Redrawing the lines: Technology’s growing influence on business

2017 Japan-US Forum

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Agenda

1. What’s happening ~ Five global megatrends and technological breakthrough

2. Highlights from PwC’s 20th CEO Survey

3. PwC Global FinTech Survey 2017

4. Discussion points ~ How business leaders are grappling with technological disruptions

Appendix
What’s happening
Five global megatrends are fundamentally disrupting business...

- **Shift in global economic power**
- **Demographic and social change**
- **Technological breakthrough**
- **Rapid urbanisation**
- **Climate change and resource scarcity**

**68%**
Companies that will have at least one global business unit head based in Asia by 2017

**3.3 million**
Additional workers – The 65+ labour force in the US almost doubled between 1990 and 2010

**$300**
Cost of today’s Sony Playstation, which has the computing power of a 1997 military supercomputer

**400 million people**
The increase in China’s population since 1980

**50%**
Increase in the demand for energy – by 2030

Most CEOs believe that technology will transform and disrupt their business.

86% of US CEOs say technological advances will transform their business over the next five years.

Source: PwC 17th CEO Survey
Highlights from PwC’s 20th CEO Survey
Over the last 20 years, CEOs have witnessed tremendous upheavals as a result of globalization and technology.

**In trade**
- 4x trade flows
- 5x financial flows
- BRIC economies

**In technology**
- Exponential rise in global online traffic
- Google, Wikipedia, Facebook, Alibaba

**In society**
- Lifting 1 billion out of extreme poverty
- New emerging middle class

... however
- Inequality is on the rise
- Mistrust in business
- Growing social instability
- Rise in populism
Percentage of CEOs that were very confident about prospects for growth

The percentage of Indian CEOs that were very confident about near-term prospects for growth was the highest globally. In contrast, Japan was among the lowest – only ranking slightly higher than Venezuela.

Q: How confident are you about your company’s prospects for revenue growth over the next 12 months?

<table>
<thead>
<tr>
<th>Region</th>
<th>Confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>71%</td>
</tr>
<tr>
<td>US</td>
<td>39%</td>
</tr>
<tr>
<td>Global</td>
<td>38%</td>
</tr>
<tr>
<td>China</td>
<td>35%</td>
</tr>
<tr>
<td>ASEAN</td>
<td>32%</td>
</tr>
<tr>
<td>Japan</td>
<td>14%</td>
</tr>
</tbody>
</table>

Source: PwC 20th CEO Survey
Uncertainty has become a way of life

CEO short-term confidence has risen compared to last year.

Question: How confident are you about your company’s prospects for growth over the next 12 months?

Respondents with “Very Confident” (%)

- Global CEO
  - 2015: 39%
  - 2016: 35%
  - 2017: 38%

After the financial crisis

Source: PwC 20th CEO Survey
**Waves of change**

CEOs’ predictions of the impact of technology were pretty accurate 20 years ago. Today, an even larger proportion expect their industries to be reshaped by it.

CEOs’ digital literacy

Is digital literacy a requisite for business leaders to create and lead our future?

Of Japanese CEOs said that they have strong digital skills compared to 55% of Global CEOs.

Source: PwC 20th CEO Survey
Digital risks and trust in business

There is a striking contrast between Japanese and US CEOs on the approach to some of the risks around digital, governance, and risk management.

47% of Japanese CEOs are addressing this issue today while 71% of US CEOs are already addressing it.

Source: PwC 20th CEO Survey
More than **1,300** respondents, from **71** different countries around the world

**Type of companies**
- Venture Capital / Private... 24%
- FinTech company 24%
- Securities broker / Investment... 13%
- Fund Transfer and Payments institution 3%
- Mobile... 9%
- Bank 32%
- Asset Management company 6%
- Insurance / Reinsurance company 14%
- Other 12%

**Origin of respondents**
- North America 9%
- Latin America 13%
- Europe 39%
- Asia 33%
- Oceania 3%

**Type of respondents**
- CEO 21%
- Director / Head of Department 15%
- Head of Innovation... 7%
- CDO/Business Development 5%
- Head of Strategy 4%
- CFO 6%
- Other 26%
- COO 4%
- CRO/Risk manager 3%
- Head of IT/Digital/Technology 8%

Source: PwC Global FinTech Survey 2017
FinTech is a driver of disruption in the market.

88% of incumbents are increasingly concerned they are losing revenue to innovators

Financial Institutions are embracing the disruptive nature of FinTech

56% have put disruption at the heart of their strategy

Financial Institutions are learning to partner and integrate

82% expect to increase FinTech partnerships in the next three to five years

Source: PwC Global FinTech Survey 2017
More than 80% of respondents believe their business is at risk

Q: Do you believe that part of your business is at risk of being lost to standalone FinTech companies within next 5 years?

