

The Top Data and Analytics Capabilities Every Modern Business Should Have

Use your cloud migration journey as an opportunity to optimize and expand in the cloud and modernize technologies.



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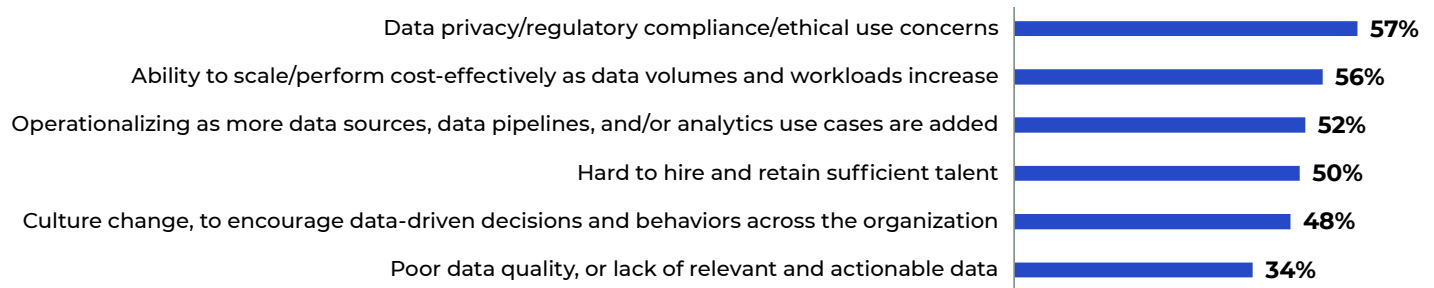


Figure 1: Data Analytics Challenges

Organizations typically have multiple reasons for migrating to the cloud. These include benefiting from immediate scalability and modernizing data and analytics capabilities.

As companies are realizing, fast-growing data volumes and advanced analytics, including artificial intelligence and machine learning, require a modern platform in a cloud or hybrid environment. The platform must provide scalability and innovative capabilities to deliver fast, accurate, and transformational insights—and deliver them at a competitive price. The cloud helps make this possible.

In the report “Data Analytics Journey to the Cloud,” Actian market research explains what 450 businesses want to achieve by moving to the cloud, technologies they’re using, how they are choosing cloud vendors, and other insights. This eBook shares Actian’s survey results in addition to best practices for optimizing data and analytics.

Integrate All Data at an Enterprise Level to Prevent Silos

Data from sources across an enterprise must be integrated on a single platform to deliver maximum analytic value. As Actian notes, “Successful data integration is the foundation of improving collaboration and coordination between business practices and processes.”

Integration requires a scalable data platform that can handle the massive and growing volumes of data from existing, new, and emerging sources. These sources can range from traditional customer purchasing histories to the ever-expanding Internet of Things (IoT) to applications launched at the edge.

Bringing together data on a unified platform, in conjunction with a robust data governance approach, can make data readily available for analysts and other data users while helping organizations avoid common challenges such as poor data quality. Integrated data also offers a more complete view of the business, is easy to access when using the right platform, and eliminates the common problem of data silos. Organizations often have dozens, if not hundreds, of data silos, which limit data sharing and restrict insights.

Legacy platforms that won’t easily scale to handle growing data volumes will not support the advanced and real-time analytics today’s companies need. That’s why scalability is one of the top data analytics challenges companies face (Figure 1).

These challenges do not vary by company size, although organizations with a higher level of digital analytics maturity cited the ability to scale as a higher-level challenge than those with less maturity. Companies can solve their scalability challenge by moving to an easy-to-use and scalable data platform that offers proven data integration, management, and analytics.

Bringing together data on a unified platform, in conjunction with a robust data governance approach, can make data readily available for analysts and other data users.

Make Data Easy to Manage, Use, and Access—Without IT Bottlenecks

The third biggest challenge organizations face in the cloud is operationalization as more data sources, data pipelines, and analytics use cases are added. Not only do organizations need the ability to leverage their data, add new data sources, and perform analytics at scale across more use cases, they need to perform these essential functions easily and at the speed of business.

Ideally, organizations can use flexible design capabilities to build pipelines, with the option to use or not use code. These capabilities allow almost anyone across the enterprise to integrate data rather than restricting use to only those with advanced data science or coding skills.

