

REPORT: BIG IDEA

# Three Imperatives for Innovating with Cloud Bl and Analytics

Make the Most of Cloud Advantages and External Data to Create Deep Insight and Innovation



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#### **EXECUTIVE SUMMARY**

The center of gravity for data is steadily shifting toward external sources, including cloud-based applications and infrastructure. But that does not mean that future success is a simple matter of switching to cloud-based business intelligence (BI) and analysis options to examine cloud-based data. Instead, the idea is to take advantage of cloud flexibility, ubiquity, architecture and standards to span silos, support important new analyses and surpass the old barriers of BI.

This report explores three imperatives that Constellation sees as crucial to future BI and analytics initiatives. First, even if you don't rip and replace legacy BI systems, take advantage of cloud-based options to analyze growing cloud-based data sources and to deliver insights to remote workers, partners or customers. Second, embrace external data sources to create data-enrichment, personalization and insight services. Third, increase innovation by using data-driven insights to produce new value and to power new business models. The research includes a listing of cloud-based BI and analytics options to consider as well as recommendations on how to move forward on data-to-decisions projects.





## DATA GRAVITY SHIFTS OUTSIDE THE ORGANIZATION

Increasingly, the data that is relevant to a business is found outside the four walls of the enterprise, whether it's generated in Software-as-a-Service (SaaS) applications, social networks, mobile apps or online interactions.

That's why the center of data analysis – business intelligence (BI) and analytics - is also shifting.

Times have changed, and in so many ways for the better! Cloud computing, social media, mobile technology, Big-Data analysis and self-service trends have reshaped IT, but so, too, have they introduced new levels of data diversity and complexity to go along with the opportunities for deeper insight. What all these trends have in common is that they are shifting data gravity away from on-premises data centers. Here is a look at the impacts:

 Cloud computing: This is the biggest disruptive force reshaping the data landscape. As companies increasingly tap cloud infrastructure, such as Amazon
Redshift or Google BigQuery, or subscribe
to SaaS applications, such as Salesforce or
Workday, their data increasingly resides
outside of the four walls of the enterprise.
This forces new decisions about how and
where to store, integrate and analyze data.
As this report details on page seven (Three
Ingredients for Future BI and Analytical
Success), cloud-based approaches also open
up opportunities to deliver data services and
embedded insights that can support new
business models

- Social media: Companies now use social networks to engage with customers, and it's where they're capturing data for budding marketing and services initiatives. Making sense of all these interactions means tapping into network and community APIs and yet more external data.
- Mobile technology: Mobile app usage is quickly catching up to, and in many cases, surpassing conventional desktop interaction, as e-commerce players and leading social networks will attest. The mobile trend is also



fueling the growth of cloud-generated data, as most organizations choose to deploy their mobile apps on agile and rapidly scalable cloud platforms.

• **Big Data:** The lion's share of data growth is outside of the corporate data center, tapped from online and mobile clickstreams, social networks, partner networks, third-party data-enrichment sources, government data sets and sensor networks fueling emerging Internet of Things (IoT) applications.

All of these trends are changing where data lives and how and where it makes sense to analyze information. Constellation estimates that by 2020, at least 60 percent of the data that organizations consider to be mission-critical will live outside the four walls of the enterprise (see Figure 1).

## THREE IMPERATIVES FOR FUTURE BI SUCCESS

Data gravity may be shifting to the cloud, but future BI success is not a simple matter of switching to cloud-based analysis for cloud-

Figure 1. Trends Shifting the Center of Data Outside the Walls of the Enterprise



Source: Constellation Research



based data. Indeed, the future looks decidedly hybrid, with on-premises applications, data sources and conventional reporting and dashboarding systems likely to live on. The opportunity is not to rip and replace existing systems that are still effective. Nor is it to duplicate existing approaches in the cloud. The idea is to take advantage of cloud flexibility, ubiquity, architecture and standards to span silos, support important new analyses and surpass the old barriers of BI.

The advantages of cloud-based systems make them a natural choice for integration and analysis of data from many sources, including external data. With access to more data and new sources and types of data, organizations can develop deeper, contextual insights. The cloud is also a natural choice for delivering such insights through RESTful APIs, supporting the long-dreamed-of but seldom-realized approach of embedding insights in context within transactional applications. Finally, cloud-based BI and analytics options lend themselves to creating new business models based on data monetization. This paper takes a close look at

three imperatives for next-generation BI and analytics deployments.

