FinTech and the Evolution of Finance
Agenda

1. Introduction
2. Key driving forces
3. How Financial Institutions are responding
4. FinTech adoption
5. Conclusion
Banks

- Used to be highly profitable
  - Difficult to get license for new entrants
  - Competitive advantage through network of branches
  - High startup cost in IT
  - Low customer switch
- Annual Global banking ROE averaged 16% between 1980 to 2006
Universal Banking Disrupted
Wall Street Disrupted

2008

2016
What is FinTech

The innovative use of technology and/or innovative business model to improve or transform the delivery of financial services and products to consumers and businesses.

YOUR BANK
- INTERNATIONAL MONEY TRANSFERS
- CURRENT ACCOUNTS
- PERSONAL LOANS
- SME LOANS
- MORTGAGES
- WEALTH MANAGEMENT

THE NEW WAY
- TransferWise
- Atom
- Starling
- RateSetter
- Funding Circle
- MarketInvoice
- LendInvest
- Nutmeg
- Moneyfarm
Innovation is something new that creates value
The emergence of new technologies and business models enable innovation.
Disruption in the banking ecosystem

Transactions
Entrant offering parts or all of the payment value chain

PayPal
Safaricom
Square
Alibaba.com

Lending
Entrant offering credit products, stand-alone or bundled with another product

Square
Alibaba.com
PayPal

Deposit Gathering
Aggregation of value on platforms outside traditional banking products (e.g., savings, checking)

Alibaba.com
Starbucks

Advisory
Direct wealth advisory services that manage client investments through sophisticated algorithms.

wealthfront
Betterment
PERSONAL CAPITAL

Other Industries
Comprehensive banking services (deposit, lending, payments) offered by a company in another industry

TESCO Bank
Walmart
SIMPLE
Fidor Bank
The Alibaba platform

- Taxi: 8:00
- Top up wallet: 10:00
- Lunch: 12:00
- Parking: 13:00
- Phone Recharge: 13:10
- Electricity Payments: 13:20
- Money Transfer: 13:30
- Air Ticket: 15:00
- Insurance: 15:30
- Credit Card Payment: 16:00
- Hospital Registration: 18:00
- Water Charges: 19:00
- Movies at home: 20:00
- Consumption Analysis: 22:00

Contextual  Frictionless  Trustworthy  Risk proof
Correspondent Banking: Example

**Invoice for $4,800**

**Net Fees**

<table>
<thead>
<tr>
<th>BUYER</th>
<th>NET FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kool Industry Inc, Los Angeles, CA</td>
<td>-$25</td>
</tr>
<tr>
<td>Bank A, So Cal Mid Tier Bank, Los Angeles, CA</td>
<td>$32.50</td>
</tr>
<tr>
<td>Bank C, Large New York Bank, New York, NY</td>
<td>$17.50</td>
</tr>
<tr>
<td>Bank D, Multinational Bank, Sao Paolo, Brazil</td>
<td>$97.30</td>
</tr>
</tbody>
</table>

**Invoice**

<table>
<thead>
<tr>
<th>SUPPLIER</th>
<th>NET FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supra-Hidraulica, Sao Paolo, Brazil</td>
<td>-$137.30</td>
</tr>
</tbody>
</table>

**Payment Process**

1. **Buyer** sends an invoice for $4,800 to **Supplier**.
2. **Buyer's Bank** (Bank A) debits the buyer $4,800.
3. **Buyer's Bank Correspondent** (Bank C) receives $4,800.
4. **Supplier's Bank Correspondent** (Bank D) converts USD to BRL at a wholesale rate of 1.6074 and a 2% FX spread, resulting in a customer rate of 1.5753.
5. **Supplier's Bank** (Bank B) receives BRL 7,522.
6. **Supplier** receives BRL 7,522.

**Fees**

- **Buyer's Bank** charges a transaction fee of $7.50.
- **First Correspondent Bank** charges a $25 benefit deduction fee from supplier payment and gives a $7.50 soft dollar rebate to **Buyer's Bank**.
- **Second Correspondent Bank** converts USD to BRL at a 2% FX spread, resulting in a customer rate of 1.5753.

Source: Glenbrook Analysis
Driving Forces of FinTech
Key driving forces

• New technology
• Changing customer preference
• New competitors
• New regulations
New Technology

• Smartphones
• Big Data & Machine Learning
• Cloud Computing
• Blockchain
• IoT
Changing Customer Expectations

Millennials by the Numbers

80M
AMERICANS BORN
Remember the Boomers? Now think bigger. There are 80 million Americans who were born between 1981 and 2005. The Baby Boomers, the previous largest generation, totaled 77 million Americans.

2020
MILLENNIALS PEAK
This generation is still very young: the oldest millennial will turn 34 this year, in 2015. They won’t begin to reach their peak earning age until 2020.

