

# The Metamorphosis of Banking

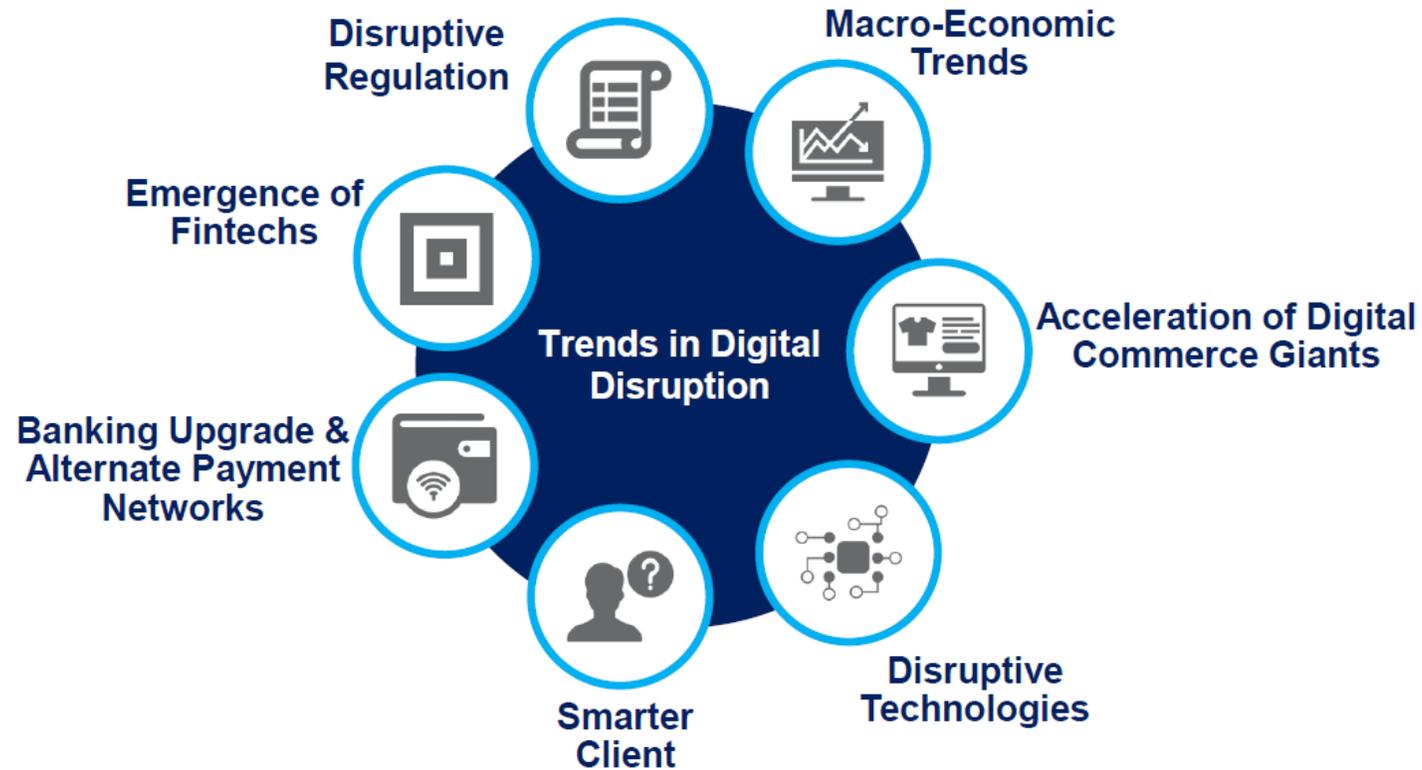
Himanshu Sharma – Head of Strategy, Citi FinTech

Oct 2019

# Agenda

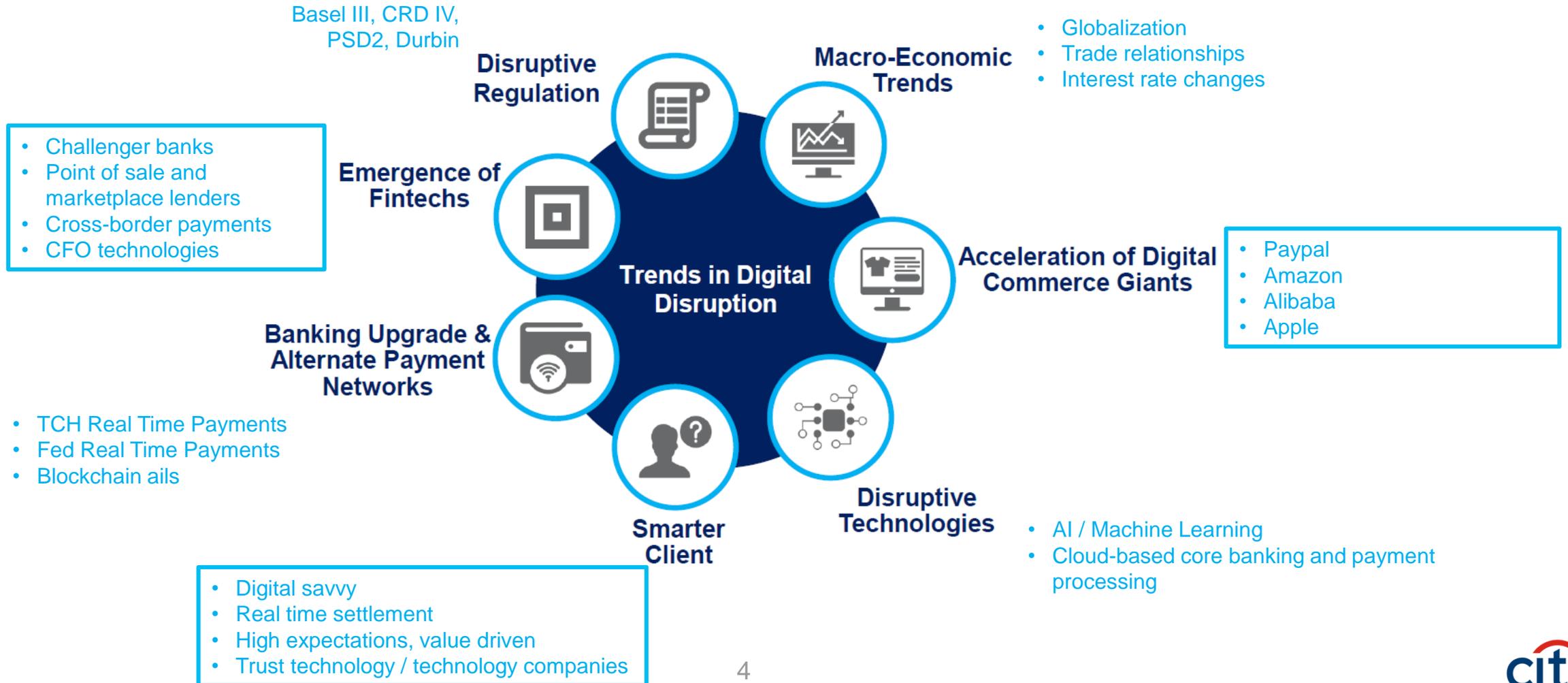
1. Key High-Level Trends
2. Changing Consumers
3. Emerging Fintechs and Technology Competitors
4. Analytics and Data
5. Areas of Focus / Summary / Q&A

# Key Trends Driving the Metamorphoses of Banking



## Key Trends

# Key Trends Driving the Metamorphoses of Banking



## The end consumer (and corporate buyer) is changing

**30%** of the working-age population in the United States and Europe, up to 162 MM individuals engages in independent work

**72%** of consumers in the United States who see themselves being a consumer in the **sharing economy in the next two years**

**71%** of customers are interested in personalized products that are willing to pay a premium for them

**95%** of individuals that can be accurately identified based off only four mobile-sourced location data points

**65%** of Americans who have personally experienced a major data breach involving health, financial or other sensitive data

## And the change is reflected in their attitude towards banking

*“**5.3%** of the online adult population in the U.S. is considering switching financial institutions. That represents about **12 MM** people. Another **16%** is on the fence.”*  
- The Financial Brand

*“**71%** [of millennials] would rather go to the dentist than listen to what banks are saying.”*  
- ABA

*“**53%** [of millennials] don’t think that their bank offers anything unique.”*  
- ABA

*“A majority [of millennials] (57%) report that it is ‘extremely’ or ‘very’ important that their primary financial institution helps them improve their financial health.”*  
- American Banker

## Changing Consumers

# ...and their usage of digital

**65%** of customers report **using computers or mobile devices to complete at least a portion of the application**, up from 56% in 2018

**19%** of consumers **read loan documents provided by the lender on a mobile phone or tablet**, up from 10% in 2019

**16%** of consumers **uploaded documents requested as part of the loan approval process via a mobile device**, up from 9% in 2018

**21%** received their **loan application decision via their mobile device**, up from 11% in 2018

In order to speed up the loan process consumers are willing to:

**Electronically sign documents using a mobile device**  
**(67% vs. 59% in 2018)**

**Take pictures of loan documents on a mobile device for uploading**  
**(61% vs. 51% in 2018)**

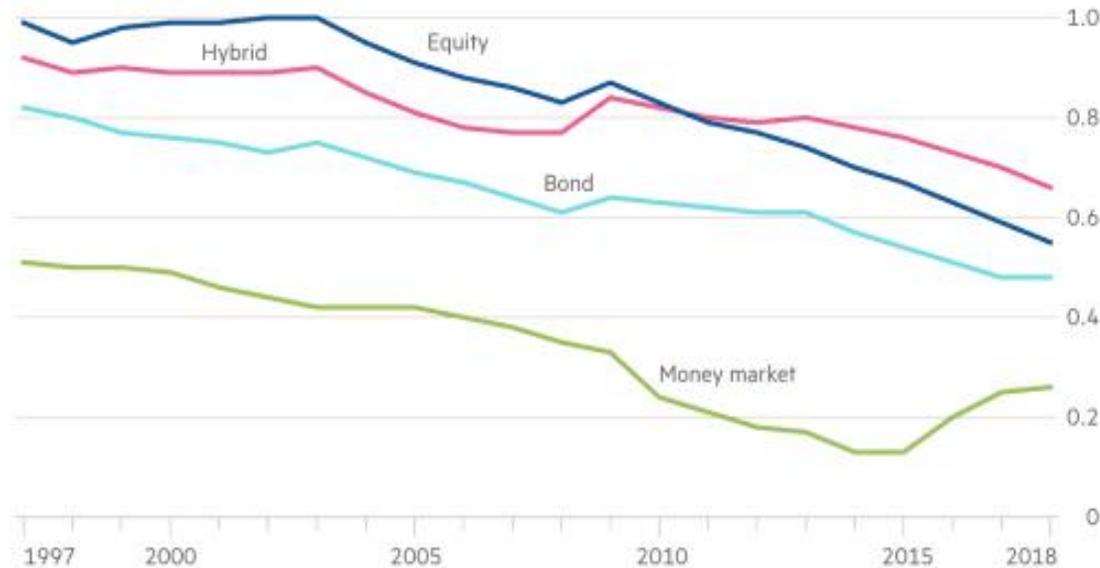
**Allow the lender to digitally verify their identity by uploading a selfie from a mobile device**  
**(57% vs. 48% in 2018)**

## Changing Consumers

# Customers want more from financial services products

### The battering of investment fees continues

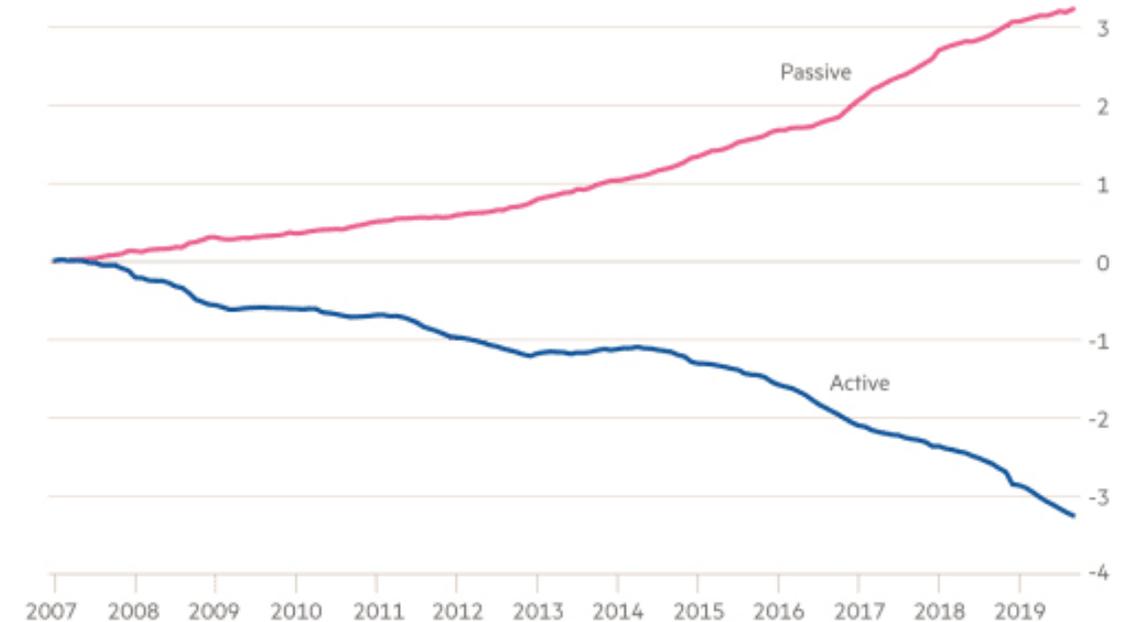
Average expense ratios for long-term mutual funds (%)



Source: ICI  
© FT

### Money has gushed from active to passive funds since crisis

Cumulative fund flows (\$tn)

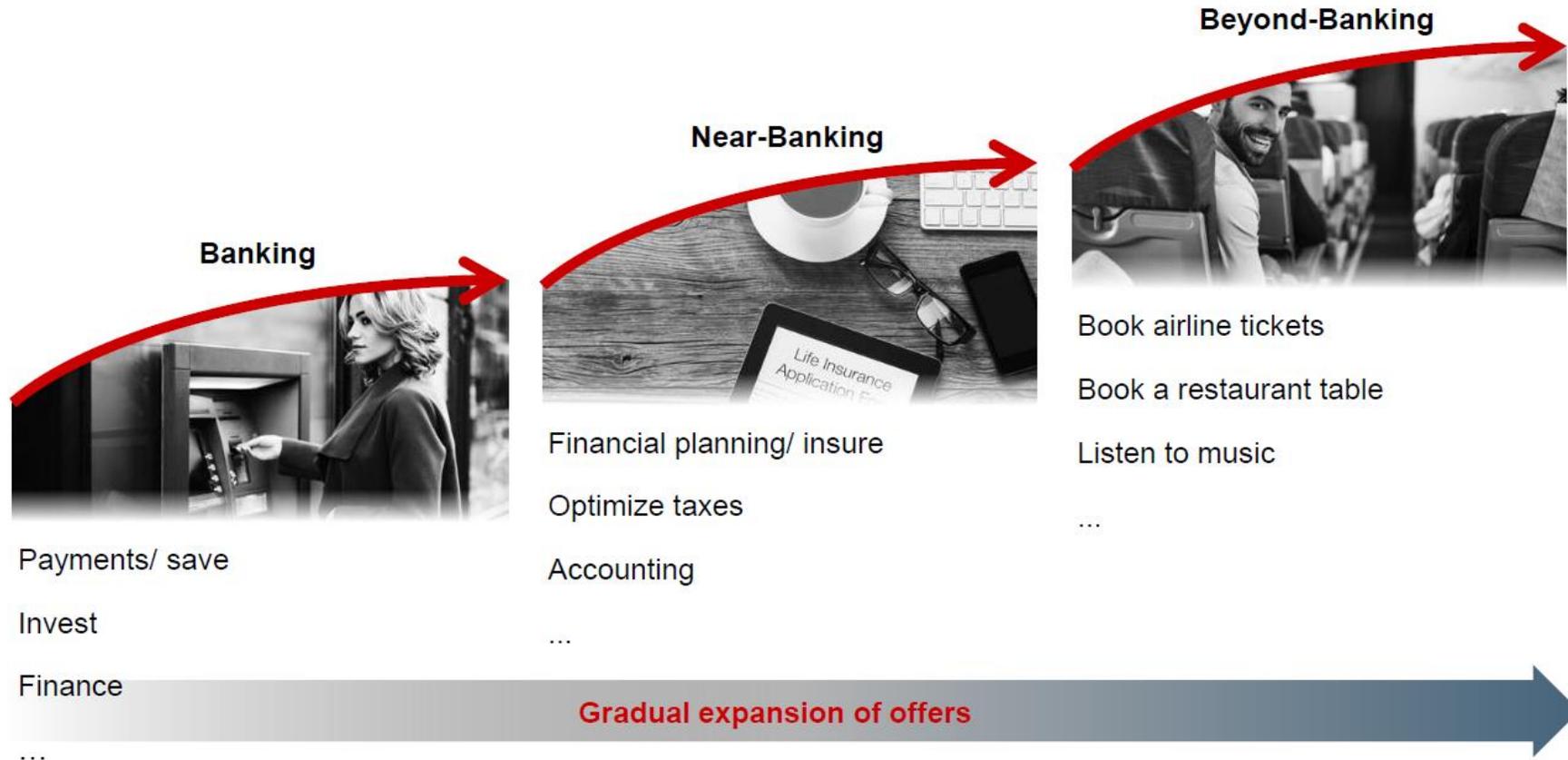


Source: EPFR  
© FT

Across all financial services, the trend is towards fee compression . . . **Every aspect of the business, customers expect you to do more in terms of service and offerings, and they expect to pay less for it**” - Abigail Johnson, CEO Fidelity