The right data platform makes data easy to manage, use, and access for everyone. The platform allows all types of data users, regardless of skill level, to access the data they need to do their jobs without relying on IT intervention.

As the number and diversity of data sources continue to expand, the ability to quickly and easily add new pipelines becomes increasingly important. Likewise, having a platform that automates the flow of information—without requiring manual processes—makes data readily available for analytics and other uses.

User-friendly self-service tools also make data easy to access and use. These tools let non-technical users connect to any data source without IT help, whether it's for one-off projects or tasks performed daily.

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Break Down Data Silos



A data silo is any independent data set within an organization. Individuals or departments taking a shortcut to access and store their own data instead of following company protocols for data usage often use data silos. These lead to problems such as inaccurate conclusions based on fragmented and outdated data, multiple versions of data instead of a single source of truth, data integration challenges, and other issues.

A platform that integrates all relevant data and then makes it easily accessible and sharable helps eliminate silos.

The Need for Real-Time Analytics and Other Cloud Technologies

Real-time analytics, which is when analytics is completed within just a few seconds or minutes, helps the business make better decisions faster. It also allows analysts to identify emerging trends and problems as they're happening.

"The rise of streaming and real-time data analytics has seen a recent jump in adoption as more businesses realize its potential," according to TechTarget. "In 2023, we'll see real time go mainstream. We'll see more technology that enables rapid adoption with improved effectiveness, interoperability, and performance across several industries."

Industries such as retail and use cases such as supply chain management rely on real-time analytics to drive business results. Slightly more than half of organizations currently have data streaming/real-time analytics technologies operational in the cloud. Other common cloud technologies are shown in Figure 2.

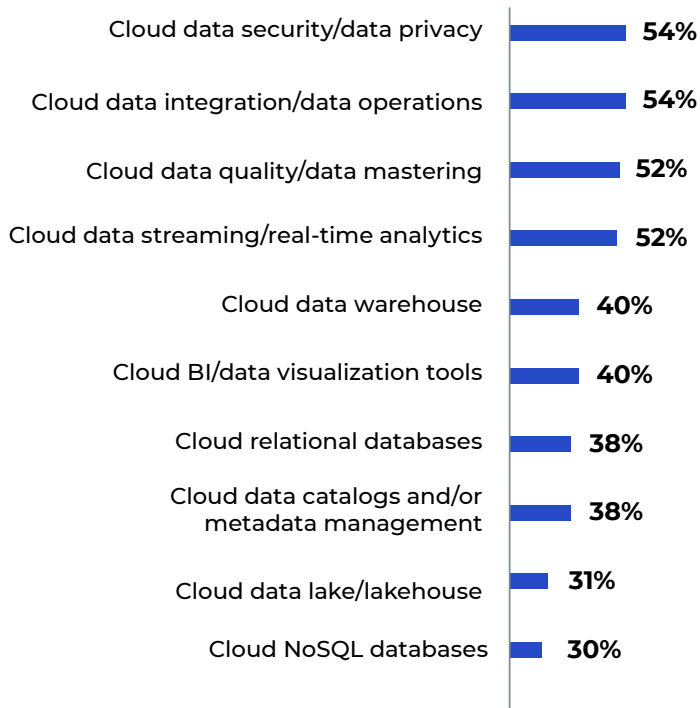


Figure 2: Cloud Technologies in Operation

What to Know When Choosing a Cloud Vendor

Organizations know they need to move to the cloud to benefit the business. Those already in the cloud may be looking to expand their capabilities and move more workloads to the cloud. Picking the right platform and the best cloud provider for the organization’s needs can be tricky, especially because many vendors use clever but murky marketing language to position their offerings.

Platforms should offer flexible deployment options, such as cloud, multi-cloud, hybrid, and on-premises environments. Flexibility gives organizations the option to deploy their workloads in the setting that makes the most sense for their business.

