

# Magic Quadrant for Business Intelligence and Analytics Platforms

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**Analyst(s):** Josh Parenteau, Rita L. Sallam, Cindi Howson, Joao Tapadinhas, Kurt Schlegel, Thomas W. Oestreich

## Summary

The BI and analytics platform market's multiyear shift from IT-led enterprise reporting to business-led self-service analytics has passed the tipping point. Most new buying is of modern, business-user-centric platforms forcing a new market perspective, significantly reordering the vendor landscape.

## Strategic Planning Assumptions

By 2018, most business users and analysts in organizations will have access to self-service tools to prepare data for analysis as part of the shift to deploying modern BI platforms.

By 2018, most stand-alone self-service data preparation offerings will either have expanded into end-to-end analytical platforms or been integrated as features of existing analytics platforms.

By 2018, smart, governed, Hadoop-based, search-based and visual-based data discovery will converge in a single form of next-generation data discovery that will include self-service data preparation and natural-language generation.

## Market Definition/Description

This document was revised on 8 February 2016. The document you are viewing is the corrected version. For more information, see the Corrections ([http://www.gartner.com/technology/about/policies/current\\_corrections.jsp](http://www.gartner.com/technology/about/policies/current_corrections.jsp)) page on gartner.com.

During the past several years, the balance of power for business intelligence (BI) and analytics platform buying decisions has gradually shifted from IT to the business as the long-standing BI requirement for centrally provisioned, highly governed and scalable system-of-record reporting has been counterbalanced by the need for analytical agility and business user autonomy (see "How to Modernize Your Business Intelligence and Analytics Platform for Agility, Without Chaos"). The evolution and sophistication of the self-service data preparation and data discovery capabilities available in the market has shifted the focus of buyers in the BI and analytics platform market — toward easy-to-use tools that support a full range of analytic workflow capabilities and do not require significant involvement from IT to predefine data models upfront as a prerequisite to analysis.

This significant shift has accelerated dramatically in recent years, and has finally reached a tipping point that requires a new perspective on the BI and analytics Magic Quadrant and the underlying BI platform definition — to better align with the rapidly evolving buyer and seller dynamics in this complex market. This Magic Quadrant focuses on products that meet the criteria of a modern BI and analytics platform (see "Technology Insight for Modern Business Intelligence and Analytics Platforms"), which are driving the vast majority of net new purchases in the market today. Products that do not meet the modern criteria required for inclusion in the Magic Quadrant evaluation (because of the upfront requirements for IT to predefine data models, or because they are enterprise-reporting centric) will be covered in our new Market Guide for enterprise reporting-based platforms.

This change in the focus of the BI and analytics Magic Quadrant should not be interpreted by organizations as a recommendation to immediately replace all existing reporting-based system-of-record BI technology with a modern platform featured in the current Magic Quadrant. In many organizations, the existing enterprise reporting systems are integral to day-to-day business processes, and these processes would be exposed to unnecessary risk if disrupted by an attempt to re-create them in a modern platform. However, the problem that most organizations have encountered with lackluster BI adoption relative to the level of investment during the past 20 years stems from the fact that virtually all BI-related work in that time frame has, until recently, been treated as system of record from inception to development to delivery. This traditional approach to BI addresses Mode 1 of the bimodal delivery model, because it supports stability and accuracy, but does not address the need for speed and agility enabled through exploration and rapid prototyping that is essential to Mode 2 (see "How to Achieve Enterprise Agility With a Bimodal Capability").

The shift in the BI and analytics market and the corresponding opportunity that it has created for new and innovative approaches to BI has drawn considerable attention from a diverse range of vendors. The list spans from large technology players — both those new to the space as well as longtime players trying to reinvent themselves to regain relevance — to startups backed by enormous amounts of venture capital from private equity firms. A crowded market with many new entrants, rapid evolution and constant innovation creates a difficult environment for vendors to differentiate their offerings from the competition. However, these market conditions also create an opportunity for buyers to be at the leading edge of new technology innovations in BI and analytics and to invest in new products that are better suited for Mode 2 of a bimodal delivery model than their predecessors.

Gartner's position is that organizations should initiate new BI and analytics projects using a modern platform that supports a Mode 2 delivery model, in order to take advantage of market innovation and to foster collaboration between IT and the business through an agile and iterative approach to solution development. The vendors featured in this year's Magic Quadrant (and those highlighted in the Appendix) present modern approaches to promoting production-ready content from Mode 2 to Mode 1, offering far greater agility than traditional top-down, IT-led initiatives — and resulting in governed analytic content that is more widely adopted by business users that are active participants in the development process. As the ability to promote user-generated content to enterprise-ready governed

content improves, so it is likely that, over time, many organizations will eventually reduce the size of their enterprise system-of-record reporting platforms in favor of those that offer greater agility and deeper analytical insight.

As described above, this market has experienced a significant multiyear shift that has reached an inflection point – requiring a change in how Gartner defines the 14 capabilities that comprise a modern BI and analytics platform across the four categories – infrastructure, data management, analysis and content creation and share findings – in support of five BI and analytics use cases (see Note 1 for details of how the capability definitions in this year's Magic Quadrant have been modified from last year to reflect our current view of the critical capabilities for BI and analytics platforms). In this increasingly competitive and crowded market, the updated evaluation criteria for this year establish a higher bar against which vendors are measured both for execution and vision. As a result of this change and the resulting effect on the shape and composition of the BI and analytics Magic Quadrant, historical comparison with past years (to assess relative vendor movement) is irrelevant and therefore strongly discouraged.

## The Five Use Cases and 14 Critical Capabilities of a BI and Analytics Platform

Vendors are assessed for their support of five main use cases:

**Agile Centralized BI Provisioning.** Supports an agile IT-enabled workflow – from data to centrally delivered and managed content – using the self-contained data management capabilities of the platform.

**Decentralized Analytics.** Supports a workflow from data to self-service analytics.

**Governed Data Discovery.** Supports a workflow from data to self-service analytics, to systems-of-record, IT-managed content with governance, reusability and promotability.

**Embedded BI.** Supports a workflow from data to embedded BI content in a process or application.

**Extranet Deployment.** Supports a workflow similar to agile centralized BI provisioning for the external customer or, in the public sector, citizen access to analytic content.

Vendors are also assessed according to the following 14 critical capabilities. Subcriteria for each are listed in Note 2 and detailed functionality requirements are included in a published RFP document (see "Toolkit: BI and Analytics Platform RFP"). How well the platforms of our Magic Quadrant vendors support these critical capabilities is explored in greater detail in the forthcoming "Critical Capabilities for BI and Analytics Platforms" (to be published in 2Q16).

### Infrastructure

1. **BI Platform Administration.** Capabilities that enable scaling the platform, optimizing performance and ensuring high availability and disaster recovery.
2. **Cloud BI.** Platform-as-a-service and analytic-application-as-a-service capabilities for building, deploying and managing analytics and analytic applications in the cloud, based on data both in the cloud and on-premises.
3. **Security and User Administration.** Capabilities that enable platform security, administering users, and auditing platform access and utilization.
4. **Data Source Connectivity.** Capabilities that allow users to connect to the structured and unstructured data contained within various types of storage platforms, both on-premises and in the cloud.

### Data Management

5. **Governance and Metadata Management.** Tools for enabling users to share the same systems-of-record semantic model and metadata. These should provide a robust and centralized way for administrators to search, capture, store, reuse and publish metadata objects, such as dimensions, hierarchies, measures, performance metrics/key performance indicators (KPIs) and report layout objects, parameters and so on. Administrators should have the ability to promote a business-user-defined data model to a system-of-record metadata object.
6. **Self-Contained Extraction, Transformation and Loading (ETL) and Data Storage.** Platform capabilities for accessing, integrating, transforming and loading data into a self-contained storage layer, with the ability to index data and manage data loads and refresh scheduling.
7. **Self-Service Data Preparation.** The drag-and-drop, user-driven data combination of different sources, and the creation of analytic models such as user-defined measures, sets, groups and hierarchies. Advanced capabilities include semantic autodiscovery, intelligent joins, intelligent profiling, hierarchy generation, data lineage and data blending on varied data sources, including multistructured data.

### Analysis and Content Creation

8. **Embedded Advanced Analytics.** Enables users to easily access advanced analytics capabilities that are self-contained within the platform itself or available through the import and integration of externally developed models.
9. **Analytic Dashboards.** The ability to create highly interactive dashboards and content, with visual exploration and embedded advanced and geospatial analytics, to be consumed by others.
10. **Interactive Visual Exploration.** Enables the exploration of data via the manipulation of chart images, with the color, brightness, size, shape and motion of visual objects representing aspects of the dataset being analyzed. This includes an array of visualization options that go beyond those of pie, bar and line charts, to include heat and tree maps, geographic maps, scatter plots and other special-purpose visuals. These tools enable users to analyze the data by interacting directly with a visual representation of it.
11. **Mobile Exploration and Authoring.** Enables organizations to develop and deliver content to mobile devices in a publishing and/or interactive mode, and takes advantage of mobile devices' native capabilities, such as touchscreen, camera, location awareness and natural-language query.

## Sharing of Findings

12. **Embedding Analytic Content.** Capabilities including a software developer's kit with APIs and support for open standards for creating and modifying analytic content, visualizations and applications, embedding them into a business process, and/or an application or portal. These capabilities can reside outside the application (reusing the analytic infrastructure), but must be easily and seamlessly accessible from inside the application without forcing users to switch between systems. The capabilities for integrating BI and analytics with the application architecture will enable users to choose where in the business process the analytics should be embedded.
13. **Publishing Analytic Content.** Capabilities that allow users to publish, deploy and operationalize analytic content through various output types and distribution methods, with support for content search, storytelling, scheduling and alerts.
14. **Collaboration and Social BI.** Enables users to share and discuss information, analysis, analytic content and decisions via discussion threads, chat and annotations.

## Magic Quadrant

Figure 1. Magic Quadrant for Business Intelligence and Analytics Platforms



Source: Gartner (February 2016)

### Vendor Strengths and Cautions

Please refer to Note 3 for detailed descriptions of the metrics derived from the customer reference survey (conducted in November 2015) referred to throughout this section.

#### Alteryx

Alteryx offers a workflow-based platform for data blending as well as predictive, statistical and spatial analytic capabilities targeted at business users. In addition to supporting the development of self-contained, end-to-end advanced analytic applications, available

through its Analytics Gallery, Alteryx offers users the option of interacting with blended data through native output to leading third-party data discovery products.

Alteryx's position at the top of the Visionaries quadrant is driven by solid sales execution, strong customer experience scores and its ability to capitalize on the rapidly expanding market need for more robust self-service data preparation capabilities to augment data discovery tools that are generally lacking in this area. Alteryx's position on the Completeness of Vision axis is driven by strong product vision; a solid understanding of current market requirements; and a partner-centric sales strategy with a straightforward, albeit relatively expensive, pricing model that is conducive to the land-and-expand approach that is attractive to buyers in this market.

## STRENGTHS

Alteryx was ranked in the top quartile of all Magic Quadrant vendors for market understanding, which assesses each vendor's ability to make hard things easy – a critical requirement in a market where business users drive the majority of net new buying decisions. Alteryx accomplishes this by combining an easy-to-use graphical interface (for the development of data blending workflows) with access to some preconfigured modules, allowing business users to access advanced analytic capabilities and easily integrate predictive models and statistical algorithms into their analysis. Alteryx ranked highest of all Magic Quadrant vendors for complexity of analysis and was in the top quartile for overall ease of use – the two core components of market understanding.

A key reason for Alteryx's success and its increase in market traction and adoption in 2015 is its ongoing commitment to customer satisfaction. Alteryx was rated in the top quartile for both customer experience and operations. Within customer experience, Alteryx was rated in the top quartile of all categories, which includes: delivery of business benefits, user enablement and availability of skilled resources. In the operations category, Alteryx was rated highest of all Magic Quadrant vendors for product quality and in the top quartile for overall support.

Customers cite functionality, ability to support large amounts of data, and data access and integration as their top three reasons for selecting Alteryx. Alteryx Analytics 10 (released in September 2015) included significant product improvements in these areas including: new or improved connectors to SAP Hana, MongoDB, Salesforce and Marketo, in-database processing for Amazon Redshift, Cloudera Impala, Teradata and Spark, and an improved interface with interactive visualizations available within the workflow to view and interact with interim results.

Alteryx's clearest product strength for BI and analytics platform buyers is self-service data preparation, which includes the capabilities needed to access, profile, enrich and join various data sources to prepare for analysis. While other modern BI platform vendors deliver some lightweight data preparation capabilities natively, few are able to meet the full range of needs that buyers expect, and a growing number have established partnerships with Alteryx to close this functionality gap by offering native support for their respective output formats. These partnerships have virtually established Alteryx as a front-end-agnostic data preparation product that offers organizations flexibility when deploying separate data discovery tools to support the diverse needs of their end users.

## CAUTIONS

While market awareness and mind share has increased substantially for Alteryx in recent years, much of its success is attributed to the success of data discovery vendors where partnerships have been established; for example, with Qlik for QlikView and Qlik Sense, Microsoft for Power BI, and Tableau – which has generated the most significant traction for Alteryx. There is a risk that the front-end-agnostic nature of Alteryx will be compromised if there is consolidation between the stand-alone self-service data preparation vendors and the data discovery vendors, (which Gartner has predicted to occur by 2018).

Software cost was cited as a barrier to wider deployment of Alteryx by 38% of survey references, which indicates some concern over the annual subscription list price of \$3,995 per user for Alteryx Designer as organizations consider expanding their use to additional users. Organizations that deploy Alteryx in conjunction with a separate tool for interactive visualization that can consume Alteryx's output, may be particularly sensitive to the rising overall ownership cost of the combined product.

Deployments of Alteryx are typically limited to a fairly narrow subset of users in organizations (based on the user reference survey), with 67% of respondents citing a deployment size of less than 50 users and 75% of reference organizations using Alteryx in decentralized analytics use cases. Software cost is likely to be the main factor limiting broader deployments (as noted above), but Gartner inquiries show that an increasing number of organizations are leveraging Alteryx and other self-service data preparation solutions to manage data discovery deployments – which translates into narrower deployment sizes relative to the total number of data discovery consumers.

Alteryx is lacking in some capabilities compared with the other vendors featured in the Magic Quadrant, primarily due to its focus on data blending to complement data discovery products in the market. Alteryx is relatively weak in many of the critical capabilities related to the creation and sharing of front-end analytic content through the Alteryx Analytics Gallery. This is an area of increased investment from a product roadmap perspective, which should improve its rating in these areas and potentially lessen its dependency on data discovery partnerships to deliver front-end analytic capabilities.

## BeyondCore

BeyondCore offers an innovative combination of automated smart pattern discovery and identification of insights, the latter being delivered to business users through natural-language narratives that are automatically and dynamically generated by the software based on the analysis performed. The BeyondCore Fundamentals product delivers descriptive and some diagnostic capabilities, while BeyondCore Power provides end users with a full range of analytic capabilities – from descriptive to predictive. BeyondCore Analyst for Office was released in April 2015, to expand the reach of BeyondCore to Microsoft users who can now leverage its capabilities natively from within Microsoft Office products.

