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The Financial Services Industry Sees Increasing Public Cloud Adoption as Driving Innovation and Compliance

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Executive Summary

New research shows that the financial industry is looking at the cloud as a key technology that can improve performance across a broad range of activities. Commissioned by Google Cloud, Harris Poll[1] surveyed risk/compliance and IT leaders (hereinafter "IT/compliance decision makers" or "IT/CDMs") in the banking and financial services industry across North America, Europe and Asia Pacific. The survey found that 83% of respondents in these regions are already using some form of public cloud, including hybrid and multicloud approaches. Many core financial workloads, however, remain on-premises, presenting an opportunity for these institutions to innovate further via the cloud.

Hybrid Cloud

majority of employees use a mix of public cloud and on-premise infrastructure
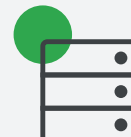
Public Cloud

majority of employees solely use a public cloud provider such as Google Cloud, AWS, or Microsoft Azure

Multicloud

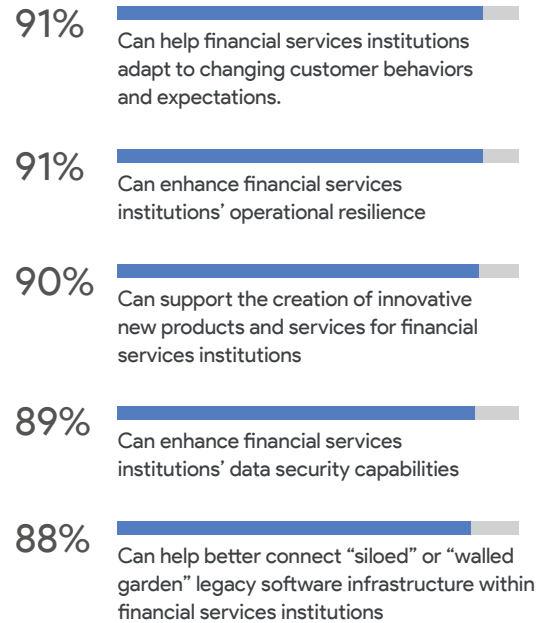majority of employees use more than one public cloud provider

On-Premises

majority of employees use no public cloud, on-premise infrastructure only

[1]The Harris Poll conducted this survey online from Dec. 7, 2020 - Jan. 4, 2021. A total of 1,363 risk/compliance and IT leaders worldwide were surveyed.

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Firms that have adopted public cloud as the most common computing infrastructure for business operations (or as part of hybrid or multicloud implementations) report significantly higher technology satisfaction levels than firms using primarily on-premises computing infrastructure. In addition, the research shows a very high positive perception of the potential for cloud technology across a range of activities, including operations, customer engagement, product innovation, compliance, and interoperability – with nearly all respondents agreeing strongly with statements about the potential benefits of public cloud adoption.

% Agree about cloud adoption

91% Can help financial services institutions adapt to changing customer behaviors and expectations.

91% Can enhance financial services institutions' operational resilience

90% Can support the creation of innovative new products and services for financial services institutions

89% Can enhance financial services institutions' data security capabilities

88% Can help better connect "siloed" or "walled garden" legacy software infrastructure within financial services institutions

Firms **using public cloud** are **significantly more satisfied** with their IT infrastructure than those using an on-premises infrastructure.

At the same time, survey results show that the shift to cloud is consistent with principles of diversification and resilience. Nearly a fifth (17%) of institutions currently employ a multicloud approach. Notably, of those firms that do not, the vast majority (88%) are considering employing a multicloud approach in the near future (i.e., in the next 12 months).

Additionally, those who currently use an on-premises strategy say their organizations plan to switch, on average, 40% of their business workloads to public cloud in the next 12 months. Those who rely on some form of public cloud (but haven't transitioned all of their workloads fully) expect to move, on average, another 27% of their workloads to the public cloud in the next 12 months.