Changing Consumers

...and increasingly seeking a more integrated experience with “banking inside”



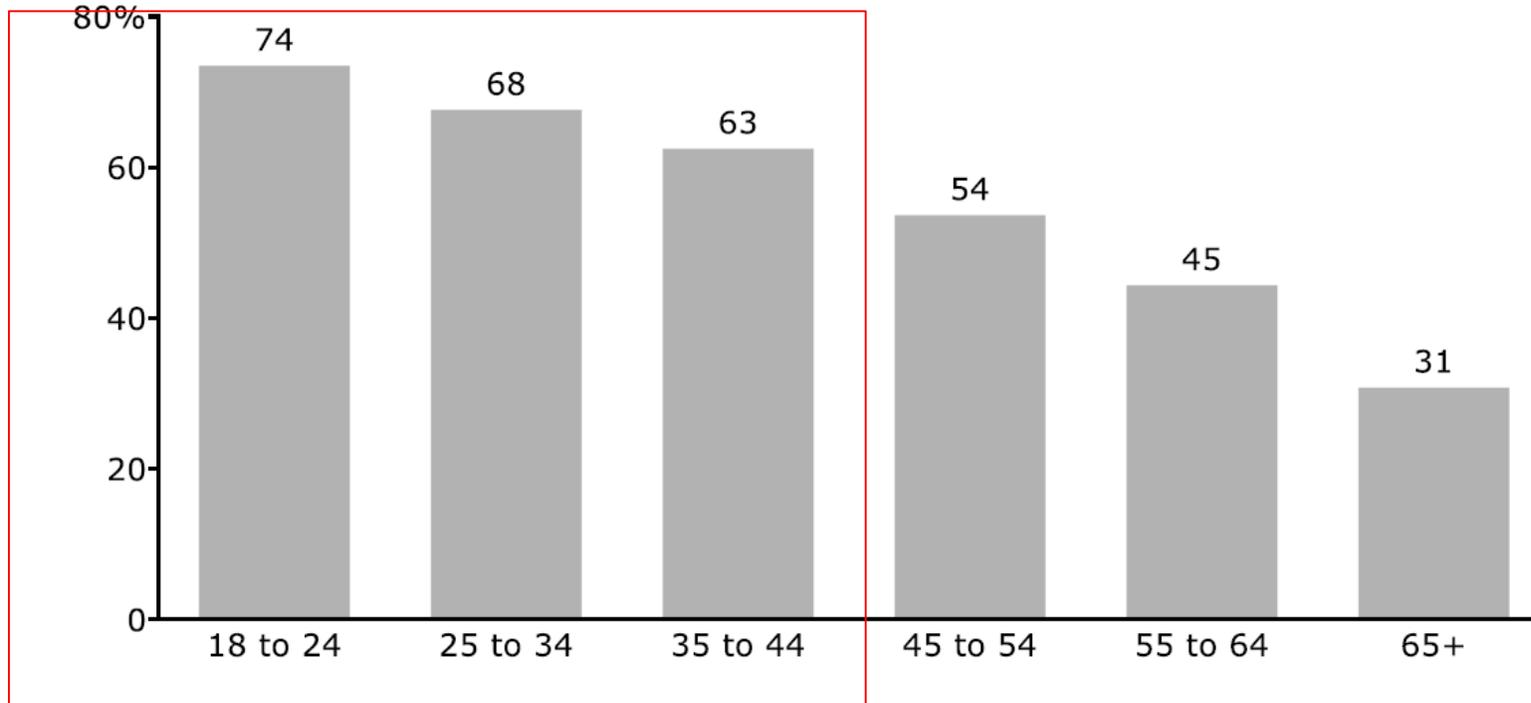
Source: Bain/Research Now Customer Loyalty in Retail Banking Survey, 2017

# Most Americans are open to buying FS products from big Tech companies



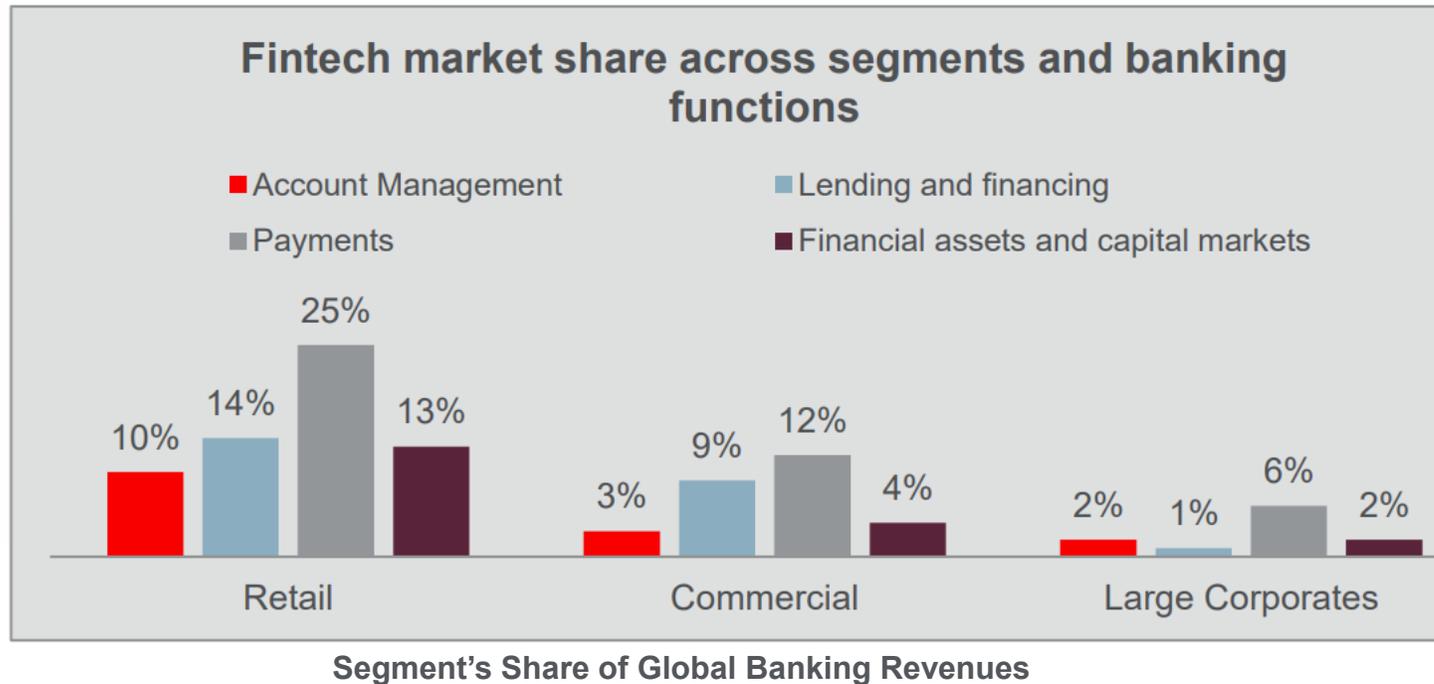
Do you think you will **try any financial product from a technology company**...in the next five years

Percent open to buying financial products from tech companies



Source: Bain/Research Now Customer Loyalty in Retail Banking Survey, 2017

## FinTechs are beginning to take share



# 79%

of leading banks have partnered with a fintech

Enable customer centricity in banking – Oracle, July 2019, McKinsey 2015

McKinsey – “Time for late cycle moves”, Oracle, 2019

## Emerging FinTechs and Technology Competitors

### ..by differentiating on several fronts

#### Enhanced Customer Experience

- **MarketInvoice**, **Viewpost** and **Taulia** offer automated electronic invoicing and payments in order to transform supply chain financing



#### Cost Effective & Quick Payment Solutions

- **TransferWise** and **freemarketFX** undertake transactions at 75 to 80% the cost compared to Corporate Banks
- **Ripple** uses blockchain technology to cut down payment settlement time and processing cost



#### Faster Processing

- **Kabbage** approves loans of up to \$100,000 for SMEs in < 10 minutes
- **Earthport** can manage international transactions in near time



#### Serve Underserved Segments

- **Kabbage**, **OnDeck** and **LendingClub** in the area of digital lending are targeting the 'bottom of the pyramid' - basically SMEs who are often rejected by corporate banks



