TERADATA.

Achieving Success with Cloud-based Analytics

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I. Introduction:
Asking yourself the right questions

Migrate to the cloud. The words are heard frequently in the corporate environment these days as more and more companies shift mission-critical IT infrastructure from on-premises data centers to the cloud. Your organization has probably already started the shift, and you may have plans to migrate additional capabilities to the cloud in the near future.

But as with any key technology trend, it's a valuable exercise to take a step back before you've started too far down the road, and answer a few important questions about where you're headed:

- Are your cloud-based expectations and strategies in line with your organization's actual needs?

- As a reality check, how do you stack up against other companies that are moving to the cloud, including your competitors?

- Are there certain cloud service providers that are best suited to assist you?

This whitepaper is designed to help you answer these questions and give you valuable insights moving forward. To that end, we've conducted a survey of top executives across multiple industries on how they're implementing their moves to the cloud, with a focus on their goals, concerns and motivations. You may find their responses useful as you evolve your cloud migration strategy.
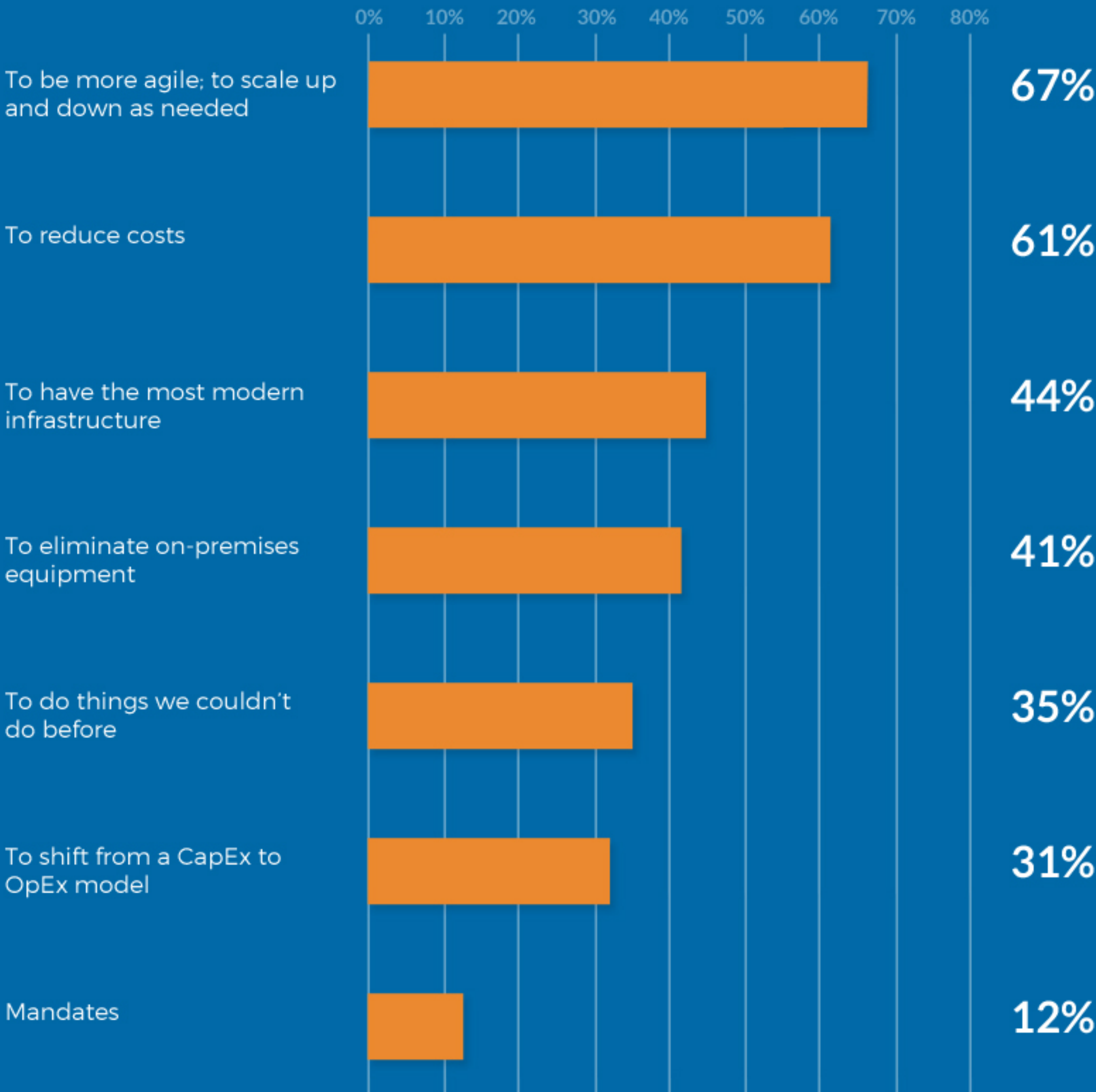
II. Survey Results:
Identifying strategies for cloud-based analytics

Teradata sponsored a recent Gatepoint Research survey, *Strategies for Cloud-based Analytics*, that delved into the strategies adopted by organizations as they move data and applications to the cloud. Senior-level executives at companies in a diverse array of industries were surveyed, with respondents working for companies of all sizes:

- 88 percent are employed in Fortune 1000 companies with revenues of more than $1.5 billion.
- 7 percent work in large firms with $500 million to $1.5 billion in revenues.
- 5 percent work at mid-market companies with $250-$500 million in revenues.