In its first year in the BI and analytics Magic Quadrant, BeyondCore is positioned in the lower half of the Visionaries quadrant. Its relatively low positioning along the Ability to Execute axis is based primarily on the fact that it does not yet have significant traction in the market, because product development and innovation has trumped sales and marketing in terms of investment allocation and focus to date. Additionally, BeyondCore is a new venture-capital-funded startup early in its funding cycle relative to most other privately funded vendors in the Magic Quadrant (receiving only \$9 million in Series A funding to date). BeyondCore's position on the

Completeness of Vision axis is driven largely by its potentially disruptive product offerings and roadmap, but was limited by the absence of a clear marketing strategy to generate broader awareness as well as the lack of a strategy for the development of a partner network and expansion into additional geographies and vertical industries.

## STRENGTHS

BeyondCore was ranked in the top quartile of all Magic Quadrant vendors for market understanding and also for both underlying components — complexity of analysis and ease of use. Its strength in these areas is driven by the combination of automated advanced analytics and smart pattern detection with an auto-generated narrative explaining the key insights in each graph and the relationships between graphs. It ensures users are warned about potential hidden factors that might better explain a visually exciting pattern and protects users from taking statistically unsound decisions. This functionality addresses a key skills shortage highlighted by Gartner that most business users do not have the training necessary to accurately conduct or interpret analysis.'

The top three reasons why organizations select BeyondCore are ease of use for end users, functionality and implementation cost and effort. The appeal of BeyondCore's solution is that it offers an automated experience for the business user that does not require manual exploration of data and interpretation of assumed findings. The cloud-enabled agility of the product allows organizations to quickly deploy an environment, load data into BeyondCore and iterate through analyses that would have taken considerably longer if done manually — potentially missing key insights in the data.

As expected with a smaller vendor, BeyondCore was rated highly by survey references for both sales experience and support. With the release of BeyondCore Analyst for Office in April 2015, BeyondCore simplified the buying process by offering a monthly subscription option (which appeals to organizations seeking an entry point that is conducive to rapid pilots and prototypes). To further accelerate the land-and-expand sales model, BeyondCore recently announced a partnership with Microsoft that bundles a new solution, BeyondCore Analyst for Office, into Microsoft Office free and provides users with access to 10 analyses per month on smaller datasets, with upgrade options as users' needs dictate.

BeyondCore's primary product strength is the seamless integration of embedded advanced analytic capabilities that are used behind the scenes to find and deliver key insights to end users through narratives. The algorithms and underlying R code that BeyondCore uses to render results is completely transparent to data scientists to validate findings and export and extend the model; this is critical to BeyondCore avoiding being labeled as a "black box" solution, a label that has negative connotations in the market.

## CAUTIONS

BeyondCore is generally deployed as a departmental solution (as indicated by the survey results), with half of the reference organizations citing an average deployment size of less than 50. Respondents have also indicated that BeyondCore is rarely considered the enterprise standard BI product, which is further validated by 75% of references indicating that BeyondCore is used for the decentralized analytics use case.

Cost of software was cited as a barrier to wider deployment in 38% of organizations responding to the survey. This is probably because BeyondCore is often deployed as an ancillary product (where other BI platforms already exist), which creates the perception of duplication as BeyondCore's differentiation is not widely understood in the market. While BeyondCore Analyst for Office is competitively priced, the cost of BeyondCore's enterprise offering (with the full range of functionality) is considerably higher than the average cost of other BI and analytics products. (It should be noted that survey reference responses would not have reflected an October 2015 price reduction by more than 50% for smaller datasets in both BeyondCore Fundamentals and BeyondCore Power.)

While its overall ease-of-use ranking was in the top quartile of all Magic Quadrant vendors, BeyondCore was ranked in the bottom quartile for ease of use for end-user content consumption (by survey references) — a surprising result given BeyondCore's focus of simplifying advanced analysis and making insights available to a broad range of users. With ease of use for business users as a top priority for selecting BeyondCore, these results may indicate that the perception of ease of use is driven by an end user's ability to manually interact with curated analytic content to discover their own insights. It further suggests that customers may not be at a level of organizational maturity needed to embrace a fundamental shift from interactive manual content creation to automated analysis and narrative generation.

BeyondCore's overall product assessment revealed some gaps when evaluated against the 14 critical capabilities that underpin the product definition for this Magic Quadrant. This is largely explained by BeyondCore's potentially disruptive product offering and unique approach to the market — which prioritizes investment in emerging capabilities such as smart pattern detection and natural-language generation of insights over those that support manual analytic workflow requirements. However, there are relevant capability gaps in the product, particularly in the area of data management (as indicated by survey references), and BeyondCore must build on its efforts in 2015 to address these and fully execute on its overall product vision.

## Birst

Birst offers an end-to-end BI platform built upon a modern, multitenant cloud architecture that provides a full range of data management and analytic capabilities through a software as a service (SaaS)-based delivery model. Birst Enterprise Cloud can be deployed in a public or private cloud or in a customer's data center; and for organizations that are not willing or able to adopt a cloud-based BI solution, the same underlying product — branded as Birst Enterprise Virtual Appliance — is offered for on-premises deployments.

Birst is positioned in the top right corner of the Niche Players quadrant this year. It has the ability to displace incumbent BI deployments and is positioned as the "next-generation enterprise standard for BI and analytics," which made it a clear challenger to many of the incumbent vendors that have maintained leadership status in the Magic Quadrant until this year. However, despite the product investments it has made to appeal to business users — such as the User Data Tier, Automated Data Refinement (ADR) and Networked BI, which promote trusted self-service — Birst has not gained enough traction in this area to be considered a challenger to this year's market leaders, but is positioned very favorably in the Niche Players quadrant.

## STRENGTHS

When asked about platform problems and limitations to wider deployment, survey references reported no significant concerns in either area. Most notable is that cost of software was cited as a barrier to wider deployment in only 4% of reference organizations,

which is positive for Birst in an increasingly price-sensitive market. The appeal of Birst from a cost perspective was further highlighted by its receiving the fourth highest rating for sales experience of all Magic Quadrant vendors. Total cost of ownership (TCO) and implementation cost and effort were also the top reasons for selecting Birst (as cited by a total of almost 20% of references).

Birst references cited an average deployment size of 657 users, which ranks it in the top 10 of all Magic Quadrant vendors. Approximately 30% of Birst's survey reference customers reported deployment sizes above 500 users, with 20% supporting more than 1,000 end users. The balance of deployments is fairly even across the 1 to 50, 50 to 99 and 100 to 249 deployment-size categories. The perception of Birst as a departmental solution appears to be changing when we look at deployment size demographics together with the fact that 70% of references reported that Birst is their organization's enterprise-standard BI platform.

Birst is deployed across a diverse range of use cases, with centralized BI provisioning and embedded BI being the most prevalent (based on survey reference responses). High utilization in these use cases is expected, given Birst's platform strengths in data management, governance and embeddability. However, increased use in decentralized analytics and governed data discovery use cases is an early indication of the traction gained through product investments made in 2015 to bolster the self-service capabilities of the Birst platform.

The strength of Birst's platform is focused on its infrastructure and data management categories, with strong scores across each of the critical capabilities assessed in these areas. Investment (during 2015) in the unique concept of Networked BI has contributed significantly to the strong product scores, which position Birst for increased traction in governed data discovery use cases and also provide product differentiation in a rapidly evolving and very crowded market.

## **CAUTIONS**

Birst was ranked in the bottom quartile for complexity of analysis, which indicates that the platform continues to be widely used to deliver a narrow range of less complex reporting and dashboard content, even though it offers more advanced capabilities such as data preparation and interactive data discovery. This indication is supported by the fact that 60% of Birst's survey reference customers report using the platform for parameterized reports and dashboards (highest of all the Magic Quadrant vendors).

One component of Birst's overall marketing strategy – its provocative marketing campaigns to entice customers of incumbent BI platform vendors to switch to its platform – creates a risk that it will be grouped with other traditional BI providers. As Birst balances its marketing efforts to showcase innovation and product vision in Networked BI, it will have to weigh this risk.

Birst's efforts to win new business and grow through replacement of incumbent BI platforms – initially focused on the Oracle Business Intelligence Enterprise Edition (OBIEE) installed base, with IBM Cognos and SAP BusinessObjects likely to be targeted next – increases its exposure to a possible market shift toward a more open semantic layer by the large installed base vendors, which could stall this component of Birst's marketing strategy.

Embedded advanced analytics, interactive exploration and collaboration continue to be areas of relative product weaknesses for Birst. Improvements have been made in these areas, but gaps remain relative to the other vendors featured in the Magic Quadrant.

## **Board International**

Board delivers a single, integrated system, which provides BI, analytics and corporate performance management (CPM) capabilities in a hybrid in-memory self-contained platform. The focus is to deliver a central, unified and consistent information platform as a basis for BI and performance management applications. Board is headquartered in Switzerland. Its main market is Europe, with subsidiaries in Europe, North America and Asia/Pacific; it supports clients in South America through partners. Board significantly increased its salesforce in 2015, with an emphasis on growing in North America. Data Fast Track was introduced for self-service data preparation and Board released Board Cloud in the second half of 2015.

Board is positioned as a Niche Player in this year's Magic Quadrant. It serves the submarket for centralized, single-instance BI and CPM platforms successfully. Board is well-positioned in this submarket and continues to show double-digit growth. However, its position on the Ability to Execute axis was affected by weakness in some areas of the survey, driven largely by product capability gaps and below-average customer experience scores. Board's product roadmap is also currently missing some key visionary components (for example, smart data discovery, content analytics and natural-language generation [NLG]), which affected its Completeness of Vision positioning.

## **STRENGTHS**

The main reasons why customers chose Board were ease of use for the end users and content developers, as well as functionality. Customers scored Board as above average for product success within the organization and above average for business benefits achieved. In particular, high ratings were given for making analysis and insights available to more users. No significant reason was called out by survey respondents as limiting wider deployment, though only about half of its customers use Board as the enterprise standard.

Board has continued to invest in its proprietary hybrid in-memory technology to improve system performance, and has enhanced its own Board Enterprise Analytics Modelling (BEAM) library for statistical functions and advanced analytic algorithms. Data Fast Track was introduced in 2015 as a self-service data preparation component to enable business analysts to build their own data model outside the platform and seamlessly promote them back to the platform for reuse. Board Cloud was introduced as a public cloud solution in the second half of 2015, to complete its product offerings, providing similar capabilities to those of the on-premises platform.

Board is mostly deployed in the centralized BI provisioning use case, followed by the decentralized analytics use case. This outlines its strength as a single-instance platform with self-contained data storage, mostly used by midsize organizations or as departmental deployments in large enterprises. The majority of organizations in the survey use Board in the range of 100 to 499 users, with lower than average data volumes.

## **CAUTIONS**

As Board continues to grow, in particular outside its European home market, more emphasis needs to be placed on user enablement (based on survey feedback from its customers). Survey responses rank Board in the bottom quartile for user enablement. In particular,

it was ranked in the bottom quartile for documentation, online tutorials for users and content authors, as well as the lack of a user community.

Overall customer support and product quality continues to be an area in need of improvement for Board. Response time and time to resolution were both scored as below average by customer references, and product and software quality achieved only average scores.

Board's focus on the cube – multidimensional online analytical processing (MOLAP) or relational online analytical processing (ROLAP) – model in its platform can become a limiting factor, especially for clients that need to access and analyze nontabular, semistructured or unstructured data sources, and for those that wish to perform more complex analysis on diverse data. Board's below-average score for complexity of analysis indicates that the platform is used for simpler analytics.

Board's Data Fast Track – as a component enabling business analysts to perform their own data mashup and analytic workflow outside the platform – was introduced only recently. Prospective clients with a largely decentralized deployment scenario should evaluate Data Fast Track in combination with the Board client for its fitness for this purpose. Board's platform shows a relative weakness in the critical capability for social and collaboration. Discussion threads, real-time collaboration, timelines or ratings and recommendations are currently not supported natively by the platform.

## ClearStory Data

ClearStory is a cloud-based and Spark-based vertically integrated platform allowing end-to-end data fidelity from data access, data inference, data harmonization, data analysis, data visualization, data sharing, and insight collaboration. ClearStory is well-suited for business users that need to rapidly combine, harmonize and explore many large and varied data sources, including personal, cloud, streaming (for example, sensor) and enterprise as well as complex industry syndication data (such as IMS, Nielson, IRI) to quickly uncover unique insights and collaborate on findings with others. Because of its extensive governance and security features, combined with ease of use, ClearStory is used equally by its customers for both centrally managed and decentralized use cases.

ClearStory is positioned in the Visionaries quadrant for its debut in this Magic Quadrant, because it is innovating and delivering platform capabilities plus interactive business-oriented and collaborative storyboards that address business users' urgent, growing and insatiable thirst for insights from increasingly complex combinations of different types of data. On Completeness of Vision, ClearStory has an innovative and highly differentiated combination of smart self-service data preparation supporting easy and high-performance analysis of large and complex datasets. It is currently focused on North America, but has put in place a number of a key technology partnerships to facilitate expansion. ClearStory's position in Ability to Execute is consistent with a small, venture-capital-funded startup that is relatively new to the market, with limited awareness and market penetration to date. However, its experienced management team has combined ClearStory's unique capabilities with strong marketing and sales execution. This has accelerated its market momentum and resulted in a high level of customer satisfaction with all areas of the business, including customer experience, operations, product and sales.

## STRENGTHS

ClearStory's smart, self-service data preparation leverages machine learning under the covers to automatically infer semantics and attributes in data (based on the data, not just column names) and profile and enrich it quickly by leveraging a Spark-based columnar engine as a key component of the platform. This enables business users to quickly combine and prepare data for analysis across streaming and batch data sources. Its "Data You May Like" feature gives a business person access to premium and public datasets that can be used to enrich their data. Robust data lineage and metadata support governance and trust in data. Users not only see what and how data sources are combined and any transformation on the data, they can also see what specific users do to the data. Users can quickly create interactive visualizations and assemble them into stories (interactive dashboards) and interactive storyboards (a combination of stories) where business users and analysts can share and discuss insights with others on the Web or mobile devices – including being able to include a snapshot in time of the data under discussion.

The primary reasons that customers select ClearStory are ease of use for business users and data access and integration. ClearStory offers a number of out-of-the box connectors, including difficult-to-access, industry-specific data sources on which it builds storyboard templates that include vertical syndicated data. Because of ClearStory's inference capabilities, hierarchies are automatically generated and users can blend sources with different aggregation levels (for example, one with state and one with zip code). The typical ClearStory customer wants to combine multiple data sources of various width and volume, resulting in an exponential increase in the size of the resulting harmonized dataset; many ClearStory customers analyze harmonized datasets that exceed what would be possible or feasible with most other modern BI platforms.

ClearStory scored in the top quartile for all customer experience and operations measures and also on achievement of business benefits. Customers rate the platform high on market understanding, because it is easy to use for complex types of analysis on complex data. ClearStory also achieved among the highest business benefits of any vendor in the survey. Consistent with these results, ClearStory's customers also have among the most positive view of its future viability and give it the highest success scores of any vendor. It should be noted that it is not uncommon for very happy customers to score a vendor well on everything – due to what we refer to as a "halo effect." Qlik, Tableau and Birst have all gone through halo-effect cycles.

