Federal Reserve Bank of Philadelphia

Third Annual FinTech Conference

How Cloud and AI are Transforming Financial Services

Stuart Breslow
Financial Services Industry Lead
November 14, 2019
Google Cloud Platform

Announced regions

Current regions and number of zones

Future regions and number of zones
Google Cloud Platform

134 points of presence and 14 subsea cable investments around the globe

Current regions and number of zones

Future regions and number of zones

Edge points of presence

Network
We need banking but we don’t need banks anymore.

Bill Gates, 1994
Customers are demanding more

Customers expect seamless, custom experiences.

Loyalty is increasingly difficult to maintain.

Market forces are in constant flux

Cloud-native fintechs are changing how FSIs go to market.

Regulators are leveling the playing field.

Risk & regulatory burdens mount

Exposure to market & operational risks are increasing.

Meeting compliance demands continue to be a heavy burden.

Legacy IT & High Costs

Inflexible, expensive legacy infrastructure prevents rapid change.

Data remains in silos and difficult to use effectively.

FSIs face increasing challenges
Customer expectations are changing

24/7
Customers expect always-on, seamless service and personal offerings

1/3
Millennials are willing to switch FSIs in the next 90 days if it means a better experience.
Financial services institutions have often grown through acquisition, operating with relatively static products and geographies. Typically, these IT operating models just are not nimble enough to support where things are headed.”

PWC
FS Technology 2020 and Beyond, 2016
Democratization of Innovation
The world is changing. Big will not beat small anymore. It will be the fast beating the slow.

Rupert Murdoch
Financial institutions...still struggle to extract meaningful information and use it for good business decisions. By some estimates, businesses use only 0.5% of available data. To turn data into insights, firms must overcome data stuck in silos, incompatible formats, and more.

PWC
Data and Analytics in Financial Services, 2018
Machine learning is a core, transformative way by which we’re rethinking how we’re doing everything

Sundar Pichai
CEO, Google
## Machine Learning in Financial Services

<table>
<thead>
<tr>
<th>Category</th>
<th>Applications</th>
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<tr>
<td><strong>Sales</strong></td>
<td>Content personalization, product x-sells/up-sells</td>
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<tr>
<td><strong>Trading</strong></td>
<td>Algo-trading, backtesting, strategy mining</td>
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<tr>
<td><strong>Operations</strong></td>
<td>Automate end-to-end flows, customer support</td>
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<tr>
<td><strong>Compliance</strong></td>
<td>KYC, trade surveillance</td>
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<tr>
<td><strong>Risk Management</strong></td>
<td>Credit risk modeling, RegTech</td>
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<tr>
<td><strong>Financial Control</strong></td>
<td>Model forecasts, optimize period end close</td>
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<tr>
<td><strong>Lending</strong></td>
<td>Credit scoring, underwriting</td>
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<td><strong>Payments</strong></td>
<td>Fraud detection, AML</td>
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<td><strong>Research</strong></td>
<td>Sentiment/news analysis, insight extraction</td>
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<td><strong>Investment Management</strong></td>
<td>Personalize financial Products, robo-advising</td>
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<td><strong>Legal</strong></td>
<td>Contract intelligence, legal documents analysis</td>
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<tr>
<td><strong>Vendor Management</strong></td>
<td>Supply chain optimization, 3rd-party risk management</td>
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Financial Services Cloud Overview

2018, financial markets represented 7.4% ($1.5T) of U.S. gross domestic product.

The finance cloud market will grow from $12.9B USD in 2019 to $23.9B by 2021.

Sixty-one percent of FSI survey respondents said cloud strategy was only formative in their org.

$1.5T
$23.9B
61%
1867
2019