The respondents cited two motivations for moving to the cloud that far outstripped all others—to increase agility/scalability (67 percent), and to reduce costs (61 percent).

What are the reasons your organization has moved (or is considering moving) to the cloud?

Reason	Percent
To be more agile; to scale up and down as needed	67%
To reduce costs	61%
To have the most modern infrastructure	44%
To eliminate on-premises equipment	41%
To do things we couldn't do before	35%
To shift from a CapEx to OpEx model	31%
Mandates	12%

Respondents reveal their **top two motives** for moving to the cloud are to increase agility/scalability (67 percent), and to reduce costs (61 percent).
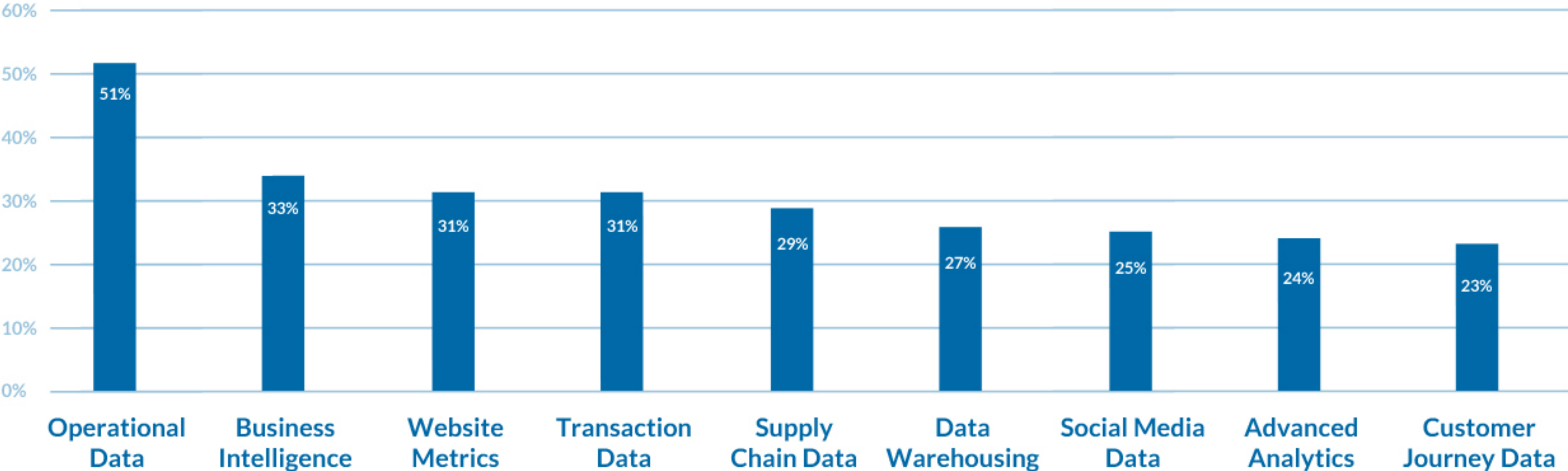
More than half of respondents have already migrated operational data to the cloud (51 percent). This is not surprising, given the immediacy generally attached to day-to-day operational needs. On the other hand, the low priority given to customer journey data (23 percent) is somewhat unexpected, since this is a timely and essential component of meeting the product/service expectations of valued customers.

Which of these applications or data sets are already cloud-based in your organization?

Operational Data	Business Intelligence	Website Metrics	Transaction Data	Supply Chain Data	Data Warehousing	Social Media Data	Advanced Analytics	Customer Journey Data
51%	33%	31%	31%	29%	27%	25%	24%	23%