## CAUTIONS

While ClearStory is well-suited for light interactive exploration enabled by automatically inferred hierarchies for drilling down to detail, advanced data manipulation (such as creating custom groups as a new dimension) requires a custom calculation. Additional guidance for users – such as reference lines and interactivity that allows using one visualization as a filter for another – are also not yet supported. While a point-and-click correlation visualization is available (only SAS Visual Analytics has something similar), other embedded advanced analytics such as an integrated R-based modeling workbench are on the product roadmap for 2016.

Overall, customers rate ClearStory highly on user enablement, but within that measure customer conferences and user community scores are below average – which is not uncommon for an early-stage startup. ClearStory held its first user conference this year. ClearStory is a small, venture-capital-funded startup with a current focus on the North American market (although it does have some

customers outside North America) and a limited, but strategic partner network that includes Google, Intel, Microsoft, Amazon, Cloudera and Horton Works.

While many ClearStory customers have purchased large numbers of seats to expand deployments (500 to 4,000, with one expanding to more than 60,000), current ClearStory survey customers have reported among the smallest deployment sizes in this Magic Quadrant – less than 250 users on average, and almost half with less than 50. ClearStory's solution is currently used as a complement to more widely deployed platforms in order to solve specific unaddressed business problems.

ClearStory's mobile capabilities are limited to HTML5, with limited interactivity and no support for offline analysis. Moreover, dynamic conditional alerting is not yet supported.

## Datawatch

Datawatch is a publicly traded company that brings together assets from Monarch, best-known for analyzing semistructured content in legacy reports, and real-time visualization vendor Panopticon. Datawatch has three main products assessed in this Magic Quadrant: Datawatch Designer, Datawatch Server and Datawatch Monarch. Datawatch Designer is a desktop product for visual data discovery. Datawatch Server provides automation and server-based sharing of applications. Datawatch Monarch provides self-service data preparation of multistructured data. Datawatch Monarch 13 was released in June 2015 and adds integration with the Datawatch Designer visualization interface, a streamlined workflow, and an improved user interface to what had previously been the Monarch product. Collectively, these three products comprise the Datawatch Managed Analytics Platform. This platform is most often selected for its use in real-time streaming applications and the ability to access and analyze semistructured data, including scraping from historical PDF and text reports. Dell OEMs Datawatch Designer as part of its Statistica advanced analytics product.

Datawatch is positioned at the bottom of the Niche Players quadrant due primarily to its low scores in many of the underlying components used to determine positioning along the Ability to Execute axis. Specifically, Datawatch was affected by the rating of its sales experience and its declining revenue, with the lowest overall future viability rating from its customers and a ranking in the bottom quartile for support. Its position on the Completeness of Vision axis, while more favorable than almost all in the Niche Players quadrant, was low overall due to its limited product roadmap, limited visibility and perception within the market, and its limited geographic coverage.

## STRENGTHS

Monarch has been on the market for decades. However, it is the combination of self-service data preparation with visualization that makes the new Datawatch Monarch a more compelling product – because business users increasingly need to access and analyze a broader range of data sources with minimal IT support. With Monarch, users can scrape data from legacy reports in PDF or text format and merge and combine them with other data sources in a repeatable process; the integrated profiling makes recommendations on data enrichment.

Datawatch scores in the top quartile for achievement of business benefits, with high scores for the ability to do more types of analyses, make better insights available to more users, and reduce external IT costs.

Datawatch supports streaming data sources such as Amazon Kinesis, TIBCO StreamBase and Thomson Reuters Enterprise Platform for Real-Time (TREP-RT). With the rise of the Internet of Things (IoT), this requirement will become increasingly important and is an area in which Datawatch has both a clear differentiation and an early mover advantage. While some other BI and analytics vendors support streaming data sources, Datawatch is differentiated by its ability to render real-time visualizations of streaming data, which is a key requirement in IoT use cases where immediate action is crucial.

## CAUTIONS

Datawatch scores in the bottom quartile for support, with 23% of surveyed customers rating it as low on time to resolution and 19% rating it as low for response time. Datawatch was also ranked in the bottom quartile in terms of product success, which can be exacerbated by substantial product changes combined with poor support.

Datawatch scores in the bottom quartile for ease of use overall and specifically for content development and end-user consumption. While the product technically supports a number of features such as aggregations, these cannot be set by default per metric. Additionally, basic capabilities such as scheduling require a degree of manual scripting by users with technical expertise, which limits accessibility and utilization.

As a publicly traded pure-play BI and analytics vendor, Datawatch's financial performance can be more readily tracked than that of the megavendors and privately held companies. Datawatch's license revenue was down 21% for the first three quarters of 2015 compared with 2014 (full year results were not yet released at the time of publication), and total revenue was down 11%. This decline can be partly attributed to the vendor's shift from a traditional perpetual licensing model to subscription-based licensing. While the total BI market was predicted to shrink 3.4% in 2015, those vendors focused on data discovery have shown double-digit growth. Also, surveyed customers have a relatively low view of the company's future viability and ranked Datawatch last of all the Magic Quadrant vendors, but with a slightly improved outlook in 2015 over 2014. Only a slight majority of customers (59%) have a positive view of the company's overall viability, while 37% have a neutral view and 4% a negative view.

Datawatch lacks robust capabilities for cloud deployment and is primarily supported for on-premises deployment. Users can bring their own license and deploy in the Amazon Cloud. Desktop authoring interfaces currently prohibit a full cloud deployment; however, Datawatch does have browser-based authoring and SaaS deployments as roadmap items. While cloud BI currently accounts for a small percentage of the total BI and analytics market, this deployment option is important for lines of business that want a rapid implementation approach and is particularly important for the IoT.

## Domo

Domo is a cloud-based interactive dashboard platform launched in April 2015 and aimed at senior executives and line-of-business users. Domo's founder (Josh James) acquired assets from Corda in 2010 that were integrated into the development of Domo. After four years of redesigning and rearchitecting, the product now enables rapid deployment through leveraging its native cloud architecture, an



extensive set of data connectors and prebuilt content, and an intuitive, modern user experience. Because Domo is primarily used for management-style dashboards and can be deployed with little or no support from IT, a higher percentage of its customers report using it primarily for decentralized use cases than for most other vendors in this Magic Quadrant.

Domo is positioned in the upper part of the Niche Players quadrant for its Magic Quadrant debut. Prior to Domo's official launch this year, the company had been very secretive during the beta phase of development. Yet despite this atypical go-to-market approach, its effective marketing and sales efforts — enabled in part by its \$450 million private equity funding total and a seasoned management team — have resulted a high level of awareness, a growing customer base, and positive execution on a number of measures related to customer experience. Domo offers a differentiated marketing message and good market understanding, but its narrow geographic presence and dashboard-centric product vision have made it more focused on closing gaps with current leaders than on innovation — placing it to the left of center on the Completeness of Vision axis.

## STRENGTHS

Domo is well-suited for rapid deployment of intuitive management-style dashboards. It offers an appealing and modern user experience, and strong social and collaboration features — in DomoBuzz — for discussing findings, following alerts, developing content, and the user rating of dashboards from the Web or mobile devices (including smartphones). Its native cloud deployment, plus an extensive range of prebuilt connectors to cloud-based data sources and applications, feeds Domo's QuickStart Apps, which are out-of-the-box content packs with KPIs and dashboards.

Domo is most often selected by its customers for its ease of use for business users (by a higher percentage than for any other Magic Quadrant vendor) and for its data access and integration (second only to ClearStory Data). Domo also scores well on market understanding, because of its positive ease-of-use ratings and its support for complex data. Many customers report selecting and using Domo because it can combine a large number of data sources into business-friendly dashboards.

Customers report achieving slightly above average business benefits using Domo, with among the highest score for expanding insights and analysis to more users. Domo's ease of use — combined with what customers report as a "high touch" approach — and its commitment to making them successful as the product matures, contribute to these results.

Investor confidence in the track record of founder and CEO Josh James and his experienced management team is high. Domo's deep (\$450 million) pockets have created a runway from which the team has delivered a competitive product, a positive sales experience and generated strong market momentum through effective awareness activities and investments in customer success. Gartner inquiries for Domo are up significantly this year, and there were almost 500 searches for "Domo" on gartner.com during the past year, which is only slightly less than for "Qlik" (though only about one quarter the number for "Tableau"). Moreover, customers are generally enthusiastic Domo believers; they are positive about its viability and future and report greater success with the product this year compared with last year.

## CAUTIONS

Domo's cloud-only approach, in which all data — whether from on-premises sources or cloud applications — must reside in its cloud for visualization and analysis may not suit organizations with primarily on-premises data sources. Domo offers a desktop tool for loading on-premises data into its cloud, but this tool is less business friendly than other components of the platform.

Management dashboards with basic interactivity are Domo's "sweet spot." Its data discovery features — including business-user-oriented self-service data preparation, analyst-oriented advanced data exploration and manipulation, and embedded advanced analytics — are works in progress, particularly when compared with the market leaders. This is consistent with, and the reason for, Domo's below-average score for complexity of analysis.

Domo's support is rated in the bottom quartile and customers cite this (more than with most other vendors) as one of the biggest limitations to its broader deployment. Support growing pains are not uncommon in a rapidly growing organization such as Domo; however, because support quality is directly related to the user experience, if subpar support becomes chronic it will inhibit growth and satisfaction in the future.

Currently, Domo's deployment sizes and standardization rates are significantly below the survey average, which is consistent with its line-of-business, decentralized deployment focus. User enablement will be crucial to the successful support of broader deployments as adoption expands. While Domo's conferences are rated positively — not surprising given its fever-pitched, energy-filled, celebrity-packed and "cool" first ever customer conference, Domopolooza, last April — its training, availability of skills and user community are rated as below average.

## GoodData

The GoodData analytics distribution platform is a comprehensive, multitenant, cloud-only platform focused on helping enterprises unlock the value of their data investments by identifying opportunities to generate revenue, improve customer retention or strengthen partnerships by sharing custom-made analytics with external audiences. GoodData meets the self-contained architecture aspects of the modern BI platform by including data integration, a full data warehouse, analytics engine and the front-end presentation layer. It also meets the ease of use and self-service requirements with the recent addition of some new add-ons to the platform, including Analytical Designer, personal data upload, and redesigned mobile-friendly KPI dashboards. Traditionally, GoodData has been used as a full-function data warehouse, only during this past year has it offered more self-service authoring capabilities. However, the primary focus of GoodData is on data monetization through analytics distribution, targeting the OEM, healthcare, hospitality, retail, restaurant, finance, media and telecommunication markets, where companies can use the GoodData cloud platform to host customer-facing analytic applications.

GoodData has a strong position in the Niche Players quadrant, because it scored particularly well on the sales execution and pricing, operations and customer experience evaluation criteria. However, while GoodData has a strong vision around digital differentiation, data as a service and the monetization of data, its relative newness with respect to the modern BI platform built for self-service and agility lacks the key attributes that would warrant its inclusion in the Visionaries quadrant. While GoodData was rated favorably across many execution-related measures, its reasonably small, but growing, size negatively affected its position on the Ability to Execute axis.

While a modern platform, GoodData is heavily focused on the specific use case of customer and externally facing analytics, which entrenches it further in the Niche Players quadrant.

## STRENGTHS

GoodData scored in the top quartile for operations, which includes product quality, support and ease of migration. The vendor's high score here derives from its multitenant cloud architecture – which enables both rapid creation and evolution of analytic deployments, and highly scalable solutions for high numbers of users. GoodData also scored in the top quartile for its support, which is backed up by anecdotal evidence that it normally does a good job with support issues.

Customers rated GoodData in the top third for customer experience and slightly above average for user enablement and overall ease of use. One reason for the above-average customer experience and ease-of-use scores comes from GoodData having a single code base and UI; also, ease of use is improved because the platform suggests analytic actions to novice users during analysis as well as supporting strong BI-on-BI functionality to measure user engagement, a practice that also helps keep analytic applications from becoming stale.

GoodData scored in the top third of vendors for business benefits, which primarily has to do with customer-facing analytic offerings and the monetization of data and analytics. Customers bring data products to market quickly and can immediately measure their success, both in engagement and revenue impact. This strategy has been bolstered by GoodData's focus on cloud information partnerships and its efforts to create an open, managed data pipeline of partnerships, which include: Absolutdata, Informatica, Lavastorm, CloverETL, Microsoft Azure, HP Vertica and Amazon Web Services (AWS).

GoodData traditionally had guided analytics, but has improved its self-service authoring capabilities with easier dashboard creation, additional data loading capabilities and more integrated analytic workflows. This is an improvement on last year, when GoodData earned below-average product scores for a decentralized BI use case. This year its scores for last year's categories of analytic dashboards, business user data mashups, collaboration and free-form interactive exploration have improved.

## CAUTIONS

GoodData's singular focus on a burgeoning market segment influences why it was ranked in the bottom quartile for market understanding, which was greatly affected by its ranking in the bottom quartile for complexity of analysis. Most users are consuming reports and dashboards and evaluating comparative performance benchmarks. Complex drilling and predictive analysis are rarely done using GoodData; and, while customers can create and sell tiered data products, GoodData offers limited functionality in some core areas of a modern BI platform, such as: big data (Hadoop) support, natural-language processing and embedded advanced analytics – which contributes to its low rating for complexity of analysis. Moreover, GoodData currently has product gaps in some areas of self-service data preparation, hence the partnerships noted above, and does not support disconnected exploration in offline mode – both of which would increase its overall usability.

GoodData must prove that its "private cloud only" strategy will become a significant differentiator in the long run as the rest of the market embraces public cloud options. While its workspace architecture offers advantages in time to value, benchmarking, usage measurement, integration, provisioning and life cycle management, it is facing increased competition from other cloud-based BI offerings. GoodData needs to rapidly build out data partnerships and position itself as a data-as-a-service offering to support monetized data solutions. This move will also require GoodData to continue investment in its self-service data preparation offerings.

One quarter of GoodData's references cited cost of software as a limitation to its wider deployment. In addition, 15% of respondents – when asked about problems with the software – cited GoodData as being difficult to implement. Finally, a combined 13% of references are either planning on or considering discontinuing their use of this software; this both highlights the flexibility of GoodData's subscription policies – whereby customers can sign for single or multiple years – and puts it in the highest quartile for this question. It is suspected that these customers are not targets of GoodData's enterprise data monetization strategy, and therefore do not represent a large portion of its ongoing revenue.

## IBM

IBM spans a broad range of BI and analytic capabilities (with its multiproduct portfolio), and accounts for a significant percentage of overall BI market share with its large installed base of Cognos BI customers. However, because of the shift in focus to business-user-centric platforms, the product evaluation for this Magic Quadrant is focused on Watson Analytics, which was introduced into the market in December 2014. Watson Analytics combines automated pattern detection, embedded advanced analytics and natural-language queries and generation in a single cloud product offering – a combination that represents a potentially significant disruptive force to the market in the future as IBM builds on its early traction and a competitive advantage around smart data discovery.

While Cognos BI is not included in this evaluation (it will be covered in our new Market Guide for enterprise reporting-based platforms), IBM's latest release of Cognos (rebranded as Cognos Analytics and generally available in December 2015) was considered from a vision perspective only, and that in the context of Watson Analytics. While the Cognos Analytics platform would have qualified for inclusion under the definition of a modern BI platform, it was not generally available in time for it to be fully evaluated for consideration in IBM's dot placement on the Magic Quadrant.