88%

Considering implementing multicloud strategy in the near future

(among those not currently using multicloud strategy)

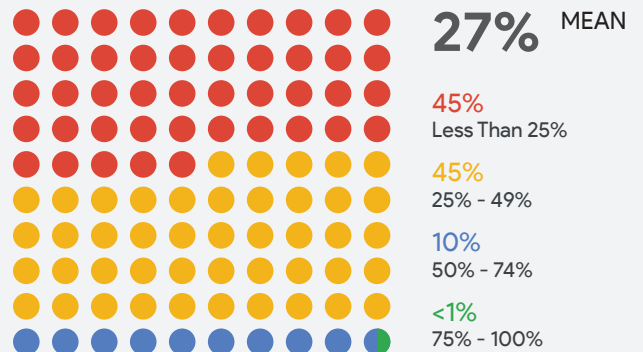**% Of workload not currently on public cloud to be moved to public cloud in next 12 months**

● Less Than 25%　　● 25% - 49%　　● 50% - 74%　　● 75% - 100%

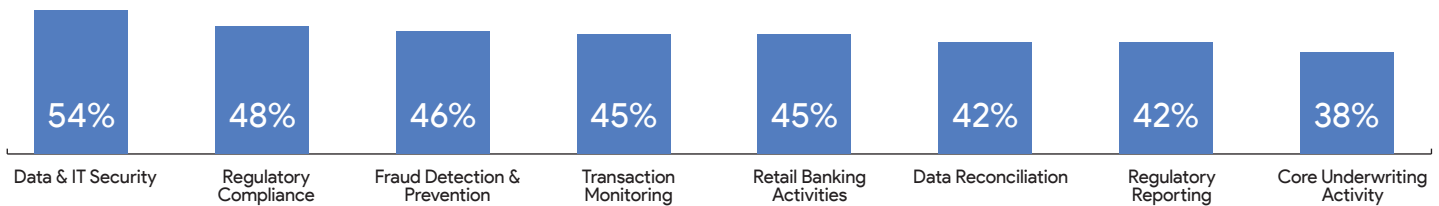**Among those with majority using on-premise strategy**

40% MEAN

25%
Less Than 25%

39%
25% - 49%

24%
50% - 74%

11%
75% - 100%

Among those using some type of cloud strategy

27% MEAN

45%
Less Than 25%

45%
25% - 49%

10%
50% - 74%

<1%
75% - 100%
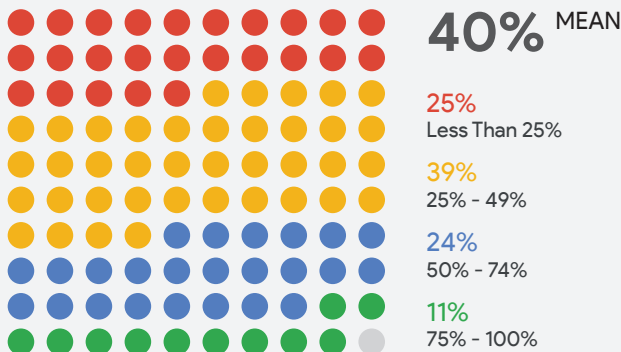
Regarding activities that are moving to the cloud, while firms historically viewed security as an obstacle to cloud adoption, now they see data and IT protection as one of the strongest reasons for committing to the cloud. Firms also turn to the cloud for activities like regulatory compliance, fraud detection, and transaction monitoring. Meanwhile core activities, including underwriting, do not appear to have been migrated to cloud at the same rate, suggesting that there are still areas of opportunity for further adoption. As strategies become more mature and robust, more core functionality can be brought to the cloud.

