

Action Datacast 2019

# Hybrid Data Trends Snapshot



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## The Actian Datacast 2019: Hybrid Data Trends Snapshot

The way data is managed in the enterprise, and even the very role of data itself, has undergone dramatic transformation in the last decade. The advent of the cloud, “big data,” and now hybrid data environments add up to unprecedented complexity for IT teams. So what are the pain points and opportunities that exist for the data-driven organizations of today?

With that question in mind, Actian surveyed just over three hundred Chief Information Officers (CIOs) and Chief Data Officers (CDOs) on their top data management pains and desires.

### What we discovered:

Hybrid is gaining in importance. Most companies need their data sooner. There's very little new insight coming in above the business-as-usual reporting line. And, a whopping half of the companies surveyed admitted they're falling short on basic analytics goals, even as their investments in data architecture are doubling or tripling at the same time. What can enterprises do about this, and what does this mean for the broader industry? [Read on to find out.](#)

# Leveraging the right data for the right decision-making

The *Datacast* survey uncovered that while there's an influx of data being generated in the enterprise, half of businesses lack the resources to access it and use it in real time. The data shows that over four in five IT decision-makers (ITDMs) say one of the most painful parts of data analytics is how long it takes to deploy, yet businesses who can leverage more of their data sooner and more often for actionable insights outpace competitors who are less agile.

However, three in five ITDMs say they have a lot of data and technology, but don't believe it's making any difference to their business.

It's imperative for long-term business success to pursue the data architecture

that can enable all of an enterprise's unique data-related goals and objectives. This means being able to bring analytics capabilities to any place where a company's data already lives, whether on-premise or in the cloud, and acting on data in the moment.

Organizations should be able to access the highest levels of query and ad-hoc analytics performance across the entirety of their data, and they should be able to do this while easily enforcing any required data privacy and governance policies such as GDPR and the California Consumer Privacy Act (CCPA). Over time, data-driven advantages will establish who the key players are in every business category.



### Access to Data is Limited

Half (51%) of end users are not getting data at the moment they need it.





26%

## Data That Is Available Is Not Fresh or Current

Only 26% of end users are fully maximizing the potential actionable insights from their data.

Data is being generated in the enterprise that is not being put to good, strategic use. Gaps in the system can take engineers weeks, or even months, to wade through and bring forth something actionable. Slower decision-making is only one consequence of having to wait for data to become available for analysis.

Modern, aspirational analytics use cases, like customer-360 and hyper-personalization, simply don't work with stale data.

As ML and AI become more actively involved in defining the user experience, the lines between traditionally separate transactional databases and data warehouses are blurring when it comes to feeding data into algorithms that are making or supporting real-time decisions and automation.

Therefore, the role of “real-time” data in the enterprise goes beyond internal reporting and insights and now begins to shape the customer experience, manufacturing and logistics operations, and a host of other mission critical use cases.

However, data complexity creates a barrier to entry. Over two in five (45%) say the complexity of real-time data and big data presents a challenge when looking to harness their data. This is largely due to the time and expense of data processing and preparation inherent in more traditional, batch-mode siloed data collection and warehousing.

Modern analytics for the enterprise are about harnessing all data, from all sources, such as applications, transactions, CRM and beyond. These need to be harnessed – fused together – under a common framework that can support all the demands of reporting, insight generation, and increasingly predictive analysis and decision support a business may have.

In particular, as the type and depth of insights and predictive support become the focal point, demands stemming from the operationalization of ML, AI, and algorithms within more industries and companies will require fresh, hybrid data.



## Looking for a path forward

Enterprises have long chased the promise of big data and how to leverage it to propel their businesses forward. However, we're seeing companies drowning in data as an outcome of this chase. With the focus zeroing in on getting the most data possible, businesses have become engulfed by the sheer amount of data and are actually getting pulled further away from their data goals and aspirations as a result. Instead, businesses need a clear path forward around collecting, analyzing, managing and using their data effectively.

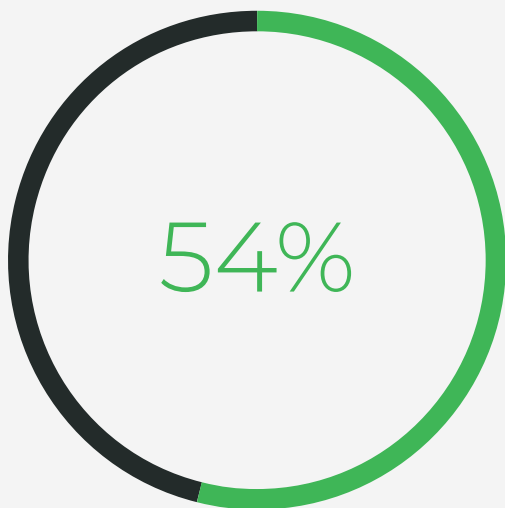




# Fully maximizing the value of your enterprise's available data

Modern enterprises are generating data at an unprecedented rate but aren't taking advantage of all the data available to them in order to drive real time, actionable insights. Today, data is constantly in motion – it's being generated, harnessed and analyzed in real-time. Gone are the days of data at rest and stagnant data lakes – enterprises need to consume data rather than just store it, and ensure all of the data accessible to them is leveraged.

Businesses that leverage more of their data sooner, and more frequently, to generate actionable insights will outpace competitors who are less agile. Competition between enterprises using the data-driven insights available to them will establish new winners and losers in every business; however, many businesses are throwing away the insights they aren't able to unlock due to time, money or resource constraints.



## Maximizing the Value of Data

ITDMs said on average they are only harnessing 54% of the data available to them to gain valuable insights.

## The survey found that:

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**84% of enterprises** would deploy more data if it were cheaper and easier to do.

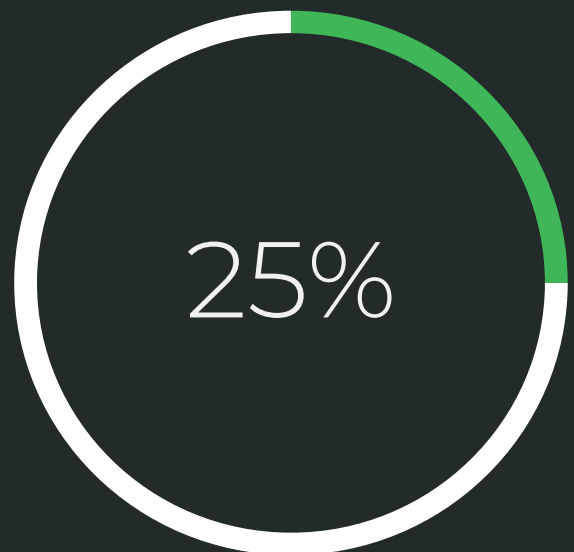


**50% of these businesses** say data complexity issues due to siloed applications are a top barrier to entry for accessing data and gaining effective real-time insights.

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When businesses take the necessary steps to fully leverage their data, such as implementing modern IT infrastructure, they become agile, competitive and able to provide a superior experience to their customers.

**Only 25% of enterprises** with access to the data they need have the freshness or recency of data they desire.





In addition to fully harnessing and analyzing the available data, the speed at which this is performed is critical. Enterprises need to pursue data architecture that will enable all of their unique data-related ambitions to be processed at the speed of business. This means that being able to bring analytics capabilities to all the places where their data already lives, and enjoy the highest levels of query performance across the totality of their data (even hundreds of terabytes), is becoming a data architecture prerequisite.

As AI and machine learning become more actively involved in defining user experience, the lines are blurring between traditionally separate transactional databases and data warehouses used for analytics.

Thus, the role of real-time data in the enterprise goes beyond internal reporting and actionable insights and is beginning to shape user experience. User experience innovation has already become the most disruptive force in business history, with many upstart software companies devouring their incumbent competitors. In the near future, more enterprises will leverage data to differentiate and win

with superior customer experience.

Data-driven insights derived from fresh and available data are crucial to execute on this strategy.

For many enterprises, data is being used for business-as-usual purposes, not to transform the business or provide competitive advantages, as it has the potential to do. While business-as-usual operations keep enterprises running from day to day, limiting data to operational reporting tasks means missing a key piece of the data puzzle – new insights that lead to awareness of products, markets, consumer trends, strategy and more.

Data is being generated in the enterprise that is not being put to good, strategic use, and the risks of missing out on these opportunities pose serious and immediate uncertainty to enterprises.

Gaps in the system can take engineers weeks or even months to bring forth something actionable for a company's wider team to pursue, rather than the real-time insight needed for the current pace of business.



34%

**Only 34% of enterprises using data to drive decision-making are using it to drive breakthrough insights and innovations vs. business as usual operational reporting.**



## Maximizing data for a more strategic future

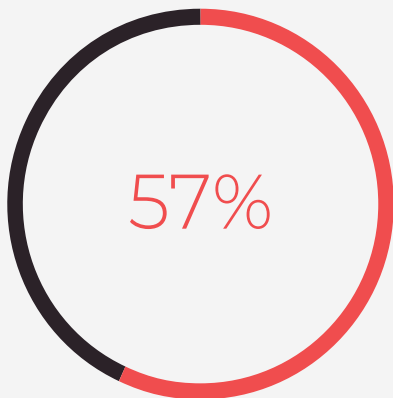
Enterprises are increasingly demonstrating a strategic business need for hybrid data-based insight, enabling a data-driven process to store, access and analyze data wherever the business need is and wherever compliance requirements demand – both on-premise and across multiple clouds.

Enterprises equipped with data management architecture that can deliver these capabilities and help them access actionable insights from the full set of fresh data available to them, in real-time, will be poised to outpace competitors and fully maximize on their data and opportunities in the market.