Not too surprisingly, respondents report that within their organizations, operational data is a frontrunner in migrating to the cloud (51%). Low priority is given advanced analytics (24%) or customer journey data sets (23%).
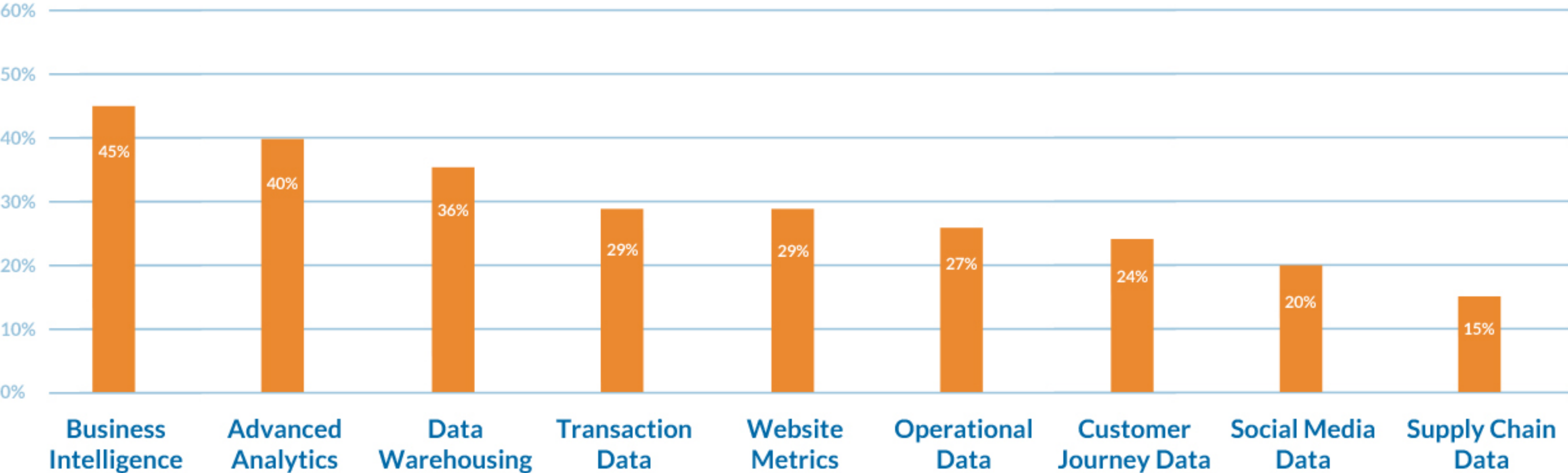
In terms of what comes next, the top contenders for projected migration in the near future are business intelligence (45 percent), advanced analytics (40 percent), and data warehousing (36 percent).

II. Survey Results:
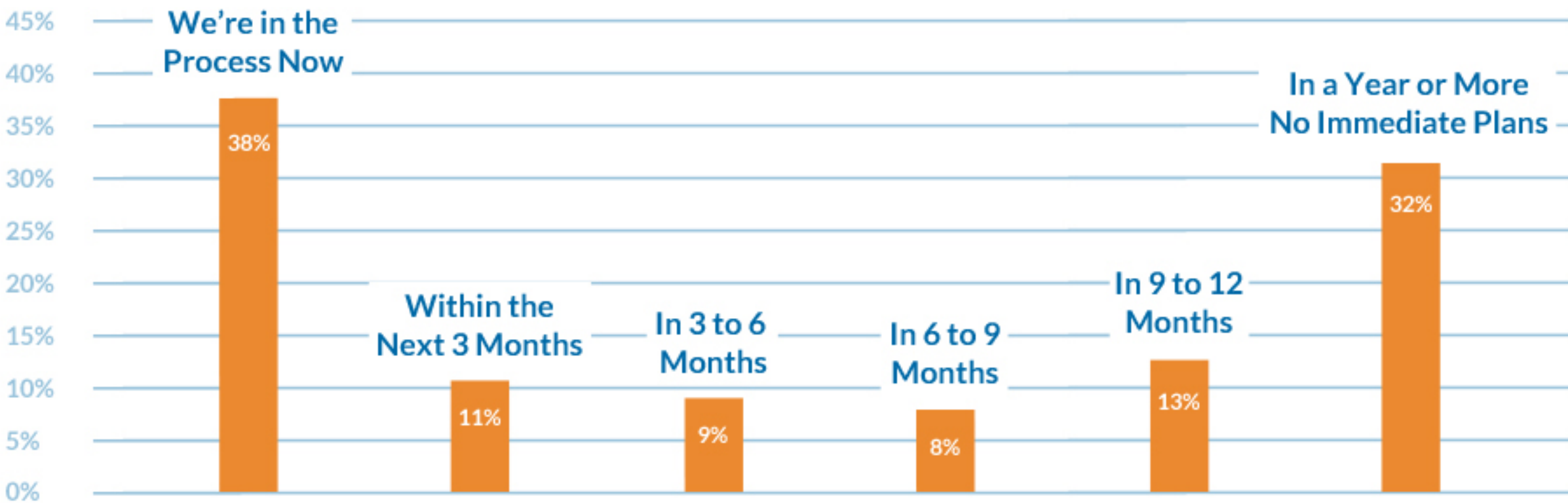## Identifying strategies for cloud-based analytics
Continued

Is your organization planning to move any of these applications or data sets to the cloud?

Category	Value
Business Intelligence	45%
Advanced Analytics	40%
Data Warehousing	36%
Transaction Data	29%
Website Metrics	29%
Operational Data	27%
Customer Journey Data	24%
Social Media Data	20%
Supply Chain Data	15%

It should be noted these plans to move data sets and applications to the cloud are being made with a sense of urgency. More than two thirds of respondents reported they are beginning or continuing a process of moving data or applications to the cloud within the next year.