Activities currently managed using cloud technology: Full adoption
(among organizations with majority of employees using cloud strategy)

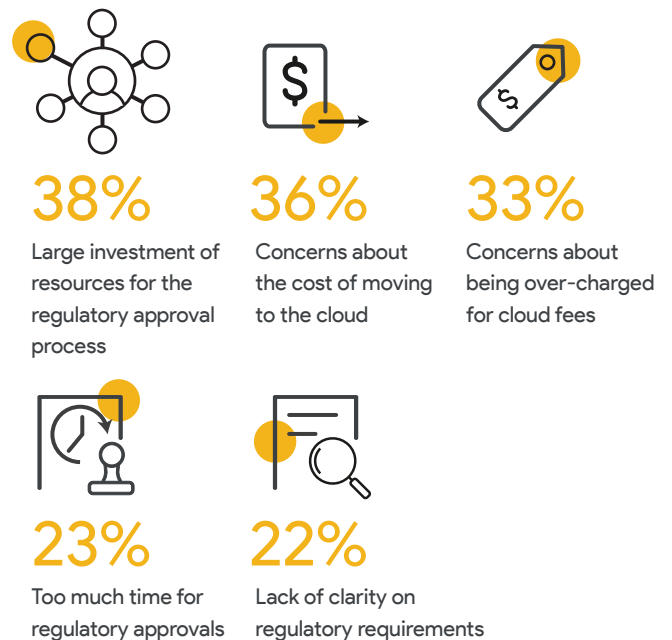| Data & IT Security	Regulatory Compliance	Fraud Detection & Prevention	Transaction Monitoring	Retail Banking Activities	Data Reconciliation	Regulatory Reporting	Core Underwriting Activity
54%	48%	46%	45%	45%	42%	42%	38%

However, the research also shows that more robust cloud adoption will require additional efforts related to regulatory processes and guidance. Although IT/CDMs across the globe were largely positive on efforts by regulators to provide guidance and clarity for firms seeking to adopt cloud technology, the results indicate that much more can be done.

Of those firms reporting that they had not adopted public cloud as part of their technology infrastructure, the most common reason cited was the "large investment of resources for the regulatory approval process." Though less common, firms that had not adopted public cloud also expressed that it takes too much time to secure regulatory approval, and that there is a lack of clarity on regulatory requirements about cloud adoption.

Top reasons for not using cloud services
(among organizations with majority of employees using on-premises strategy)

38%
Large investment of resources for the regulatory approval process

36%
Concerns about the cost of moving to the cloud

33%
Concerns about being over-charged for cloud fees

23%
Too much time for regulatory approvals

22%
Lack of clarity on regulatory requirements

Surveyed firms also indicated particular ways that regulators can facilitate technology adoption and suggested specific regulatory approaches. At least four in five IT/CDMs reported that the following were a high/moderate priority to their organizations: the development of regulatory safe harbors, the creation of sandboxes, and the publication of clear regulatory guidance. A number of global regulators have utilized such tools with respect to tech adoption and can continue to do so in the context of cloud and related technologies.

Regulatory priorities among organizations

● High priority ● Moderate priority ● Low priority ○ Not at all a priority

Clear guidance from regulators on cloud adoption standards and best practices
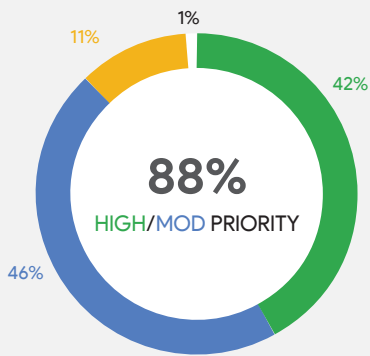
11%
1%
42%
88%
HIGH/MOD PRIORITY
46%

Development of regulatory or liability "safe harbors" based on standards and best practices to further facilitate technology adoption, including public cloud

12%
1%
42%
87%
HIGH/MOD PRIORITY
44%
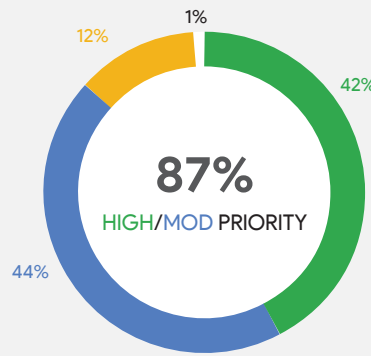
Creating a regulatory technology/compliance "sandbox" for testing new automated or machine learning-based compliance tools

