Overcoming AI and ML Roadblocks in Banking and Insurance

MORE THAN A THIRD OF TECHNOLOGY LEADERS at banks and insurance firms (36%) say they're not free to select the tools they need to build and deploy artificial intelligence (AI) and machine learning (ML) models. And nearly all (96%) report that organizational security and compliance policies hinder their ability to obtain those tools.

These findings, from a new study by IDG and Red Hat, highlight some of the struggles in the banking and insurance industry around AI and ML deployment. They come at a time when 86% of banking firms rate deploying AI as important to their success in the next two years, according to Deloitte.

But the IDG/Red Hat study also offers hope for overcoming obstacles to putting AI and ML models into production.

The Value of AI and ML in Banks and Insurance Firms

Artificial intelligence and machine learning have become critically important to banks and insurance companies.

That's because banks, insurance firms, and other institutions increasingly rely on AI to help with customer service, fraud detection, and more. Those that don't risk getting left out of a potential $1 trillion-a-year increase in value, according to an estimate by McKinsey & Company.
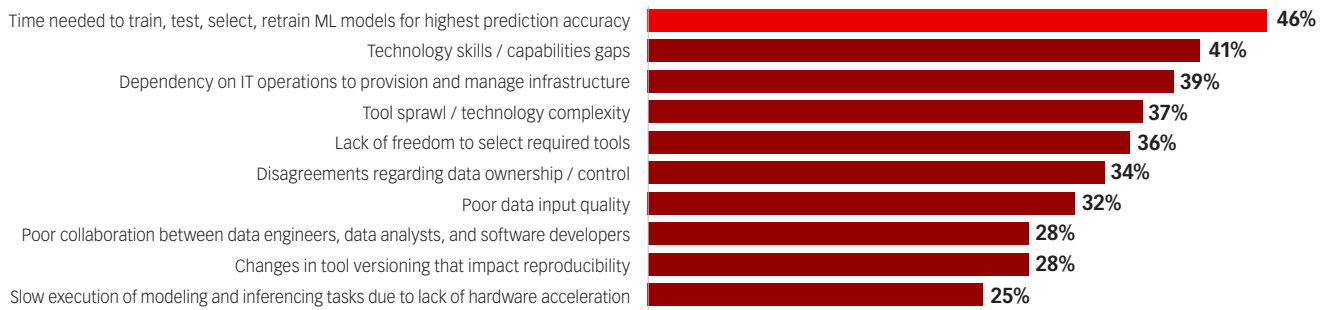
Even so, obstacles remain for deploying AI and ML models, putting companies at risk of falling behind their competitors.

To get a read on some of those challenges, IDG and Red Hat surveyed IT decision-makers (ITDMs) at 100 banks and insurance firms in the US with 5,000 or more employees. The survey also uncovered solutions for meeting those challenges, most notably turning to cloud resources and common platforms for deploying AI and ML models.

AI and ML Obstacles

The most-cited obstacle to moving AI/ML models into production is the time it takes to do it properly, as reported by 46% of survey respondents. That means training, testing, selecting, and retraining models as necessary to achieve the highest level of prediction accuracy (FIGURE 1).

Red Hat | intel.

FIGURE 1. **Top 10 Obstacles to Getting AI/Machine Learning Models into Production**

Time needed to train, test, select, retrain ML models for highest prediction accuracy	46%
Technology skills / capabilities gaps	41%
Dependency on IT operations to provision and manage infrastructure	39%
Tool sprawl / technology complexity	37%
Lack of freedom to select required tools	36%
Disagreements regarding data ownership / control	34%
Poor data input quality	32%
Poor collaboration between data engineers, data analysts, and software developers	28%
Changes in tool versioning that impact reproducibility	28%
Slow execution of modeling and inferencing tasks due to lack of hardware acceleration	25%

Source: IDG

Technology skill gaps were close behind, reported by 41% of respondents, followed by dependency on IT operations to provision and manage infrastructure (39%) and tool sprawl contributing to technology complexity (37%).