# What's keeping IT from reaching cloud data warehouse nirvana?

Organizations are seeking solutions to effectively and efficiently collect, analyze, manage and use data. Modern cloud data warehouses offer many enticing benefits for ITDMs: They make it easy to bring analytic powers to data wherever it lives (whether on-premise or in one of the popular cloud platforms), they can handle concurrency at scale, and they can offer great compute performance and smart, elastic storage utilization.



The Action Datacast found that **57% of ITDMs say they have a lot of data technology**, but they don't believe it's making any difference to their business.



Today's businesses are no stranger to technology – but is it making a significant impact? **Almost three in five ITDMs don't think so.**

## So what's preventing businesses from adopting cloud data warehouse solutions?

Cost, speed of deployment, and complexity.

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When we dug deeper, we found that 84% of ITDMs would deploy more data warehouse solutions if it took less time and money.



In fact, more than four in five ITDMs say one of the most painful parts of data analytics is how long it takes to deploy.

It's a complicated path to successful digital transformation, and the transition can come with a hefty price tag, but it's important to keep in mind that the benefits greatly outweigh the costs. The ability to comply with data regulations of the future depends on being able to store your data where you want, and to apply the security protocols and internal controls the laws of the future may require.

Data integration solutions can become an important aspect of regulatory compliance, as they make it possible to transfer, transform, and unify data from non-compliant to compliant states.


In addition, **more than 50% of those**

**businesses say data complexity issues, due to siloed applications, are a top barrier to accessing data and gaining effective real-time insights.**

To address this, businesses need a more cost-effective and flexible approach designed to contend with a brand's specific data complexity in order to move faster, more confidently, and with less risk.

Over half of ITDMs say speed of deployment and flexibility are very important to them in choosing a cloud and data warehousing service and/or platform, and 89% say they need more flexibility from their data analytics solutions.





**Today's businesses face a variety of difficult challenges and barriers, but we're in the midst of a shift toward data warehouse modernization and hybrid environments.**

We believe this will help resolve some of these problems and allow a compliance-minded enterprise to store their data wherever compliance demands, without sacrificing analytics considerations.



# Hybrid is the future

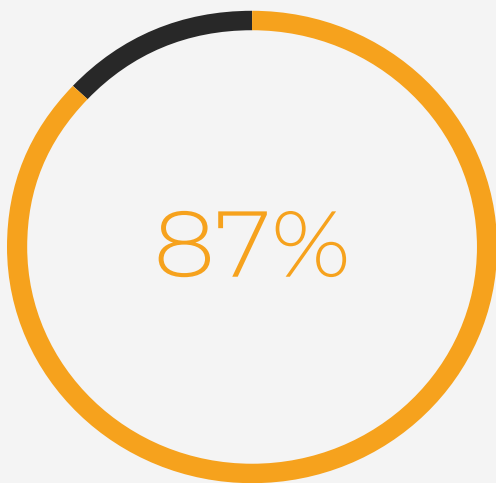
## Hybrid Environments

There's no doubt that companies that leverage more of the data, and more of the data sources that they generate, for analytics and insights achieve superior business outcomes and outpace competitors. A hybrid, multi-cloud approach enables enterprises to structure their data architecture to fit the way their business works.

The public cloud provides elasticity and

scale, employing multiple cloud platforms provides resilience and choice, and on-premise deployment provides for control and privacy for sensitive data. Legacy data warehouses and first-generation cloud data warehouses have enabled only one platform choice – their own.

And even having multiple clouds available without an on-premise option is not enough.



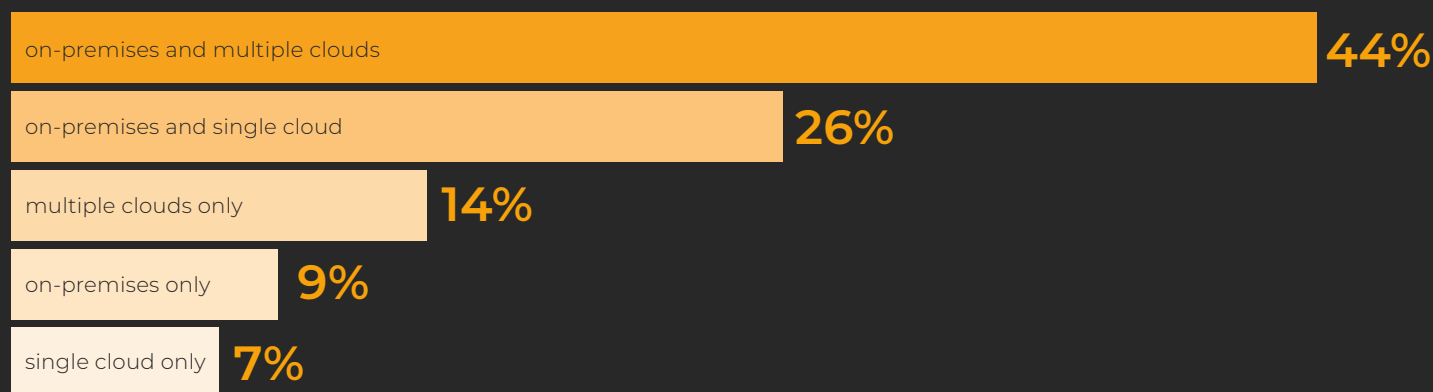
According to the Action Datacast, **87% of ITDMs** agree that when it comes to their data analytics, they want a hybrid solution with both cloud and on-premise deployment.



Whether they're still running analytics on appliances like Netezza or Teradata, or if they are wholly in one of the public clouds, every enterprise is starting from somewhere as they consider the needs of the future.

Hybrid and multi-cloud is the only arrangement that gives enterprises the flexibility they need to “play their data where it lies” and to leverage the elasticity, scale and connectedness of the cloud.

## Most ITDMs would prefer a hybrid environment over their current solutions, but what exactly does that look like?



When it comes to their ideal approach for computing and data analytics, more than two in five ITDMs (44%) want on-premise and multiple clouds, one-quarter (26%) want on-premise and single cloud, over one in ten (14%) want multiple clouds only, one in ten (9%) want on-premise only and less than one in ten (7%) want single cloud only.

While there are many options available, the priority for ITDMs is clear: 95% say having freedom of choice to obtain best-in-class data analytics solutions is very important to them.

Over four out of five ITDMs (83%) specify that they do not want to get locked into a single cloud platform. It's clear that single-platform, on-premise solutions are in the rearview and hybrid solutions are the way of the future.

**83% of IT decision-makers said they don't want to be locked in to a single cloud.**

Hybrid environments are clearly gaining popularity, but what are some of the potential obstacles ITDMs should be aware of? The three biggest challenges that ITDMs told us apply to transitioning to hybrid solutions are cost (42%), management of competing priorities and/or visions (41%), and the inability to get users to adopt new technologies and capabilities quickly (41%).

These obstacles are by no means insurmountable, but IT teams need to be able to argue for the better outcomes that hybrid provides, combined with a confident view of the economic implications.

## Data governance and compliance needs

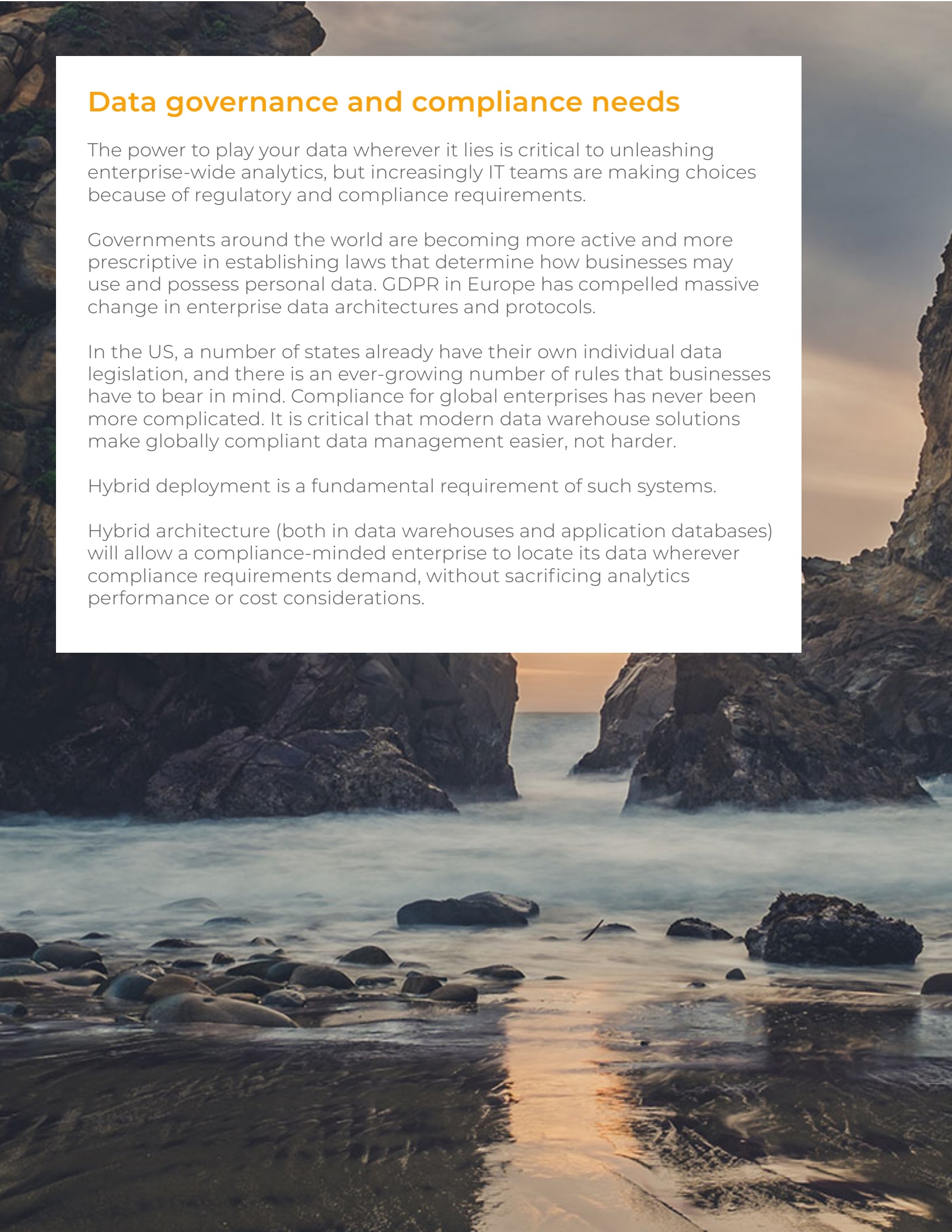
The power to play your data wherever it lies is critical to unleashing enterprise-wide analytics, but increasingly IT teams are making choices because of regulatory and compliance requirements.