15%
2%
36%
84%
HIGH/MOD PRIORITY
48%
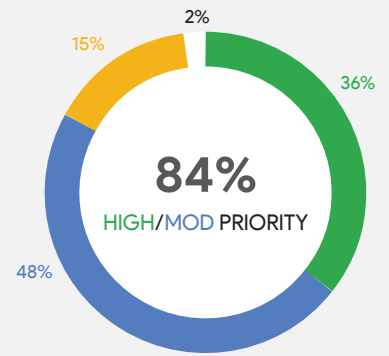
Overall, responses across firm size and global markets were largely consistent in recognizing the benefits of cloud technology. The survey confirms broad optimism and support for cloud adoption, key areas of perceived promise, and also areas where forward-leaning regulatory approaches can safely facilitate technology adoption.

Detailed
Report Findings

The Landscape of Cloud Adoption & Applications

Across global markets, 83% of respondents report use of cloud technology for their primary IT infrastructure. Of these, 38% rely on hybrid cloud environments, 22% rely on a single public cloud and 17% use multicloud approaches. Only 17% rely on on-premises solutions as their primary computing technology, with the UK and Singapore reporting the highest levels.

Primary computing technology used by organizations

38%
Hybrid Cloud

22%
Single Cloud

17%
Multicloud

17%*
On-Premise
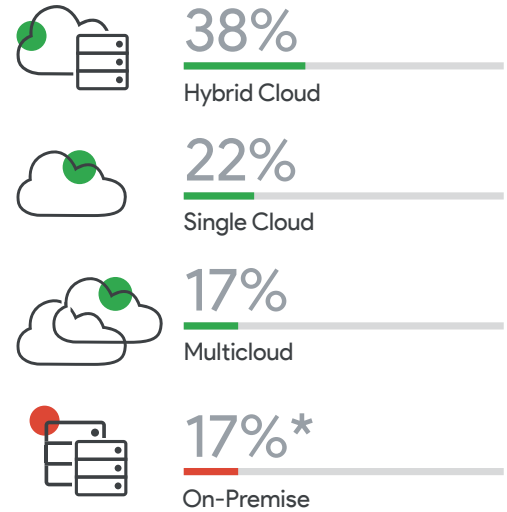
*UK & SINGAPORE HIGHEST ON-PREMISE: 24%

88%

Are considering adopting a
multicloud strategy in the
near future

(among organizations with majority of employees not using a multicloud strategy)

Notably, among those without an existing multicloud deployment, nearly 90% are considering adopting a multicloud strategy in the next 12 months. This is likely due to a need for financial services firms to enhance resiliency and reduce vendor lock-in, a concern called out by 26% of respondents.

Respondents at financial institutions widely agreed that public cloud technology can help them increase efficiency or improve across a number of areas, including: enhancing operational resilience; allowing staff to focus their time on higher-value activities; reducing data silos; and, making regulatory reporting processes more efficient, less costly, and more real-time (among others).

Of particular note, as highlighted below, firms using cloud technology as their primary infrastructure are significantly more likely than those using mostly on-premises infrastructure to agree they have the right technology and tools to innovate on business models and operational processes. They are also more likely to agree that their existing IT systems permit staff to focus on higher-value activities, and have the right technology to innovate on compliance functions and reporting.

Existing management/IT systems   ● Majority of employees use cloud solutions   ● Majority of employees use on-premises