#### 1. Make the Most of Cloud Advantages

Topping the list of arguments for using cloudbased BI options are fast deployment and reduced administrative overhead, but the list doesn't stop there. Here's a quick rundown on cloud BI advantages:

- Fast deployment: Change is a constant, so think beyond initial deployments and use cases. You will encounter new data sources, new reporting and analysis needs, and new internal and external BI consumers; it's only a question of when. Cloud BI lets you scale up whatever resources or types of user licenses you need, whenever you need. It's a gift of flexibility that keeps on giving.
- Reduced administrative overhead:
   Companies are reexamining what
   differentiates their organizations, and many
   conclude that running data centers and



software is not a competitive advantage. By adopting "cloud-first" strategies, companies are reducing (and in some cases eliminating entirely) their data center footprints. Cloud-based BI and analytics options let you focus exclusively on data-integration and analysis. The cloud vendor handles the maintenance of servers, networks, storage, and administration and updates to BI software.

- Consumption-based pricing: Cloud-based BI is a pay-as-you-go proposition, with hourly, monthly and, typically, discounted annual terms being commonplace. Cloud options foster closer alignment between what is used and what is paid for. You can unsubscribe to cloud services, but you can't "unbuy" licensed software.
- Elastic scalability: Some data workloads inherently have spikes. That's particularly true of Big-Data and advanced-analytic projects that start with high-scale data and move into iterative data modeling and scoring before abruptly ending. It's uncertain when you might need to spin up capacity to tune the models. In the cloud,

- you pay only for the capacity you need, when you need it.
- Data services and embedding capabilities: Cloud-based BI and analytics systems are typically built on micro-services architectures, making it easier to deliver granular, personalized insights as services. Further, cloud-based access and security models can be easily extended and delivery capacity scaled up or down elastically to serve thousands of partners, tens of thousands of business users, or hundreds of thousands of customers. Many cloud platforms are also equipped for data monetization, with subscription mechanisms, access controls, usagemeasurement features, and even payment mechanisms already in place.
- Continuous innovation: Machine-learningbased prediction, self-service data preparation, and new data visualizations are all examples of fast-moving innovations that have been introduced within BI and analytics products in recent years. When it's a cloud-based offering, users at every



level get instant access to the latest features and capabilities with every service upgrade.

There's no waiting for the next major on-premises software release. It's a non-disruptive path to innovation.

Constellation's Analysis: Consider cloud-based options for new BI and analytics initiatives, but don't rush to rip and replace existing BI and analytics systems that are meeting important needs. Wade into the cloud experience to meet a new challenge, such as analyzing growing, cloud-based data sources and reaching beyond the firewall to deliver insights to remote workers, partners or customers. You can make decisions about on-premises versus cloud and old versus new platforms once you have experience with new, cloud-based BI and analytics alternatives.

#### 2. Embrace External Data Sources

Over the last decade, the data-mashup, selfservice BI, and Big Data movements have helped spark a trend toward outward-facing data analysis. Recognizing the limitations of internal data, organizations have sought out new sources, including government data, industry and market data, social network feeds, and mobile app data. They're probing previously unusable, "dark data" sources such as text files and fields, email, clickstreams, log files and more. Bringing additional context to internal transactional data, these sources have fueled deeper, personalized and tailored insight into customers, market conditions, partners, and employees (see Table 1).

As the balance of mission-critical data has shifted outside the four walls of the enterprise, cloud-based BI options are well suited to bring together insights from external sources, such as SaaS-based apps, social networks, mobile apps and sensor networks, with on-premises transactional systems. Cloud-based BI options are better equipped than on-premises systems to quickly scale up to support large numbers of mobile and remote users, high-scale data from external sources, and customer-facing workloads that have spikes. What's more. cloud-based systems make it easier to publish and widely share new data sources and analysis, promoting rapid and, in some cases, viral adoption of valuable insights.



Learning from direct marketers and digital innovators, many organizations are turning to third-party sources, including consumer demographic and psychographic data, public data sets, and other external sources to enrich their data. A manufacturer of automobiles, for example, can now develop a much deeper

understanding of customers that simply wasn't possible as recently as 10 years ago. Long one step removed from car buyers, automakers previously relied heavily on dealers and state motor vehicle agencies for customer data.