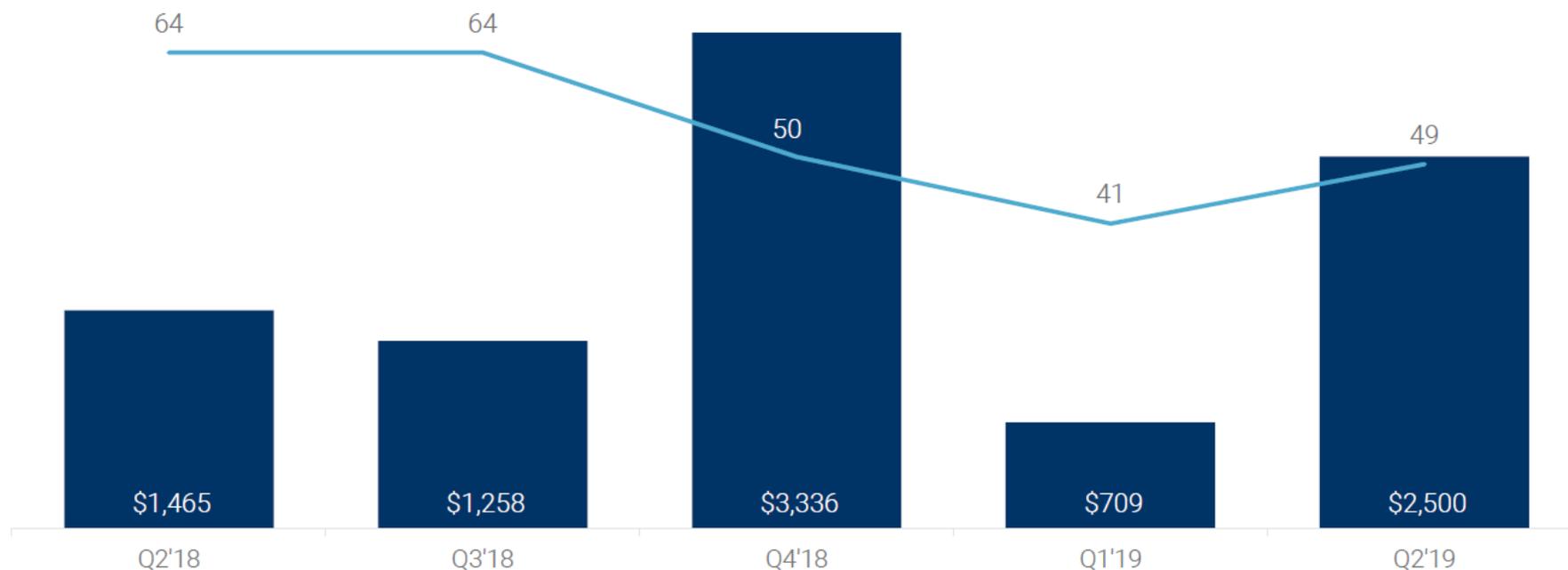
#### Superior Analytics, Approval Rates and Pricing

- **OnDeck (SMB lender)** analyzes as many as 2000-plus data points collected from over 100 sources



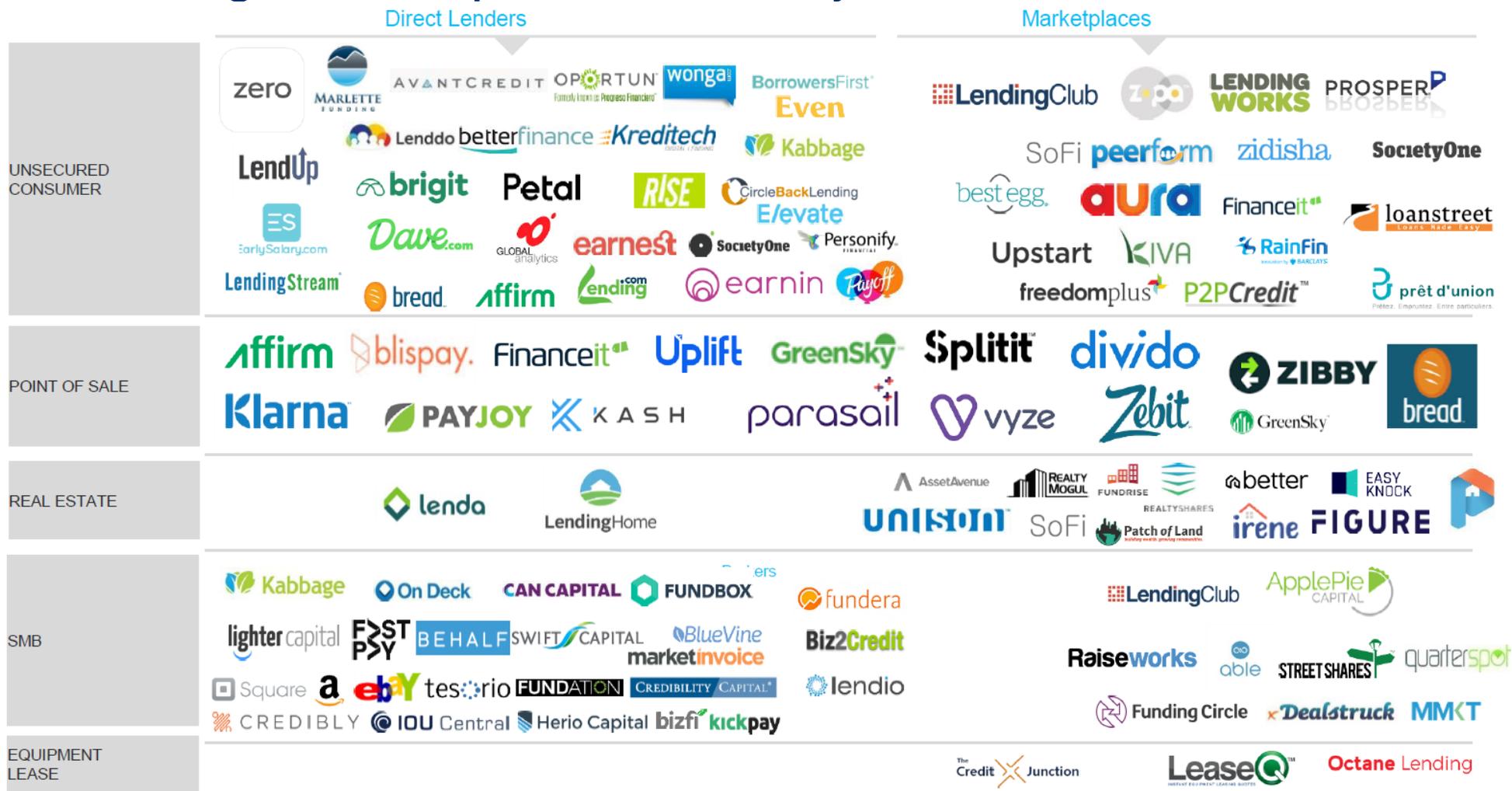
## Significant investment is going into Alternative Lending with \$2.5B going to the sector in Q2 2019 alone (~30%)

Global alternative lending tech VC-backed fintech financing trends, Q2'18 – Q2'19 (\$M)



# Emerging FinTechs and Technology Competitors

## The lending landscape is extremely active



However, key segment needs are still unmet

“Small businesses tend to not get products that are designed around the small business need.

They tend to get **either watered down commercial products or trumped up consumer products.**”



attune

James Hobson

CEO, Attune (former COO, OnDeck)

## Emerging FinTechs and Technology Competitors

# Small businesses have trouble raising capital and risk personal well being to raise capital

# 44%

of employer firms said **credit availability or securing funds for expansion was a financial challenge** in the prior 12 months

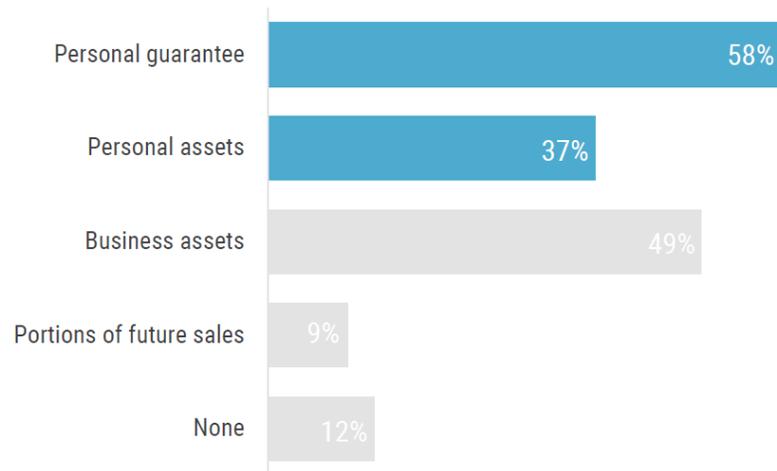


# 60%

of applicants **received less financing than the amount they applied for**



### COLLATERAL USED TO SECURE DEBT



Note: Respondents could select multiple options



### USE OF PERSONAL AND BUSINESS CREDIT SCORES



Business score only  
Both  
Owners' personal score only

Emerging FinTechs and Technology Competitors

# New players are solving for unmet needs: four players in SMB lending



*Kabbage empowers small businesses through straightforward, flexible access to capital. They have extended more than \$7B directly to small business owners and powered automated funding for other organizations all over the globe*



Square has more than 2 million merchants, and offers them a broader suite of products – including omnichannel payments, payroll, invoicing, and more.