It makes it easy to combine data sets for further analysis	It uses AI and/or ML to detect suspicious activity under your country's Know-Your-Customer/Anti-Money Laundering laws	It makes it easy to automate standard compliance reports	It uses AI and/or ML to detect potentially fraudulent activity	It supports regulatory reporting processes in an automated way
73% / 59%	73% / 56%	72% / 55%	72% / 51%	65% / 52%
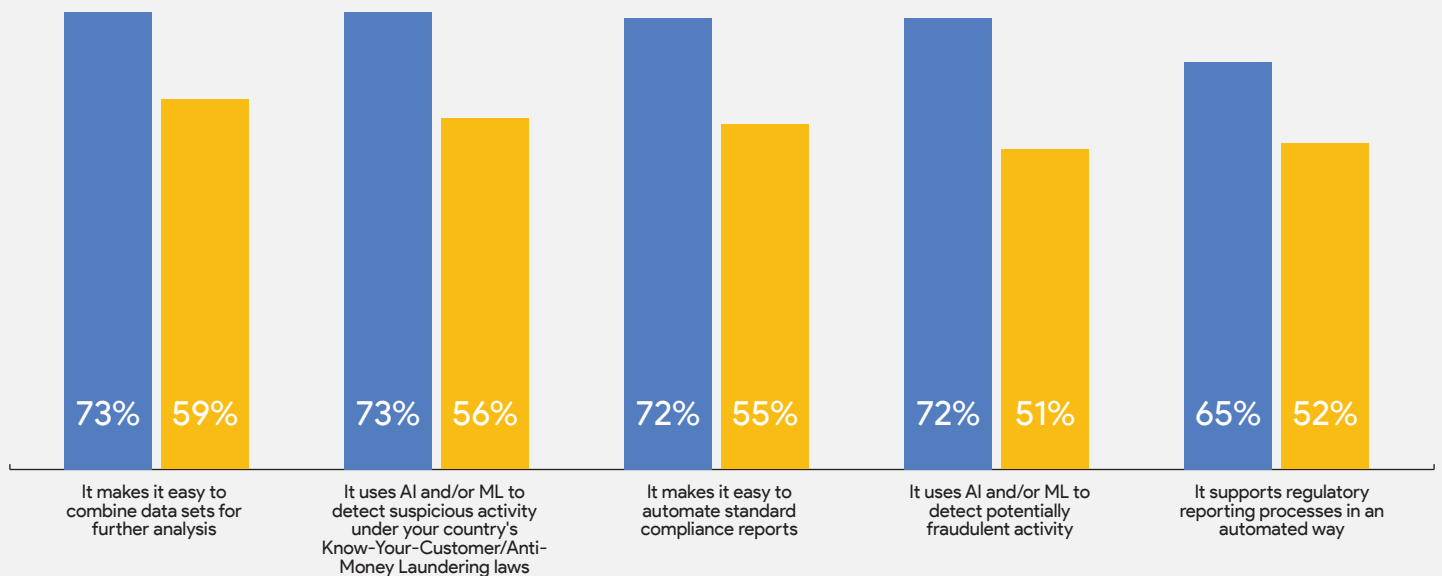
While financial services firms have migrated substantial workloads to the cloud, the industry is far from full adoption for all core workloads. Of firms currently relying on a majority cloud strategy, only about half (47%) of the firms' workloads are fully deployed to the cloud, with "core underwriting activity" ranking lowest in terms of full adoption.

47% **Of workloads are currently fully adopted on a cloud strategy**
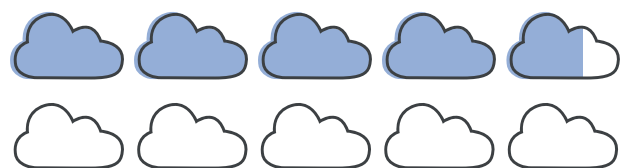
(among those using a cloud strategy)