When will your organization begin moving additional data sets or applications to the cloud?

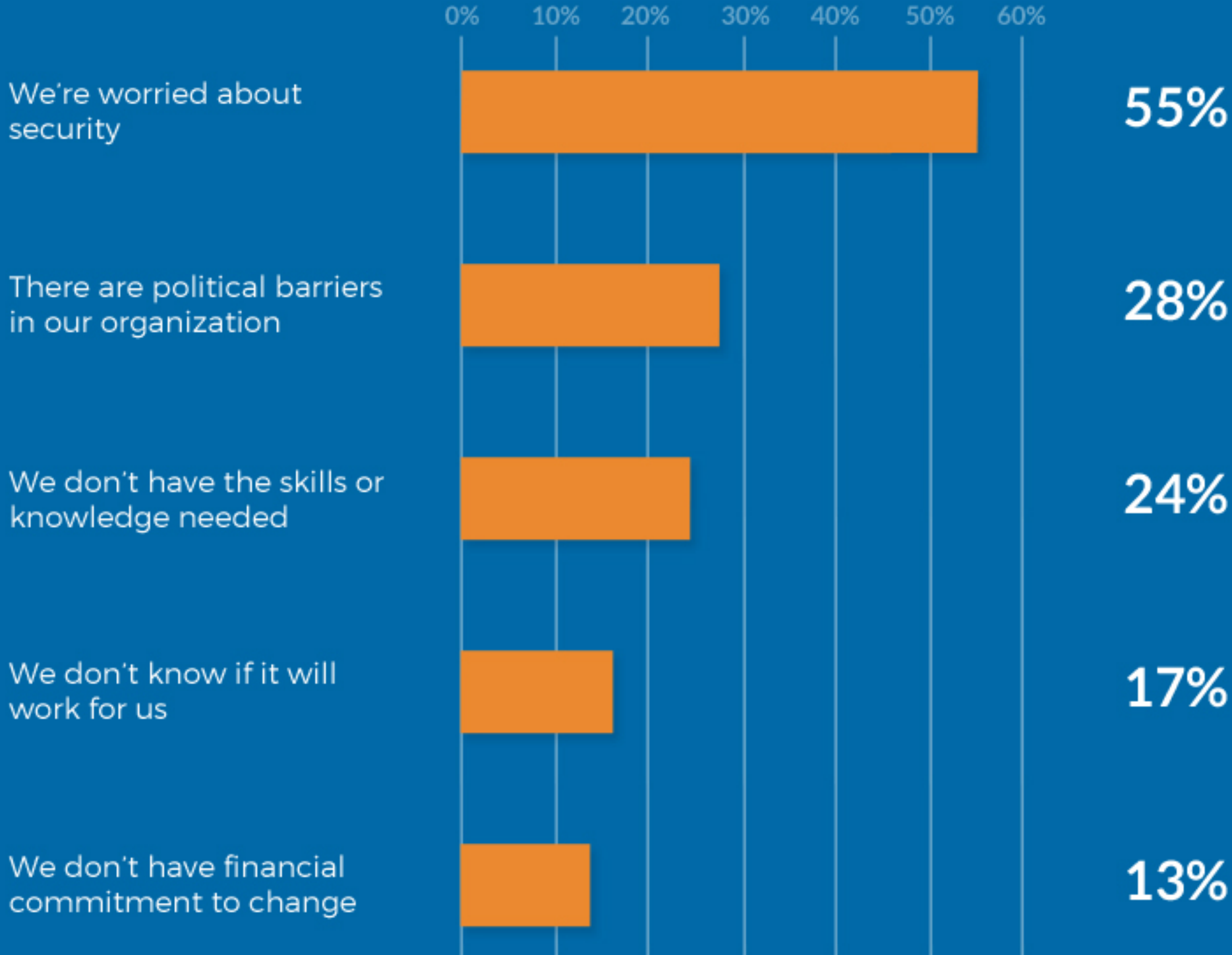| Category	Value
We're in the Process Now	38%
Within the Next 3 Months	11%
In 3 to 6 Months	9%
In 6 to 9 Months	8%
In 9 to 12 Months	13%
In a Year or More No Immediate Plans	32%

II. Survey Results:
Identifying strategies for cloud-based analytics
Continued

Among those surveyed, over two thirds report they are already engaged in or actively planning the process of moving data or applications to the cloud within a year.

The speed of the migration, however, does not translate into overconfidence. Respondents have concerns about the challenge of moving to the cloud. And while the benefits of migration are enormous—and, in virtually every case, far outweigh the risks—more than half the respondents cited security concerns. Additionally, almost a third saw political barriers within their organization as a barrier to transitioning to the cloud.