46%
OF ALL U.S INCOME
Even though this generation controlled $2 trillion in liquid assets in 2014, that amount is forecast to grow to $7 trillion by 2020. By 2025, they are expected to generate 46% of all U.S. income.

Labor Force Composition by Generation
% of the labor force

<table>
<thead>
<tr>
<th>Year</th>
<th>Greatest</th>
<th>Silents</th>
<th>Boomers</th>
<th>Gen Xers</th>
<th>Millennials</th>
<th>Post-Millennials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>2%</td>
<td>2%</td>
<td>18%</td>
<td>31%</td>
<td>34%</td>
<td>1%</td>
</tr>
<tr>
<td>2015 (Q1)</td>
<td>2%</td>
<td>2%</td>
<td>29%</td>
<td>34%</td>
<td>31%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Note: Shares are based on the proportion of the labor force.
Millennials and Electronics

It wouldn't be entirely accurate to say that millennials live their lives online. What they really do is live their lives on their phones.

86% of millennials aged 25 to 34 are smartphone users

41% of millennials prefer to communicate at work electronically rather than "face to face"
Millennials want to hold their bank at arm’s length:

- 71% would rather go to the dentist than listen to what banks say.
- 33% believe they won't need a bank in five years.
- 71% consider their banking relationship to be transactional rather than relationship-driven.
- 33% are open to switching banks within the next 90 days.
So how are millennials using banks?
The top activities are checking account balances, paying bills, and transferring money.

48% are interested in real-time and forward-looking spending analysis.

41% of twentysomethings downloaded a money management app.

Now is the time to reach out to the millennial generation, not just in terms of technology, but also to deliver new ways to meet their evolving banking needs.
Millennials expect real-time information on their deposit and credit accounts.

Millennials expect their financial institution to keep current with their preference to transact electronically.

Millennials expect a "smooth and easy" experience.

Millennials love quirky personalization.

Millennials expect to be able to decide what account information they want and how they want to receive it.

Millennials are accustomed to seeing alerts based on choice of frequency and type of information they believe will help them.

Millennials like options and control when it comes to their card usage.

Millennials want to be able to flip through their messages and gather new information on the fly.

Be accessible in real-time all the time.

Communicate how they want to be communicated to (i.e., text reminders for alerts and promotions).

Have an app for everything: smooth and easy for all platforms, from whatever the device.

Be a partner; help millennials navigate toward a solution.

Demonstrate innovation: create experiences that are interactive and empower.
New Competitors
Investments in FinTech

Total global investment in fintech companies
2010 — 2016

- Deal value (B) vs Deal count
- 2010: $9, 319 deals
- 2011: $6, 445 deals
- 2012: $4, 576 deals
- 2013: $12, 818 deals
- 2014: $29, 1,065 deals
- 2015: $47, 1,255 deals
- 2016: $25, 1,076 deals

SFA SINGAPORE FINTECH ASSOCIATION
Common FinTech Business models to drive adoption

1. Revolutionize the economics of a market
   - Offer a previously paid-for service free of charge e.g. Simple Bank
   - Offer a significantly cheaper service e.g. LendingClub

2. Create something new and compelling
   - Provide a new type of service e.g. Trov

3. Distribute across an existing customer base
   - Solve a problem for another business e.g. Bambu (B2B Robo-advisory)
   - Collaborate with businesses that have an existing customer base e.g. DBS Bank and Funding Societies
Americans Trust Tech Firms More Than Banks For Finance

% of Americans with a positive opinion of the following as providers of financial products*

Banks

- WELLS FARGO: 44%
- JPMorgan Chase: 40%
- CitiBank: 37%
- Bank of America: 36%

Tech Firms

- PayPal: 73%
- Amazon: 71%
- Google: 64%
- Apple: 57%

* Original question: "Please state for each firm you know whether your overall opinion of it as a provider of financial products is positive, neutral, negative."

Source: Instantly Brand Monitor in cooperation with Statista
Tighter Regulations, FinTech-friendly Regulations
Response from FIs
Substantial rewards and losses

Impact from Digitalization by 2018
% of net profit for retail bank

TOTAL
-35% 45%

-16% -13% -5%
Margin compression
Innovative new offers
Increased operational risk
by competitors

30% 10% 5%
Lower operational costs from automation/digitalization and transaction migration
Increased revenues from new products, distinctive digital sales, and using data to cross-sell
Increased revenues from innovative new offers and business models

Source: Strategic choices for banks in the digital age, McKinsey 2015
How the FIs are responding