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Of the organizations whose primary IT infrastructure is cloud-based, the highest levels of cloud workload adoption were reported in North America, with the United States leading at 54% and Canada at 52%, and the lowest levels of adoption in 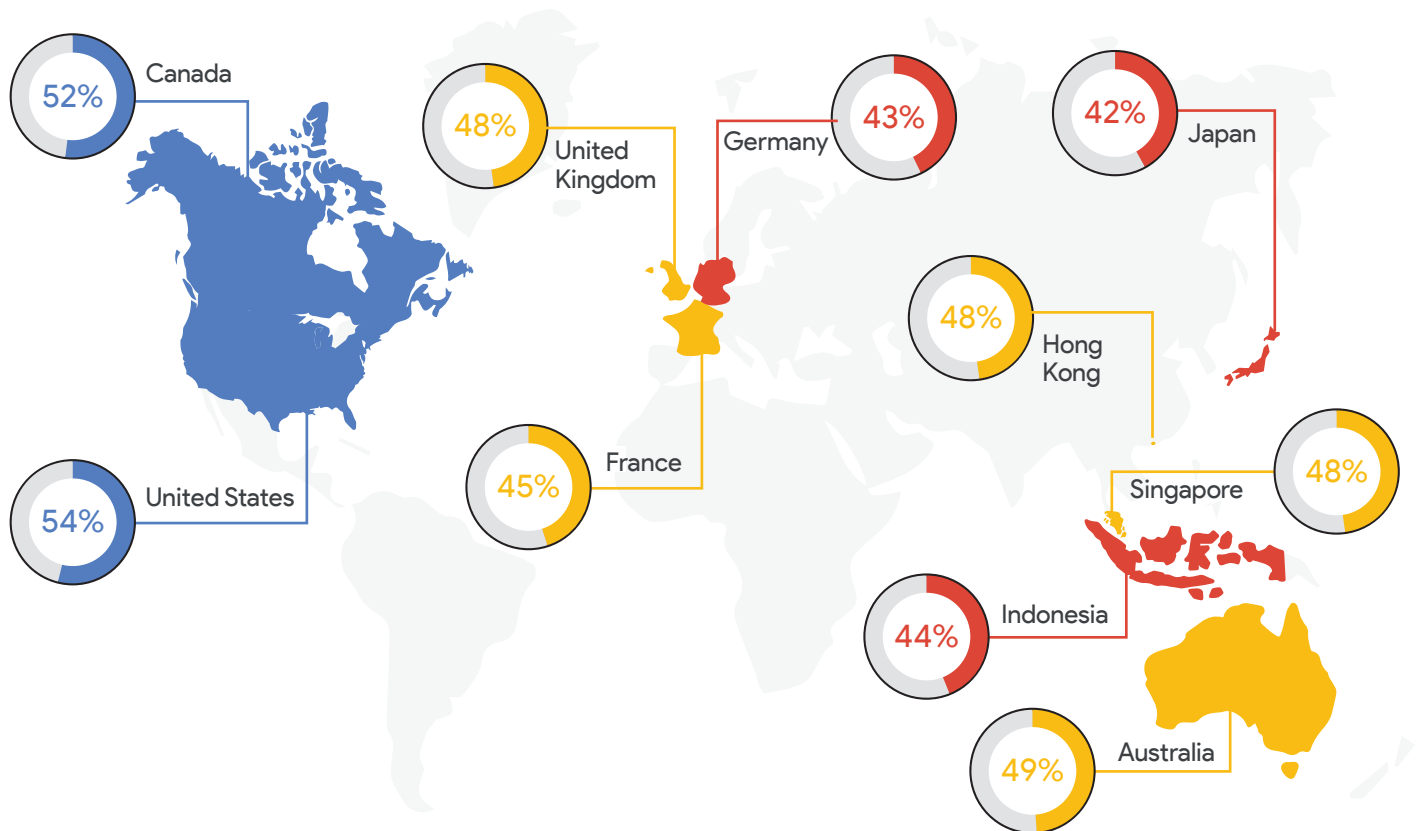Japan at 42%. Despite noting clear benefits of the cloud, only 54% of IT/CDMs say that their organizations had fully adopted cloud technology for data and IT security functions, 48% for regulatory compliance functions, 46% for fraud detection and prevention functions, 45% for transaction monitoring, and 45% for retail banking activities.