Partners:

SimplyInsured

Health insurance

Guideline

401k

AP Intego

Workers' comp

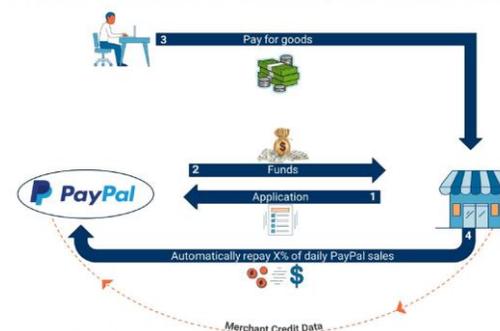
ALICE

Pre-tax benefits

*Payroll providers starting to act as aggregators of small business fintech services*



PayPal loans are flexible and paid back automatically

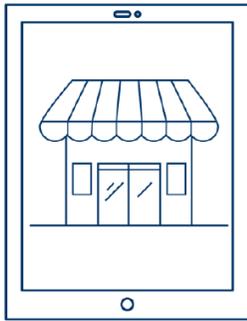


BREX  
18

Months between Y Combinator and first valuation of \$1B+

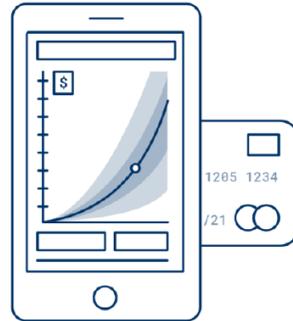
*Corporate credit card startup  
Brex becomes fastest unicorn  
in small business fintech*

# The new players underwrite differently: Private data > Credit Score



Marketplaces

Sales, conversion rates, checkout metrics, merchant ratings...



Payments

Payment volume, frequency, history



Accounting Software

Assets, outstanding debt, financial ratios

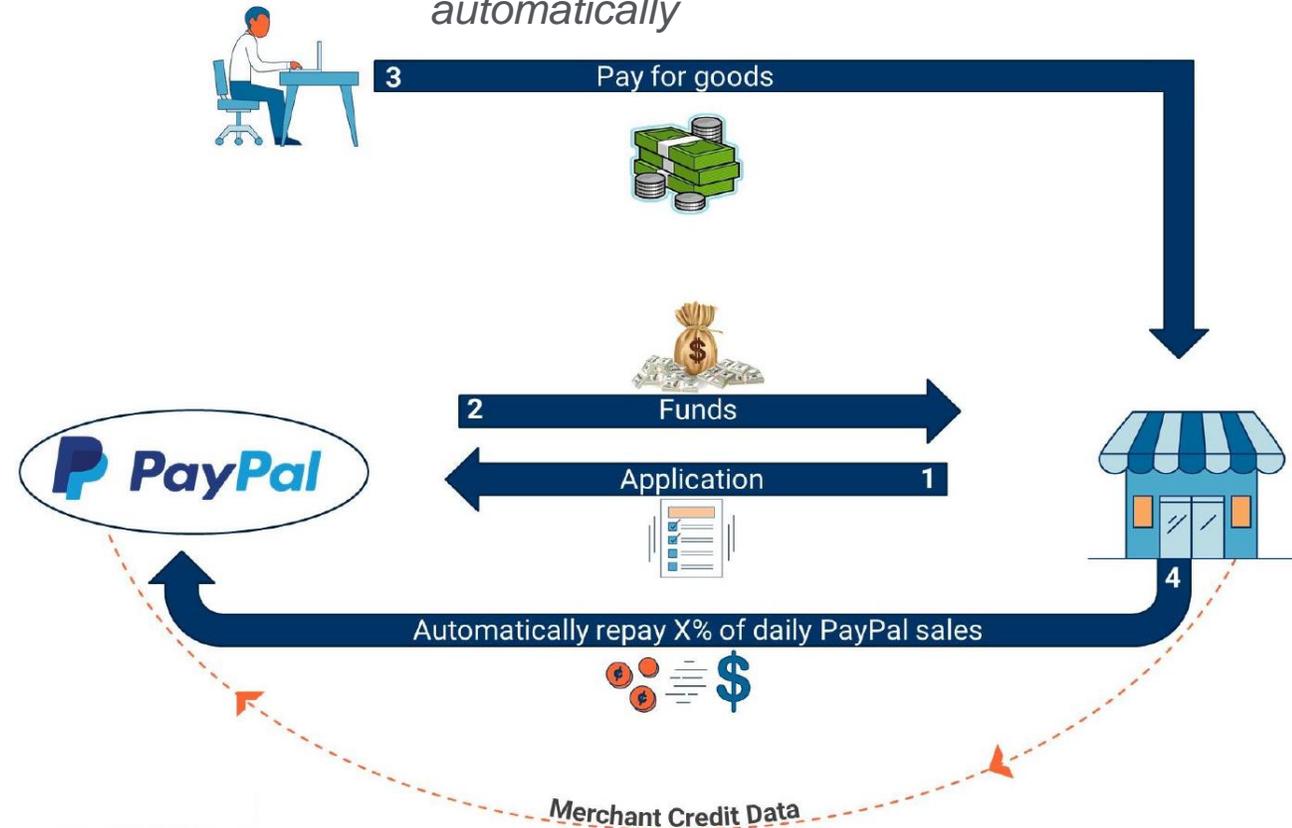
## Emerging FinTechs and Technology Competitors

# Paypal Working Capital Risk Model (PRM)

*Private data = more prediction power to risk rate and pre-qualify*



*Paypal loans are flexible and paid back automatically*

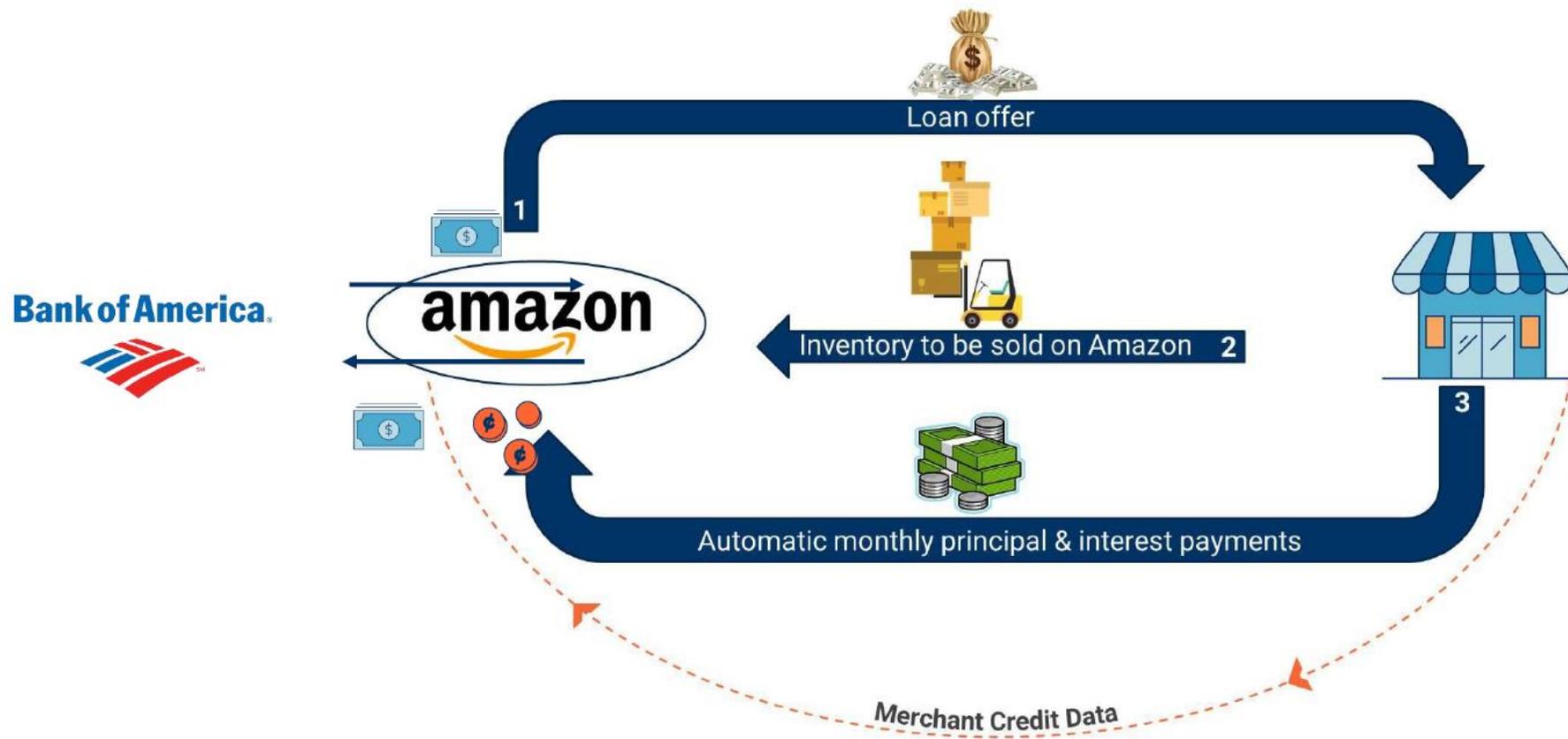


### Loans stats

	As of Dec 31, 2017
% of receivables w/ PRM scores > 610	64.0%
% of receivables w/ PRM scores < 525	16.1%
% of receivables <b>w/in expected</b> repayment period	83.8%
% of receivables > 90 days outstanding <b>after expected</b> repayment	7.1%