IBM's position on the Magic Quadrant was significantly affected by our modernization of the BI and analytics platform definition this year, given its long-standing dependency on Cognos. As a result of the platform definition update, IBM is positioned in the middle of the Visionaries quadrant this year. IBM's Ability to Execute rating was affected by product gaps that exist in the current version of Watson Analytics. IBM received one of the most favorable Completeness of Vision placements on the Magic Quadrant, but was affected in part by confusing messaging across the broader IBM portfolio – which related to the use of the Watson brand and the fundamental difference between the Watson cognitive computing-based system and the Watson Analytics product – affecting its market awareness rating.

## STRENGTHS

IBM's subscription-based pricing approach for Watson Analytics (which includes a freemium tier) is easy to understand for buyers, attractive from a TCO perspective and is conducive to a land-and-expand sales model. Survey references confirmed their satisfaction

with the sales process (when purchasing Watson Analytics) by rating IBM in the top quartile for sales execution.

Though limited in terms of deployment size and data volume relative to other Magic Quadrant vendors, survey references report that Watson Analytics is delivering a high level of business benefits within their organizations with a ranking in the top quartile of vendors. Additionally, when asked about the success of Watson Analytics in the reference organization, survey respondents ranked IBM in the top quartile; indicating that Watson Analytics is delivering quick wins and successful pilots and prototypes, which sets the stage for expansion and larger deployments. The total number of Watson Analytics online product registrations had exceeded 1 million by the end of 2015.

IBM was ranked in the top quartile of Magic Quadrant vendors for its user-enablement efforts surrounding Watson Analytics, which include training, documentation, online tutorials, customer conferences and user community. IBM was also ranked in the top third of vendors for overall support. This is a critical area for IBM to continue to invest in, particularly in bringing advanced analytics to mainstream business users who will require support and guidance in order to ensure that Watson Analytics is used appropriately to support organizational decision making.

Like all modern, cloud-based tools, Watson Analytics is a work in process, but it is clearly a differentiated product in a crowded and competitive market. It is one of a small number of products available in the market delivering automated smart data discovery capabilities by combining embedded advanced analytic functions with interactive visualization that can be further explored through a natural-language query interface.

## CAUTIONS

The cloud-only nature of the platform and the absence of connectivity to on-premises Cognos deployments (through its semantic layer) is a limitation that will hinder adoption within the IBM installed base – until Watson Analytics introduces a hybrid connectivity option and support for the Cognos Framework Manager models as a data source (something IBM expects to deliver in 1H16).

Survey references raised some concerns about Watson Analytics' scalability and ease of use when asked about platform problems and limitations to wider deployment. While this may relate to the particular version in use (freemium, personal or professional), an "inability to handle the required data volumes" was cited by 25% of Watson Analytics' survey references and is an area that IBM will need to address. Surprisingly, "ease of use for business users" was cited by 25% of Watson Analytics' users as a limitation to its wider deployment.

IBM has the lowest average deployment size of all the vendors in this Magic Quadrant – at 43 users for Watson Analytics compared with the average of 943 – and is deployed almost exclusively in decentralized analytics use cases. This is not unexpected, given the short time the product has been on the market and IBM's go-to-market focus on decentralized line-of-business users. In fact, only one reference organization reported a deployment size greater than 100, which clearly indicates that most deployments are in the pilot or prototype phase, with significant room for expansion if value can be demonstrated.

Although more than 20% of references cited functionality as the one of the top three reasons for selecting Watson Analytics, there are significant product gaps that IBM must address before it can be considered a contender for challenging the market leaders. When asked about product problems, 25% of references cited "absent or weak functionality" for Watson Analytics. With the exception of cloud BI and interactive exploration, most critical capabilities were rated poorly due to absent or weak functionality that negatively affected the overall product score. IBM is addressing this by rolling out new capabilities at a regular cadence; for example, since the Magic Quadrant survey, self-service data preparation and Watson Analytics for social media have been introduced into the product.

## Information Builders

Information Builders sells multiple components of its integrated WebFOCUS BI and analytics platform (including, App Studio, Business Intelligence Portal, Pro Server, Active Technologies, Magnify, Mobile Faves, Performance Management Framework and RStat). For this Magic Quadrant, Gartner has only evaluated InfoAssist Plus. In 2015, Information Builders responded to market changes and significantly promoted InfoAssist Plus as its key product for self-service, bolstering its capabilities by rolling in the recently released InfoDiscovery. While Information Builders is known for delivering analytic applications to large numbers of mainstream users in more operational or customer-facing roles (including deployments exceeding 1 million users), InfoAssist Plus is positioned for authors who want more than an information consumption experience.

Information Builders was significantly impacted by the establishment of a new modern BI and analytics platform definition, given its focus on large, IT-led deployments, and is positioned in the Niche Players quadrant. InfoAssist Plus has little visibility or momentum in the market outside of Information Builders' installed base, which significantly affects its rating for Ability to Execute. Information Builders scores toward the bottom third in most of the survey questions used to assess market execution. Although this vendor scores well on market understanding, its ratings in the other Completeness of Vision evaluation criteria are not sufficiently good to warrant inclusion in the Visionaries quadrant this year.

## STRENGTHS

InfoAssist Plus is a combination of visual data discovery, reporting, rapid dashboard creation, interactive publishing, mobile content and the Hyperstage in-memory engine. Users can create their own analytic content and promote it as InfoApps on the WebFOCUS Server with scalable distribution. However, InfoAssist Plus can also be completely decoupled from the WebFOCUS Server, enabling easier implementation. This combination of IT-centric and modern features demonstrates a strong vision for governed data discovery. Moreover, it connects the self-service world of InfoAssist Plus to an array of traditional Information Builders strengths: customer-facing analytics, mobile applications, embedded BI, operational BI and (eventually) Rstat predictive capabilities (as of January 2016).

Information Builders improved its data access and preparation capabilities this year. With InfoAssist Plus, there is now an automated metadata generation capability, so no upfront modeling is required. Business users are able to override any inferences. Numeric fields are automatically classified as measures. Some hierarchies, such as date and geography, are automatically generated. Wizards are available for users to create data mashups through the creation of metadata objects (relational database management systems, Excel spreadsheets, cloud databases and so on). Multiple metadata objects can be joined together as an InfoAssist Plus "cluster join" (a data mashup) where each metadata object can point to disparate sources. Any metadata objects created with InfoAssist Plus can

now be promoted and shared with other business users and IT throughout the enterprise through the WebFOCUS Server.

The user interface has also been improved this year. The look and feel of InfoAssist Plus is much more intuitive for creating visualizations, especially using multiple base map styles and an array of visualizations that include D3 charts and some JavaScript visualizations. In particular, better navigation and collaboration have improved the user experience with intelligent searching for linkable content. The automatic linking of content assists in the storytelling, and collaboration has also been improved. The Portal viewer allows for shared analysis and a chat/commenting conversational facility.

Sales execution and pricing continues to be a strength of Information Builders and one of its strongest scores on the Ability to Execute axis. For the most part, survey respondents gave Information Builders high scores in terms of flexibility of licensing options and overall experience during the sales cycle.

## CAUTIONS

Information Builders' primary use case is still information applications designed by IT for operational or customer-facing consumers. Although this is a strength and one reason why this vendor was a longtime Leader in previous versions of this Magic Quadrant (for the past seven years), the significant changes to the Magic Quadrant definition this year (to focus on self-service, user-generated content) push Information Builders into the Niche Players quadrant.

Overall, Information Builders' customer survey reference scores are not as strong as we would expect – given its high-touch model and close relationship with customers. Surprisingly (given its focus on customer-facing/business-model-centric information apps), Information Builders scored in the bottom quartile for business benefits. Also surprisingly (considering the enthusiasm at customer conferences), Information Builders scored in the bottom third of vendors for customer experience. It also scored in the bottom third for operations and slightly below average for overall ease of use.

Based on searches and inquiries, Information Builders has not generated an overwhelming amount of interest – especially for a company trying to position a new product (InfoAssist Plus) as a modern BI platform. Despite the technical depth of its sister product Magnify, InfoAssist Plus is primarily positioned as a visual data discovery solution. Information Builders should really look to innovate its products along the various available paths, including search-based and smart-based data discovery. Other vendors on this year's Magic Quadrant have better positioned themselves for adoption in these areas. This is the main reason why Information Builders was not considered a Visionary. It has a strong visual data discovery offering, but isn't pushing the boundaries of innovation in the way that some other vendors are.

The InfoAssist offering is primarily sold into Information Builders' existing installed base – as part of its traditional information application core business – it is not typically sold stand-alone. Information Builders had originally focused its InfoAssist offering on the OEM market only, and claims 26,000 customer sites and approximately 75,000 authors. Direct sales adoption has been limited to WebFOCUS Server customers. The new InfoAssist Plus execution strategy expands on this to include resellers and aggressive direct sales outside of its base.

## Logi Analytics

Logi Analytics' BI platform is composed of Logi Info, Vision and DataHub. Logi Analytics is known for its Logi Info product and its ability to embed analytic content in websites and applications, and to enable end-user organizations to extend their BI access externally to customers, partners and suppliers. However, for this Magic Quadrant Gartner evaluated the combination of Logi Vision, Logi Info and DataHub. Logi Vision is a relatively new data discovery tool (launched in January 2014) that enables business users to prepare, analyze and share data. Logi's big move this year came with the release of DataHub – a data preparation and columnar data store that ingests, blends and enriches data from multiple sources to improve the performance of self-service analytics. There is a tight integration between Info and Vision, both of which use DataHub to deliver self-service data preparation.

Logi Analytics is positioned in the Visionaries quadrant this year. Like other vendors, it was affected by the establishment of a new, modern BI and analytics platform definition – given its historical focus on embedded analytics for IT developers. Logi also received lower ratings in the Magic Quadrant customer reference survey this year compared with previous years (when its scores were exceptionally high). Both these factors have affected its rating for Ability to Execute. On the Completeness of Vision axis, although Logi's rating was affected by limited market awareness outside of its installed base, it scored high enough on the composite ease-of-use portion of the highly weighted market understanding criteria – coupled with its collaboration and crowdsourcing concepts – to be positioned in the Visionaries quadrant.

## STRENGTHS

Logi is deployed in an embedded use case by 61% of references, highest of all the vendors in this Magic Quadrant. It scored very well in the embedded use case from a product perspective and has a pricing model that is conducive to OEM deployments. Although not as strong as in past years, Logi scored reasonably well in other areas of the customer reference survey this year, which contributed to its slightly above average rating for business benefits, support, composite ease of use, and operations.

Logi has a solid vision for governed data discovery, including the rapid creation of data visualizations in Vision – which can be promoted to Info as part of an analytic application or portal for wider distribution. The DataHub also plays a big part in Logi's governed data discovery strength and is the common denominator that supports interoperability between Info and Vision.

Logi Vision 2.0 (released during 2015) comes with new project templates, expanded data connectors, enhanced geomapping, data loading and enrichments, new application connectors, social dashboards and smarter recommendations. User-generated content can now be shared with one click.

Logi DataHub 2.0 has expanded its list of available application data adapters to include: Salesforce, Eloqua, Marketo, HubSpot, Microsoft Dynamics, Twitter, NetSuite, SAP, MySQL, PostgreSQL and Oracle, as well as Excel and comma-separated values (CSV) files. Logi has plans to add smarter data preparation features such as autodiscovery of relationships, support for local hierarchies, more calculations and more data blending.

## CAUTIONS

As previously mentioned, Logi did less well in the customer reference survey this year. It was in the bottom quartile for market understanding, sales experience and customer experience. Market understanding is a composite score built from ease of use and complexity of analysis; Logi was rated slightly above average for the former, but was rated in the bottom quartile for the latter.

Logi scored in the bottom quartile of all 24 vendors in this Magic Quadrant for user enablement, and this is borne out by anecdotal evidence that Logi could stand to bolster its user community experience and establish stronger training programs. Logi's lack of a customer conference is also a problem, particularly given the lack of skilled resources available on the market. In 4Q15, Logi began holding user groups throughout its geographies and has a global user conference scheduled for 3Q16.

Logi has a relatively modest cloud offering, with Logi Info and Logi Vision being available to run within AWS and Microsoft Azure. Logi doesn't manage or host customer data; however, more than 20% of its customers operate their analytic applications in the cloud.

While it has some forecasting features for estimating continuous variables, Logi does not have comprehensive advanced analytics. This lack has caused Logi's customers to rate it very low on complexity of analysis, and as a result its score for market understanding is in the bottom quartile. Logi plans to expand its advanced analytics capabilities in 2016.

## Microsoft

Microsoft offers a broad range of BI and analytics capabilities, both on-premises and in the Microsoft Azure cloud. Microsoft Power BI is the focus for this Magic Quadrant and is on its second major release, offering cloud-based BI with a new desktop interface – Power BI Desktop. Microsoft SQL Server Reporting Services and Analysis Services are not included in the Magic Quadrant evaluation, but are covered in our new Market Guide for enterprise-reporting-based platforms. Power BI offers data preparation, data discovery and interactive dashboards via a single design tool. Microsoft continues to support the original Excel-based add-ins that made up the first Power BI release: Power Query, Power Pivot, Power View and Power Map. The Excel-based add-ins are positioned primarily for customers who need an on-premises deployment (and become native in Office 2016). Power BI 2.x offers both desktop-based authoring and browser-based authoring, with applications shared in the cloud. New in this release is hybrid connectivity to on-premises data sources; meaning that not all data must first be pushed and loaded into the Microsoft Azure cloud.

Microsoft has substantially lowered the price of Power BI – from its original \$39.95 per user per month to \$9.95 per user per month – making it one of the lowest-priced solutions on the market today, particularly from larger vendors. The lower price point, in addition to substantial product improvements, explains the strong uptake by 90,000 organizations (according to Microsoft).

Microsoft is positioned in the Leaders quadrant, with strong uptake of the latest release, major product improvements, an increase in sales and marketing awareness efforts, new leadership and a clearer, more visionary product roadmap. Microsoft's vision to provide natural-language query and generation via its Cortana personal digital assistant, together with its strong partner network and its strategy to provide prebuilt solutions, positions it furthest to the right on the Completeness of Vision axis.

### STRENGTHS

Microsoft's cloud-based delivery model and low per-user pricing offers a low TCO – one of the top three reasons why customers selected it, in addition to ease of use for business users and the availability of skilled resources. While Microsoft has long offered low per-user pricing, customers are advised to consider the TCO, which includes hardware costs, development and support costs. Previously, Microsoft had a high cost of ownership in its on-premises deployment model (despite low licensing costs), because of the complexity of implementing multiple servers. The new Power BI addresses this issue with both a streamlined workflow for content authors and because the hardware and server architecture is in the Microsoft Azure cloud.

Microsoft ranks in the top quartile for achievement of business benefits, with high scores in its use for monetizing data, improving customer service and increasing revenue, as well as delivering better insights to more users. As customers move to business-user-led deployments, an emphasis on the achievement of business benefits at a lower cost has driven much of the net new BI and analytics buying – in lieu of centrally provisioned, IT-authored reporting platforms.

Microsoft was ranked in the top quartile of Magic Quadrant vendors for user enablement (only Tableau ranked slightly higher), with high scores for online tutorials, community support, conferences and documentation. The high enablement scores also contributed to Microsoft's ranking in the top quartile for product success.