Percentage of workloads on the cloud for those organizations deploying a cloud strategy

- Canada — 52%
- United States — 54%
- United Kingdom — 48%
- Germany — 43%
- Japan — 42%
- France — 45%
- Hong Kong — 48%
- Singapore — 48%
- Indonesia — 44%
- Australia — 49%

The survey data indicates that the pace and breadth of public cloud adoption across workloads is cautious and controlled. This deliberate deployment strategy is likely due to the need to mitigate operational and regulatory risks, and ensure smooth transitions from legacy systems. However, at the same time, firms also indicate that opportunities for additional productivity, compliance, and operational gains, including for core functions, can be achieved through continued cloud adoption.

Promising Applications: Compliance & RegTech

The majority of IT/CDMs see specific regulatory and reporting improvements from cloud adoption at financial services institutions, including driving efficiency through automation and related regulatory technologies ("RegTech"). This sentiment is higher among those whose organizations have adopted cloud for their primary IT infrastructures, compared to those who use primarily on-premises infrastructures.

When it comes to regulatory and operational compliance, at least one in three respondents recognize some shortcomings at their organization, including: their data management systems lack interoperability, resulting in fragmented and siloed data sets; their data and IT security programs are behind the curve; their compliance and reporting systems are not cost effective; their reporting is static, and doesn't account for risks that emerge after filing compliance reports; and, their compliance systems cannot automate basic functions that do not need to be performed manually.

Financial services firms broadly agree that cloud computing can help improve a number of these areas. For example, when it comes to working hours wasted per week on regulatory compliance and reporting that could be automated, firms using majority cloud solutions reported 15% fewer wasted hours per week as compared to their on-premises counterparts, and 22% fewer wasted hours per week on data reconciliation.

Areas where public cloud services could increase efficiency

Majority of employees use cloud solutions

Data Security
64%

Risk Assessments
63%

Regulatory Reporting
58%

Regulatory Compliance
55%

Fraud Protection
53%

Process Audits
45%

Weekly hours wasted (average)

Regulatory compliance & reporting that could be automated   17   20

Data reconciliation   18   23

● Majority of employees use cloud solutions
● Majority of employees use on-premises

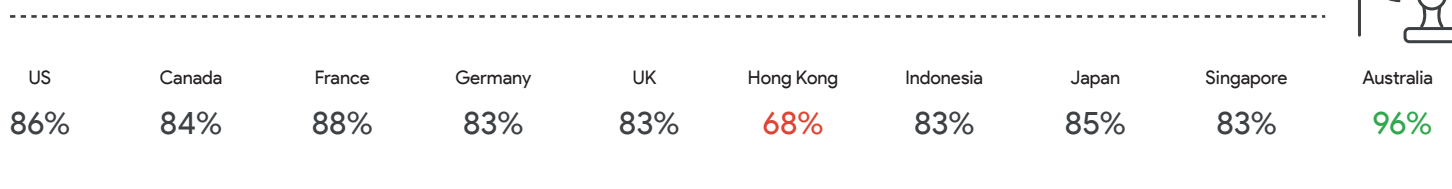## The Regulatory Landscape: Constructive with Opportunities for Improvement

While IT/CDMs were largely positive on current regulatory efforts to provide guidance and clarity for firms seeking to adopt cloud technology, the results underscored that more can be done to facilitate adoption.

IT/CDMs further note that regulatory fragmentation, uncertainty, and barriers to the use of public cloud prevent their organizations from innovating, and that the time required for regulatory reviews and approvals negatively impacts cloud adoption. Thus, despite the clear perceived benefits of public cloud adoption discussed in the prior section, the majority of IT/CDMs agree that regulators can do more to support adoption of such tools.

84% Agree

Regulatory reviews and approvals take a long time because of fragmentation (i.e., too many different regulatory bodies and rules) around public cloud

84% Agree

Regulatory reviews and approvals of cloud projects take a long time, which is slowing cloud adoption in my organization

80% Agree

Regulatory fragmentation (i.e., too many different regulatory bodies and rules) around public cloud is preventing my organization from innovating

79% Agree

Regulatory barriers over the use of public cloud are preventing my organization from innovating

78% Agree

Regulatory uncertainty over the use of public cloud is preventing my organization from adopting cloud that would otherwise benefit my organization

These perceptions with respect to slow regulatory review and approval times seem to be higher in Australia and to some extent Japan, Indonesia, Singapore and Germany – and lowest in Hong Kong.

