



VENTANA RESEARCH



Five Best Practices in Cloud-Based Analytics

Equipping the Enterprise to Use Data
Quickly and Effectively

Research Perspective

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The Rise of Cloud-Based Analytics

Once a cutting-edge innovation that businesses regarded warily, cloud computing now is being widely embraced. It offers an effective way to store and use information and applications without the expense of the hardware, software licenses and technical expertise that in-house systems require. Organizations also can easily expand their use of cloud-based resources as needed and get access to updates and improvements automatically. For these reasons, the cloud has become a popular alternative to installing and maintaining information systems on-premises.

Our benchmark research finds that both data and analytics deployed in the cloud are commonly stored in separate systems, each relying on siloed data from various suppliers.

Organizations have now begun to deploy analytics systems in the cloud as well. In this way they can analyze data to gain decision-making insights without managing the application themselves. But moving to the cloud doesn't automatically eliminate data silos. Our benchmark research finds that both data and analytics deployed in the cloud, especially for use by front-office functions such as marketing, are commonly stored in separate systems, each relying on siloed data from various suppliers and stored both locally and remotely.

In order to avoid basing conclusions on incomplete information, organizations must integrate these various sources of information; otherwise they risk making decisions based on incomplete data that lead to serious mistakes and undermine business success.

To help organizations understand the complexities and realize the benefits of cloud-based analytics, we offer the following five best practices.

Best Practice: Assess which areas of the organization can best use cloud analytics.

Virtually all organizations participating in our research said they currently use or intend to use cloud-based analytics. They said it is important to analyze a variety of essential information, particularly

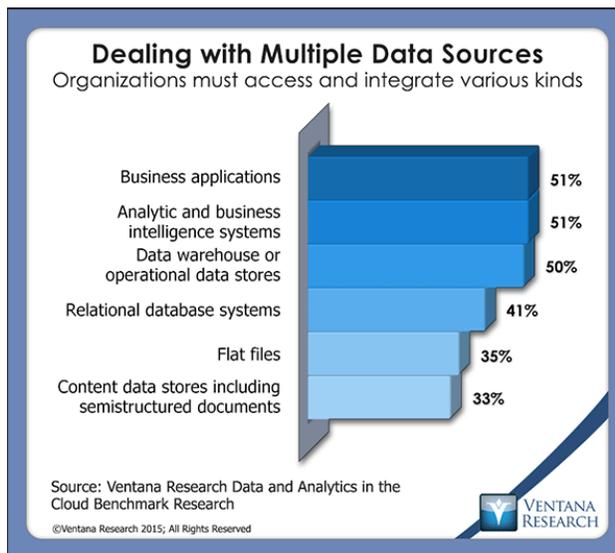


regarding forecasting (for 51%), customers (47%), sales (33%), marketing (26%) and e-commerce (24%).

Thus, in evaluating cloud-based analytics we advise consideration of how it can benefit professionals in marketing, sales, and customer-facing roles. Yet keep in mind that at the same time, analytics can be important for finance, operations and IT.

Best Practice: Understand the importance of accessing and integrating data.

To be able to make decisions based on a complete view of the business, organizations need access to multiple data sources. Our research finds that the most common ones are well established:



business applications (51%), business intelligence applications (51%), data warehouses or operational data stores (50%), relational databases (41%) and flat files (33%). However, organizations also increasingly are also using less structured sources such as semistructured documents (33%), social media (27%) and nonrelational database systems (19%).

Including cloud-based data in the decision-making mix is critically important. Three-quarters of com-

panies said that it is important or very important to access data from cloud-based sources. Important among those data sources are business applications (for 61%), social media data (48%), Internet information sources (42%), government sources (33%) and market data (29%). Whether in the cloud or not, each must be normalized and combined with internal sources into a single data set before analytics can be performed.