Today, manufacturers can draw on social networks, online auto sales sites, sensors built

Elements	Trasactional Systems	Engagement Systems	Experiental Systems	Digital Systems	Cognitive Systems
Circa	1950s+	2000+	2005+	2010+	2015+
Design point	Continuous improvement	Sense & respond	Agile & flexible	Intention driven	Decision driven
Challenge	Massive computing scale	Massive social scale	Massive contextual scale	Massive individual scale	Massive decision scale
User Experience	Computing based	Interactive	Bionic	Personalized	Natural
Communication Style	Broadcast dictatorial	Conversational	Role tailored	Sentient	Human like
Speed	Just in time	Real time	Right time	Anticipatory	Space time continuum
Impact & reach	Departmental/ corporate silos	Interconnected	Segmented value chains	P2P networks	Virtual
Info Management	Highly structured	Loosely structured knowledge	Immersive streams	Self aware embedded knowledge	Continuous learning
Intelligence	Hard coded	Deterministic business rules	Probabilistic pattern based	Predictive	Situational awareness
Examples	Payroll, ERP, CRM	Social & collaboration	Ad networks, gamification	Decision support, VRM	Augmented humanity

**Table 1.** Constellation's View of the Evolution of Mass Personalization and Cognitive Systems **Source:** Constellation Research



into vehicles, connected-car networks, and customer-facing mobile apps.

Constellation's Analysis: As the concentration of data analysis shifts outside the four walls of the enterprise (to sensor data, mobile app data, weather data and third-party enrichment data), it makes sense to reconsider just where you will bring data together and conduct data analyses.

Analyze the scale of the data and the time and cost of moving it from source to destination.

Consider the availability, cost and burden of running storage and computing capacity, data-integration software, and data-management platforms. If you're trying to avoid building bigger data centers and adding IT staff, there's little doubt you will favor cloud options.

Assess projected workloads and whether they're likely to scale up quickly, remain steady, or vary widely over time or from project to project. If rapid scaling or variability are likely, the scenario favors the rapid and elastic scalability of cloud-based approaches.

Finally, weigh on-premises, hybrid and cloud-based options available for analyzing data and producing stand-alone or embedded reports, dashboards, visualizations, KPIs and predictive insights. In many scenarios, it's very likely that advantages including elasticity, flexibility, reduced administrative burdens, and the ease of publishing and sharing new data sources and analyses will favor cloud-based BI and analytics options.

## 3. Advance Innovation and Create New Business Models

Successful future BI implementations will propel innovation and create new business models by monetizing data and delivering data-driven services. Here is an example:

A global facilities management firm created a SaaS-based platform for retail and hotel chains that lets them source, procure, manage and pay for maintenance services from commercial contractors. The platform was then enhanced with standard and extra-cost "premium" analytical insights delivered from a cloud-based analytics platform. Standard



dashboards display financial and operational measures across locations and service providers. A contractor scorecard, for example, lets facilities managers review quality-of-service measures on current and prospective contractors. The thousands of contractors using the platform can see how they compare with benchmarks on cost, service quality, and customer experience.

Among the extra-cost insight services, facilities managers can correlate their service histories with external data, such as long-range weather forecasts, to guide preventative maintenance, such as servicing of heating and air conditioning equipment. Customers can also set customized metrics and alerts so managers receive emails when spending limits are exceeded. The premium-level service also lets customers add and refresh external data sets and create executive-level dashboards for organizations that manage hundreds or thousands of facilities.

**Constellation's Analysis:** This is just one example of data-driven insights driving improvements in service, efficiency and

innovative new business models. Constellation sees three main ways in which companies are creating new business models from data: insight-based differentiation, insight-based brokering, and insight-based delivery networks (see Figure 2).

Examples of insight-based differentiation include the connected-car applications that auto manufacturers are using to interact directly with customers, offering value-added services such as roadside assistance and predictive maintenance. Insight brokering is about data monetization, benchmarking and value-added analysis. In business-to-business scenarios, for example, many organizations are interested in and willing to pay for comparisons of their performance to aggregated peer benchmarks.

Insight-based business platforms are common in the digital media and marketing industries.

One cable and broadband service provider, for example, combines its set-top-box data with retail point-of-sale and web clickstream data.

The company created a web-based analytical application on top of these combined data



sets to enable advertisers to explore whether people who saw a particular advertisement on TV ended up buying more of that product in subsequent visits to grocery or drugstore chains. Advertisers can also determine which shows appeal to people who buy certain brands or types of products. They can also see whether web ads or TV ads are more costeffective in spurring incremental sales.