Does your organization have any concerns about moving to the cloud?

| Concern	Percentage
We're worried about security	55%
There are political barriers in our organization	28%
We don't have the skills or knowledge needed	24%
We don't know if it will work for us	17%
We don't have financial commitment to change	13%

To add to these concerns, there is the ever-present challenge of managing and analyzing data that is increasing exponentially in volume. The impact of the burgeoning data revolution is felt acutely—and no wonder. Consider that more than 40 percent of respondents report their organization needs to analyze in excess of 20TB of data.

II. Survey Results:
Identifying strategies for cloud-based analytics
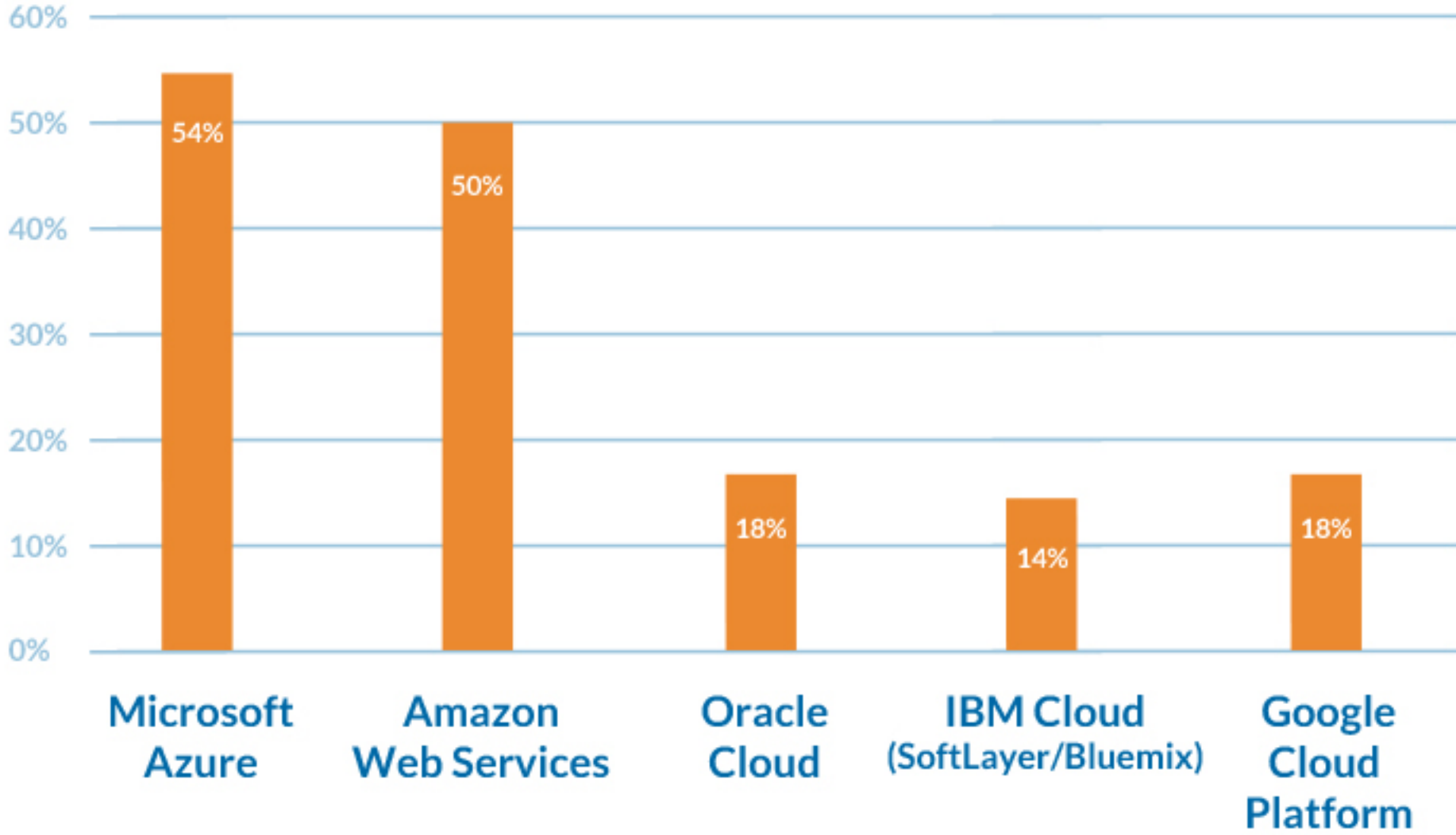### Continued