Microsoft has continued to expand the number and variety of data sources it supports natively and has also improved its partner network to build out connectors and content that includes prebuilt reports and dashboards. For example, Microsoft now has prebuilt connectors (and content) to Facebook, Salesforce, Dynamics CRM, Google Analytics, Zendesk and Marketo, to name a few.

### CAUTIONS

Microsoft Power BI 2.x was released in July 2015. The newness of the product and its cloud-only delivery model may contribute to Microsoft's ranking in the bottom third for deployment size, with an average of 192 users. Eleven percent of surveyed customers cited the inability to support a large number of users as a limitation to broader deployment. (Note that Power BI 1.0 customers, where deployment sizes may be higher based on both product maturity and on-premises deployment, were not included in the survey.) Microsoft has published a statement of direction – intending to harmonize its on-premises and cloud products – but the strategy is unclear. The current Excel-based add-ins with publishing to on-premises SharePoint is one option. Alternatively, customers may author in Power BI Desktop and then publish to an on-premises partner product such as Pyramid Analytics or Panorama Necto.

Microsoft scores low on product capabilities for advanced analytics within Power BI. Even simple forecasting must be done externally within Excel. The vendor's newly introduced Cortana Analytics Suite – which brings together key modules including: Power BI, Azure Machine Learning, Cortana Personal Digital Assistant, Business Scenarios, and others – may partly address this limitation. Also, with the acquisition of Revolution Analytics, Microsoft now includes a preinstall of a local R instance with Power BI Desktop.

Microsoft was rated in the bottom quartile for breadth of use, which looks at the percentage of users that use the product for a range of BI styles from viewing reports, creating personalized dashboards and doing simple ad hoc analysis, to performing complex queries, data preparation and using predictive models. Microsoft Power BI is mainly being used for parameterized reports and dashboards, but this limited breadth of use may improve as the deployments mature.

Microsoft was ranked in the bottom quartile for sales experience by survey references. This can be partly attributed to its frequent changes in pricing and packaging, as well the lack of a BI and analytics-focused sales force. For example, Office 365 is no longer a prerequisite; Power BI can be purchased as a separate SKU, or via Cortana Analytics Suite or Office 365 Enterprise E5.

## MicroStrategy

MicroStrategy Version 10 (released in 2015) combines self-service data preparation, visual data discovery and big data exploration with enterprise BI. It is better suited to large-scale system-of-record reporting and governed data discovery on large complex datasets in a single platform than most other offerings. Because of its strong enterprise features, customers still mostly deploy the platform centrally; it is also in the top five vendors in this Magic Quadrant for customers using the platform for governed data discovery.

Version 10 includes many significant updates. It substantially enhances the platform's data discovery features, creating near functional parity with gold standards such as Tableau. It also extends its governed data discovery capabilities, with better promotability of user-built data models and content, enhanced self-service data preparation and direct support for Hadoop Distributed File System (HDFS) as well as a range of personal data sources.

MicroStrategy is positioned in the Visionaries quadrant because it has a strong product, a compelling product vision and innovation around enterprise-grade governed data discovery for large and complex data. This latter attribute is crucial for a modern BI platform as organizations try to empower all users in the enterprise in a secure and trusted way. However, while there are signs of improvement, MicroStrategy's sales execution and its weak customer experience scores (except for product) during the past year — which have been compounded by a new recent round of executive turnover — have kept it out of the Leaders quadrant.

### STRENGTHS

MicroStrategy has among the highest product rating of any vendor in this Magic Quadrant. In particular, the capability to promote business-user-generated data models and content to enterprise sources, while leveraging of all MicroStrategy's enterprise platform features, is unique and supports large-scale trusted self-service. Its multisource, self-service data preparation, advanced data manipulation (such as on-the-fly grouping, drag-and-drop forecasting, hierarchies and R integration) and native Hadoop access and large in-memory columnar data store (PRIME) give business users Tableau-like data exploration, but on very large and complex datasets that natively span modeled and unmodeled relational, personal and Hadoop sources. MicroStrategy has also been an early innovator in mobile BI, with some of the most comprehensive, highly rated and widely adopted mobile capabilities.

For existing MicroStrategy customers, the new functionality combined with an attractive incremental license cost make it a compelling alternative to augmenting their BI portfolio with products such as Tableau and Qlik. Moreover, MicroStrategy 10's native access to Hadoop and other sources from a single tool reduces the need for specialized Hadoop-based discovery tools such as Datameer or Platfora.

Customers have historically cited cost as a significant limitation for broader MicroStrategy deployment. However, MicroStrategy's new, simplified and public pricing model has been well-received by its customers and this year the percentage of customers that cite this reason as a limitation to broader deployment is below the survey average.

Customers choose MicroStrategy for ease of use for consumers, functionality and for mobile. Although it was early to invest in the cloud and score well, it also has among the highest percentage of its survey customers reporting that they have no plans to consider deploying it in the cloud. This finding may be due to a high percentage of IT-oriented, large company survey respondents that have most of their data on-premises and are therefore (typically) less open to cloud BI.

### CAUTIONS

MicroStrategy is rated highly across most of the critical capabilities; however, collaboration and some elements of self-service data preparation (such as the lack of data lineage and the need to manually connect columns unless they share identical names in each underlying table to be joined) are a work in progress. While feature-comparable and significantly improved from version 9, customers still rate MicroStrategy's platform as more difficult to use than gold standard products such as Tableau and Qlik.

While MicroStrategy has a compelling product and vision, its sales execution and customer experience has not kept pace — particularly outside the MicroStrategy installed base. Awareness of the product and its differentiators are not yet connecting with the market enough to change perception and increase widespread consideration from new buyers. Moreover, sales experience continues to be rated as below average and sales growth and momentum have been tepid, although there are indications of improvement. Like the rest of MicroStrategy, the sales and marketing teams are rebuilding after the reorganization. A recent round of new executive departures will prolong the disruption. MicroStrategy must also transition from selling purely to IT to a more "land and expand" model. In most buying situations, top-down, large IT purchases driving standards is a thing of the past; standards are now earned after landing in the business and demonstrating adoption and results, rather than being dictated by IT.

In relation to awareness, adoption and upgrades to MicroStrategy 10 are still relatively new while alternatives such as Tableau and Qlik have gained a foothold and traction in the MicroStrategy installed base. Most MicroStrategy customers still primarily use the platform for large-scale enterprise reporting on a data warehouse and have not deployed its data discovery features widely. This is evident from its lower scores for complexity of analysis and ease of use. MicroStrategy must continue educating its customer base on how MicroStrategy 10 offers a compelling, cost-effective and integrated alternative that bridges both Mode 1 and Mode 2 analytics.

MicroStrategy scores in the bottom quartile of the vendors in this Magic Quadrant for both customer experience and operations (indeed, on all key measures that make up these composite scores). Low scores for support (with time to resolution being the most significant challenge), product quality and ease of migration are a concern (particularly since the likely disruption after a major reorganization can be apportioned less of the blame, because this happened more than a year ago). The key elements of user enablement are also a work in progress for MicroStrategy. While MicroStrategy has added a user community, and its conferences and training are positively rated, detailed scores for online tutorials and documentation (these get updated every few weeks) are bringing down the overall average. Some softening in these areas could also be due to the newness of MicroStrategy 10 — a major release that brought significant changes. We would expect these scores to improve as customers upgrade and any "kinks" in the new release are

worked out.

## Pentaho

Pentaho is a subsidiary of Hitachi Data Systems (HDS), its acquisition having closed in May 2015. Its focus and product roadmap priorities are big data projects and the IoT, while still having a strong presence in the OEM and embedded BI market. Mature data access and deep data transformation capabilities (provided by Pentaho Data Integration [PDI]) and advanced analytic capabilities (through the Data Science Pack) are the key pillars supporting this strategy. The company aims to empower a broad range of roles in the organization. This includes the business analyst exploring interactive visualization capabilities, the citizen data scientist blending data and using automodel capabilities, the data scientist developing R, Weka and Python scripts and embedding them in data flows, and the developer embedding analytic applications into enterprise software. HDS is at the early stages of leveraging the advantages of Pentaho, given the short time since acquisition, but this could provide good differentiation for both companies when it does fully execute on its vision.

For the first time, Pentaho is positioned in the Visionaries quadrant, mainly due to an innovative positioning on big data and the IoT analytics space. While most other vendors take the easy route of claiming big data support by accessing Hadoop through Hive (an Apache SQL compatibility layer), Pentaho offers native integration with technologies such as Hadoop, Spark, Cassandra or MongoDB, built-in access to R and the offering of an alternative machine learning solution – Weka. Although very far from an Excel level of ease of use, it targets the citizen data scientist with data blending and analytic capabilities that would otherwise require very skilled developers. A broad geographic presence, solidified by its (now) parent company HDS, and consistent marketing and sales strategy, confirm its position on the Completeness of Vision axis. Pentaho also continues to demonstrate solid sales execution and positive recognition from customers regarding its pricing; however, survey references cited weakness in product- and customer-related areas, which have negatively affected its position on the Ability to Execute axis.

### STRENGTHS

Companies looking for a solution that is able to blend and analyze traditional SQL-based repositories, ad hoc files, NoSQL databases and unstructured data (such as social media feeds, log data and machine data streams from IoT sources) should consider assessing Pentaho. The company's current focus and vision for the future, as well as its marketing and sales investments, are squarely targeted at big data and the emerging IoT market, favoring specialized and advanced implementations. Several large corporations are starting to recognize these differentiating capabilities and now serve as references for complex projects supported by Pentaho.

The platform's capabilities span from data integration with PDI to advanced analytics with Weka and R integration. Less differentiating capabilities also include reporting, interactive visualization and analytic dashboards. Customers recognize these abilities and have data access and integration as the top reason for adopting Pentaho. License cost (derived from the company's open-source BI platform background) and functionality are two other reasons for adopting Pentaho.

Data source connectivity, self-contained ETL and data storage, embedded advanced analytics and embedded analytic content are among Pentaho's top critical capabilities scores. The results are aligned with the company's priorities and its positioning – that is, OEM and embedding, big data, and IoT analytics.

The OEM and embedded use case remains very important for Pentaho (as reported by more than 60% of its reference customers). Many of Pentaho's embedded use cases started as open-source enterprise reporting customers that later evolved to a commercial solution. The company focus is shifting, but its open-source enterprise reporting heritage provides it with a wide network of system integrators and a global geographic presence – a challenge for some of the other Visionaries and most Niche Players in this Magic Quadrant.

### CAUTIONS

Pentaho continues to face important challenges in the area of customer experience and was ranked in the bottom quartile by its survey references. Survey references ranked Pentaho slightly below the vendor average for business benefits achieved, in the bottom third for overall user enablement and in the bottom quartile for availability of skilled resources in the market. These factors contributed to a bottom quartile ranking for success of the product in customer reference organizations. Because these are not new issues, they should become a high priority for Pentaho in retaining its early big data and IoT market momentum when new vendors join the space.

Pentaho was ranked in the bottom quartile for operations, affected by low scores in the three underlying components of the category: overall support, product quality and migration experience. This issue could result from an accelerated transition to new capabilities in the big data and IoT spaces, but while the new releases (made available since the issue was stressed in our last Magic Quadrant) continue to fix problems incrementally, the underlying issues have not yet been successfully addressed. Reference customers ranked Pentaho in the bottom quartile for migration experience, potentially slowing future upgrades that address its existing issues or the use of innovative capabilities.

Pentaho was ranked in the bottom quartile for market understanding, which is a composite measure based on complexity of analysis and ease of use. Despite Pentaho's focus on solving the hard problem of big data blending, its complexity of analysis score is only slightly above the Magic Quadrant vendor average – which indicates that customers are not fully leveraging the platform for its capabilities in this area. Ease of use is also a top concern for Pentaho's customers. The platform ranks in the bottom quartile in all ease-of-use categories – administration and implementation, content development and end-user consumption – resulting in a composite score that is also in the bottom quartile for this Magic Quadrant.

The accumulation of product- and customer-related issues may contribute to the fact that customer references rated Pentaho in the bottom quartile for future viability, although this opinion reflects a slight improvement over survey reference sentiment relative to their view of future viability this time last year. With the quarter-over-quarter growth seen since the Pentaho acquisition, we would expect HDS's investments to accelerate improvements in order to preserve its visionary status in this increasingly competitive market.

## Platfora

Platfora is one of six vendors added to this year's Magic Quadrant based on the new definition of a modern BI and analytics platform. Platfora's platform natively connects to an organization's data lake, either residing in on-premises Hadoop deployments or cloud-based data stores; ingests the raw data into an in-memory engine called a "lens"; performs various transformations to prepare the data for analysis; and provides an interactive visualization layer (vizboard) for business analysts. The most recent release, Platfora 5.0, improves data transformations, and has enabled vizboards to be embedded and for data to publish to Microsoft Excel. The focal point of Platfora's architecture is the support for and optimization of data analysis that leverages HDFS, cloud and Spark, enabling access to petabytes of raw data and analysis of terabytes of data. Based on the size of its datasets, Platfora is typically used for three use cases: customer analytics, the IoT and security analytics.

Platfora is positioned in the Niche Players quadrant for its Magic Quadrant debut. Platfora's low position on the Ability to Execute axis was influenced by relatively low scores on the customer reference survey, small deployments and a nascent track record of client adoption, though it has signed up some recognizable enterprises as early customers. From a Completeness of Vision perspective, Platfora has positioned itself well as one of the key platforms for analysis of Hadoop-sourced data and has plans for more smart and governed data discovery. However, it is missing some of the search and natural-language (query and generation) components in its product roadmap. Moreover, its vision for mainstream adoption beyond the power analysts in organizations is just starting to materialize. Right now, Platfora is poised to be a very good analytical tool used by a small number of sophisticated business analysts, but solid execution of planned product and go-to-market changes are required in order to promote more widespread usage and adoption among mainstream users in its customer base.

## STRENGTHS

Platfora is the gold standard on this year's Magic Quadrant for direct Hadoop and Spark support. Bolstered by its strategic partnerships with Cisco, Cloudera, Hortonworks, MapR, and Pivotal; Platfora is most often used for analysis of big data, ingesting raw data from data lakes across a wide variety of sources (including XML, JSON, and other nontraditional data types) into Platfora's proprietary in-memory layer for data preparation and analysis. Platfora's ability to perform against large datasets is a clear strength, as demonstrated by the 4.7PB average size of underlying Hadoop environments it is used against (more than twice the average of the next closest vendor). Ability to support large amounts of data was cited as the top reason for selecting Platfora (as reported by 19% of its survey customers).

Platfora was rated in the top third of vendors for complexity of analysis. This survey data is backed up by anecdotal information from Platfora's customers using the platform for complex analysis (particularly customer segmentation and behavioral analysis) and using it to track the activities of customers. In particular, Platfora supports Sankey visualizations, which are particularly good for pathing analysis. Other strong visualizations for pathing and customer behavior analysis include next-best-action and cross-channel fallout analytics.

During the past two years, Platfora has improved its go-to-market strategy by offering proofs of concept hosted on cloud platforms such as Amazon S3, Microsoft Azure Data Lake and Google Cloud Storage. This is a significant help in driving adoption among prospects that don't already have an on-premises, Hadoop-based data lake deployed. Thirty percent of Platfora customers use an underlying cloud-based data lake without installing or managing Hadoop on-premises.

