Digital Transformation of the Financial Sector:
The Impact of FinTech Firms

Sujit “Bob” Chakravorti
CEO
Chakra Advisors

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Chakra Advisors

- Based in San Francisco Bay Area
- Advise FinTech, technology, financial firms and policymakers on the impact of technology on financial services
- Enable greater access to efficient financial services
- Discuss the evolving financial services industry on the incumbents and disruptors blog (https://chakradvisors.com/blog)
Incumbents, Disruptors, and Competition

- Incumbents face competition from within industry and non-traditional entrants

- Incumbents can react in different ways:
  - Do not recalibrate (Kodak strategy)
  - Compete head on (transformation)
  - Partner or acquire (within and across industries)

- Generally, competitive forces are great for consumers but there are growing pains (transition costs)
Case of Kodak

Started selling film in 1880s

First Digital Camera: Circa 1975

Digital camera: Circa 2004

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# The Amazon Effect

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Best Buy</td>
<td>$28.4B</td>
<td>$21.28B</td>
<td>(25%)</td>
</tr>
<tr>
<td>JCPenney</td>
<td>$18.1B</td>
<td>$903.2M</td>
<td>(95%)</td>
</tr>
<tr>
<td>Kohl’s</td>
<td>$24.2B</td>
<td>$10.2B</td>
<td>(58%)</td>
</tr>
<tr>
<td>Macy’s</td>
<td>$24.2B</td>
<td>$9.45B</td>
<td>(61%)</td>
</tr>
<tr>
<td>Nordstrom</td>
<td>$12.4B</td>
<td>$8.20B</td>
<td>(34%)</td>
</tr>
<tr>
<td>Sears</td>
<td>$27.8B</td>
<td>$329.5M</td>
<td>(99%)</td>
</tr>
<tr>
<td>Target</td>
<td>$51.3B</td>
<td>$38.7B</td>
<td>(25%)</td>
</tr>
<tr>
<td>WalMart</td>
<td>$214.0B</td>
<td>$262.6B</td>
<td>23%</td>
</tr>
<tr>
<td>Amazon</td>
<td>$17.5B</td>
<td>$734.2B</td>
<td>4,095%</td>
</tr>
</tbody>
</table>
Rate of Technology Adoption

Time to Reach 50 Million Users (Years)

Angry Birds
Facebook
Internet
TV
Radio
Telephone

Source: Timothy Aeppel, “It Took the Telephone 75 Years To Do What Angry Birds Did in 35 Days. But What Does That Mean?” WSJ, March 13, 2015 (Citi Digital Team)
What is FinTech?

- Working definition:
  Any technological innovation that improves the delivery, access, and/or efficiency of the financial system

- FinTech has been around for decades

- What is different now?
  - More customer facing
  - Access to customer data in real time
  - Integration into platforms run by financial service providers (Application Programming Interfaces)

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Traditionally been financial services firms
Non-traditional firms are intermediaries
# Why End-Users Like FinTech Products

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Easy to set up account</td>
<td>43.4%</td>
</tr>
<tr>
<td>More attractive rates/fees</td>
<td>15.4%</td>
</tr>
<tr>
<td>Access to different products and services</td>
<td>12.4%</td>
</tr>
<tr>
<td>Better online experience and functionality</td>
<td>11.2%</td>
</tr>
<tr>
<td>Better quality of service</td>
<td>10.3%</td>
</tr>
<tr>
<td>More innovative products than traditional bank</td>
<td>5.5%</td>
</tr>
<tr>
<td>Greater level of trust than traditional bank</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

FinTech Product Focus (not exhaustive)

- **Payments** among consumers, businesses, and individuals
- **Lending** to consumers and (small) businesses (untapped markets)
- **Wealth and Asset Management** (robo advising and financial management)
- **Cryptocurrencies and ICOs** (digital payment alternative and means to raise capital)
FinTech Technology Focus (not exhaustive)

- **Mobile Technology** enables on-the-go connectivity to financial service providers and networks.

- **Data Analytics** analyze large datasets with increasing use of cloud technologies.

- **Artificial Intelligence** enables faster and more efficient transactions (however, role for humans is not likely to be eliminated).

- **Blockchain Technology** enables authentication and verification of transactions including smart contract execution.
Payment Platforms

- Frictions for payment segments include: access, high cost, low convenience, slow transaction speed
- Payors/Payees want to pay/get paid by anyone, anytime, anywhere
- Peer-to-Peer platforms bypassing traditional payment channels, e.g. Venmo
- Cross border platforms to reduce fees, e.g. TransferWise
Square Partnerships

- Square—allows small merchants to accept payment cards
- Visa invested in Square and collaborated on best practices for securing mobile transactions
- Apple worked with Square to design a contactless acceptance device that accepted Apple Pay at small merchants
- Collaborating with SAP, Square was able to offer accounting, project management, and operations support
Responses by Incumbents

- Zelle—Peer-to-Peer platform to make payments between bank accounts competing with Venmo