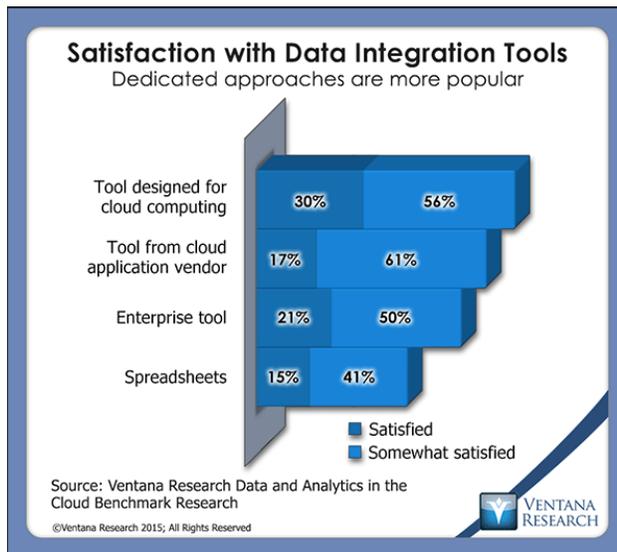
Research participants who said that integration of data is very important also said more often than others that cloud-based analytics helps their customers, partners and employees, by providing improved presentation of data and analytics (62% vs. 43% of those who said integration is important or somewhat important), access to many



different data sources (57% vs. 49%) and improved data quality and data management (59% vs. 53%).

Best Practice: For data preparation, evaluate the performance of tools designed for the cloud.

Preparing data for analysis is the task in which the majority of organizations (55%) said they spend the most time, followed by reviewing data for quality and consistency issues (48%). Data sources can have different data models and varying formats. Accessing cloud-based systems can add to the complexity.



Tools designed to create a single data set for analysis can slash the time required. Yet the research finds that almost half (49%) of organizations use spreadsheets to manage the integration and preparation of cloud-based data, and 58 percent of those said it hampers their ability to manage processes efficiently. In contrast, organizations utilizing newer integration tools are satisfied most often with them: 78 percent of

those using tools provided by a cloud applications provider and 86 percent of those using data integration tools designed for cloud computing said they're satisfied.

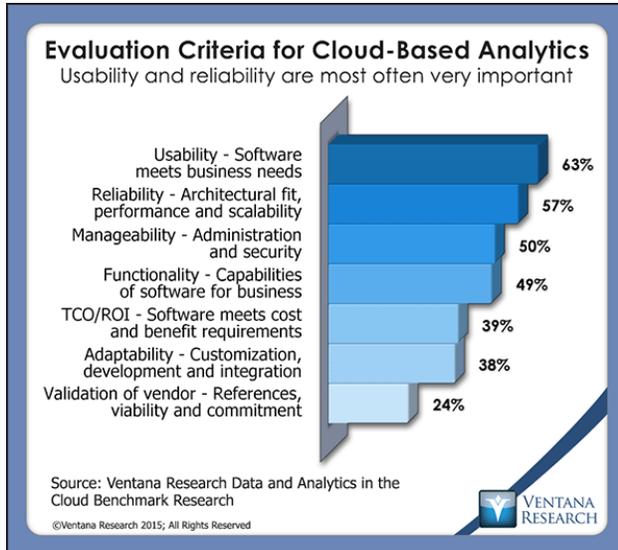
Best Practice: Consider how cloud analytics can empower business users.

Integrating and preparing data for analytics typically requires technical skill and the proper tools. One characteristic of tools under consideration should be that they enable business people to do their own analytics-related work without having to rely on IT help.

Usability is the software evaluation criterion that participants most often – nearly two out of three (63%) – called very important. Currently, however, research participants who said they are able to access cloud-based systems to work with and analyze data without involvement from IT are a minority (40% vs. 53% needing IT help). Yet a substantially higher percentage of those not relying on IT



expressed confidence in their organization's ability to use cloud computing for analytics (77% vs. 44%) and satisfaction with their cloud-based analytics (74% vs. 58%). Not having to rely on IT to do analysis can enable business people to come to conclusions faster and drive better outcomes.