Platfora scored above the Magic Quadrant vendor average on the sales execution/pricing evaluation criterion, based largely on its customer references. Platfora offers a simple package of \$90,000 per node per year, which includes support. Moreover, support was also rated reasonably well, with Platfora rated slightly above average by its customer references. Within the support category, Platfora was rated above the vendor average for time to resolution and in the top third of vendors for response time. Platfora's focus in this area is reinforced by the fact that no survey reference cited support quality as a limitation to its wider deployment.

## CAUTIONS

Platfora's front-end visualization exploration layer is no more complex or difficult to use than most other vendors' presentation layers. However, Platfora was ranked lowest of all Magic Quadrant vendors for composite ease of use (according to survey references). This is largely due to a data lake being a prerequisite in order to fully leverage the platform, which will be ameliorated as data lake deployments become more widespread both on-premises and in the cloud. Nevertheless, its ease-of-use scores have reduced its overall customer experience score (affecting Ability to Execute).

Platfora has a first-mover advantage for analysis of Hadoop-based data, but as data lakes become more prevalent we will see more BI and analytics platform vendors providing direct connections to them — thereby potentially diminishing Platfora's differentiation. Moreover, it is still uncertain whether the data lake architecture will become ubiquitous and therefore whether these platforms will need a cross-platform solution, regardless. Readers should note that Platfora can access data residing in other source databases and ingest them into the underlying data lake before analyzing in a Platfora lens, but the existence of a data lake is currently a requirement for Platfora. Its plans to transition to Spark (as the processing layer) will address this by pushing queries down to non-data-lake sources, as dictated by data volume and complexity.

Vendor viability was also a concern of Platfora's survey reference customers who rated it in the bottom quartile. Despite significant venture capital investment (including another \$30 million in December 2015 to bring its total venture capital investment to \$95 million), Platfora is still a relatively new vendor with a small direct sales force that is primarily focused on North America and Europe. Survey references also rated Platfora in the bottom quartile for overall operations.

Surprisingly, Platfora scored in the bottom quartile for overall business benefits (according to its survey reference customers), relative to other vendors. This was unexpected given numerous customer anecdotes about big data use cases — such as customer segmentation, the IoT and security — which have delivered significant tangible benefits. Platfora's low score in this category was affected by the cost- and head count reduction-related questions assessed within the business benefits category, which are not typically an objective of or a focus for a Platfora deployment.

## Pyramid Analytics

Pyramid Analytics is a niche BI vendor with a long history of integration and collaboration with Microsoft. BI Office, Pyramid's platform,



offers an enterprise analytics front end to Microsoft SQL Server Analysis Services (SSAS), while Microsoft Power BI can publish to the BI Office server to deliver content on-premises. Pyramid Analytics goes beyond this strategic partnership and is a BI platform offering a good range of capabilities, including the expected components of a modern BI platform such as easy to use data ingestion capabilities, interactive visualization, analytic dashboards, mobile BI, report publishing and distribution, collaboration and some advanced analytics capabilities. All this is delivered in a tightly integrated environment with a look and feel that resembles (to a certain extent) Microsoft Office. The core strengths of the product are ease of use and extensive governance capabilities that should please both business users and a centralized BI or IT team.

Pyramid continues to be positioned in the Niche Players quadrant (for the third year in a row), demonstrating its ability to adapt as the market requirements change. Pyramid has gained market awareness and traction through its relationship with Microsoft by extending the Microsoft BI stack to cater to the needs of customers requiring an on-premises enterprise platform approach to BI. However, with its continued focus on the Microsoft ecosystem, Pyramid's momentum outside of the niche market it serves is low relative to the other vendors in this Magic Quadrant. Furthermore, an average rating by survey references for customer experience and operations, coupled with a low market responsiveness rating, explains Pyramid's relatively low position on the Ability to Execute axis this year. Pyramid's dot position also reflects its narrow geographic coverage, the Microsoft platform approach and limited ambition on the product roadmap, all of which are detrimental to its Completeness of Vision rating.

## **STRENGTHS**

Pyramid Analytics scores well on capabilities that can support a governed self-service analytics environment — governance and metadata management, interactive visualization, data source connectivity and security and user administration. Strong data lineage and impact analysis functionality (both visual and easy to use), watermarking capabilities for sanction data sources, and the ability to promote and reuse user-built content to a centralized repository help it to achieve these scores. Confirming these strengths, 50% of Pyramid's reference customers (the second highest in this Magic Quadrant) have a governed data discovery use case (compared with an average of 27% for all the vendors). Centralized BI provisioning is also a top use case for Pyramid.

The top reasons to adopt Pyramid Analytics go beyond governance strengths. Customers select the product for its ease of use for end users, functionality and overall TCO, but it can easily extend past these drivers. Pyramid Analytics offers an overall solution that, without a specific area where it delivers very innovative and leading-edge capabilities, is solid and balanced across the range of capabilities assessed, including ad hoc analysis, data discovery, storyboarding/dashboards, publications, automated distribution and alerts. Also, overall support is above average. As a consequence of these and other factors, few customers report that they are considering, or planning, discontinuing the platform.

The company has a strategic partnership with Microsoft, and this can be sensed on Pyramid's platform (BI Office), which has similar look and feel to Microsoft Office (the icons ribbon is a good example). Thus, seasoned Excel users will quickly feel comfortable leveraging the product. Moreover, Pyramid has developed capabilities that allow Microsoft Power BI Desktop to publish directly to Pyramid's on-premises server, instead of publishing to the cloud. It will therefore not be uncommon (or awkward) to hear Microsoft sales representatives recommending Pyramid's on-premises server to complement Power BI deployments in the absence of Microsoft's own on-premises offering.

## **CAUTIONS**

Pyramid customers using BI Office rated its complexity of analysis in the bottom quartile. Integration with R is offered through an easy-to-use, point-and-click interface that can bypass scripting needs, but customer references indicate that this alone is not sufficient to meet their needs for complex analysis. Pyramid Analytics must deliver additional information manipulation and analysis capabilities (from data ingestion to visualization) to improve in this area and has plans to address many of these gaps in future releases throughout its product roadmap.

Pyramid's overall user enablement was ranked in the bottom quartile for this Magic Quadrant, while market understanding and business benefits were below average and success of the product in the organization only average. For a small vendor to sustain growth momentum in a mature market such as BI and analytics, it needs to go beyond this set of results. BI platforms must achieve, or even exceed, business expectations and offer some unique or (at the very least) differentiating capabilities to stand out in the BI crowd. Pyramid Analytics is growing at a fast rate, but may be challenged going forward as more vendors perfect their modern BI and analytics platforms and marketing/sales messages. This product must excel in some of the class attributes that customers will require to deliver business benefits.

The close partnership with Microsoft, which has been mutually beneficial so far, may become an issue for Pyramid Analytics in the future. Microsoft is evolving Power BI at a very fast pace (as demonstrated by its position in the Leaders quadrant), and to succeed Pyramid must continue to innovate and clearly differentiate its value proposition with respect to Microsoft Power BI. There must be clear reasons to buy from a smaller vendor when there are close partnerships with the larger vendor, a comparable product focus and, to a certain extent, even similarities in look and feel. The ability to work on-premises (whereas Microsoft Power BI is a cloud-based option) has been an adoption driver for Pyramid, but this could change if Microsoft decides to offer a similar deployment option.

Pyramid Analytics has been aggressively working on improving its global presence, but this remains a work in process. The company is expanding its presence in several markets, including the U.S., EMEA and Asia/Pacific, but lacks a consistent presence globally and an extended partner network even when compared with some of the other vendors in the Niche Players quadrant. Pyramid received a \$30 million funding round during December 2015 — earmarked primarily for global sales and marketing expansion, which should broaden its geographic presence by building on its accomplishments to date. Pyramid offers an interesting product that will surely grab a share of the market if the company can accelerate its geographic expansion.

## **Qlik**

Qlik offers governed data discovery and analytics via its two primary products: QlikView and Qlik Sense. Its in-memory engine and associative analytics allow users to see patterns in data in ways not readily achievable with straight SQL. Both QlikView and Qlik Sense are often deployed by lines of business as well as by centralized BI teams that are building applications for governed data discovery. Qlik Sense was officially released in September 2014, based on modern APIs and an improved interface, and became the vendor's lead

product for new customers in 2015. Qlik Sense Cloud and Qlik Data Market were also released in 2015. Qlik Analytics Platform (QAP) is a solution for developers to build and embed content using the same redesigned engine and Web services APIs upon which the vendor built Qlik Sense. QlikView and Qlik Sense customer experience scores were considered in this evaluation, but Qlik Sense was the primary focus for our product evaluation.

Qlik is positioned in the Leaders quadrant, driven by a robust product and high customer experience scores (based on an assessment of Qlik Sense). Its market execution has been tempered by confusion in the marketplace around QlikView and Qlik Sense. This should improve in 2016, with a stronger product, changes in executive leadership and clearer messaging, although its strong partner network may hinder execution of the new positioning of Qlik Sense as the vendor's lead product. The key components of Qlik's overall vision — a marketplace, governed data discovery with users able to readily promote content, and increasingly smart data preparation — position it as one of the most complete solutions.

## **STRENGTHS**

Qlik is highly rated for ease of use, complexity of analysis and business benefits (according to its reference customers). Compared with its chief competitors, Tableau and Microsoft, Qlik scores significantly higher on complexity of analysis — which we attribute to its stronger ability to support multiple data sources, a robust calculation engine and associative filtering and search.

With a modern BI architecture, power users may become the predominant content developers, instead of IT developers. In this regard, user enablement is more important as users need just-in-time training, online tutorials and community-based resources to support them. Qlik scored in the top quartile (of this Magic Quadrant's vendors) for user enablement. This score should improve further in 2016, because Qlik recently introduced its Qlik Continuous Classroom.

With a rapid implementation approach and an in-memory engine that can handle complex data sources and applications, Qlik scored in the top third for product success. In this regard, Qlik can be used as an extension to a data warehouse or as a data mart for customers that lack a data warehouse. This vendor has continued to introduce smarts into the product to simplify the data load and modeling process. Customers most often choose Qlik for its ease of use, functionality and performance.

Qlik's strong partner network (of more than 1,700) across multiple geographies is a key ingredient in ensuring customer success, which improved in 2015. Product success also improved significantly this year, which can most likely be attributed to a more mature product and improved partner enablement.

## **CAUTIONS**

Cost of software was cited as a barrier to adoption by 29% of Qlik's reference customers, putting it in the top quartile for this barrier. Qlik Sense uses token-based pricing, which closely aligns to a named user but with some concurrency supported. The degree to which Qlik is considered expensive depends on the point of comparison. Based on user reference responses from last year's Magic Quadrant, Qlik's licensing is competitively priced relative to Tableau and is less costly than that of the megavendors. However, in larger deployments (of more than 500 users), its pricing is 70% higher than chief competitor Tableau and almost double Microsoft's three-year license fee. Recent contract reviews by Gartner do show increased flexibility in negotiating terms for larger deployments.

Qlik scored slightly below average for customer support (which includes level of expertise, response time and time to resolve). There has, however, been a slight improvement over last year's support scores. Qlik also recently introduced Proactive Support, in which it transparently collects data from customer log files to proactively look for performance issues or events that may impact the server.

Twenty-three percent of Qlik's reference customers cited absent or weak functionality as a platform problem, indicating that Qlik Sense still has some functionality gaps to address — most notably in terms of mobile, advanced analytics, scheduling and collaboration. Qlik has been slow to enter the cloud market directly, relying on its partners for cloud deployments. While Qlik Sense Cloud was introduced in 2015, the current version only provides limited application sharing and authoring for free. A per fee version, Qlik Sense Cloud Plus, was recently introduced for up to 10GB of storage per user. Qlik Sense Enterprise Cloud, with greater administrative control over provisioning users and storage, will be released in stages (beginning in 2016).

## **Salesforce**

Salesforce entered the BI platform market in October 2014, with its launch of Salesforce Wave Analytics. The introduction follows Salesforce's acquisition of EdgeSpring and two years of development. Wave offers standard point-and-click interactive visualizations, dashboards and analysis that form the basis of packaged, closed-loop, front-office analytic applications initially focused on sales. The platform is natively mobile and offers collaboration through integration with Salesforce Chatter, which should appeal to a front-office line-of-business buyer. It is most frequently centrally provisioned by IT into sales or other front-office lines of business, or deployed by the front office in a decentralized way.

Salesforce is building on its strategy of initially selling Wave as a sales-force-optimized platform to large organizations in its installed base in North America. As of September 2015, it is now selling packaged analytic applications globally — initially sales analytics, with less emphasis on the platform, and a roadmap to develop and sell more front-office analytics applications. Salesforce has also significantly changed the pricing model for Wave.

For its debut in this Magic Quadrant, Salesforce is placed in the Niche Players quadrant. Its Wave platform, applications and go-to-market focus on serving the needs of the line-of-business buyer in its installed base first (before expanding to meet the needs of the broader BI platform market) places it in the Niche Players quadrant for Ability to Execute. The company has generated widespread awareness and consideration of Wave Analytics through successful showings at the past two Dreamforce events, combined with a disciplined and targeted sales rollout. However, Salesforce falls into the Niche Players quadrant for Completeness of Vision because it lags behind the Leaders and Visionaries in key measures of market understanding that reflect mainstream buying. Moreover, Salesforce Wave has differentiators that initially cater to its installed base, but its roadmap is more focused on closing functional gaps and enhancing its analytic applications content than on market disruption.

## **STRENGTHS**

Wave offers a visually appealing dashboard experience for Salesforce business consumers. Unlike the operational reporting available

within Salesforce CRM applications, the Wave architecture enables customers to easily integrate Salesforce with non-Salesforce cloud and on-premises data from multistructured sources – although customers must rely on data integration partners to load non-Salesforce data into the cloud, rather than accessing it in place. Wave is natively integrated with Salesforce security, collaboration and metadata, including simplified access to Salesforce application tables through an intuitive wizard. Users can invoke Salesforce actions from within Wave (such as data quality, new campaigns and targeted outreach) and can collaborate using Chatter.

Customers report selecting Salesforce primarily for its cloud deployment and mobile capabilities (by higher percentages than for any other vendor in this Magic Quadrant) and for ease of use for end-user consumption. Wave is most likely to appeal to customers who have most of their data in the cloud and want to augment it with on-premises data, including unstructured and semistructured data (such as log data) for customer-centric applications.

Salesforce Wave Analytics has a robust partner ecosystem that includes many ETL and predictive analytics vendors, independent software vendors and system integrators. Its developer marketplace, AppExchange, provides a platform for independent software vendors/developers to build and sell custom content (such as datasets, lenses and applications); it also provides a market for developer skills. As a result, although Wave's entry into the market is recent its customers rate its availability of skills as above average for this Magic Quadrant.

Salesforce's Wave customers report having a positive sales experience and a favorable view of Wave's future, which is consistent with this vendor's effective sales strategy. Its strong support capabilities and an easy migration experience (that is similar to most cloud offerings) give Wave a favorable overall score for operations.

