digital commerce?
- What strategies can you deploy to drive engagement and growth?
- What investments do you make in technology and functionality?
- Do you have the right vendors and relationships?
- How do you build a payments roadmap to protect your payments business over the next 2-3 years?