- Faster Payments—Various initiatives globally to improve the speed, security, cost, and connectivity of payments

- JPMorgan Chase and Amazon—checking accounts
FinTech and Lending

- Credit has existed since 3500 BC (agricultural) and not always extended by financial institutions

- Platform lending matches lenders with borrowers, e.g. LendingClub, Kabbage, Prosper, and Swift Capital (acquired by PayPal)

- FinTech firms have developed different analytics to measure creditworthiness
Credit Screening

- Origins of credit bureau started in early 1800s in England for bad tailor debts

- FinTech lenders increase access to those that have limited or no credit history

- Alternative metrics for credit screening are being developed, e.g. consumer mobile phone usage in Kenya (Tala)

- Amazon, Square, and PayPal extend credit to small businesses that may not be extended credit from traditional lenders
Convergence of Traditional and FinTech Lenders

- Some FinTech lenders are becoming more like traditional banks such as SoFi expanding from student loans to unsecured consumer credit and mortgages
- Banks are also providing lending platforms, e.g. Goldman Sach’s Marcus platform
Investment Platforms

- Previously, investors relied on brokers for information on stocks, bonds, and other types of investment
- The Internet allows easy access to information on various types of securities/investments
- Algorithms based on customer risk-reward preferences, liquidity needs, and other characteristics determine the optimal portfolio, e.g. Betterment, Wealthfront, and Personal Capital
- Reducing human interaction and processing reduces costs and enables lower fees to customers
FinTech Investment Platform Challenges

- Need significant scale to make profit
- Tougher to convince non-Millennials to participate
- Traditional players such as Vanguard, Charles Schwab, and Blackrock have started or acquired digital advisory platforms
Cryptocurrencies

- More than 1,000 cryptocurrencies exist today

- Bitcoin, the most well-known, started at an exchange rate of less than $.01 (May 2010) to over $9338 (as of 5/7/18)

- Although volatile, cryptocurrencies also provide payments and store of value functions

- Useful when governments take extreme measures on their currency such as demonitization or taxes deposit
# Explosion of Cryptocurrencies

<table>
<thead>
<tr>
<th>Year</th>
<th>Market Cap of All Coins (Billions)</th>
<th>Percentage of Bitcoin</th>
</tr>
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<tbody>
<tr>
<td>2013</td>
<td>$1.5</td>
<td>92.5%</td>
</tr>
<tr>
<td>2014</td>
<td>$7.1</td>
<td>92.3%</td>
</tr>
<tr>
<td>2015</td>
<td>$4.0</td>
<td>83.3%</td>
</tr>
<tr>
<td>2016</td>
<td>$11.3</td>
<td>79.5%</td>
</tr>
<tr>
<td>2017</td>
<td>$177</td>
<td>45.2%</td>
</tr>
</tbody>
</table>

Source: coinmarketcap.com as reported in visualcapitalist.com
Digital Mint, Chicago-based, is democratizing access to digital payments via cryptocurrencies in 15 states.

Initially, targeted at low- to moderate-income neighborhoods.

Unbanked consumers benefit from access to digital payments that are necessary for online purchases.

Merchants benefit from lower transactions costs than credit cards.
Initial Coin Offerings (ICOs)

- Utility or security?
- Generally, tokens are bought with cryptocurrency
- Global market
- More regulation on the horizon
Where Are ICOs Being Issued?

ICO Counts Across the Globe

Source: ICOmarks.com as of 4/10/2018
Financial analysts estimate that incumbent financial institutions are likely to lose more than 20 percent of their market share and profit.

Traditional financial institutions should have a holistic approach to digitalization of financial services.

Incumbents should partner with FinTech firms to provide seamless delivery and processing of financial products when appropriate.

Incumbents are more actively investing and acquiring FinTech firms.

Central banks will also be transformed by FinTech firms.
Role of Regulation

- Provide transparency to transactors by mandating adequate disclosures
- Provide consumer protections and necessary security standards
- Remain vigilant against fraud and punish fraudulent actors
- Ensure system resiliency and manage systemic risks
- Regulation will catch up
Regulation and FinTech

- Many FinTech firms are overwhelmed with the maze of regulations and some would like a banking charter
  - OCC FinTech bank charter (stalled) vs. Vision 2020 by state regulators (promotes coordination across states)
  - Industrial Loan Companies—Square’s recent application

- Focus on activity based regulation regardless of type of institution providing the service

- Should not be used solely to prevent entry potentially impeding innovation
Cannabis has been legalized in 30 states for either medical and/or recreational use in the US (legal sales of cannabis in Canada will occur later this year)

However, remains illegal at the federal level (most financial institutions reluctant to bank cannabis)

Financial institutions are reluctant to serve the industry resulting in cash being the predominant payment form

Part of solution: need real time track and trace for funds and product

Some have suggested public banks as a solution
Contact

Sujit “Bob” Chakravorti
bob.chakravorti@chakradvisors.com
www.chakradvisors.com

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