<table>
<thead>
<tr>
<th>Region</th>
<th>2017 Survey</th>
<th>2016 Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>88%</td>
<td>93%</td>
</tr>
<tr>
<td>Latin America</td>
<td>89%</td>
<td>91%</td>
</tr>
<tr>
<td>Europe</td>
<td>88%</td>
<td>83%</td>
</tr>
<tr>
<td>Asia</td>
<td>88%</td>
<td>80%</td>
</tr>
<tr>
<td>Africa</td>
<td>88%</td>
<td>95%</td>
</tr>
<tr>
<td>North America</td>
<td>82%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Q: What financial activities do you believe your customers already conduct with FinTech companies?

<table>
<thead>
<tr>
<th>Activity</th>
<th>2017 Survey</th>
<th>2016 Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments</td>
<td>84%</td>
<td></td>
</tr>
<tr>
<td>Fund transfer</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>Personal finance</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Personal loans</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>Traditional deposits / savings accts</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td>Wealth management</td>
<td>38%</td>
<td></td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
**Financial institutions are addressing customer retention in the face of the disruptive nature of FinTech**

Q: What do you think are the most important areas to address customer retention in the context of new FinTech competition?

<table>
<thead>
<tr>
<th>Payments</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ease of use, intuitive product design</td>
<td>Faster service</td>
<td>24/7 accessibility</td>
</tr>
<tr>
<td>Banking</td>
<td>2nd</td>
<td>24/7 accessibility</td>
<td>Faster service</td>
</tr>
<tr>
<td>Insurance</td>
<td>3rd</td>
<td>24/7 accessibility</td>
<td>Superior customer service</td>
</tr>
<tr>
<td>Asset &amp; Wealth mgmt</td>
<td>1st</td>
<td>Cost</td>
<td>24/7 accessibility</td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
Financial Institutions are learning to partner...

82% of companies expect to increase partnerships w/ FinTech in next 3-5 years

- Currently engaging in partnerships w/ FinTech
- Expecting to increase partnerships over next 3-5 years

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage Engaged</th>
<th>Percentage Expecting Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>70%</td>
<td>78%</td>
</tr>
<tr>
<td>AU &amp; New Zealand</td>
<td>64%</td>
<td>83%</td>
</tr>
<tr>
<td>Singapore</td>
<td>59%</td>
<td>82%</td>
</tr>
<tr>
<td>US</td>
<td>53%</td>
<td>88%</td>
</tr>
<tr>
<td>Global</td>
<td>45%</td>
<td>82%</td>
</tr>
<tr>
<td>UK</td>
<td>44%</td>
<td>81%</td>
</tr>
<tr>
<td>India</td>
<td>42%</td>
<td>95%</td>
</tr>
<tr>
<td>China</td>
<td>40%</td>
<td>68%</td>
</tr>
<tr>
<td>Brazil</td>
<td>30%</td>
<td>72%</td>
</tr>
<tr>
<td>Japan</td>
<td>30%</td>
<td>91%</td>
</tr>
<tr>
<td>S. Korea</td>
<td>14%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
And integrate... but facing challenges around security, regulatory uncertainty, differences in management, culture, business models

Q: When working with Financial Institutions (or FinTech companies), what challenges do you face?

<table>
<thead>
<tr>
<th>Challenges</th>
<th>FinTech</th>
<th>Incumbents</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT security</td>
<td>28%</td>
<td>58%</td>
</tr>
<tr>
<td>Regulatory uncertainty</td>
<td>48%</td>
<td>54%</td>
</tr>
<tr>
<td>Differences in mgmt and culture</td>
<td>55%</td>
<td>40%</td>
</tr>
<tr>
<td>Differences in business models</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>IT compatibility</td>
<td>34%</td>
<td>34%</td>
</tr>
<tr>
<td>Differences in operational processes</td>
<td>36%</td>
<td>24%</td>
</tr>
<tr>
<td>Differences in knowledge / skills</td>
<td>33%</td>
<td>24%</td>
</tr>
<tr>
<td>Required financial investments</td>
<td>16%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
Investment in enabling technologies will help narrow the gap

Q: What are the most relevant technologies for your business that you plan to invest in within the next 12 months?

- Data analytics: 74%
- Mobile: 51%
- Artificial intelligence: 34%
- Cyber-security: 32%
- Robotics process automation: 30%
- Biometrics and identity mgmt: 21%
- Distributed ledger technology (e.g. blockchain): 20%
- Public cloud infrastructure: 14%

% of large Financial Institutions that identified these emerging technologies as the most relevant to invest in within the next 12 months (vs. Large FinTech companies)

- Blockchain: Large Financial Institutions 19% vs. Large FinTech 50%
- Artificial intelligence: Large Financial Institutions 30% vs. Large FinTech 46%
- Biometrics and identity management: Large Financial Institutions 20% vs. Large FinTech 43%

Note: We include only responses of companies with more than 500 employees

Source: PwC Global FinTech Survey 2017
**Blockchain is moving out of the lab**

Q: Please describe the extent to which you are familiar with blockchain technology