Governments around the world are becoming more active and more prescriptive in establishing laws that determine how businesses may use and possess personal data. GDPR in Europe has compelled massive change in enterprise data architectures and protocols.

In the US, a number of states already have their own individual data legislation, and there is an ever-growing number of rules that businesses have to bear in mind. Compliance for global enterprises has never been more complicated. It is critical that modern data warehouse solutions make globally compliant data management easier, not harder.

Hybrid deployment is a fundamental requirement of such systems.

Hybrid architecture (both in data warehouses and application databases) will allow a compliance-minded enterprise to locate its data wherever compliance requirements demand, without sacrificing analytics performance or cost considerations.





An aerial photograph of a two-lane asphalt road with yellow double lines, curving through a dense, lush green forest. The road is the central focus, winding from the top left towards the bottom right. The surrounding trees are thick and vibrant green, creating a textured background. A white text box with a blue vertical bar on its left side is positioned on the left side of the image, containing the title and introductory text.

## Methodology

The *Action Datacast 2019: Hybrid Data Trend Snapshot* survey was commissioned by Action and fielded by Regina Corso Consulting, an independent research firm, to understand how ITDMs feel about various aspects of their data warehousing. The responses were generated from a survey of 303 IT professionals who have at least some influence and/or decision making ability and work in a company with at least 250 employees.

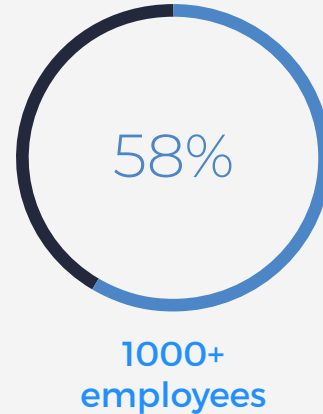
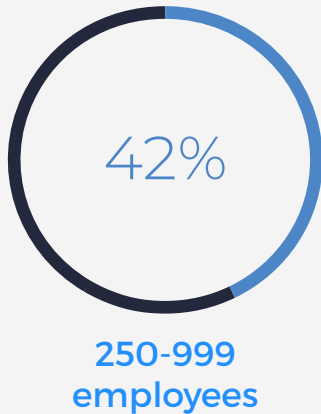