Emerging FinTechs and Technology Competitors

# Amazon lending is creating a symbiotic relationship with merchants



## Flexible lending models are emerging

	Lending model	Repayment mechanics	Credit check required?	Total lending volume
	Fixed-fee	% of daily sales	✗	\$3B+
	Fixed-fee	% of daily sales	✗	\$2.1B+
	Merchant cash advance	Daily account receivables	✗	\$230M
	Interest	Automatic monthly payments	✗	\$3B+
	Interest	Automatic weekly payments	✓	N/A

## Marketplace lenders are emerging



*Vyze offers solutions that enable retailers to offer more payment options for their customers*

- Acquired by Mastercard in April 2019 for an undisclosed amount
- Extended +\$1B in retail credit in 2017



*Divido is a global white label consumer lending platform for financial institutions and multinational retailers*

- ~\$19MM in estimated funding (Crunchbase)
- Live in 10 countries and has been licensed by 1,000+ retailers such as BMW, BNP and Shopify



*Bread partners with retailers to offer pay-over-time solutions that make financing easier and more transparent*

- ~\$200MM in estimated funding (Crunchbase)



*Uplift makes travel more accessible, affordable, and rewarding by enabling travel providers to offer flexible payments to their customers*

- \$221MM in estimated funding (Crunchbase)

Emerging FinTechs and Technology Competitors

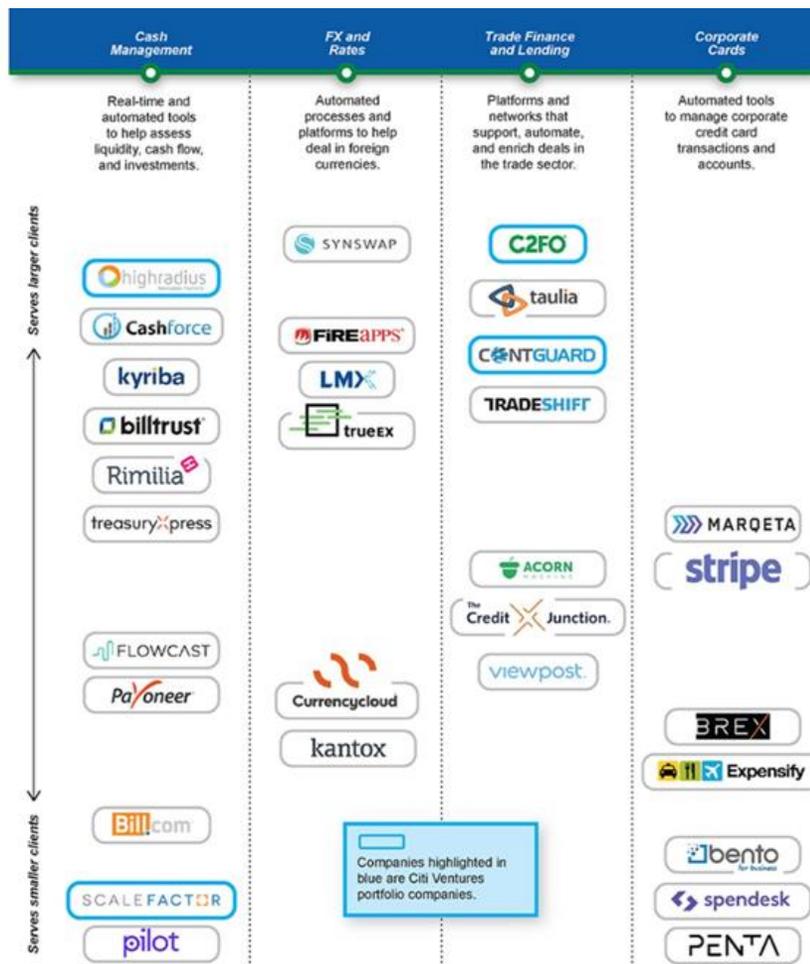
## Corporate credit card startups Brex has become the fastest unicorn in small business fintech

Brex is a subscription business built around its **corporate charge card for startups**, a credit line that must be paid back in 30-days. Brex underwrites businesses using factors such as investors, your cash balance, and spending patterns. Brex's services include instant signup and approval, ability to manage team spending, receipt capture, accounting integrations, and rewards including partnerships with AWS, Hubspot, Twilio, Sendgrid, ZenDesk, Salesforce, and DoorDash.

BREX  
18

Months between Y Combinator  
and first valuation of \$1B+

# Multiple FinTechs are Innovating in the Treasury Suite



Citi Ventures has joined Amsterdam VC Inkef Capital in co-leading a €5MM round in cash forecasting and working capital vendor Cashforce.

Headquartered in Antwerp, Cashforce provides treasury managers with cash flow forecasting through ERP & TMS integration, using advanced analytics & machine learning

# Cloud-based technologies are predicted to enable efficiency processes and real-time decision making for CFOs

## Market Insights

**67%** of CFOs believe technology will completely redefine their responsibilities in the next 3 years

**73%** of CFOs have allocated budget for cloud-related spend as they move off on-premise applications

**70%** of B2B buyers prefer virtual payment methods over purchase orders and invoices

**\$18B** Projected market size of *cloud-based* ERP software by 2020 - **growing at a 10% CAGR**

Oracle's bookings for their *cloud-based* ERP & EPM software **doubled quarter-over-quarter** in 2015

## Survey: CFO Top Technology Priorities in 2016

- **Real-time information enablement**
  - Strengthened-decision making via real-time analytics and insights
  - General trend of the CFO's role expanding to CIO functions
- **Actionable performance management**
  - High-demand for more precision around risk management, profitability drivers, and overall BI/reporting
- **Driving internal and external efficiencies**
  - Adopting closely-integrated cloud-based systems for data unification and decreased Excel-dependent workflow
  - Replacing manual processes with automation where applicable (eg payments)

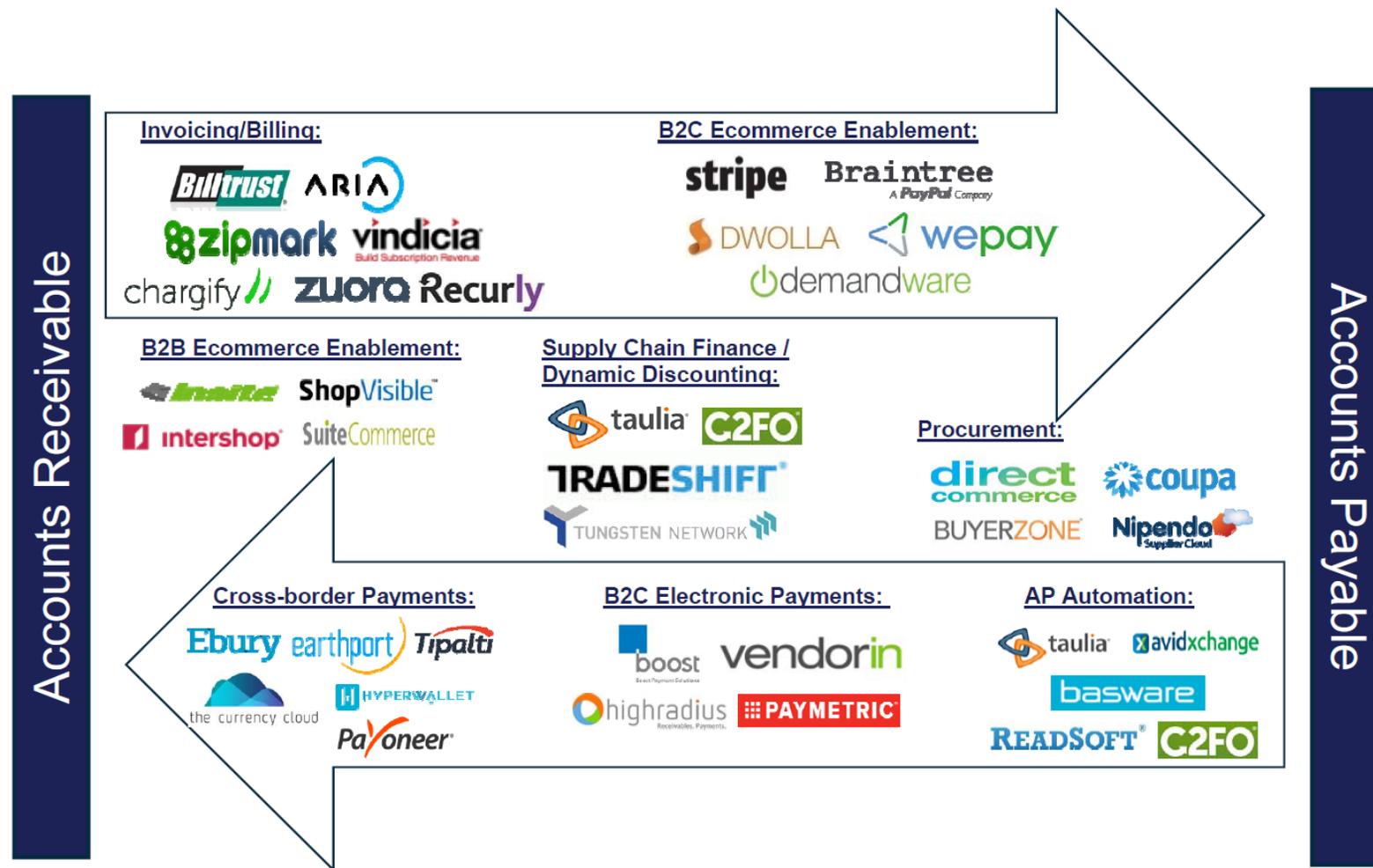
*"CFOs need to add 'technologist' to their job description if they want to achieve success."* – CFO.com