## CAUTIONS

Salesforce Wave Analytics is best-suited to users that need management dashboards with light interactive analysis. However, consistent with its low complexity of analysis (including low scores for complexity of data), the platform currently lacks certain features of data discovery – such as advanced data exploration and manipulation for the business analyst, extensive geospatial capabilities, self-service data preparation and hybrid cloud, among others – although many of these features are on the Wave roadmap. More than half of Salesforce's Wave reference customers cite absent functionality as its top platform problem (higher than any other vendor in this Magic Quadrant). Its suitability as an enterprise BI platform supporting a broad range of use cases is a work in progress; the functionality of the product is enhanced with each of its six annual releases.

Salesforce has recently changed its pricing model, but customers cite cost of the software as the top barrier to its broader deployment (by a higher percentage than any other vendor in this Magic Quadrant).

Customers report selecting Salesforce for its ease of use for end users to consume content, and rate this as above average; however, its score for composite ease of use is in the bottom quartile due to its low scores for ease of administration and ease of content creation. A higher percentage of Wave customers (than for other vendors in this Magic Quadrant) also cite ease of use for developers as a limitation to its wider deployment. Customers on platforms with low scores for ease of use typically also report low achievement of business benefits; Salesforce's Wave Analytics is no exception.

Salesforce continues to enhance its operational reporting (which is packaged with its CRM applications) – most recently in the Lightning release, which leverages the Wave visualization library. However, Gartner inquiries suggest that Salesforce must make a clearer distinction between the two capabilities, because there is some confusion around what is included with Lightning operational reporting versus the value from additional licensing of Wave.

## SAP

SAP delivers a broad range of BI and analytics capabilities for both large IT-managed enterprise reporting deployments and business-user-driven, data discovery deployments. Companies often choose SAP as their enterprise BI standard, particularly if they also standardize on SAP for the enterprise data warehouse and ERP applications. SAP announced SAP Cloud for Analytics in 4Q15 – a new, purely cloud-based platform intended to deliver the full range of analytic capabilities, which includes planning, data discovery and predictive running on the SAP Hana Cloud Platform. Due to its late announcement and general availability, this can only be considered from a Completeness of Vision point of view in this Magic Quadrant.

Several of SAP's BI and analytic components were not considered, because they do not fulfill the requirements for a modern, business-user-centric BI platform. Several components, such as SAP BusinessObjects Design Studio, SAP BusinessObjects Dashboards, SAP BusinessObjects Crystal Reports, SAP BusinessObjects Web Intelligence, SAP BusinessObjects Analysis edition for Office, will be addressed in our Market Guide for enterprise reporting-based platforms. This Magic Quadrant is focused on SAP Lumira in combination with the SAP BusinessObjects Business Intelligence platform capabilities that provide governance and sharing, as well as Cloud for Analytics as it relates to SAP's overall vision.

SAP's position on the Magic Quadrant this year was affected by the modernization of the BI and analytics platform definition; placing it in the Visionaries quadrant. SAP Lumira in combination with the SAP BusinessObjects Business Intelligence platform offers important critical capabilities for a modern BI platform and some visionary aspects, such as the self-service data preparation and smart data discovery features (in SAP Lumira). In addition, the combination of BI, planning and advanced analytics offered by SAP Cloud for Analytics contributed to SAP's favorable position on the Completeness of Vision axis. SAP's relatively low scores in product quality, customer experience and operations affected its rating for Ability to Execute.

## STRENGTHS

According to the reference survey, the top reasons customers select SAP are functionality and the integration with enterprise applications. This is followed (in equal percentages) by the product and future roadmap and the fact that SAP is a corporate standard. This shows that SAP has gained some ground in protecting its installed base against the pure-play data discovery leaders, with SAP Lumira, but also shows the clients' expectation that SAP will continue to reach comparability with those leaders in terms of functionality and ease of use. Native Access to SAP Business Warehouse and SAP Hana makes it attractive for clients where SAP is their corporate standard.

SAP achieved a high score for overall market understanding (in the top quartile for this metric and an improvement over previous years). This shows that SAP is now better positioned to address its clients' needs; a finding that is further strengthened by only 4.5% of reference clients planning to discontinue using SAP.

SAP customer references reported the highest percentage of use for governed data discovery use cases, followed by decentralized analytics. This outlined the potential strength of SAP Lumira as a data discovery component in combination with the SAP BusinessObjects Business Intelligence platform. While interoperability is still evolving, the combination allows SAP clients to balance governance and agility between a central BI platform and decentralized deployments.

Ongoing enhancements that SAP has made with SAP Lumira have translated into solid results in the survey in several key areas this year. SAP received above-average scores for breadth of use and the composite ease-of-use score, and was ranked in the top quartile for complexity of analysis. Only the ease-of-use rating for administration and implementation was below average, due to the relatively complex SAP BusinessObjects Business Intelligence platform being used for most administration tasks across the underlying platform's components.

## **CAUTIONS**

Despite the improvements made by SAP to deliver a modern BI platform, the customer experience rating was in the bottom quartile. Clients were also less positive about the achieved business benefits, again with a rating in the bottom quartile. While user enablement was rated as slightly above average, survey references cited concerns about the availability of skilled resources to support clients by rating SAP lowest overall in this area. Support continues to be a serious concern for clients, receiving among the lowest scores in the survey for support-related ratings and the lowest overall support ranking of all the Magic Quadrant vendors.

SAP needs to further improve SAP Lumira with respect to product quality and functionality. Almost half of SAP's survey references outlined absent or weak functionality as the most important platform problem, and it was ranked in the bottom quartile (of all vendors in this Magic Quadrant) for product quality. In addition, client references reported that software quality was the most important limitation to its wider deployment in the organization. Clients should check regularly for updates, and be prepared for frequent updates, to leverage the improvements made by SAP.

With the focus on SAP Lumira herein, and the fact that integration with the SAP BusinessObjects Business Intelligence platform is relatively new (only about 2% of SAP BusinessObjects clients deployed it), it does not come as a surprise that more than 72% of survey respondents use SAP Lumira primarily in smaller deployments (in departments and functions). Consequently, more than 80% of SAP Lumira deployments have fewer than 100 users, though SAP customer engagements in the second half of 2015 suggest an emerging trend toward larger deployments moving into 2016.

Only 24% of survey respondents indicated that they actively use SAP in the cloud, with another 10% planning to do so. This is a relatively low number and places it in the bottom quartile for this type of use. This ranking is partly attributable to the slightly inconsistent cloud BI offering from SAP. Its new SAP Cloud for Analytics offering might change this in the future, because it intends to offer a complete, integrated platform in the cloud.

## **SAS**

SAS offers a range of BI and analytics capabilities with prebuilt solutions for industry verticals, specialty tools for data scientists, and interactive discovery and dashboards for mainstream business users. SAS Visual Analytics is the focus for this Magic Quadrant and is offered either in an on-premises deployment or through the cloud. SAS Visual Analytics is an in-memory product for governed data discovery, dashboards and advanced analytics that runs on the SAS in-memory Lasr Analytic Server. SAS Visual Statistics is an add-on to SAS Visual Analytics that provides a graphical user interface for citizen data scientists to refine predictive models while exploring data within Visual Analytics.

SAS Office Analytics includes SAS Enterprise Guide and Microsoft Office integration with Excel, PowerPoint, Outlook and others. SAS Office Analytics allows Visual Analytics content to be dynamically refreshed and to interact with via PowerPoint and other Office tools. SAS Enterprise Guide is a desktop product that allows power users to perform self-service data preparation and advanced analytics that can then be published to a SAS Visual Analytics server.

SAS is positioned high in the Visionaries quadrant this year. Its Completeness of Vision rating is primarily driven by its clear differentiation and product vision around combining embedded advanced analytics with data discovery on large datasets, coupled with a strong global presence and robust vertical industry expertise. Its Ability to Execute position was hampered by below-average reference customer ratings for sales experience and customer experience.

## **STRENGTHS**

SAS scores above average on complexity of analysis and achievement of business benefits. While its ease of use is good for content developers and consumers, its overall score for ease of use is brought down by lower scores for administrators and implementers.

SAS differentiates itself on its advanced analytics capabilities, which include forecasting, decision trees and goal seeking (in a modern analytics platform). The advanced analytics capabilities require no programming and are available via a visual, point-and-click interface.

Customers cite functionality, performance and ability to scale to large data volumes as the top three reasons for selecting SAS Visual Analytics. SAS was rated in the top quartile for relational data volumes – with an average database size of 163TB and a maximum of 5,000TB. In contrast to many of the modern BI and analytics tools, SAS Visual Analytics is server-based, rather than a desktop solution, which contributes to its ability to scale. In terms of functionality, in addition to the advanced analytics, SAS Visual Analytics rates highest for interactive visualization covering the basic visualizations, but also offers support for advanced visualizations such as correlation matrix, Sankey diagram and network charts.

SAS's analytic solutions span multiple industries and functional areas including fraud detection, cybersecurity, customer intelligence, retail and life sciences, and most leverage the capabilities of the SAS Visual Analytics platform.

## **CAUTIONS**

SAS was rated in the bottom quartile (of all the Magic Quadrant vendors) for sales experience, which includes presales, contract negotiation and postsales experience. While SAS Visual Analytics receives high marks from a product capability viewpoint, it accounts for a small portion of revenue within the larger SAS portfolio. Part of the sales experience issue lies in negotiating a contract. Cost of software was a concern expressed by 46% of reference customers in the 2015 Magic Quadrant survey; this year, 20% of surveyed customers cited it as a barrier to wider deployment; this shows a substantial improvement, but still puts SAS above the vendor average of the overall percentage of customers citing this challenge.

SAS is rated in the bottom quartile for operations, which includes product quality, technical support and migration experience (for which it was rated last of all the 24 Magic Quadrant vendors). Despite this low ranking, 45% of the reference customers are already on the latest release, 7.3, which was made generally available in August 2015. This shows a relatively rapid uptake for a new release.

SAS was rated low on ease of use for implementation and administration. It has tried to differentiate its software by allowing it to run on commodity hardware; however, as a server-based solution, this can make initial deployment more complex. This challenge is exacerbated by the limited availability of skilled resources (in which SAS was ranked in the bottom third).

The SAS in-memory Lasr server requires all data to be loaded in-memory for analysis and visualization. It does not offer an in-database option (in contrast to Tableau, Qlik, and TIBCO Spotfire, for example), making it less suitable for customers that have already invested in a high-performance analytic appliance. While SAS provides a number of options for performing advanced data preparation capabilities – whether via Enterprise Guide or the SAS Data Loader – the data preparation process is not as seamless as in competing tools.

## Sisense

Sisense offers a completely Web-enabled, performance-optimized single-stack platform that empowers business users to join and analyze large or multiple diverse datasets and share insights via interactive dashboards. Sisense is a well-funded vendor (bolstered by a Series D \$50 million funding round in early 2016) that has been growing at more than 100% year over year. Its headquarters are in New York and the R&D team is located in Israel. Sisense has a strong OEM partner network and recently added statistical functions and support for R in its version 6. With this release, Sisense also opened up the platform for third-party access for tools such as Tableau or Excel.

Sisense is a new addition to the Magic Quadrant and is positioned in the Niche Players quadrant. The key strength of Sisense is the platform's capability to easily handle and manage large and diverse datasets, and to analyze them in dashboards based on its proprietary In-Chip technology. Sisense is currently behind in some areas – such as collaboration and social, complexity of analysis or smart data discovery – which has affected its overall product score and, consequently, its position on the Ability to Execute axis. As a smaller vendor, Sisense lacks a robust global support infrastructure and vertical industry strategy, which has limited its market awareness and overall reach and is reflected in its position on the Completeness of Vision axis.

## STRENGTHS

The main reasons for clients to select Sisense were ease of use for the end user and implementation cost and effort, followed by ability to support large volumes of data. Sisense is one of the top two vendors with respect to accessing large data volumes from Hadoop/HDFS and NoSQL data sources, and clients indicated an average relational database size of 75TB.

According to survey references, OEM or embedded BI is the most prominent use case for Sisense, with 44% of references reporting using the platform in this capacity. With more than 125 partners, this use case represents a significant portion of Sisense's current business. Its second most prominent use case is centralized BI provisioning, as indicated by 42% of reference customers. Both use cases play to the strengths of Sisense's single-stack integrated platform, which is easy for end users to use.

Sisense has shown its ability to satisfy clients' needs in many important areas. Clients' rating for business benefits achieved was in the top quartile of all the Magic Quadrant vendors. Sisense even achieved the highest score in overall sales experience, which is impressive given that all 2015 sales were closed by its inside sales organization over the phone. Sisense is an easy-to-use platform across the board – from administration and content creation to end-user experience – as indicated by its gaining a top quartile ranking in the composite ease-of-use score across all the vendors in this Magic Quadrant.

Sisense demonstrates the ability to support clients on an ongoing basis to their satisfaction. It was rated in the top quartile for many metrics, such as customer experience, operations and overall support. This is further buttressed with the second lowest percentage of client's who expressed their intention to discontinue using Sisense.

## CAUTIONS

While Sisense shows a high score for breadth of use (which includes data preparation and integration), the platform was rated in the bottom third of vendors for complexity of analysis. This indicates that there is room for improvement to enable business analysts to perform more complex analytic workflows in an easy-to-use fashion. Alternatively, other data discovery tools can be used to further analyze the data in Sisense; an option Sisense recently added by opening up its platform for third-party access via Open Database Connectivity (ODBC). The need for other tools to compensate for these weaknesses may further limit Sisense's ability to expand within organizations as one out of five clients already indicate that the cost of its own software is seen as a limiting factor for its wider deployment.

Sisense should further strengthen the user community to achieve even better scores in user enablement, particularly with a growing number of clients globally. Full global support is not yet available; North America and Israel are the two main support centers. Global support is currently available in English, with some support for Russian, Spanish, French, Hebrew, German and Dutch.

Despite Sisense's ability to handle large data volumes, almost 80% of reference clients have a deployment size of less than 100 users. Furthermore, 56% of these deployments are in departments or functions, which is also indicated by the below-average adoption rate in the reference survey and is probably explained by the limited reach of its inside sales organization. The addition of a direct sales organization in 2016 should create an opportunity for Sisense to land larger deals that are not accessible through its current telesales strategy.

The Sisense platform has a relative weakness in embedded advanced analytics, and Sisense recently introduced integration with R (in its version 6 release) and added statistical functions to address this limitation. The platform recently added native support for iOS and Android in an effort to bolster its mobile capabilities and address the functionality gaps it had prior to November 2015 – when HTML5 was the only mobility option offered. It lacks support for collaboration and social, and no integration with third-party social platforms is currently available. There is only limited support for discussion threads. Absent or weak functionality was cited as the most common platform problem reported for Sisense, by 12% of its reference clients.

## Tableau

Tableau offers highly interactive and intuitive data discovery products that enable business users to easily access, prepare and analyze their data without the need for coding. Since its inception, Tableau has been sharply focused on enhancing the analytic workflow experience for users – with ease of use being the primary goal of much of its product development efforts. Tableau's philosophy has been proven to appeal to business buyers and has served as the foundation for the "land-and-expand" strategy that has fueled much of its impressive growth and market disruption.