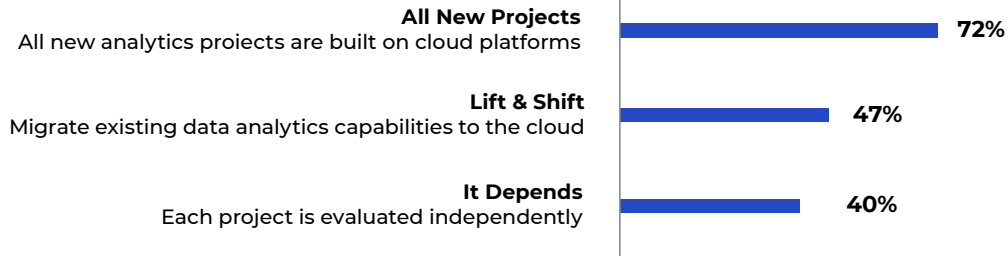
Some data platforms can be quickly deployed across multiple cloud service providers, such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud. Some organizations prefer a multi-cloud approach to prevent vendor lock in and to mitigate the risk of unplanned downtime or outages that a single point of failure can cause.



Figure 3: Factors Driving Vendor Assessment

Factors that were very or extremely important for companies when assessing vendors are listed in Figure 3.

Price performance is not one of the leading factors when assessing vendors, but it becomes more significant once companies have migrated to the cloud. In fact, price performance is important to 87% of companies that have reached a high level of data analytics maturity. The reason could be that while cloud resources are easily and instantly scalable, budgets are not.



Lift & Shift used by half of companies
Source: Actian

Differences by

	No	Yes
Co. Size	No	Yes
Dept.	Yes	No
Role	No	Yes
Maturity	Yes	No

Figure 4: Cloud Migration Approaches

Organizations can sometimes face hefty and unexpected costs when they're in the cloud. Using a data platform that offers powerful performance, along with scalability and connectivity, at affordable prices is important, as is working with a vendor that allows organizations to pay only for what they use.

A data platform combines the immediate availability of infrastructure with unlimited scalability.

How to Migrate to the Cloud and Eliminate Vendor Lock In

There are many good reasons why companies are transitioning to the cloud:

- 57%** want to make management of data privacy, security, and compliance easier
- 51%** want to improve scalability and performance and remove capacity contracts
- 48%** view the cloud as a better option for application modernization and business agility

With the hope of obtaining these benefits, nearly half of organizations are taking a lift-and-shift approach to their cloud migration (Figure 4). But is this really the best approach?

The lure of lift-and-shift migration is strong because organizations can quickly migrate their applications and data to the cloud with minimal or no changes. However, there's the concern that they may simply be shifting their on-premises challenges to the cloud and will not realize most of the potential benefits the cloud offers unless they take a cloud-native approach.

So, just what is cloud native? The Cloud Native Computing Foundation defines it as:

“Cloud native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds. Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable loosely coupled systems that are resilient, manageable, and observable. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.”

Organizations will need cloud-native architectures and technologies to reach their digital transformation goals in a timely manner. Without these modern architectures and technologies, organizations will miss out on key benefits the cloud has to offer, including:

- Scalability** On-demand elastic scaling offers near limitless scaling of computing, storage, and other resources.
- Resiliency** Cloud native uses distributed database technology to make the database easily accessible.
- Accessability** On-demand elastic scaling offers near limitless scaling of computing, storage, and other resources.
- Avoid Vendor Lock-in** Standards-based cloud native services support portability across clouds.
- Business Agility** Small-footprint cloud native applications are easier to develop, deploy, and iterate.
- Automation** Cloud native databases support DevOps processes to enable automation and collaboration.
- Reduced Cost** A cloud native database allows organizations to pay as they go and pay for only resources they need.

Ways Peer Organizations are Using Cloud Platforms for Analytics

As shown in Figure 4, 72% of companies are using cloud platforms for all new analytics projects. Customer analytics and financial risk management are tied for first place as a top use case implemented, followed closely by supply chain/inventory optimization. See Figure 5. While requirements vary by each of these use cases, they have some common demands that a data platform helps meet, including centralizing data, enabling greater agility and making real-time data available to users.