# The CFO is now inundated with point solutions

Expense Management	Accounting Software	Financial Planning & Analysis
     	    	     
Tax Software	Treasury Management	GRC
   	      	      
Merchant Fraud Protection	Benefits	Payroll Software
      	     	   

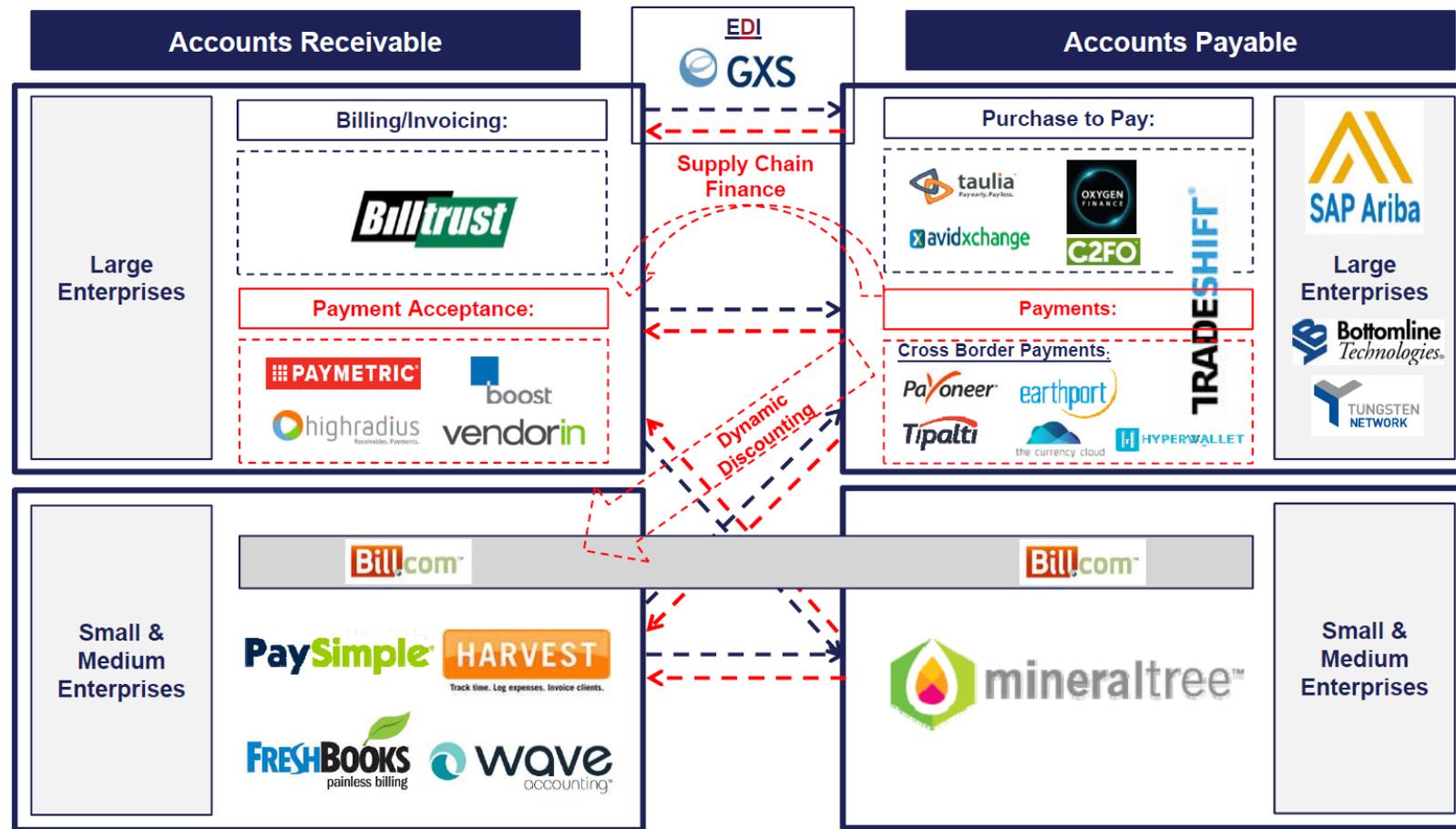
Source: Bain Capital Ventures, 2016

# There are currently a lot of players in B2B Payments



# Emerging FinTechs and Technology Competitors

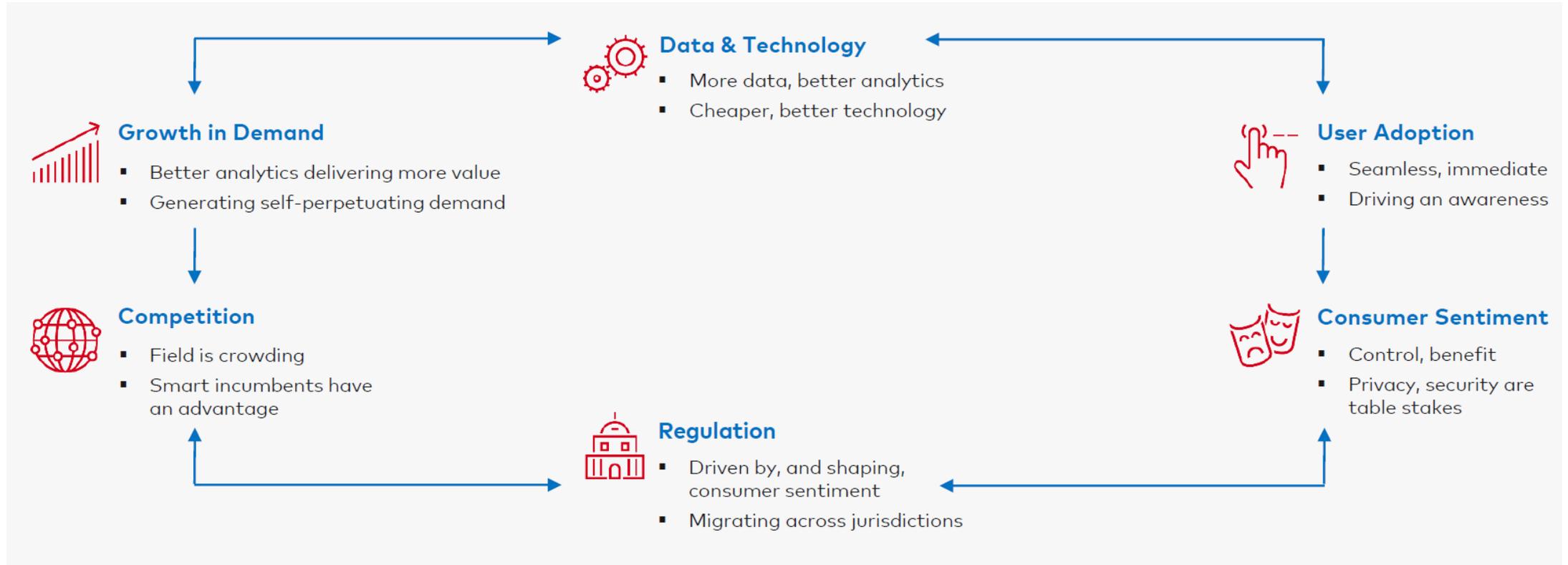
## ...and companies are taking different approaches to solving B2B payment problems



### Some takeaways:

- Consumer and small business payments and lending key area of competition
- Technology challengers (Amazon, Paypal) entering lending
- Non-traditional data used for underwriting
- New business models emerging
- FinTechs trying to move upstream into mid-market banking, but creating a toehold by focusing on one side of the market (e.g., financing receivables)
- Integration into ERP systems, CRM systems or payroll typical approach to serving a mid-market or larger company
- Tremendous VC focus on cashflow management and treasury solutions