How much data does your organization need to analyze?
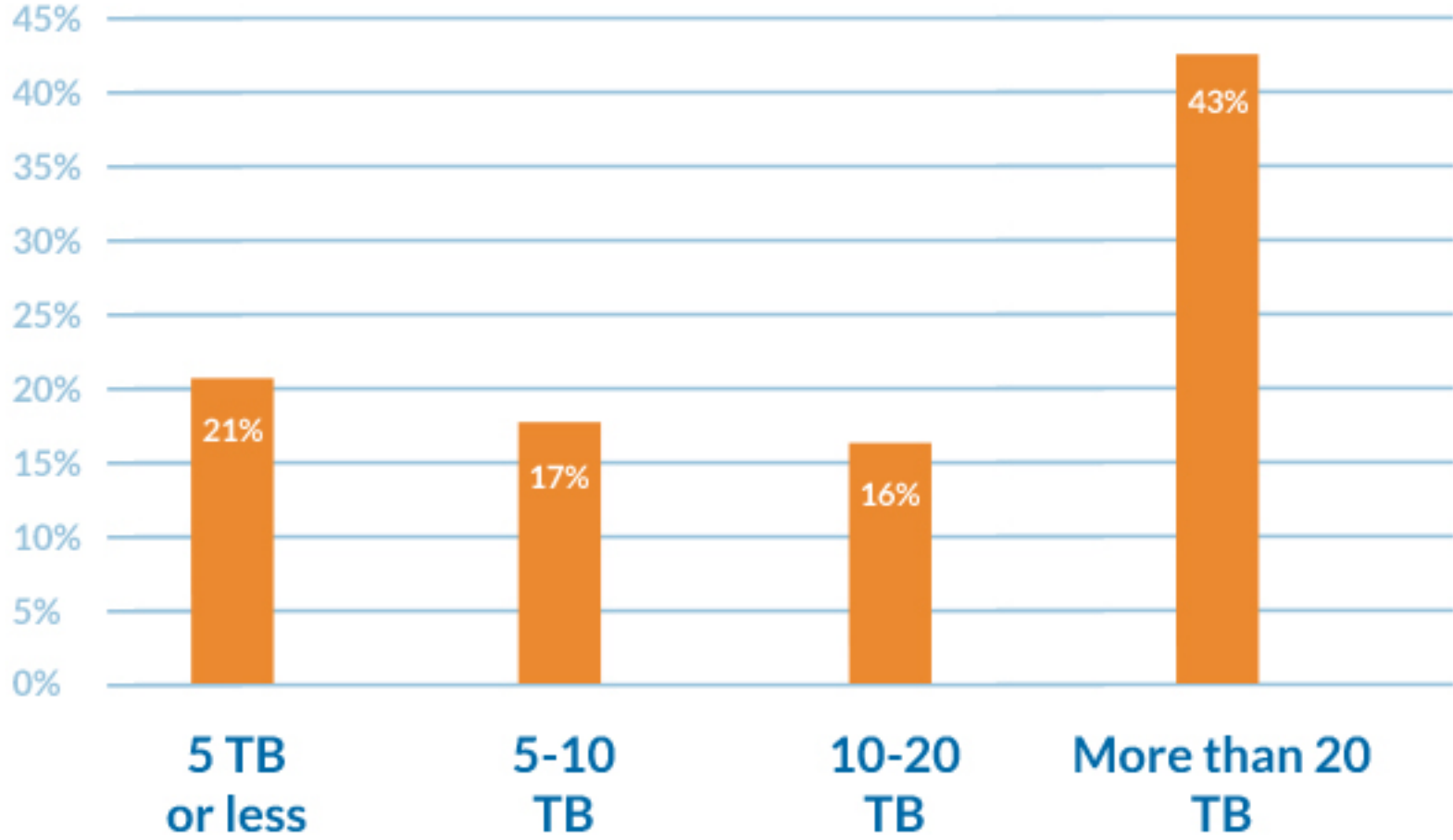
The challenges are clear. But what about the solutions? Today's forward-looking organization has choices when it comes to meeting their cloud migration needs—for example, in the choice of a public cloud platform. In the survey, the two most-widely used public cloud providers—by wide margins—were Microsoft Azure (54 percent) and Amazon Web Services (50 percent).

What is your organization's current or planned public cloud platform?

II. Survey Results:
## Identifying strategies for cloud-based analytics
Continued

Furthermore, in terms of choice, the selection of a cloud-based analytics provider such as Teradata often comes down to a case of to have or have not: While all respondents have at least some cloud-based data, many of them do not yet use a cloud-based advanced analytics solution.

Just how important is it to move advanced analytics to the cloud? Not surprisingly, given the mission-critical nature of what's involved—and the simple truth that when you know more from your data, you can do more—a total of 82 percent of respondents state that advanced analytics in the cloud is "important to highly important" to the success of their organizations.

How important is it to your organization to have a high performance or advanced analytics in the cloud?