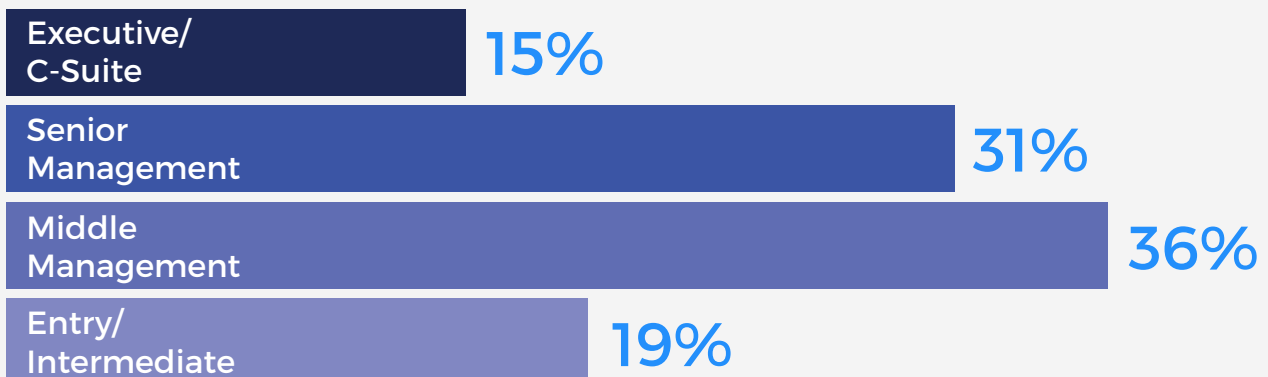


# Who We Surveyed

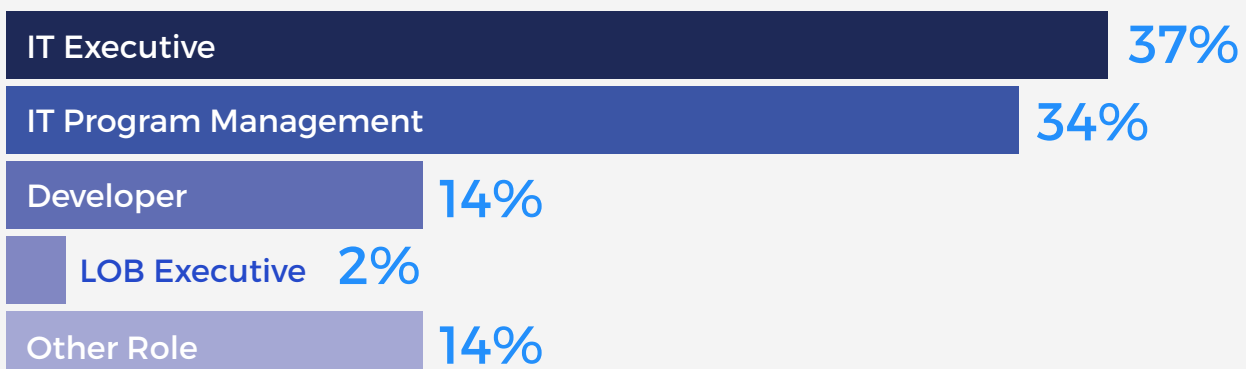
## Size of Company



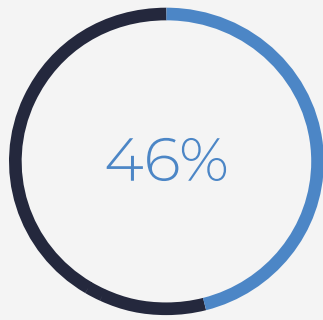
## Job Level



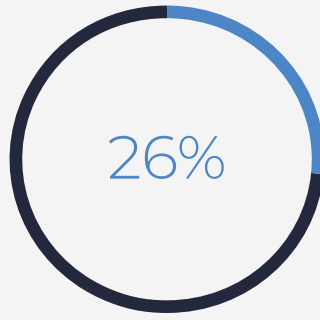
## Role in Company



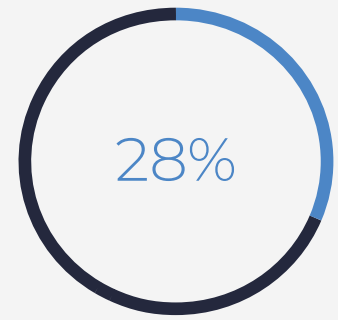
### Type of Decision Maker



Main IT  
decision-maker

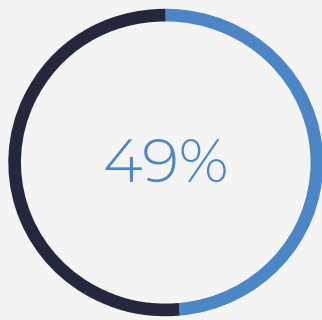


One of people  
making decisions

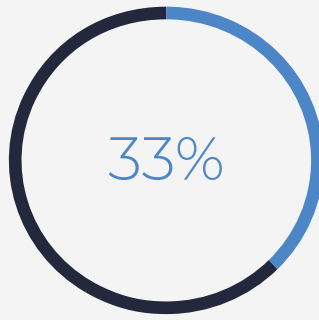


Make some  
decisions

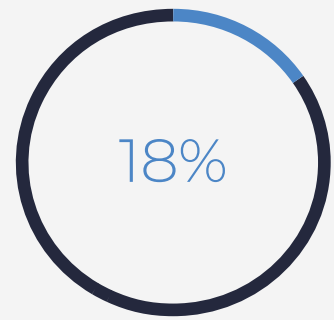
### Age



Under 40

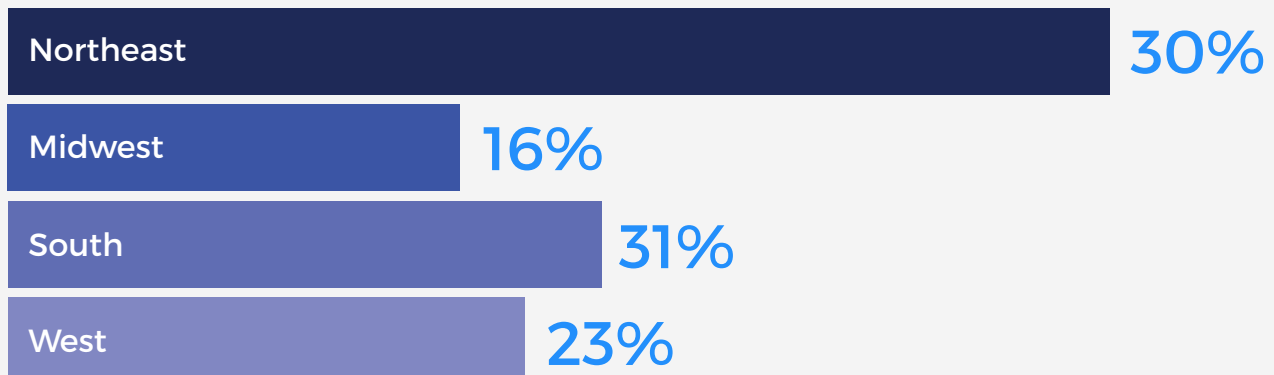


40-54



55+

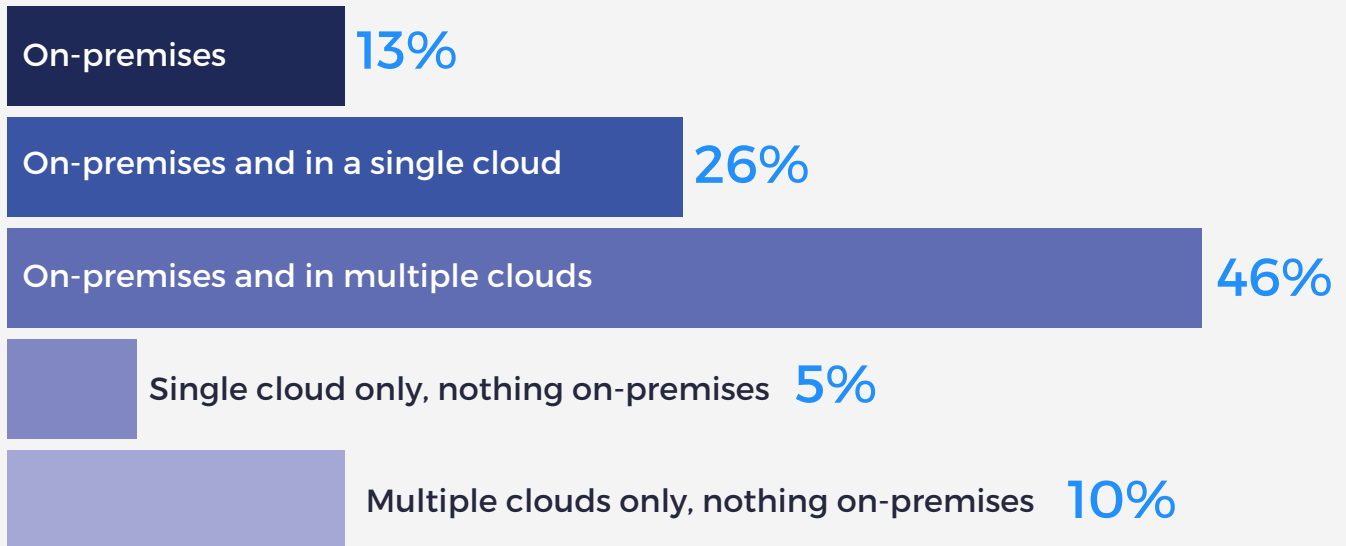
### Region





# Survey Results

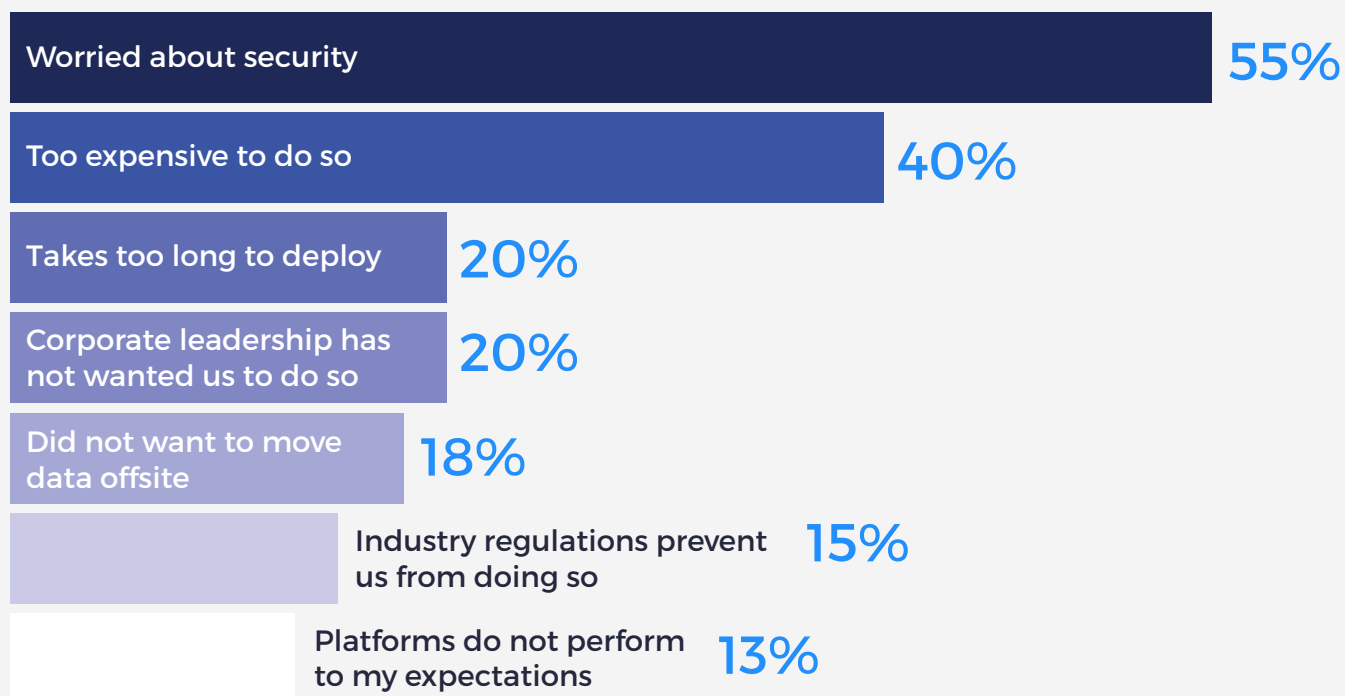
## How Data is Stored:



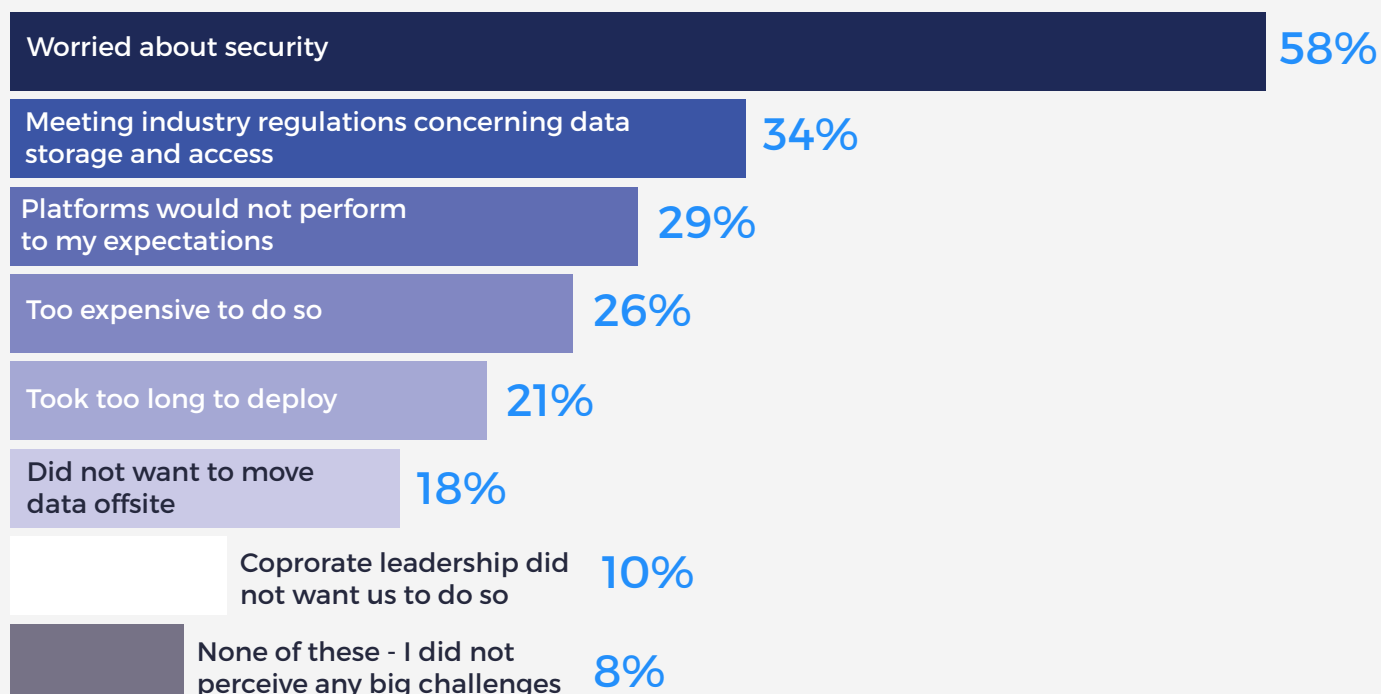
## Level of Satisfaction with the Following Tools/Platforms:

	Satisfied (NET)	Very Satisfied	Somewhat Satisfied	Not Satisfied (NET)	Not That	Not Satisfied At All	Not Applicable
	%	%	%	%	%	%	%
Visualization and dashboard tools	88	38	50	11	9	1	2
Current data warehouse	88	36	52	11	9	1	2
The business and/or strategic value our business clients yield from our data	88	34	53	10	9	1	2
Reporting tools	87	34	53	12	11	1	1
Current cloud platform(s)	86	45	41	10	10	*	4