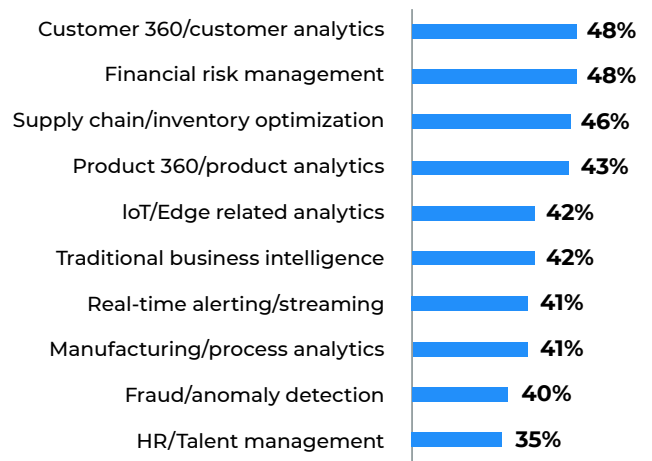


Figure 5: Most Popular Use Cases

Centralizing Data

To support most use cases, organizations need to bring together disparate data into a single, integrated data platform. For example, customer 360 is centralized and comprehensive data that's integrating from across customer touchpoints. By bringing together large amounts of data, companies can identify potential financial risks, predict the likelihood of a particular event occurring, and determine the best course of action to mitigate that risk. Optimizing inventory in the supply chain requires integrating data to obtain visibility of SKUs at warehouses, order fulfilment centers, and stores.

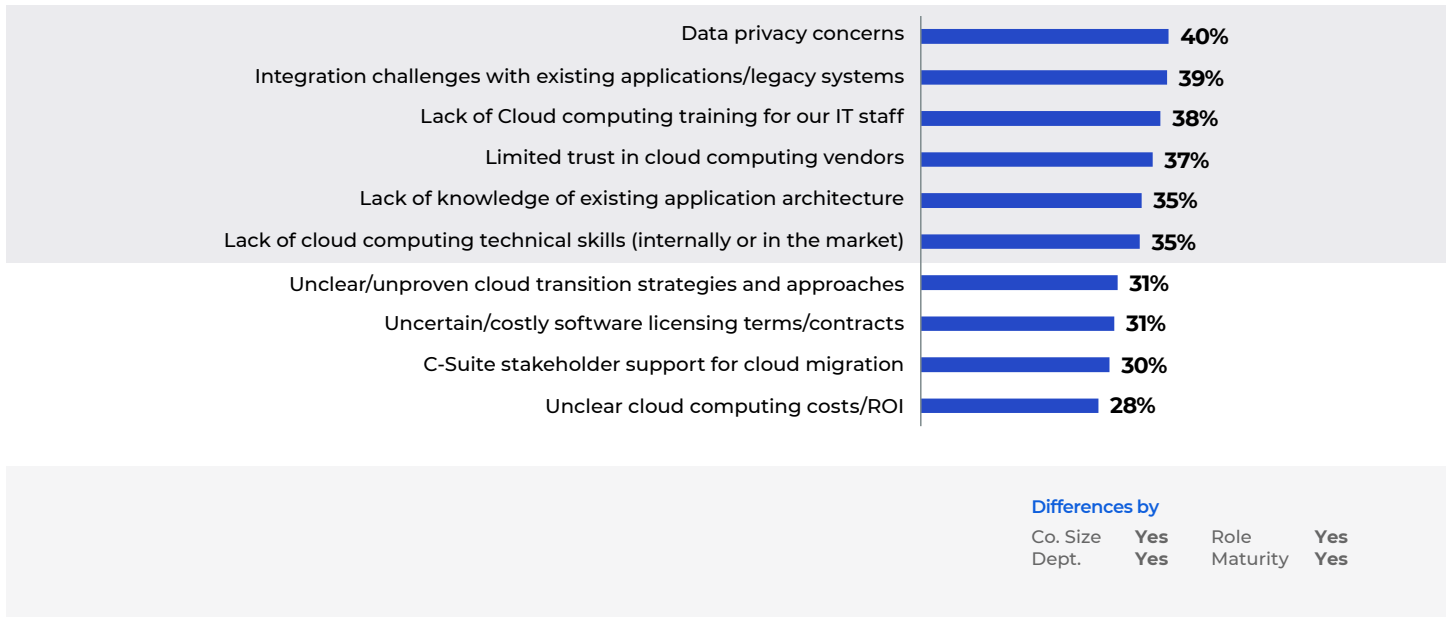


Figure 6: Cloud Migration Challenges

Enabling Greater Agility

Teams need to build accurate views of data at scale, quickly, to optimize analytics for customer 360, risk management, and supply chain analytics. A data platform combines the immediate availability of infrastructure with unlimited scalability. And, with the help of automation and orchestration in the cloud, provisioning, de-provisioning, and re-deploying resources can be simpler and far faster than on-premises. Simply put, organizations can do more—and do it faster.