The mix of data and possibilities for analysis are getting richer all the time. Cloud-based

BI and analytics options have the built-in advantage of flexibility and rapid scalability for broad sharing of insights with thousands of partners and, potentially, tens of thousands or hundreds of thousands of customers.

#### CLOUD ANALYSIS AND INSIGHT **DELIVERY OPTIONS**

Constellation defines cloud-based BI and analytics options as Software-as-a-Service

Data-driven insights drive new business models

Figure 2. Three Ways to Monetize Data and Develop Deeper Insight to Create New Value



Source: Constellation Research



(SaaS) and Platform-as-a-Service (PaaS) offerings delivered in multi-tenant fashion.

Such services are configurable by each customer but are based on a single code base and are managed, upgraded and maintained by the yendor.

Managed "private cloud" services, which are typically one-off, hosted instances of on-premises software, may ease deployment and administrative burdens, but Constellation does not view such offerings as offering the agility, rapid scalability, cost advantages and innovation potential of cloud-based BI and analytic services. Within this context, there are at least five different styles of cloud BI and analytic services:

1. Cloud-native BI and analytics: Cloud-based BI options were ahead of their time seven to 10 years ago, but several early SaaS BI vendors (for example, LucidEra and Oco) didn't survive to see the real data explosion. Pioneers including BIRST and GoodData, founded in 2004 and 2008, respectively, survived and are now seeing solid growth. Cloud-native BI and analytics

options have multiplied as SaaS apps and public-cloud platforms and services have grown in popularity. Examples include Domo and Bime. These platforms put back-end data-management and data-integration capabilities as well as data analysis in the cloud. They increasingly are popular with cloud-centric companies that want the complete BI and analytics stack in the cloud. They're also a popular choice for embedding analytics within custom applications and SaaS offerings, an approach that brings contextual insight to transactions and customer behavior to improve decision-making.

2. Self-service cloud BI: An antidote to the IT-centric complexity of legacy BI systems, self-service BI and analytics vendors started to take off more than a decade ago. Now they're adding cloud deployment options.

Alteryx and Tableau Software, for example, introduced Alteryx Analytics Gallery and Tableau Online, respectively, in 2013. Tibco followed with Spotfire Cloud in 2014 and Qlik launched Qlik Sense Cloud in 2015.

These options are popular with those



using the self-service vendor's desktop- or server-based offerings but who are looking for broader, cloud-based collaboration and access to insights, liberation from infrastructure deployment and maintenance, as well as direct access to data and analysis of data from cloud-based sources.

#### 3. SaaS options from familiar BI vendors:

On-premises BI suites including BusinessObjects, Cognos and Oracle OBIEE have long been offered as hosted services, but parent vendors SAP, IBM and Oracle also have introduced multi-tenant. cloud-native alternatives. IBM introduced self-service-oriented Watson Analytics in 2014, launching with a freemium service that attracted hundreds of thousands of registered users. IBM does not share figures on how many of these users subscribed to the \$30 per-user, per-month "Plus" service, which adds storage and database connectivity, or to the \$80 per-user, permonth "Professional" subscription, which supports workgroups with their own cloud tenant.

SAP launched Cloud for Planning in 2014.

A year later, it added self-service BI and analytics features and rebranded the service BusinessObjects Cloud. The service is unique in blending BI, advanced analytics, and planning into one cloud-based suite.

Connectors enable customers to use cloud analytics on top of BusinessObjects

Universes (data models) used in on-premises deployments to support hybrid deployment scenarios. BusinessObjects Cloud is also the foundation for the SAP Digital Boardroom product, which powers multi-screen sharing of drill-down dashboards and visualizations for collaborative decision support.

Oracle announced the Oracle Business
Intelligence Cloud Service (BICS), which
includes the self-service Oracle Data
Visualization Cloud Service, in October
2014. BICS is most often used as a standalone service, according to Oracle, but it also
supports hybrid scenarios in conjunction
with Oracle BI Enterprise Edition and data
models in use in on-premises deployments.
In addition, BICS is the built-in foundation
for embedded analytics delivered within



Oracle Fusion SaaS applications, so subscribers can use the cloud service to add to the reports, dashboards and data visualizations built into Oracle Cloud apps.

As the name suggests, the Data Visualization Cloud Service is Oracle's self-service-oriented alternative to the likes of Tableau Online and Qlik Sense Cloud.