Also in the top five: practitioners lack the freedom to choose the tools they need, cited by 36% of respondents.

Unsurprisingly in a tightly regulated industry, 58% of respondents reported that security and compliance concerns limit the selection of AI/ML tools available to them to a great extent. More than a third (38%) reported security concerns constraining them to some extent. This is key, as security considerations for AI/ML in the banking and insurance industry include specific concerns for risk around the interaction between machines and humans. For example, it's not enough to say to regulators "that's what the machine said." IT leaders must provide transparency and be able to explain both the process and the results. Additionally, the machine learning process imposes risks. Because the machines can update themselves—it's a feature, not a bug—this "can
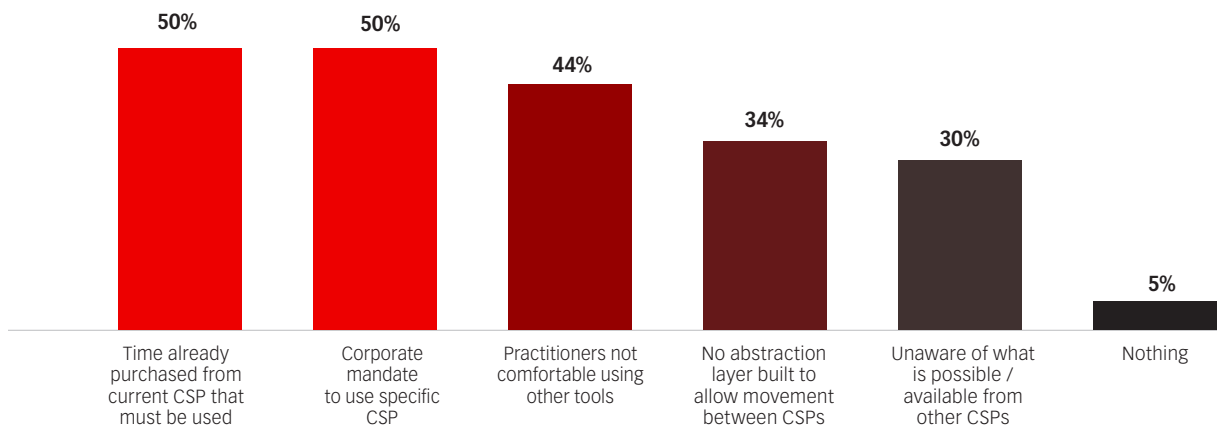
produce changes that range from minor adjustments to existing elements of a model to the introduction of entirely new elements," according a request for information issued in March 2021 by a consortium of federal banking regulators.[1]

The cloud has emerged as a powerful tool aiding AI and ML development thanks to its always-available data stores, scalability, and other key benefits. Even so, banking and insurance ITDMs report constraints on using ML tools from multiple cloud providers, hindering their ability to access the best available options.

Half (50%) report having pre-bought time from a current service provider, locking them in to only the tools from that provider (FIGURE 2). Half (50%) also cite corporate mandates limiting them to a specific provider. Nearly a third (30%) don't even know what's possible with other cloud providers, and 34% say they're hampered by the lack of an abstraction layer that would enable them to move between providers.

Banking and insurance ITDMs report that a common platform for building and deploying AI/ML models can help.

FIGURE 2. **Inhibitors to Freely Using Machine Learning Tools from a Variety of Cloud Providers**