% Agree regulatory reviews and approvals take a long time because of fragmentation

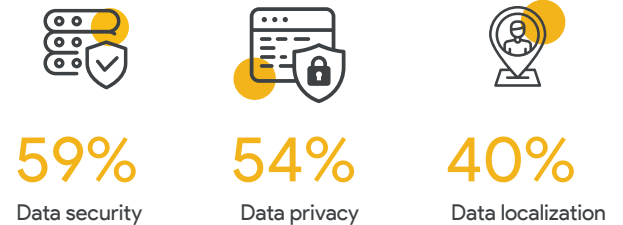| US	Canada	France	Germany	UK	Hong Kong	Indonesia	Japan	Singapore	Australia
86%	84%	88%	83%	83%	68%	83%	85%	83%	96%

Additionally, of those IT/CDMs whose organizations rely on a majority on-premises infrastructure, the most common reason stated for not incorporating majority cloud technology is the large investment of resources required for the regulatory approval process. Two other responses chosen by almost a quarter of respondents reveal that too much time is required for the regulatory approval process, and that there is a lack of clarity on regulatory requirements. Underscoring this last point, of institutions that rely largely on on-premises solutions, only 21% strongly agree that they have the right guidance and information to confidently adopt public cloud technology. This suggests opportunities for improved regulatory guidance to facilitate further cloud adoption.

Also, among those who don't believe they have the right guidance and information from regulators in their country to adopt public cloud technology, the most common areas that are seen as lacking guidance are data security and data privacy.

Based on IT/CDMs' responses, a few key themes emerge about regulation and cloud deployment: the need to lower regulatory uncertainty, the need for regulatory consistency, and the need for well-accepted standards.

Top three

Areas where right guidance and information is not there from country's regulators to confidently adopt public cloud technology

(among those who disagree financial institutions have the right guidance and info from regulators to confidently adopt cloud technology)

59%	**54%**	**40%**
Data security	Data privacy	Data localization

Highest Priority Regulatory items

88%	**88%**	**87%**	**87%**	**87%**
Clear guidance from regulators on cloud adoption standards and best practices	Harmonizing and bringing consistency to regulatory review of cloud projects and supervisory practices	Extending regulatory expertise on cloud issues	Development of standardized and harmonized data reporting fields and formats across regulators	Development of regulatory or liability "safe harbors" based on standards and best practices to further facilitate technology adoption, including public cloud

Conclusions & Recommendations

Adoption of public cloud, including multicloud and hybrid cloud strategies, is broadly viewed by the financial services industry as driving resiliency, productivity, compliance, and innovation. The public cloud is already improving the efficiency and effectiveness of key compliance functions, but greater benefit can be derived through further migration of workloads to the cloud. And, while global regulators receive high marks for their general approach to cloud adoption, they can take even further steps to facilitate the safe and sound adoption of cloud.

Financial services firms should continue to maximize the potential of cloud technology by migrating more workloads to the cloud and actively consider multicloud and hybrid-cloud strategies. Such strategies enhance resiliency of existing IT infrastructure and reduce concerns over vendor lock-in.

Regulators should look for opportunities to decrease regulatory uncertainty, as well as streamline review and approval processes. This could include:

1 harmonizing and bringing consistency to regulatory reviews across agencies to avoid regulatory fragmentation (i.e., imposition of different or conflicting requirements on financial services institutions)

2 adopting processes for experimentation and testing of new technologies, including pilot programs, tech sprints, and sandboxes, as well as regulatory methods for de-risking adoption such as regulatory "safe harbors" where appropriate

3 continuing to provide regulatory staff with training related to emerging technologies, including cloud

4 advancing standardized regulatory and data reporting requirements to maximize application of cloud and related artificial intelligence / machine learning technologies