**New Standalone**
Build a new standalone business with similar business and operating models as new entrants

- FINECO
- ING DIRECT

**Partner**
Partner with new entrants on front and/or back office services

- Walmart
- first direct

**Lobby Regulators**
Lobby regulators to level the playing field – regulate new entrants or deregulate industry

- China
- USA

**Operational Barriers**
Leverage existing capabilities to limit growth of new entrants

- China

**Better Proposition**
Leverage capabilities (e.g., customer insight, existing channels, risk competence) to build better value proposition

- Garanti
- CHASE
Wall Street Heavyweight Goldman Sachs Launches Its Consumer Lending Platform Marcus

credit card debt, or those that are frustrated with the fees and complexity of other lenders. The Marcus platform will offer two-to-six-year fixed rate loans at interest rates of between 5.99% to 22.99%, and is being positioned as a consumer friendly lending alternative due to a lack of origination and prepayment fees, flexible payment dates, and overall simplicity.
Income debuts AI-powered travel insurance chatbot on Facebook Messenger
By FinTech Innovation editors | 2017-08-30

Chatbot helps OCBC scoop up S$10m in home loans
Transform Operational Process

**BBC News**

*Technology*

*AI to dominate banking, says report*

© 20 March 2017 · Technology

**Forbes**

*Restrict Content Pro A powerful membership solution for WordPress*

Tech / #NewTech

DEC 23, 2016 @ 10:06 AM 50,814

**The Guardian**

*Artificial intelligence (AI)*

Japanese company replaces office workers with artificial intelligence

Insurance firm Fukoku Mutual Life Insurance is making 34 employees redundant and replacing them with robots.
Collaborate

**Incumbents**
- Legacy IT
- Regulations & Compliance
- Mindset

**FinTechs**
- Capital
- Customer base
- Trust

Collaboration
Adoption
## Highlights from the 2017 EY FinTech Adoption Index:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>33%</td>
<td>33% is the average FinTech adoption globally, compared with 16% in our 2015 study.¹</td>
</tr>
<tr>
<td>46%</td>
<td>46% is the average FinTech adoption across emerging markets: Brazil, China, India, Mexico and South Africa.</td>
</tr>
<tr>
<td>50%</td>
<td>50% of consumers use FinTech money transfer and payments services, and 65% anticipate doing so in the future.</td>
</tr>
<tr>
<td>64%</td>
<td>64% of FinTech users prefer using digital channels to manage all aspects of their life, compared with 38% non-users.</td>
</tr>
<tr>
<td>13%</td>
<td>13% of consumers are regular users of five or more FinTech services (FinTech &quot;super users&quot;).</td>
</tr>
</tbody>
</table>

## Methodology

We identify 17 distinct services offered by FinTech organizations and non-traditional providers, and refer to these as FinTech services. These services are considered within the five broad categories of money transfer and payments, financial planning, savings and investments, borrowing, and insurance.

We define a regular FinTech user as an individual who has used two or more FinTech services in the last six months.

Our 2017 research is based on more than 22,000 online interviews in 20 markets. Our surveyed population is drawn from a demographically representative sample of each market to the extent available, and all references to consumers relate to individuals who are active online, which we refer to as “digitally active” in this report.

We have applied unweighted averaging of results, using a “one market, one vote” approach to report findings, to offer a global, cross-market perspective on themes and trends. The 20 markets are Australia, Belgium and Luxembourg (considered as one market for the purpose of our analysis), Brazil, Canada, China, France, Germany, Hong Kong,² India, Ireland, Japan, Mexico, the Netherlands, Singapore, South Africa, South Korea, Spain, Switzerland, the UK, and the US.
FinTech adoption at a glance

Notes: The figures show FinTech users as a percentage of the digitally active population. All figures are shown in percentages.

*Belgium and Luxembourg
**Hong Kong SAR of China
FinTech has achieved initial mass adoption in most markets
Adoption increases in line with growing awareness of FinTech.

Notes: The figures show adoption rates per market for the six markets for which a comparison is available. All figures are shown in percentages.
Improved level of awareness

Notes: The figures show the percentage of all respondents who cited lack of awareness, versus a preference for traditional financial services providers, as barriers to using FinTech, by market. Survey respondents were allowed to choose multiple reasons for not using FinTech. Question was asked only to respondents who had used no FinTech services in the last six months, however, the analysis is re-indexed to show as a percentage of all survey respondents in each market.
FinTech adoption is driven by greater use of money transfer and payments, and insurance services.

<table>
<thead>
<tr>
<th>2015</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money transfer and payments: 18%</td>
<td>Money transfer and payments: 50%</td>
</tr>
<tr>
<td>Savings and investments: 17%</td>
<td>Insurance: 24%</td>
</tr>
<tr>
<td>Financial planning: 8%</td>
<td>Savings and investments: 20%</td>
</tr>
<tr>
<td>Insurance: 8%</td>
<td>Financial planning: 10%</td>
</tr>
<tr>
<td>Borrowing: 6%</td>
<td>Borrowing: 10%</td>
</tr>
</tbody>
</table>

Notes: The figures show the average percentage of respondents who reported using one or more FinTech services in that category. Data for 2015 differs from that originally published in order to align to the 2017 categorization and averaging methodology.
China is leading the way in adopting FinTech services for savings and investments, as well as borrowing.