(Rate 1 to 5, 1 = unimportant, 5 = highly important)

	1	2	3	4	5	n/a
	7%	4%	13%	30%	39%	3%

Unimportant ← → Highly Important
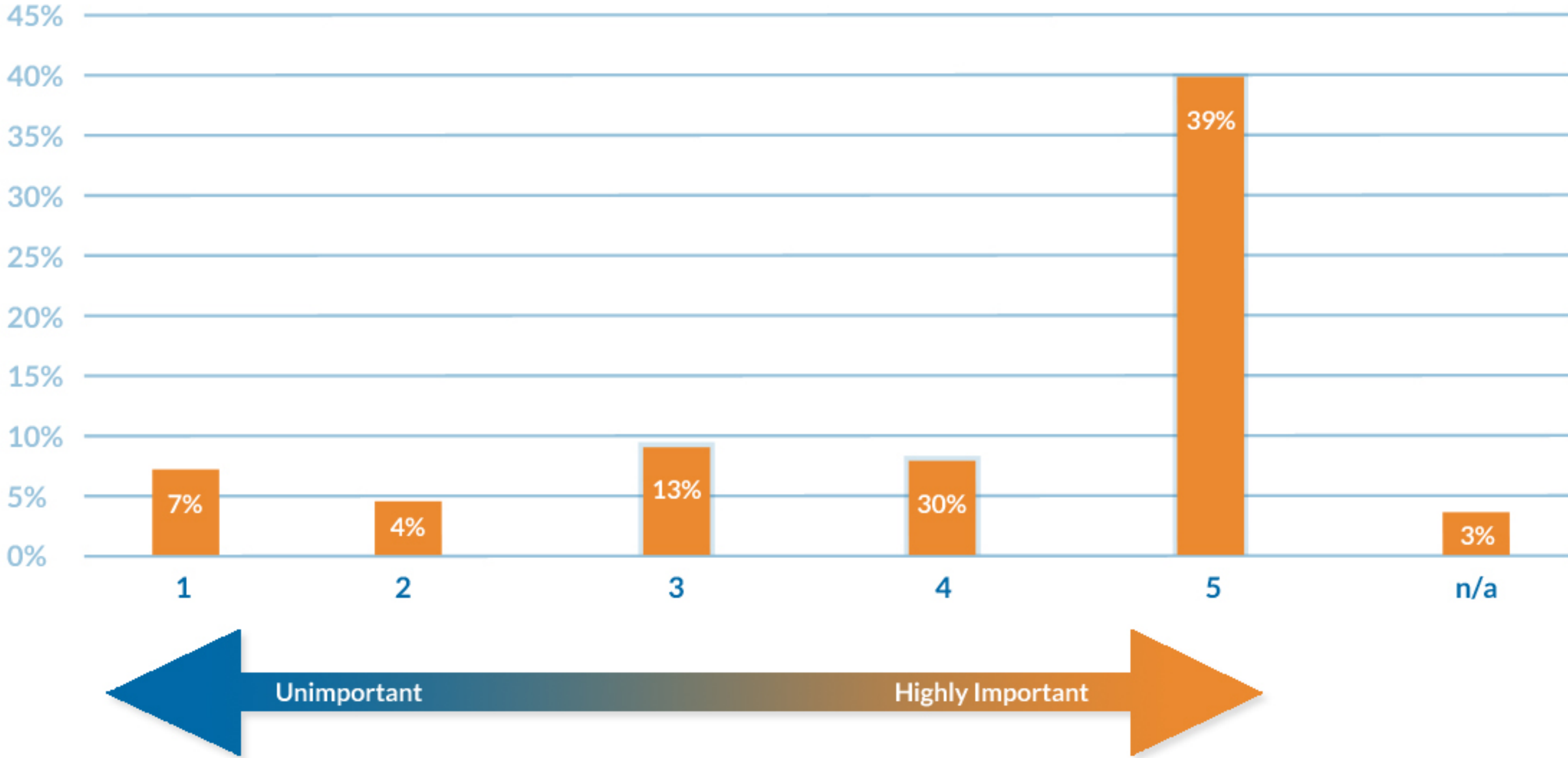
III. Solutions:
Meeting the analytics challenge with Teradata

With high-performance analytics having such an essential role in today's competitive organization, it's wise to take a moment to consider why a cloud-based analytics solution is especially effective. Consider these five components of success, as outlined in research conducted by Enterprise Management Associates® (EMA™) [1]:

- **Analytic Performance.** You must be able to quickly and easily move data from your source system to your analytic environment in the cloud, support the necessary amount of data, and speedily provide answers to SQL queries from the maximum number of users in a reasonable timeframe.

- **Flexibility.** Your cloud-based platform needs to respond to a variety of analytic workloads, from reporting on financial or operational issues to ad-hoc requests that require links between disparate data sets, to iterative OLAP in which "what if" questions and answers lead to the next question. And… you need advanced analytic capabilities that use the support of predictive analytics and data mining.

- **Advanced Technologies.** Successful analytic projects often evolve beyond their initial scope, requiring that you be able to store more data than originally planned, accommodate increased user adoption, and meet requirements not identified at the start. Consider that as data-driven projects mature, you may wish to go beyond traditional functionality and extend your capabilities with innovative functions such as discovery-focused analytics.