# Data and technology around user adoption and consumer sentiment are driving demand and competition

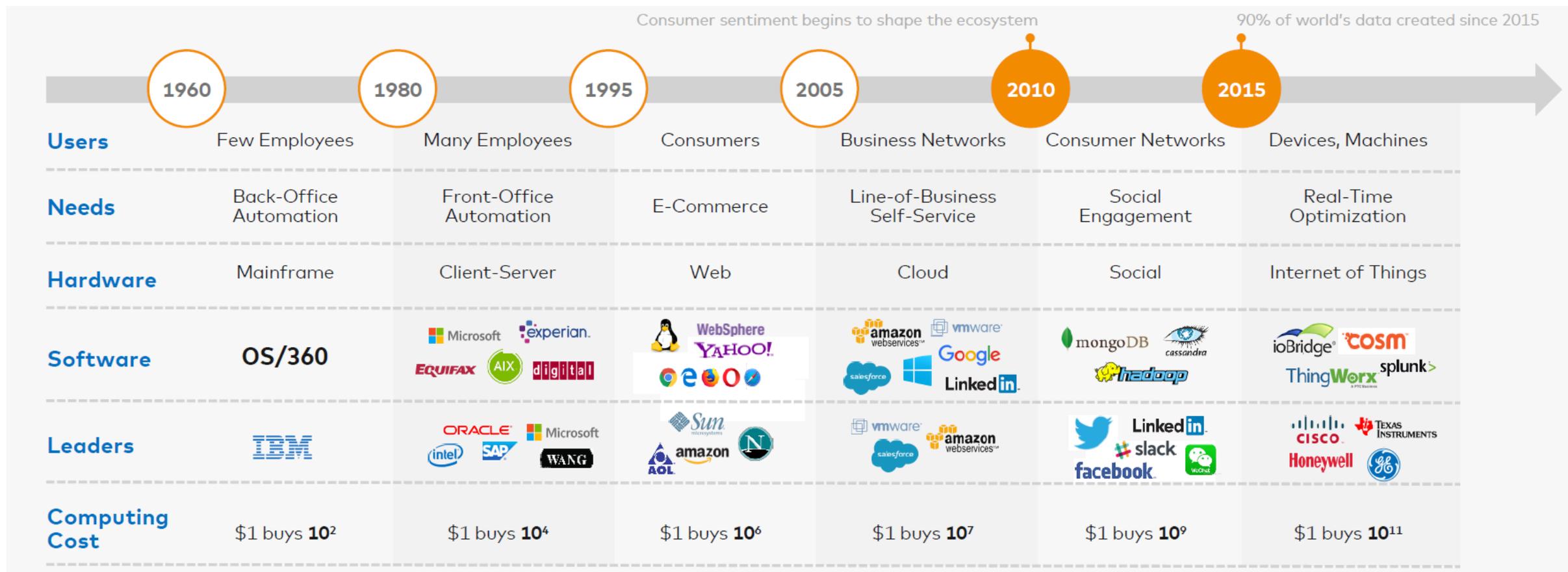


**0.5%**, the percentage of all data that is ever analyzed and used

Source: Mastercard, 2018  
Lipincott, 2019

## Data and Analytics

# Access to data and technology is accelerating, making analytics available to consumers, small business and corporates



**2025** - CPUs will reach the same level of processing power as the human brain (if Moore's Law continues)

Several compelling use cases exist for using AI, but flawless execution will require time and effort

**Document Digitization and Search**

**Segmentation and Pricing**

**Customer Service and Collections**

**Fraud Detection**

*...however, AI is not some magic dust to be sprinkled on a business — it requires a substantial resource of time, money and expertise, for all stages from problem definition to solution design iterations to evaluation and testing, before anything is rolled out.*

- Andrew Moore, Head of Google Cloud AI

# AREAS OF FOCUS

## Summary of Key Trends

### Broadly

- Changing consumer preferences
- Interest rates and margin erosion
- Increasing technology competition (tech companies and fintech, disintermediation from multiple fronts)
- Complex and changing regulatory environment

### Consumer

- Regulatory / interest rate environment
- Rise of technology companies competing in banking
- Payments disrupted first, now fintech moving upstream
- High operating cost of incumbents making competing with challengers difficult
- Analytics and personalization becoming critical

### Small Business & Commercial

- Globalization – cross-border payments / supplier ecosystem growth
- Access to capital
- Consumer banking like experience – creeping into SMB and Mid-market client expectations
- Suite of solutions and seamless integration with their 3rd party partners - (banks, tax/audit, HR, etc.) continues
- Infrastructure transformation
- Real time everything – payments, data access to real time transaction flows, underwriting decisions (as much as possible)

## Areas of Focus – Corporate Banking

1

### EMPOWERING SALES

- Pricing and analytics
- Digital dashboards
- Sales tools

2

### OPERATING EFFICIENCY

- Real time decisioning and access to data
- Straight through processing
- Eliminate paper
- Efficient onboarding

3

### EXPANDED VALUE PROPOSITIONS

- Partner with fintechs and technology players, HR, payroll, ERP
- Build ecosystems
- Deliver end to end solutions

4

### USE OF ANALYTICS AND DATA

- Price accurately for risk
- Minimize foregone revenue
- Evaluate alternate sources of data for credit decisions

# APPENDIX

In Summary

## Corporate Banking Customer Needs

**Customized and superior advisory**

**End to end solutions**

**Operational efficiency**

**Transparency**

**Customized solutions**

**Price competitiveness**

**Superior digital experience**

Examples: Example in Market / Asia

## DBS Bank in Asia: Digital Solutions for SMEs

Rolled out a **digital solutions package for SMEs in the logistics sector**



- Powered by **real-time data access and APIs** for **supply chain financing and traceability**
- **real-time trade financing application**
- **funds settlement directly through their enterprise resource planning (ERP) or internal systems.**
- **instant payment collections and refunds via the customers' online portal or mobile app**

# Corporate Banking Customer Needs

## Customized and superior advisory

- 67% of interviewees believe that advisory services provided by many of their core banks are the top benefit of the relationship
- **Corporate clients demand customized and industry specific advisory services from their banks including** innovative ideas that are specific to their industry

## End to end solutions

- **Corporate clients require integrated end to end solutions that connect all the silo lines of business of the corporate bank ecosystem**
- This enables banks to provide holistic and complete solution with no misalignment of data and improved process efficiency

## Innovative products and services

- 63% of corporate client's rate it is as important requirement to choose a banking service provider but many are disappointed with current banks in their lack of ability to provide innovative products and services
- **Corporate customers demand innovative solutions that cater to their specific business need**

## Customized solutions

- Majority of corporate clients are disappointed with their bank's ability to offer customized offerings and
- **They prefer solutions that are tailored to their specific industry and business needs**

## Price competitiveness

- 69% of corporate clients mention that competitive pricing is very important
- **Many of corporate clients want relationship based pricing advantage over other customers and also bundled products and services with discounts and other price benefits**

## Transparency

- Corporate clients require complete transparency across all their transactions
- 69% say their banks' position and transparency on risk, liquidity and capital, & portfolio concentration are extremely important
- **Banks should communicate the status of the every transaction to customers in real time**

## Superior digital experience

- Digitization has raised the bar for customer experience by promising a seamless and frictionless experience across industries
- Companies (e.g., Amazon and Uber) are providing quick, seamless and efficient service at every step of the customer journey
- **Customers are expecting the same quality of service from banks as well**

# Future of Corporate Banking

- 1** Open banking inspired API-enabled architecture

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- 2** Intuitive and configurable product platforms

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- 3** Integration with cloud-based technology

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- 4** Maximizing straight through processing

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- 5** Data rich and analytics driven processes – particularly around pricing

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- 6** Reduced operational cost base

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- 7** Speed and flexibility in delivery of products and services to market

## DBS Bank in Asia: Digital Solutions for SMEs



Rolled out a **digital solutions package for SMEs in the logistics sector**

- Powered by **DBS RAPID (Real-time APIs with DBS) supply chain financing and traceability**
- **real-time trade financing application**
- **funds settlement directly through their enterprise resource planning (ERP) or internal systems.**
- instant payment collections and refunds via the customers' online portal or mobile app

*With ecosystem players apart from FinTechs themselves entering into the traditionally bank dominated trade finance space, it becomes imperative for banks to adapt. In the era of open account based trade and digitization, banks can arrest the reducing margins on commoditized trade products by offering value added services such as analytics and technical expertise on global trade apart from new technology-based offerings. In the recent past, we saw the launch of 'Trade Club Alliance', a digital platform supported by a group of 14 banks, which hopes to provide market information on more than 180 countries including currency analysis, market trends and shipping requirements to SMEs. Banks must continue to invest in emerging technology such as blockchain, IoT and AI to stay competitive. Banks can leverage their brand reputation to create 'superconnector' systems using DLT by onboarding different ecosystem players onto a platform to create transparency and efficiency in trade finance. Banks can leverage their large repository of data to create customized solutions for customers (both buyers and suppliers) using advanced analytics tools and enhance stickiness.*