<table>
<thead>
<tr>
<th>Money transfer and payments</th>
<th>Financial planning</th>
<th>Savings and investments</th>
<th>Borrowing</th>
<th>Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>China (83%)</td>
<td>China (22%)</td>
<td>China (58%)</td>
<td>China (46%)</td>
<td>India (47%)</td>
</tr>
<tr>
<td>India (72%)</td>
<td>Brazil (21%)</td>
<td>India (39%)</td>
<td>India (20%)</td>
<td>UK (43%)</td>
</tr>
<tr>
<td>Brazil (60%)</td>
<td>India (20%)</td>
<td>Brazil (29%)</td>
<td>Brazil (15%)</td>
<td>China (38%)</td>
</tr>
<tr>
<td>Australia (59%)</td>
<td>US (15%)</td>
<td>US (27%)</td>
<td>US (13%)</td>
<td>South Africa (32%)</td>
</tr>
<tr>
<td>UK (57%)</td>
<td>Hong Kong (13%)</td>
<td>Hong Kong (25%)</td>
<td>Germany (12%)</td>
<td>Germany (31%)</td>
</tr>
</tbody>
</table>

Notes: The figures show the average percentage of respondents in each market who reported using one or more FinTech service in that category.
Use of FinTech products is highest among young adults at an early stage of their career.

Notes: The figures show average rate of FinTech adoption across the age demographics in our surveyed population.
Considerable resistance to switch for older users

Notes: The figures show the percentage of all respondents who cited four barriers to using FinTech, by age group. Survey respondents were allowed to choose multiple reasons for not using FinTech. The question was asked only to respondents who had used no FinTech services in the last six months, however, the analysis is re-indexed to show as a percentage of all survey respondents.
Users and non-users share similar views toward personal risk, yet their digital attitudes differ significantly.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Percentages</th>
<th>Fintech Users</th>
<th>Fintech Non-users</th>
</tr>
</thead>
<tbody>
<tr>
<td>I generally read the terms and conditions when I sign up for a new financial product.</td>
<td>66</td>
<td>58</td>
<td>71</td>
</tr>
<tr>
<td>I worry about the security of my personal data when dealing with companies online.</td>
<td>69</td>
<td>63</td>
<td>71</td>
</tr>
<tr>
<td>I like to have someone provide me with advice about my finances before I make decisions.</td>
<td>59</td>
<td>50</td>
<td>59</td>
</tr>
</tbody>
</table>

Notes: The figures show the percentage of respondents who either ‘agree’ or ‘strongly agree’ with statements relating to their attitudes to financial and digital services, by Fintech users and non-users.
FinTech users seek a range of other online (especially paid) services.
Consumer sentiment toward FinTech is incredibly positive, with all markets and categories reporting future increases in FinTech adoption.
Borrowing and financial planning services represent the largest proportional difference between current and anticipated usage.

Notes: The future use data in this chart has been updated from the first edition of our report. In this updated version, that chart shows the average future anticipated use of at least one FinTech service in each category by all respondents. The first edition of our report showed future anticipated use by current users of one of more FinTech service, which was as follows: Money transfer and payments - 88%; Financial planning - 22%; Savings and investments - 42%; Borrowing - 26%; Insurance - 55%.
More non- and non-regular FinTech users will start their journey to FinTech adoption.

Notes: The figures show the expected adoption rate in the future, based on 2017 survey respondents' anticipated FinTech use. The anticipated future usage consists of current FinTech users, an estimate of lapsed users, current users of one FinTech service who intend to use more services and current non-users who intend to use two or more services. Figures reflect a percentage of all survey respondents in 2017.
FinTech super-users* are more likely to value better quality of service and access to different products and services

* Use 5 or more FinTech services

Notes: The chart shows the percentage of respondents who used a specific number of FinTech services and selected drivers of FinTech use. The bars show the percentage of respondents who used a specific number of FinTech services. The lines show drivers of FinTech adoption, as cited by users of each specific number of services, who were asked to select the most important driver.
Summary on Adoption

1. FinTech has achieved initial mass adoption in most markets
2. New services and new players are driving higher adoption
3. FinTech users prefer using digital channels and technologies to manage their lives
4. FinTech adoption will continue to gain momentum
Conclusion

• FinTech is transforming finance
• Innovation is the new competitive advantage
• Financial Institutions are embracing innovation
• FinTech Adoption continues to grow