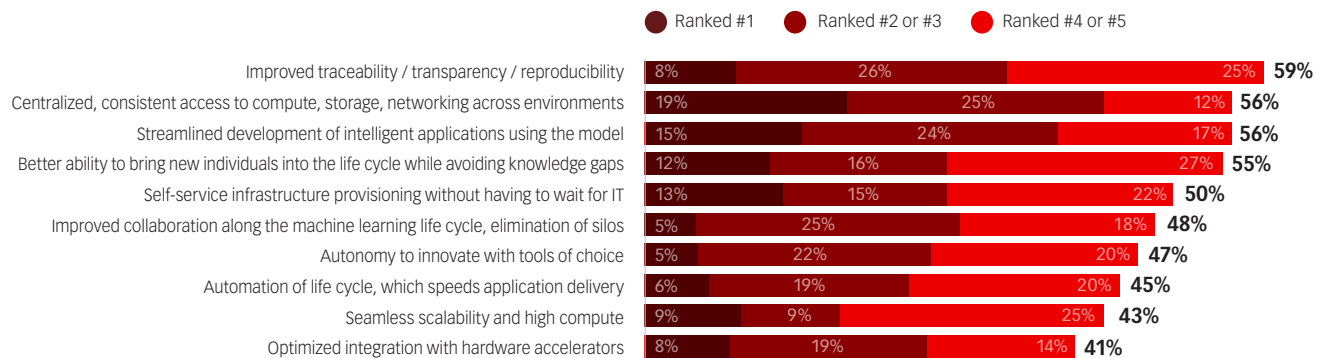|	
Time already purchased from current CSP that must be used	50%
Corporate mandate to use specific CSP	50%
Practitioners not comfortable using other tools	44%
No abstraction layer built to allow movement between CSPs	34%
Unaware of what is possible / available from other CSPs	30%
Nothing	5%

Source: IDG

1. Compliance Week, https://www.complianceweek.com/technology/regulators-want-answers-from-financial-services-on-ai/ml-tools/30279.article

Containerized environments represent a powerful tool for leveraging the best possible resources—cloud, on-premises, edge, or hybrid—for a given application.

FIGURE 3. **Top Benefits of Standardizing on a Common Platform to Build and Deploy AI / ML Models**

● Ranked #1   ● Ranked #2 or #3   ● Ranked #4 or #5

Benefit	Ranked #1	Ranked #2 or #3	Ranked #4 or #5	Total
Improved traceability / transparency / reproducibility	8%	26%	25%	**59%**
Centralized, consistent access to compute, storage, networking across environments	19%	25%	12%	**56%**
Streamlined development of intelligent applications using the model	15%	24%	17%	**56%**
Better ability to bring new individuals into the life cycle while avoiding knowledge gaps	12%	16%	27%	**55%**
Self-service infrastructure provisioning without having to wait for IT	13%	15%	22%	**50%**
Improved collaboration along the machine learning life cycle, elimination of silos	5%	25%	18%	**48%**
Autonomy to innovate with tools of choice	5%	22%	20%	**47%**
Automation of life cycle, which speeds application delivery	6%	19%	20%	**45%**
Seamless scalability and high compute	9%	9%	25%	**43%**
Optimized integration with hardware accelerators	8%	19%	14%	**41%**

Source: IDG

Answers from a Common Platform

A common AI and ML development platform lets developers access the tools they need within the guardrails the firm requires. It also provides the common foundation needed for traceability for package applications that use models, with all their dependencies as containers, aiding time-to-market speed.

Containerized environments enable developers and administrators to run applications just about anywhere because they're not dependent on individual machines or servers. As a result, they represent a powerful tool for leveraging the best possible resources—cloud, on-premises, edge, or hybrid—for a given application.

Reflected in the survey, the most-cited benefit of a common AI and ML platform, according to technology leaders: improved traceability, transparency, and reproducibility, named by 59% of survey respondents (FIGURE 3).

And the benefit cited as most valuable by the largest percentage of respondents: centralized, consistent access to compute, storage, and networking resources across environments. That benefit was ranked number one by 19% of respondents, number two by 25%, and in the top five by 56% of the technology leaders surveyed.

Accelerating AI and ML Workloads with Red Hat

As banks and insurance firms join the AI revolution, they need a common platform—one not dependent on a given cloud service—to take full advantage of best-of-breed development tools, resources, and security inherent across the intelligent application pipeline.

Red Hat helps by providing such a platform, giving developers the agility, portability, and scalability that comes with the ability to deploy in the cloud, at the edge, or in hybrid environments, without vendor lock-in.

Learn more about how a centralized platform can aid your organization's AI and ML deployments.

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