## Biggest Challenges Preventing Cloud Migration:

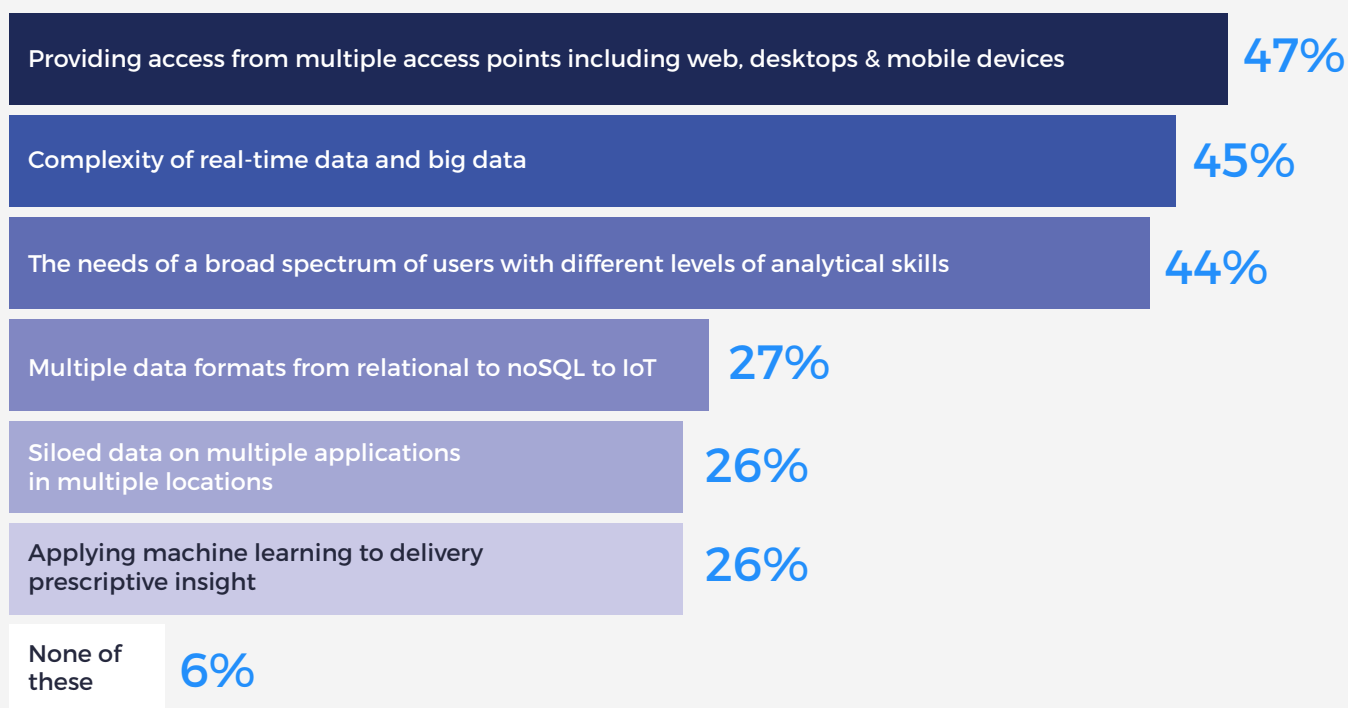


## Biggest Challenges Faced During Cloud Migration:





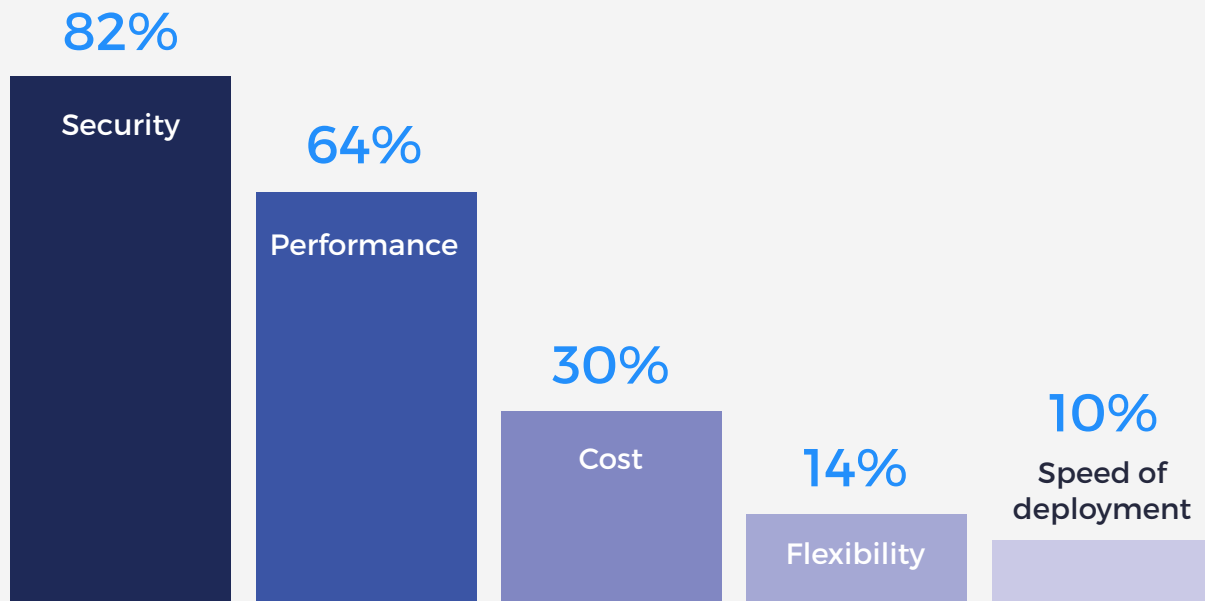
## Biggest Challenges Faced While Harnessing Data:



## When Selecting Cloud and Data Warehousing Services/Platforms, the Following Criteria is Most Important:

	Important (NET)	Very Important	Somewhat Important	Not Important (NET)	Not That Important	Not Important At All
	%	%	%	%	%	%
Performance	99	83	16	1	1	0
Security	98	88	9	2	2	0
Flexibility	97	55	43	3	3	0
Cost	95	53	32	5	4	1
Speed of Deployment	95	54	40	5	5	0