4. BI in the public cloud: Cloud kingpins
Amazon, Microsoft and Google have
introduced BI and analytics options of
their own. Microsoft introduced cloudbased Power BI in 2014 and then added
a freemium service and data-visualization
upgrades in early 2015 (along with a
supporting, free-to-download Power BI
Desktop app). Amazon Web Services
announced QuickSight as a beta service in
2015 and it's expected to become generally
available by the end of 2016. Google Cloud
DataLab is an analysis option for Big Data
while Google Data Studio is aimed at Google
Analytics data.

The more apps you build and the more data you collect in these public clouds, the more

- appealing the idea of a companion, cloudnative BI and analytics option becomes.

  Power BI is the most mature among these options and it also has the hybrid advantage of linking with on-premises Microsoft SQL Server deployments. The Amazon and Google options are aimed exclusively at the data created in or loaded into their respective clouds. Oracle's BICS public cloud service offers connection options for all major on-premises databases, including Oracle, Microsoft SQL Server, Teradata and DB2.
- 5. Application-embedded BI: In yet another subcategory of cloud-based BI, SaaS application vendors are embedding analytics within their apps. Salesforce, for example, in 2014 launched its Analytics Cloud powered by Salesforce Wave. The Salesforce Analytics Cloud embeds insights directly inside the vendor's applications.

  Oracle and Microsoft are also embedding analytics inside their SaaS-based CRM, ERP and HR apps. The idea is to deliver insights in context, so any user can take action based on data-driven insights.



Previously, third-party vendors such as BIRST and GoodData helped Salesforce customers analyze their data. They still play this role and have been joined by the likes of Insight Squared and Domo. Independent vendors cite advantages such as the ability to support embedding across many applications and web destinations. GoodData, for example, now focuses on embedding insights, recommendations, and event triggers, thus supporting data-driven applications, personalization and data-monetization scenarios

RECOMMENDATION: ASSESS, DREAM AND CONSULT

The days of sweeping, big-bang replacement projects are over. Your next-generation BI and analytics experience undoubtedly will evolve through a process of experimentation and iteration. You can evolve the experience more quickly and intelligently by first assessing current-state BI and analytical capabilities, dreaming up possible innovations and new

business models, and, as needed, consulting with systems integrators.

• Assess: The goal of an assessment should be to determine what's working, what's not working and what's missing from your current BI and analytical capabilities. It's much like an audit, so the assessment should be independent. Ensure that the team asking the questions and building consensus has executive support and is well represented across the entire user community. Don't expect BI executives or center-of-excellence program leaders to be self-critical. And don't expect business users to be brutally honest with BI team leaders or staffers about their frustrations and disappointments with their services. Thus, have the business representatives on the team gather feedback from business users, for example, and make it clear that the goal is to gather unvarnished-but-constructive criticism.

The audit should identify gaps in capabilities and determine what is and what isn't possible (or easy) with current user skills



and technologies. Next, review the age and release status of current deployments and research the availability, technical requirements, and costs of new releases and cloud-based offerings from existing vendors. The idea is to identify the products that should slowly (or quickly) go away and those that should potentially be extended.

• Dream: Most companies stop at gap analysis, failing to think outside the box. The dreaming stage is about big, strategic thinking and the drive toward innovation and new business models. Here, too, you'll need executive buy-in. The chief data officer and chief innovation officer roles are well suited to lead this effort, but it can be any C-level sponsor who is empowered to drive business change.

Go beyond gap-oriented thinking about which vendor to consider for X or Y state-of-the-art feature. This is where you need to brainstorm about the innovations and new-business-model ideas outlined in Figure 3. What BI and analytical capabilities will you need if the goal is to monetize data or

deliver insights directly to the customer or the customer's customer? Can you automate recommendations with machine-learning-based analysis or support truly broad consumption through application-embedded insights or natural-language-based query interfaces? The dream team needs to push the envelope and then narrow down to a list of innovative ideas that can be explored through proof-of-concept projects.

• Consult: Do you need help with these assessment and brainstorming initiatives? Consultants and systems integrators have vast experience with helping organizations to overcome technological, organizational and cultural barriers that stand in the way of BI and analytics success. Many consulting firms and systems integrators have established analytics practices that are well versed in use cases across vertical industries and disciplines such as sales, marketing, finance, human capital management and so on. They also have proven methodologies for identifying business objectives and challenges, developing innovation ideas, updating architectures, and organizing pilot



projects and technology rollouts (whether on-premises or in the cloud). In many cases, customers can outsource aspects of their BI and analytics programs to these firms.