Facilitating the user experience is the ability of the system to process large data sets efficiently. In the research, reliability, which includes architectural fit, performance and scalability, is the second-most-often cited purchase criterion; 57 percent said that it is very important.

Another way in which cloud-based analytics tools can help organizations simplify work is by automating tasks typically done by IT, such as provisioning of resources, systems and network management, system backup and disaster recovery. These are aspects of manageability, which fully half of participants said is a very important evaluation criterion. More and more, such tasks can be managed by the cloud provider with little or no support from IT.

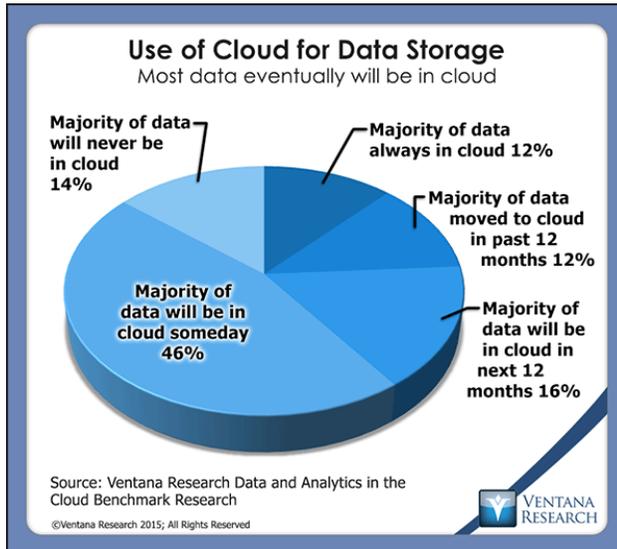
Best Practice: Recognize the relationship between big data and cloud analytics.

Our research finds that two-fifths (40%) of organizations now store the majority of their data in the cloud or will do so within a year. It also finds correlations between how much of an organization's data is in the cloud and satisfaction with and confidence in cloud analytics. Those that have long stored the majority of it in the cloud most often said they are very confident in (50%) and satisfied with (48%) cloud-based analytics. Likewise, among those transitioning to storing the majority of data in the cloud, those farther along in the process more often said they are confident and satisfied than did those with less data there.

Managing the incessant inflow of data is a challenge for businesses of all sizes, many of whom are considering the technology known as big data. Storing big data in the cloud can ease the load on in-house servers and systems. About one in three (32%) organizations said they



now use the cloud for managing big data, and nearly as many (28%) plan to use it in the next 12 to 18 months.



Cloud-based systems can be architected for varying analytic workloads and storage requirements. One attraction of storage in the cloud thus is the flexibility it offers in managing and analyzing different types of data sets. In some circumstances, such as regulatory requirements, all data must be held and accessible, but speed in accessing it is not a priority. In other circumstances, such as analytic sandbox environments, data

need be held only for a short period but must be accessible quickly. In yet other environments, data is filtered in real time and only patterns are stored rather the actual data itself.

Another reason for cloud adoption is that big data is often unstructured data. For many such especially large data sets, organizations are likely to save all the data and then do analysis directly on the data rather than doing transformations first and then storing the data in a structured format such as a relational database. Cloud-based systems can accommodate large data sets with varying transformation and analytic requirements more cost-effectively.

Used properly, big data yields sharper analytics. We recommend including big data in an organization's cloud-based analytics. Our research shows that data is being stored in the cloud and that within 12 to 18 months the majority (60%) plan to manage big data in the cloud. This data provides an important source of refinement to cloud-based analytics.

Maximizing Value with Cloud-Based Analytics

It is not surprising that three-quarters of organizations in our research said that it is important or very important to access data from cloud-based sources. Usability, reliability and manageability are key



purchase considerations. To add value cloud-based analytics depend on having the right data to be used in the analytic process. Modern data environments are complex, but new tools and approaches can make managing them feasible. For organizations considering the cloud for data and analytics, we recommend these best practices.

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