<table>
<thead>
<tr>
<th>Region</th>
<th>Extremely familiar</th>
<th>Very familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global</td>
<td>4%</td>
<td>20%</td>
</tr>
<tr>
<td>North America</td>
<td>7%</td>
<td>34%</td>
</tr>
<tr>
<td>Japan</td>
<td>6%</td>
<td>25%</td>
</tr>
<tr>
<td>Europe</td>
<td>4%</td>
<td>25%</td>
</tr>
<tr>
<td>Africa</td>
<td>2%</td>
<td>21%</td>
</tr>
<tr>
<td>Oceania</td>
<td>5%</td>
<td>18%</td>
</tr>
<tr>
<td>Latin America</td>
<td>6%</td>
<td>14%</td>
</tr>
<tr>
<td>Asia</td>
<td>4%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
Regulations trigger both disruption and innovation

Q: In which areas do you see regulatory barriers to innovation in FinTech?

- Data storage, privacy, and protection: 54%
- Digital identity authentication: 50%
- AML / Know Your Client: 48%
- New business models (crowdfunding, P2P lending): 40%
- E-money / cryptocurrency: 30%

Source: PwC Global FinTech Survey 2017
Managing expectations will be key...

Q: In your opinion, what are the opportunities related to the rise of FinTech within your industry?

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand products and services</td>
<td>60%</td>
</tr>
<tr>
<td>Leverage existing data and analytics</td>
<td>46%</td>
</tr>
<tr>
<td>Increase customer base</td>
<td>44%</td>
</tr>
<tr>
<td>Respond to competition faster</td>
<td>38%</td>
</tr>
<tr>
<td>Reduce cost headcount</td>
<td>30%</td>
</tr>
<tr>
<td>Differentiate</td>
<td>29%</td>
</tr>
<tr>
<td>Improve retention of customers</td>
<td>28%</td>
</tr>
<tr>
<td>Decrease IT infrastructure costs</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
3 PwC FinTech Survey 2017 ~Japan results
FinTech moving at a slower pace for Japan’s Financial Institutions

The only way to get returns is to invest to learn.

Q: What percentage of your annual revenue do you allocate to FinTech matters (investments into FinTech, IT projects, dedicated resources)?

- Global: 15%
- Japan: 6%

Q: What is your expected annual Return on Investment (ROI) on your projects related to FinTech?

- Global: 20%
- Asia: 25%
- North America: 23%
- Latin America: 22%
- Europe: 14%
- Japan: 6%

Source: PwC Global FinTech Survey 2017
**Different expectations on potential impacts of FinTech**

Q: In your opinion, what are the opportunities related to the rise of FinTech within your industry?

---

**Global**
- Expand products & services: 60%
- Leverage existing data and analytics: 46%
- Increase customer base: 44%
- Differentiate: 29%
- Respond to competition faster: 38%
- Reduce headcount costs: 30%

**Japan**
- Expand products & services: 45%
- Leverage existing data and analytics: 36%
- Increase customer base: 36%
- Differentiate: 24%
- Respond to competition faster: 24%
- Reduce headcount costs: 58%

Source: PwC Global FinTech Survey 2017
Threats imposed by FinTech

Information security is a larger concern for Japanese financial institutions compared to their counterparts who worried more about market competitiveness.

Q: In your opinion, what are the threats related to the rise of FinTech within your industry?

Source: PwC Global FinTech Survey 2017
### Renewed digital customer experience driven by customer centricity

Japanese financial institutions are slower in adopting digital channels to interact with customers

**Q: What percentage of your clients do you interact with through the following channels?**

<table>
<thead>
<tr>
<th>Channel</th>
<th>Japan</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website, web-based platform</td>
<td>22%</td>
<td>41%</td>
</tr>
<tr>
<td>Email</td>
<td>35%</td>
<td>40%</td>
</tr>
<tr>
<td>Branch</td>
<td>35%</td>
<td>32%</td>
</tr>
<tr>
<td>Mobile application</td>
<td>11%</td>
<td>28%</td>
</tr>
<tr>
<td>Call center</td>
<td>16%</td>
<td>28%</td>
</tr>
<tr>
<td>Social media</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>Post mail</td>
<td>10%</td>
<td>18%</td>
</tr>
<tr>
<td>Other</td>
<td>18%</td>
<td>16%</td>
</tr>
</tbody>
</table>

Source: PwC Global FinTech Survey 2017
Regulatory barriers to innovation
Complexities of managing privacy, digital identity, and detailed customer data can be expensive hurdles

Q: In which areas do you see regulatory barriers to innovation in FinTech?

Source: PwC Global FinTech Survey 2017
Discussion points
**Tough questions to ask for business leaders**

1. What parts of your business model will benefit from further automation?

2. Is your HR function ready to adapt to managing man and machine? What’s missing from its capabilities and how will you fix it fast?

3. How are you going to find the rarer skills like leadership, creativity and adaptability required for your company to innovate and build brand differentiation?

4. Have you considered how artificial intelligence and automation will help you create competitive advantage in your key markets?

5. Have you redesigned your business processes so that your employees are best placed to work seamlessly with automation to create new value?
Thank you

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