- **Expert Support.** The cloud solution provider you select for professional services, training and implementation assistance is of paramount importance. The differences between providers will serve as your guidepost for which one you select—for example, if you don't have deep domain experience, you may wish to select a vendor who can help you migrate to cloud-based analytics as easily as if you had your own custom-built data management definitions.

- **Enterprise Ecosystems.** All analytic platforms need the ability to work within a wider ecosystem. Rather than confining business questions and insights to a single platform, you'll want to coordinate with both downstream data consumers and administrative facilities such as archive, operational management, and monitoring.

Even when you use these criteria as your benchmark, it's important to note that not all hybrid cloud environments are created alike—or equal. Teradata Hybrid Cloud Solutions give you several distinct advantages.

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[1] Enterprise Management Associates (EMA): *Analytics in the Cloud: Five Components for Success*

III. Solutions:
Meeting the analytics challenge with Teradata
Continued

- **Comprehensive Security.** At Teradata, security is our top priority, and we deliver support in every facet of cloud security, from physical and network security to data protection, monitoring, and access controls. You'll find a fuller description in our case study of work we've done for Ticketmaster, the global ticket retailer that sells hundreds of millions of tickets in 19 countries.

- **Unrivaled Expertise.** With Teradata, you never have to go-it-alone when you're navigating the difficulties of architecting your analytic ecosystem. We're at your side every step of the way—as we were with Meredith Corporation—as you choose, implement and manage your hybrid cloud solution, offering guidance and making your selection process as streamlined as possible.

Teradata Hybrid Cloud Solutions are a core attribute of the company's go-to-market approach known as Teradata Everywhere™, which brings the world's most powerful, massively parallel processing analytic database to a variety of deployment environments—providing you with a level of integration and orchestration you won't find elsewhere.

Specifically, having a hybrid cloud solution in which your data and analytics are both on-premises and in the cloud won't do you much good if the on-premises and cloud capabilities are in silos. Teradata solutions let you spread your analytics capabilities through a mix of managed, public and private clouds, as well as on-premises—all working together in a seamless manner that's transparent to users.

For example, with Teradata, you're able to combine your analytics capabilities with the agility and global reach of such public cloud providers as Amazon Web Services or Microsoft Azure. You can take advantage of self-service provisioning, which usually takes less than an hour, and pay as you go. The Teradata model is far different than the typical analytic environment found in the public cloud, which doesn't allow for a common database to work across various deployment types in a borderless manner.

The bottom line:
You'll gain enormous organizational agility when your data and applications can be stored, used, and analyzed within a dynamic and almost limitlessly capable ecosystem such as the one offered by Teradata.

IV. Use Cases:
Putting hybrid cloud solutions to work

A quick sampling of the types of ways a Teradata hybrid cloud solution can benefit your organization:

Prepare for peak periods with cloud bursting.

Are you approaching your busiest sales season or nearing the end of a financial reporting period? Teradata hybrid cloud solutions give you the agility to "burst" by adding more capacity to handle more queries and ultimately extract better performance.

High-priority queries can be fast-tracked to one part of the system, while less important queries are performed in a different part. Teradata software makes the process invisible to users, who aren't aware of the orchestration going on behind the scenes.

Test innovative new analytics in a cloud-based data lab.

Now your department or individual users can more easily explore new analytics solutions and applications—thanks to a "data lab" that serves as a workspace sandbox for testing new ideas.

Suppose your sales team wants to take a fresh look at data on how their account executives are selling as it relates to campaign data from marketing. You can simply spin up a hybrid cloud-based data lab in which users can pull up only the information that's needed—specifically, a compartmentalized subset from your production data warehouse—while still connecting to production data when necessary. This can be done without impacting the performance experienced by other system users.

Be ready for anything—with disaster recovery.

When you have redundant capabilities between your on-premises data center and a second, integrated cloud-based system, you can easily continue business operations even in the event of a disaster.

This type of arrangement can be very cost-effective, since cloud solutions often feature a fee structure in which you pay only for what you use—a "pay as you go" model. Compare that to the much-higher cost of investing in a second on-premises solution. Additionally, your data will be stored in the cloud, rather than co-located on the same site as your primary data center, for added safety. Just back up your data at regular intervals—daily, for example—and know you're covered.

V. Conclusion:
Charting your course for success

When making crucial decisions, today's corporate executives face an increasingly-challenging task: They can readily access limitless data, but not necessarily analyze it in a timely or effective manner. Fortunately, advanced analytics in the cloud help solve this problem. As evidenced by the Gatepoint Research survey, organizations around the world are adopting cloud-based analytics, and doing so with a mission-critical sense of urgency. It may be time to make your move, too—and enjoy all the benefits of advanced analytics in the cloud.

To learn more about moving your data and analytic applications to a Teradata hybrid cloud solution, visit **www.teradata.com/cloud**

Teradata empowers companies to achieve high-impact business outcomes. Our focus on business solutions for analytics, coupled with our industry leading technology and architecture expertise, can unleash the potential of great companies. Visit **teradata.com**.

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