## Most Important Criteria when Selecting Cloud and Data Warehousing Services/Platforms, Ranked:

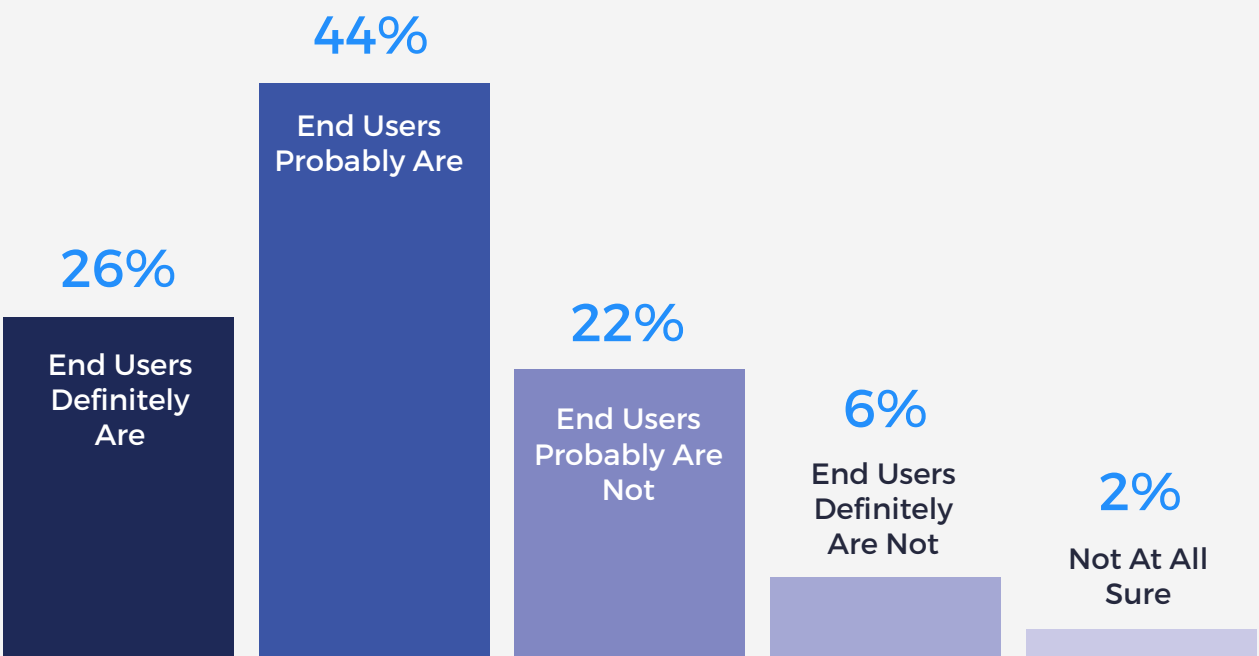


## How Often End Users are Leveraging Company Data for the Following Tasks:

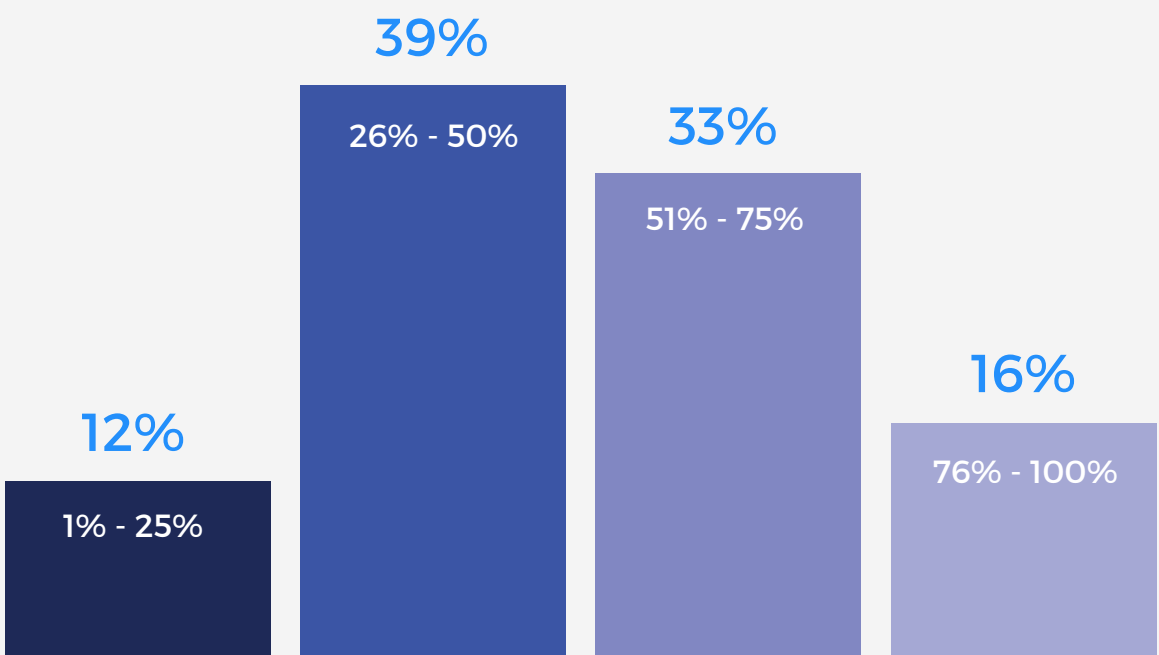
	Leveraging (NET)	All the time	Sometimes	Not Leveraging (NET)	Not that often	Not at all	Not at all sure
	%	%	%	%	%	%	%
Accessing the data that is available	91	54	36	8	7	2	1
Getting data at the moment they need it	91	49	42	8	7	1	1
To plan for the future	87	41	46	12	10	2	1
For routine planning	87	37	50	11	10	1	2
To track opportunities to grow the business	82	37	45	17	14	3	2
To garner key insights	81	33	47	18	16	2	2
To track risks to the business	80	37	43	18	15	3	2
To discover breaking trends	78	30	48	21	17	4	1



Opinions Around if End Users are Full Maximizing the Data Available to Them for Actionable Insights:



Percentage of Data that End Users are Leveraging to Gain Actionable Insights:



## Level of Agreement with the Following Statements:

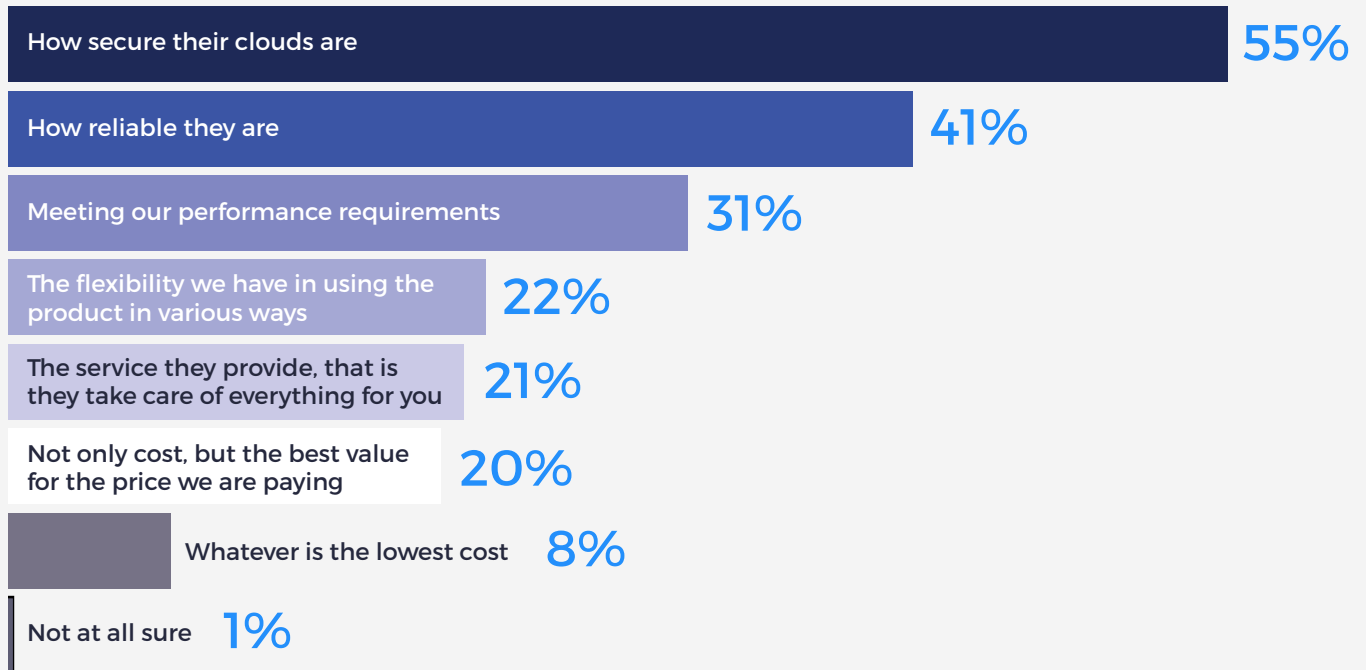
	Agree (NET)	Strongly Agree	Somewhat Agree	Disagree (NET)	Somewhat Disagree	Strongly Disagree
	%	%	%	%	%	%
Having freedom of choice to obtain best-in-class data analytics solution is very important to me	95	47	48	5	5	*
I'm not looking for the lowest cost with my cloud provider, I'm looking for the best value	90	48	43	10	8	2
What I need is more flexibility from data analytics solutions	89	34	55	11	10	1
Performance is more important than cost when it comes to my cloud platform	87	45	42	13	12	2
When it comes to my data analytics, I want a hybrid solution with both cloud and on-premises deployment	87	43	45	13	11	2

## Level of Agreement with the Following Statements:

	Agree (NET)	Strongly Agree	Somewhat Agree	Disagree (NET)	Somewhat Disagree	Strongly Disagree
	%	%	%	%	%	%
One of the most painful parts of data analytics is how long it takes to deploy	85	34	51	15	12	2
If it took less time and money, I would be more likely to deploy more data warehouse solutions	84	40	44	16	14	2
I do not want to get locked into a single cloud platform	83	38	45	17	15	2
We have lots of data and lots of technology, but strategically, I don't believe it's making any difference to our business	57	21	36	43	30	13



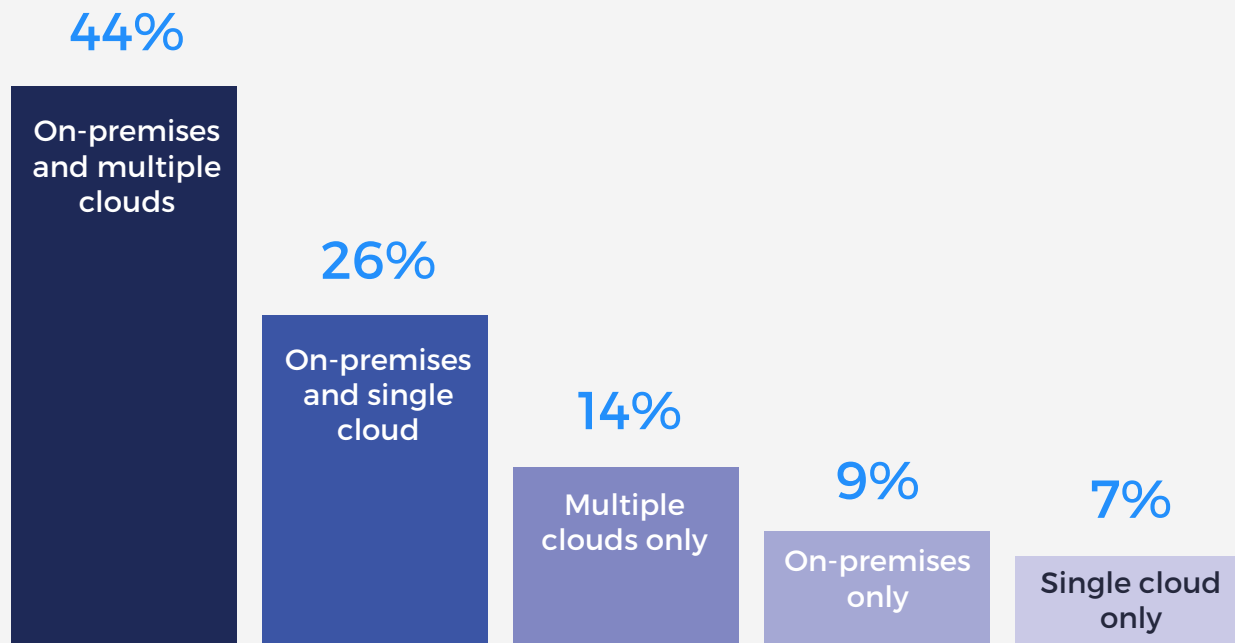
## Most Important Criteria when Evaluating Cloud Data Warehouse Platforms:



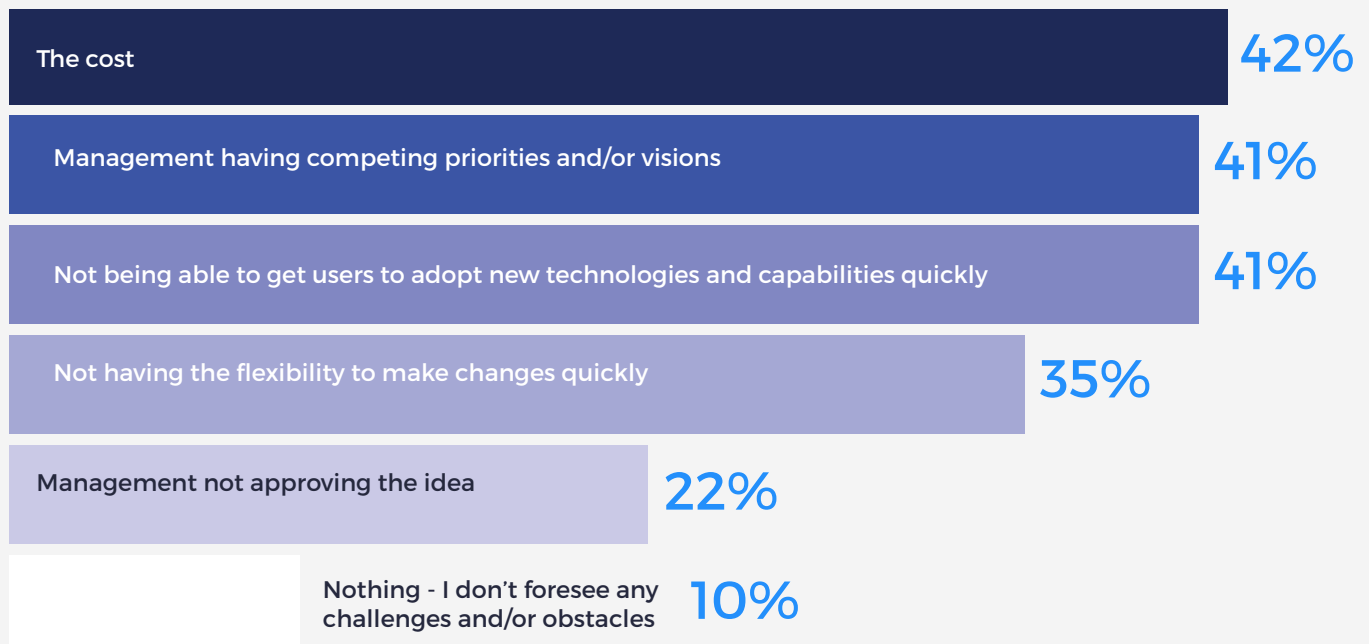
## Opinion on Hadoop:



## Ideal Approach to Computing and Data Analytics:

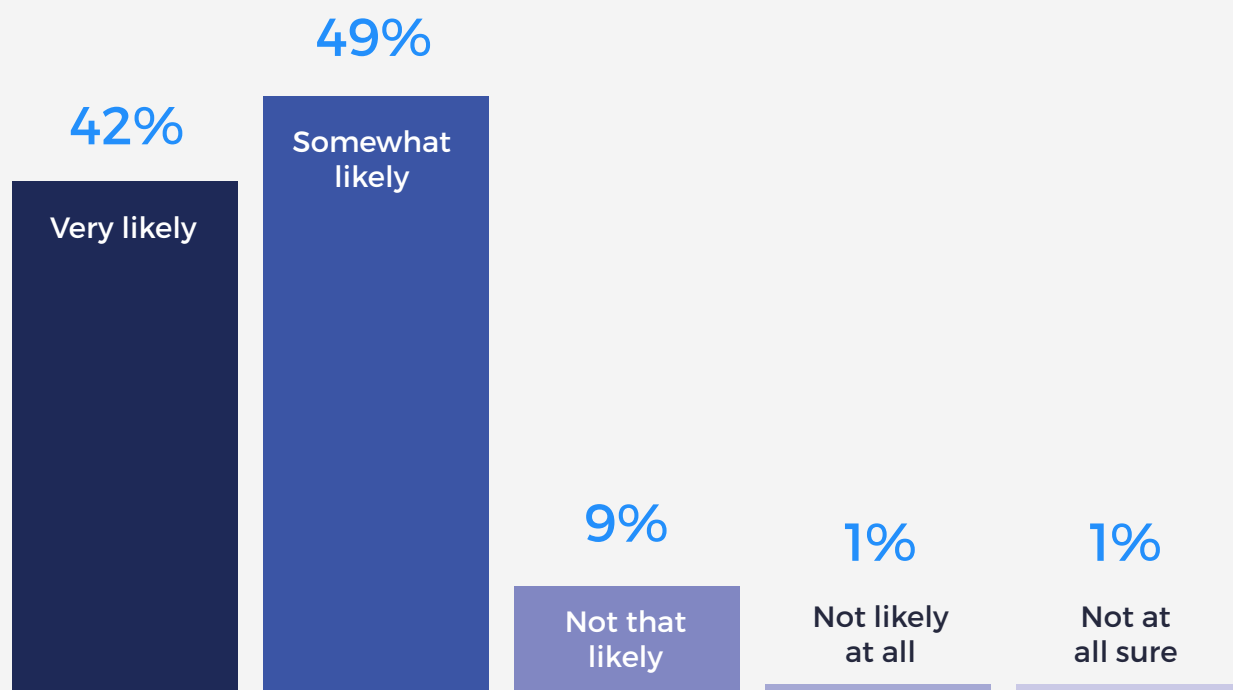


## Biggest Obstacles to Pursuing Ideal Approach to Computing and Data Analytics:





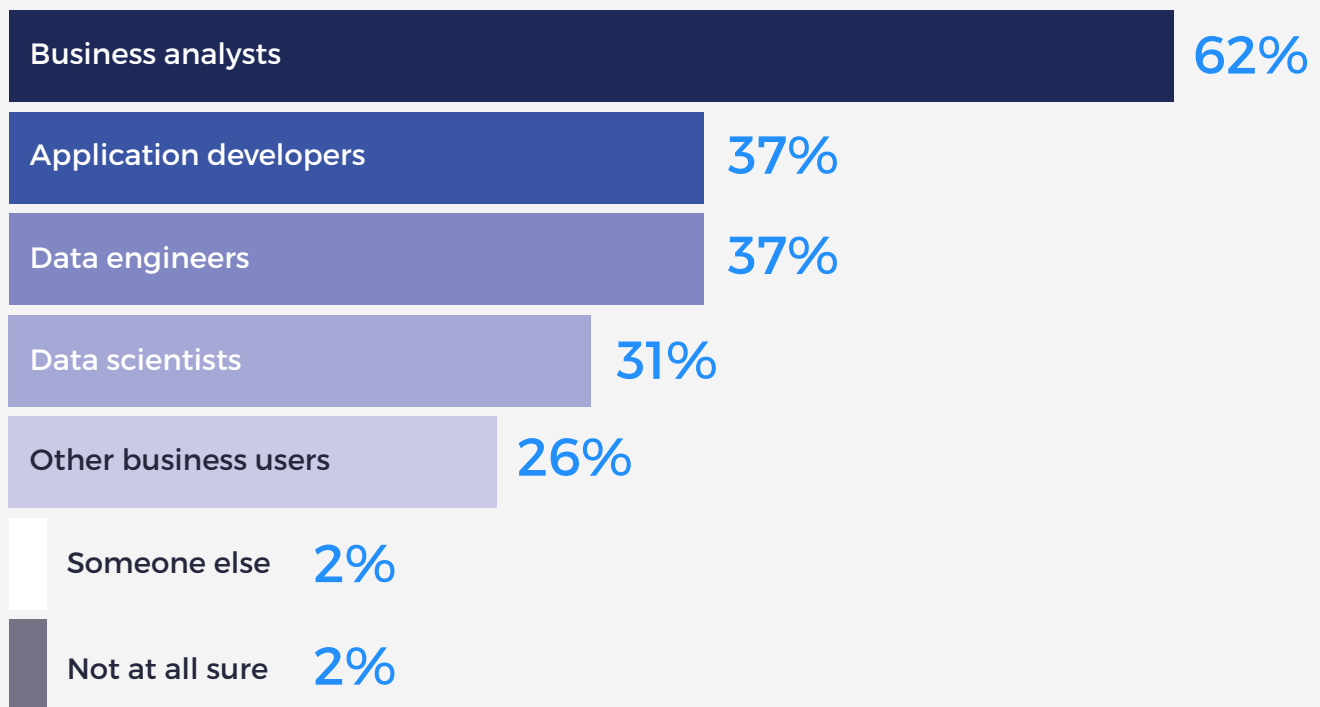
## Likelihood of ITDM Always Using Fresh or Current Data:



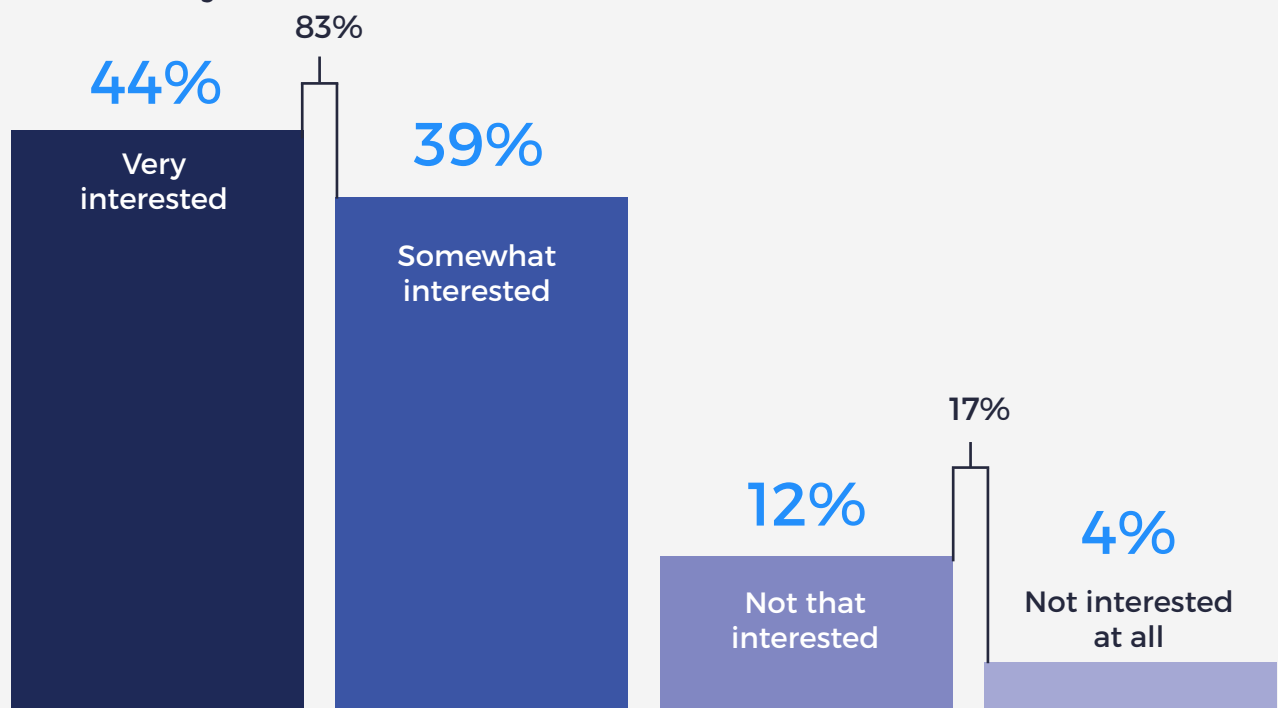
## Level of Importance for ITDM's Company to have a System that can Provide the Following:

	Important (NET)	Very Important	Somewhat Important	Not Important (NET)	Not That Important	Not Important At All	Not At All Sure
	%	%	%	%	%	%	%
To know the data end users received was always current	94	60	34	5	5	*	1
To drive data-driven decision making in real-time	94	58	36	6	5	1	*
To have the ability to provide real-time insight and analysis	94	56	37	6	5	1	*
To have data that could generate optimal real-time offers	92	53	38	8	6	2	*
To provide a material business impact with the data	89	52	36	11	10	1	*

## Who Primarily Utilizes Analytic Data:

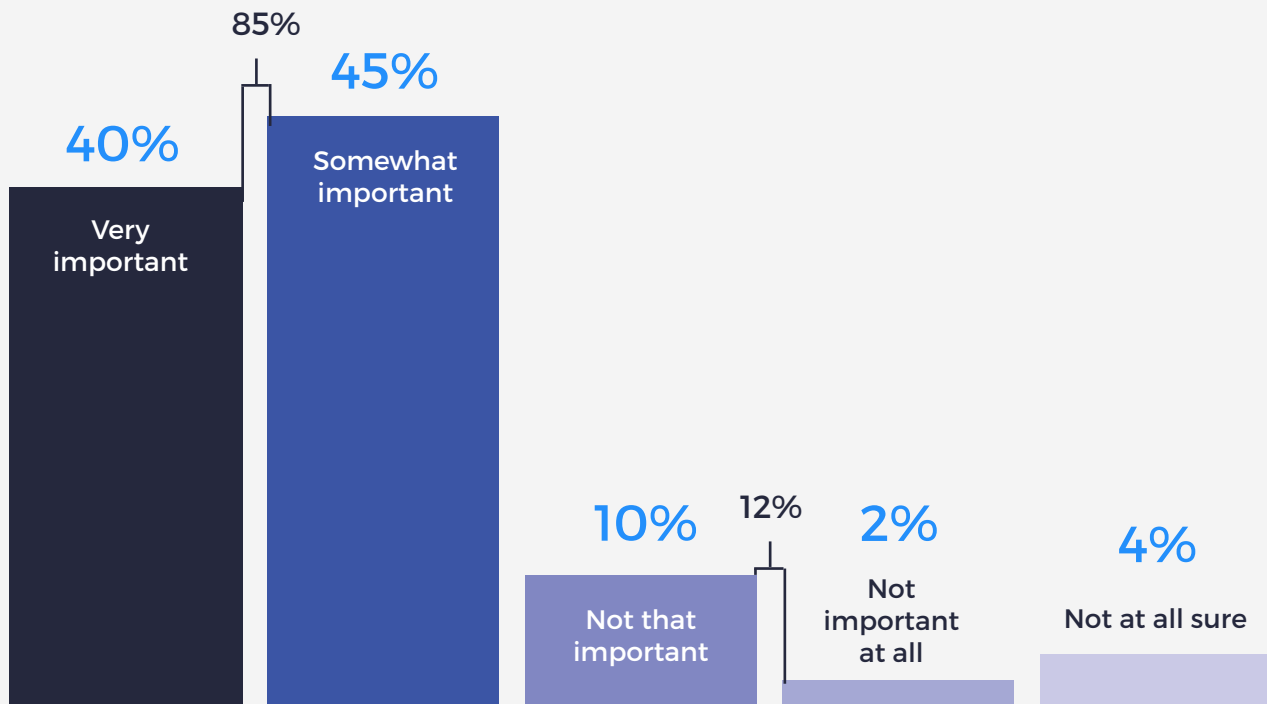


## Level of Interest in Edge/IoT Related Computing and Distributed/Remote Analytics

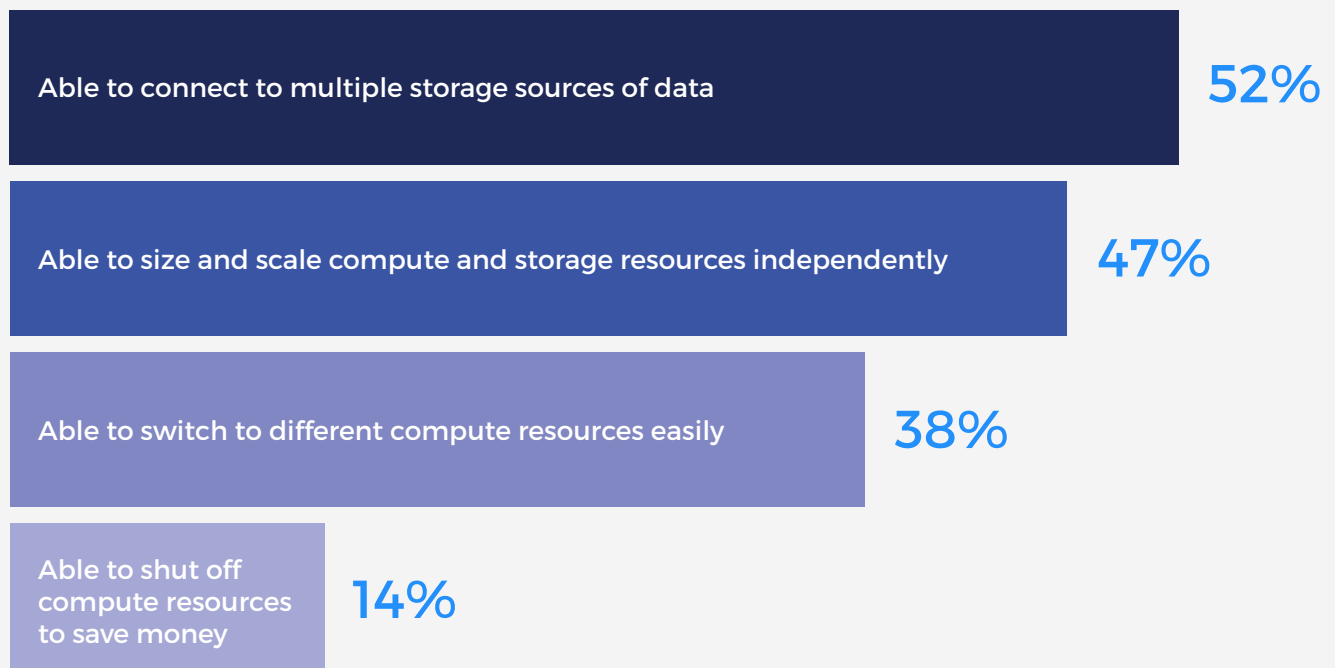




## Level of Importance of Separation of Compute and Storage in a Cloud Environment:



## Reason for Importance of Separation of Compute and Storage:



## Reason for Unimportance of Separation of Compute and Storage:

Don't want performance penalty of slow storage layer

66%

Can optimize query performance when storage is closely coupled to compute

43%

Compute and storage resource requirements are not terribly dynamic or volatile

23%

Don't need or want the hassle of dealing with shutting off computer resources to save money

20%

## Likelihood that ITDM's will Use the Following Cloud Platform Providers:

	Likely (NET)	Very Likely	Somewhat Likely	Not Likely (NET)	Not That Likely	Not Likely At All	Don't Know Enough About Them
	%	%	%	%	%	%	%
Azure SQL data warehouse	78	42	36	16	12	4	6
Google Big Query Analytics Data Warehouse	73	35	38	23	20	3	4
Amazon Redshift cloud data warehouse	71	32	39	21	18	3	7
Oracle Autonomous data warehouse	69	27	42	25	17	8	6
Cloudera Atlas data warehouse	45	17	28	41	31	10	15
Snowflake cloud data warehouse	43	17	25	40	29	11	17