Accenture, Deloitte, CapGemini, IBM
Global Business Services, Infosys,
Persistent Systems, TCS, Think Big
Analytics, and Wipro are among the firms
that have dedicated business intelligence
and analytics practices. Consider taking
advantage of their experience, but start by
asking for references tied to your industry,
anticipated use cases, and technology and
service-provider partnerships.

## CONSTELLATION'S TAKEAWAYS

Times have changed and day-old reports are table stakes. The standards are shifting toward low-latency, predictive insight delivered in the context of the customer, the market, the industry, the economy, and a world of alternatives competing for the time and attention of customers.

It is fine to know how many widgets you sold this month versus last month, but are customers satisfied with your products and brand? More importantly, what will sales look like next month? Are there products that are disrupting the widget market? Which brands are grabbing a greater share of customer spending? How is your brand perceived by future customers? Can you share insights about interactions with your products that customers might find useful?

Today's decision-makers expect faster, broader, deeper, clearer, easier-to-create, and easier-to-consume BI and analytics. To gain deeper insight, you'll need more data, and that information increasingly will come from outside the four walls of your organization, whether through mobile apps, government statistics, weather data, product-based sensors or social networks. As the information gets richer, the opportunities to monetize the data and provide innovative, data-driven services grow.

Can you deliver on all these expectations and seize new opportunities relying solely on



technologies and data analyses within your data center?

Constellation believes that the future is hybrid.
Serviceable legacy systems and regulated
data might remain on premises. But new
applications, new data sources, and new
insights from these sources will increasingly
emerge in the cloud.

Cloud-based BI and analytics options offer many advantages. Beyond rapid deployment and reduced administrative burdens, cloud options are rapidly scalable and services are enabled, making it easier to share insights beyond the firewall with remote workers, partners, customers or the customers of customers. Cloud elasticity enables companies to support workloads that have spikes or seasonal variations without saddling them with fixed infrastructure costs.

Finally, cloud-based delivery of data and insights can be handled with fine-grained micro- services, so key performance measures, data visualizations, alerts, predictions, and recommendations can be embedded directly

into day-to-day business applications. This approach puts insight in context and leads to better, data-driven decision-making.



#### **ANALYST BIO**

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Doug Henschen is Vice President and Principal Analyst at Constellation Research, Inc., focusing on data-driven decision making. His Data-to-Decisions research examines how organizations employ data analysis to reimagine their business models and gain a deeper understanding of their customers. Data insights also figure into tech optimization and innovation in human-to-machine and machine-to-machine business processes in manufacturing, retailing and services industries.

Henschen's research acknowledges the fact that innovative applications of data analysis require a multidisciplinary approach, starting with information and orchestration technologies, continuing through business intelligence, data visualization, and analytics, and moving into NoSQL and Big Data analysis, third-party data enrichment, and decision management technologies. Insight-driven business models and innovations are of interest to the entire C-suite.

Previously, Henschen led analytics, Big Data, business intelligence, optimization, and smart applications research and news coverage at InformationWeek. His experiences include leadership in analytics, business intelligence, database, data warehousing, and decision-support research and analysis for Intelligent Enterprise. Further, Henschen led business process management and enterprise content management research and analysis at Transform magazine. At DM News, he led the coverage of database marketing and digital marketing trends and news.

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#### ABOUT CONSTELLATION RESEARCH

Constellation Research is an award-winning, Silicon Valley-based research and advisory firm that helps organizations navigate the challenges of digital disruption through business models transformation and the judicious application of disruptive technologies. Unlike the legacy analyst firms, Constellation Research is disrupting how research is accessed, what topics are covered and how clients can partner with a research firm to achieve success. Over 350 clients have joined from an ecosystem of buyers, partners, solution providers, C-suite, boards of directors and vendor clients. Our mission is to identify, validate and share insights with our clients.

#### **Organizational Highlights**

- · Named Institute of Industry Analyst Relations (IIAR) New Analyst Firm of the Year in 2011 and #1 Independent Analyst Firm for 2014 and 2015.
- · Experienced research team with an average of 25 years of practitioner, management and industry experience.
- · Organizers of the Constellation Connected Enterprise an innovation summit and best practices knowledge-sharing retreat for business leaders.
- · Founders of Constellation Executive Network, a membership organization for digital leaders seeking to learn from market leaders and fast followers.

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