Making Real-time Data Available to User

Organizations are using real-time data to provide personalized customer experiences, optimize logistics, evaluate and accurately price risk, and much more. A data platform is the perfect way to place relevant, trustworthy, and actionable data directly into the hands of front-line workers and decision makers, in a manner that improves situational awareness as change is happening, empowering them to decide on the best courses of action in the moment. The cloud makes it easier to facilitate connectivity among locations spread across the world, which in turn empowers more users to derive business value from their data platform’s real-time analytics.

A data platform combines the immediate availability of infrastructure with unlimited scalability.

Perform Data Analytics with Users Favorite Tools and Languages

Among the leading cloud migration friction points are lack of cloud computing training (38% of organizations) and lack of cloud computing technical skills (35% of organizations) as shown in Figure 6.

Giving users the ability to work with familiar tools can help avoid a steep learning curve when shifting to the cloud. For instance, the data platform should support popular business intelligence (BI), analytics, and data visualization tools such as Tableau and Power BI for business analysts and TensorFlow, KNIME, and Jupyter for data scientists. Data engineers benefit from having access to widely used languages and APIs, including Python and Apache Spark, along with the RESTful API, JDBC, and ODBC.

Hassle-free Cloud Migrations

The Actian Data Platform makes data easy so organizations can avoid common challenges during and after their cloud transition. Here are a few ways the Actian platform can accelerate data modernization:

- **One solution**
Inclusion of data integration, data management, and data analytics lowers risk, cost, and complexity. It also allows easier sharing and reuse across projects than cobbling together point solutions. Fine-grained techniques prevent inappropriate data access while still allowing visibility into pertinent data attributes.
- **REAL real-time**
Patented technology allows real-time data set updates without impacting query performance and costs. This enables users to analyze always up-to-date data; thus, they are confident they are responding to the current reality.
- **Superior price performance**
The Actian platform is built to maximize resource utilization, delivering unmatched performance and an unbeatable total cost of ownership.
- **Cloud native**
The solution quickly shrinks or grows CPU capacity, memory, and storage resources as workload demands change. Storage is provisioned independently from compute resources to support compute or storage-centric analytic workloads.
- **Popular tool support**
The Actian platform supports popular BI, analytics, and visualization solutions, as well as leading data science tools, languages, APIs, and libraries.

Stop being held back by a legacy data warehouse and discover how the Actian Data Platform can unleash the true potential of your data.

The Actian Data Platform is built to maximize resource utilization, delivering unmatched performance and an unbeatable total cost of ownership.



Top Use Cases: Customer 360 and Financial Risk Management

The top two use cases implemented in the cloud are customer 360/customer analytics and financial risk management. Organizations are deploying each of these use cases 48% of the time. These uses can include:

Delivering personalized and relevant customer experiences.

Organizations can analyze integrated customer data to better understand the habits, preferences, and buying patterns of each individual customer. Companies can then provide custom and engaging offers that nurture the customer journey and inspire loyalty.

Mitigating risk and ensuring

compliance. Leveraging a modern data platform that offers easy-to-use data enables financial companies and others to manage risk and meet regulatory compliance mandates. Organizations can identify and assess risk using their most current and integrated data.

How to Bulletproof Your Data Analytics Cloud Journey.

- Create a data strategy that lays out the organization's plan to improve how the business acquires, stores, manages, uses, and shares data.
- Transfer data from outdated or siloed legacy databases in the on-premises data center to a modern data platform.
- Use cloud-native architectures and technologies to provide the scalability, resiliency, and automation needed to accelerate innovation and support real-time decisions.
- Supplement traditional BI tools with advanced analytics such as predictive modeling, statistical methods, and machine learning.
- Embed analytics directly within applications and tools to help users better understand and use data in the context of their work.
- Ensure that data is accurate, complete, consistent, reliable, and up to date.
- Build a strong data security foundation with safeguards and countermeasures to prevent, detect, counteract, or minimize security risks.
- Use data governance to prevent inappropriate access to personally identifiable information (PII), sensitive personal information, and commercially sensitive data.

About Actian

Actian makes data easy. We deliver cloud and on-premises data solutions that simplify how people connect, manage, and analyze data. We transform business by enabling customers to make confident, data-driven decisions that accelerate their organization's growth. Our data platform integrates seamlessly, performs reliably, and delivers at industry-leading speeds. Learn more about Actian, a division of HCLSoftware: www.actian.com