Tableau is one of three vendors positioned in the Leaders quadrant this year. Despite increased pressure in 2015 from a growing number of competitors, Tableau has continued to execute and expand in organizations and win net new business to maintain its growth rate. Tableau's efforts to build product awareness and win mind share globally have contributed to its Completeness of Vision, in addition to an increased focus on smart data preparation and smart data discovery capabilities on the product roadmap.

## STRENGTHS

Tableau continues to execute better than any vendor in the BI market and its land-and-expand sales model has performed extremely well, resulting in a dramatic increase in large enterprise deals – many of which started out as small desktop deployments that grew organically over time within organizations. Tableau has the third-largest average deployment size of all the vendors included in this Magic Quadrant – at 1,927 users – driven by 42% of organizations reporting average deployments of more than 1,000 users (which probably reflects the approach that Tableau has taken of leveraging an underlying data warehouse if one exists).

A core strength of Tableau is its versatility, both in terms of deployment options across cloud and on-premises as well as the use cases it can be deployed against. According to the reference survey, there are as many deployments of Tableau supporting centralized BI provisioning as there are for decentralized analytics. Some organizations prefer to use Tableau to empower centralized teams to provision content for consumers in an agile and iterative manner, while others adopt more of a hands-off approach and enable completely decentralized analysis by business users. In response to best practices to strike a balance between the stability and consistency that comes with centralization and the agility offered by decentralization, Tableau continues to promote its Drive methodology – which probably contributed to the high percentage of governed data discovery use cases cited by its survey references.

Tableau's focus on making its customers successful is evident in its top overall rating for customer enablement. Tableau offers a vast array of learning options – including online tutorials, webinars and hands-on classroom-based training – to educate and empower its users, which has increased the number of skilled Tableau resources available in the market. Attendance at Tableau's user conference topped 10,000 attendees in 2015, nearly double the 2014 attendance and an increase of more than 50 times the 187 attendees at its inaugural user conference in 2008. In addition to directly enabling its customers, Tableau has built an extensive network of Alliance Partners with expertise in its implementations.

Tableau's core product strengths continue to be its diverse range of data source connectivity, which is constantly expanding, as well as its interactive visualization and exploration capabilities. This combination delivers on Tableau's mission of helping people see and understand their data by enabling rapid access to virtually any data source, which nontechnical users can immediately begin interacting with – through an intuitive visual interface – to iteratively ask and answer questions and discover new insights.

## CAUTIONS

While expansion continues to be strong for Tableau, pricing and packaging is being more heavily scrutinized because larger deals typically involve IT and/or procurement. When asked about limitations to a wider deployment, 44% of Tableau's survey references cited the cost of software as a barrier. With increased price sensitivity in this market, new lower-priced market entrants – coupled with Tableau's reluctance to respond with a more attractive enterprise pricing model – have probably affected its sales execution survey rating this year and contributed to the drop in its position on the Ability to Execute axis compared with last year (where Tableau dramatically outperformed the competition).

Reference survey input suggests that Tableau is experiencing the growing pains that often accompany rapid growth – as vendors struggle to scale to meet support demands for more complex deployments (as indicated by Tableau's overall support score from its client references, which was below the vendor average for this Magic Quadrant). The reference survey also suggests that buyers of Tableau have encountered some software limitations as they attempt to scale their deployments (to meet the demands of more users trying to solve more complex problems) and govern those deployments (as they continue to expand within its customer organizations).

Tableau's client references ranked it in the bottom third of all Magic Quadrant vendors for complexity of analysis. As customers reach the limits of Tableau's current capabilities, this may dampen customer enthusiasm.

Despite efforts to improve its data preparation capabilities in version 9, Tableau still has weaknesses in the area of data integration across data sources. Tableau supports a diverse range of data connectivity options – spanning relational, online analytical processing (OLAP), Hadoop, NoSQL and cloud sources – but offers little support when it comes to integrating combinations of these sources in preparation for analysis. In order to compensate for this weakness, a growing number of Tableau customers have turned to vendors specializing in self-service data preparation that offer an option to output to Tableau's native Tableau data extract (TDE) format. This is a concern for Tableau, because it creates the need for its solution to be deployed with another tool – which magnifies the TCO concerns that already exist within its customer base. Of greater concern, is that the shifting of data preparation to a separate product could potentially marginalize Tableau as the front-end visualization space becomes increasingly commoditized and more difficult to

differentiate.

## TIBCO Software

TIBCO Software was one of the early leaders in the data discovery space, through its acquisition of Spotfire in 2007. It has continued to expand its offerings to include advanced analytics and real-time and location intelligence, largely through acquisition. TIBCO acquired Jaspersoft in 2014 to leverage its low-touch sales (which is not included in this Magic Quadrant evaluation, but is covered in our new Market Guide for enterprise-reporting-based platforms). TIBCO, which was privatized in 2014, has amassed a broad portfolio of technologies through acquisition and its internal product development efforts. This extensive product offering introduces integration complexity and creates a challenge in crafting a go-to-market strategy that is aligned with the specific expectations of buyers in the current market.

TIBCO has maintained its status in the Visionaries quadrant due to the diversity of capabilities it provides; yet its relative position within the quadrant reflects the reality of keeping pace in a rapidly evolving market. Its low position for Ability to Execute results from a loss of mind share, the lowest overall customer sales experience scores and lowest overall customer experience scores (which includes limited availability of resources and user enablement, potentially delaying achievement of business benefits). TIBCO scored from average to below average on most aspects of Completeness of Vision assessed in this Magic Quadrant. Its broad product vision incorporated capabilities for smart data discovery and data preparation, as well as cloud, predictive, geospatial, actionable and embedded analytics. This expansion in overall scope across TIBCO's portfolio may have impacted Spotfire's momentum in the areas of data discovery and self-service analytics, resulting in it losing ground to competitors that are investing heavily in these areas. That said, its continued presence in the Visionaries quadrant was largely influenced by its innovative combination of streaming analytics and data discovery integrated with an underlying smart data discovery recommendation engine, which bolstered its rating for product vision.

### STRENGTHS

According to 78% of TIBCO's client references, its primary use case is decentralized BI provisioning (the highest level among all the vendors in this Magic Quadrant, where the average across all vendors is just 48%). This finding is supported more by the strong analytic dashboard capabilities offered by Spotfire than by its interactive visualization functionality, for which its survey scores are above average.

TIBCO receives high scores for critical capabilities such as data preparation and in-memory engine, in-line advanced analytics and analytic dashboards. This confirms the platform's strength in supporting a decentralized, business-driven dashboard design for analytic problems — a space where TIBCO Spotfire was one of the early leaders and continues to be a good product (although it is no longer unique in the market). TIBCO also ranks near the top of the vendor list for governed data discovery use cases through its security, user and platform administration capabilities — this is consistent with its use in some very large deployments.

Customers adopt TIBCO Spotfire for functionality, data access and integration, and ease of use for end users. These are areas where TIBCO used to have a clear competitive advantage compared with traditional BI vendors in the market, but this is no longer the case due to other vendors' innovative approaches to data discovery. For example, although ease of use for end users is one of the top adoption drivers for TIBCO, it gets only average scores compared with competing vendors (which suggests that Visionary vendors' offerings are easy to use, including Spotfire).

The company's geographic presence and its access to IT in organizations continue to be relevant strengths that could be better leveraged if it continues to invest in Spotfire and execute on a more focused land-and-expand sales strategy — with streamlined and easier-to-understand marketing and sales messages around user empowerment with governance.

### CAUTIONS

TIBCO's recent attempts to address its sales execution issues have apparently not affected the opinion of its customers (according to the reference survey). When asked about limitations to wider deployment, 33% of reference customers cited license cost as a barrier for TIBCO. Customer concerns about software cost also contributed to TIBCO receiving the lowest overall rating for sales experience. While Gartner has seen some contracts with more attractive pricing, there is not enough data for us to assess whether or not there has been a material change.

TIBCO's survey references rated it in the bottom quartile of Magic Quadrant vendors for customer experience. Its low customer experience rating was largely driven by its bottom quartile ranking for user enablement — with low scores in the areas of training, online tutorials, documentation, user community and customer conferences. In a crowded market that is driven by the buying preferences of business users, it is critical that vendors invest in user enablement initiatives to promote awareness, adoption and expanded use of their products.

TIBCO's ease of use was highlighted as an area of concern for customers in several parts of the survey. Its overall ease of use was rated slightly below the vendor average and was influenced heavily by the bottom quartile ranking of its ease of use for administration and implementation and below-average rating for ease of use for content development. Ease of use was also highlighted by survey references as a factor limiting its wider deployment. Ease of use for business users was cited by 10% of client references as a barrier to wider deployment, while 12% cited that ease of use for developers would inhibit broader use.

The factors outlined above have overshadowed TIBCO's product strength and have hindered its ability to have a positive impact on its customer base. This is confirmed by its rating in the bottom third of all Magic Quadrant vendors for product success, delivery of business benefits and view of the vendor's future viability. Buyers in a business-user-driven market demand that the BI and analytics products they decide to purchase deliver clear value to their organizations and translate into a return on investment; this remains a work in progress for TIBCO.

## Yellowfin

Yellowfin delivers a centralized, fully Web-based BI platform with several innovative capabilities in collaboration features and storytelling, and a tightly integrated set of tools — from data integration to dashboards. In 2015, Yellowfin introduced DashXML, an easy-to-use component to build analytic applications. Yellowfin further expanded its global presence with new offices in North America

and the U.K. Yellowfin has a strong indirect channel with more than 250 partners worldwide, achieving most of its revenue through resellers, distributors and OEM partners.

Yellowfin is positioned in the Niche Players quadrant. It was rated poorly in several areas of the customer reference survey, resulting in a ranking in the bottom quartile for most measures that influence positioning on the Ability to Execute axis. Its position on the axis for Completeness of Vision reflects the lowest overall rating for market understanding – coupled with its limited awareness outside of its native region and a product roadmap that is missing key items that are expected to drive future buying decisions in this market (such as smart data discovery and smart data preparation).

## STRENGTHS

Survey respondents indicated that the main reasons for selecting Yellowfin were ease of use for end users and the functionality provided, followed by license cost – which was made more appealing by the introduction of a simplified named users licensing policy in 2015. Yellowfin continues to be a viable option for clients that plan to use their BI platform in the cloud; more than 60% of survey respondents already use Yellowfin in this way, putting it in the top quartile of vendors for cloud deployments.

Embedded BI is the predominant use case for Yellowfin (with the third highest percentage in the survey), followed by centralized BI provisioning as its second most frequent use case. This matches well with Yellowfin's completely Web-based BI platform architecture as well as with its strong indirect sales channel.

Yellowfin has the highest adoption rate within the customer organization across the survey, and the second highest percentage of organizations using Yellowfin as their enterprise standard. This probably holds true for smaller and midsize organizations. More than 80% of Yellowfin's customers have deployment sizes of fewer than 250 users, although it does have references with large deployments of more than 1,000 users.

The Yellowfin platform has its relative strength in the ease of use for end users and provides leading capabilities for collaboration and social, such a timelines and discussion threads. The platform offers good geospatial and location intelligence capabilities in combination with prepackaged content and "GeoPacks" through its new marketplace. The newly introduced DashXML addresses how to improve the content creation and development process for analytic applications.

## CAUTIONS

Yellowfin customers continue to raise their concerns with respect to product quality and support, with client reference responses putting it in the bottom quartile for support overall and product quality. Yellowfin's score for product success in the organization was also rated in the bottom quartile. Prospective clients should test Yellowfin's platform during a proof of concept to ensure that their requirements are met in all critical capabilities that are important for the intended use case.

Absent or weak functionality was the most-mentioned platform problem (according to more than 25% of its survey references). When asked about limitations to the wider deployment of Yellowfin, customers cited poor performance as well as concerns about ease of use for both developers and end users – which is consistent with its ranking in the bottom quartile for overall ease of use. Yellowfin had the second highest percentage of clients indicating that they plan to discontinue using the platform. As a consequence, clients' perception of Yellowfin's future viability is low (putting it in the bottom quartile for this metric).

Despite some differentiating capabilities, overall, Yellowfin's BI platform is at risk of falling behind other vendors' modern BI platforms because it is primarily focused on being an agile information portal platform. This focus comes at the expense of investment in some weakness in the product and steers investment away from addressing product gaps in self-service data preparation and data discovery, both of which are top buying requirements in this market.

Yellowfin's score for market understanding (comprised of complexity of analysis and business benefits achieved), was the lowest in the reference survey for this Magic Quadrant. Yellowfin has below-average scores for business benefits achieved; in particular, its clients' responses indicate that IT cost reductions could not be achieved as expected.

## Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant may change over time. A vendor's appearance in a Magic Quadrant one year and not the next does not necessarily indicate that we have changed our opinion of that vendor. It may be a reflection of a change in the market and, therefore, changed evaluation criteria, or of a change of focus by that vendor.

### Added

BeyondCore, ClearStory Data, Domo, Platfora, Salesforce and Sisense were added to the Magic Quadrant this year. They met all of the inclusion criteria and were ranked in the top 24 of assessed vendors based on an evaluation of their modern BI product offerings against the current set of critical capabilities defined for this Magic Quadrant.

### Dropped

OpenText (Actuate), Oracle, Panorama Software, Prognos, Salient Management Company and Targit were excluded from the Magic Quadrant this year because they did not meet all of the inclusion requirements. Exclusion this year does not mean that they will not be included in future years.

## Inclusion and Exclusion Criteria

The number of vendors on this year's Magic Quadrant is limited to 24. We ranked vendors that met all the inclusion criteria based on a combination of the criteria listed below.

### Modern BI and Analytics Platform Assessment

This was evaluated by Gartner analysts and was determined by the extent of IT involvement that is considered to be mandatory before the platform can be used by a business analyst/information worker to analyze data, also without IT assistance. Products that require



significant IT involvement, either internal or external to the platform, to load and model data, create a semantic layer, build data structures as a prerequisite to using the BI Platform or are IT developer-centric platforms focused on building analytic applications do not meet the criteria of a modern BI and analytics platform and were not evaluated further for inclusion. Products that met the modern criteria were evaluated for inclusion in the Magic Quadrant based on a funnel methodology where requirements for each tier must be met in order to progress to the next tier. Tiers 1 to 3 are evaluated at the vendor level; Tiers 4 and 5 are evaluated at the product level.

### Vendor-Level Criteria

- **Tier 1. Market Presence** – A composite metric assessing both the interest of Gartner's client base and that of the broader market, through Internet search volume and trend analysis, was conducted for each vendor.
- **Tier 2. Revenue\*** – For those vendors meeting the market presence criteria (Tier 1), BI and analytics revenue for each vendor was assessed and evaluated. For this assessment, two common license models were assessed and revenue from each was combined (if applicable) and evaluated against the four revenue inclusion levels shown below, for qualification:
  1. Perpetual License Model – Software license, maintenance and upgrade revenue (excluding hardware and services) for calendar years 2014 (actual) and 2015 (estimated).
  2. SaaS Subscription Model – Annual Contract Value (ACV) for year-end 2014 and projected ACV for year-end 2015 excluding any services included in annual contract. For multiyear contracts, only the contract value for the first 12 months should be used for this calculation.
- Revenue inclusion levels are as follows:
  - \$25 million 2015 (estimated) combined revenue + 2015 (estimated) ACV, or
  - \$15 million 2015 (estimated) combined revenue + 2015 (estimated) ACV with 50% year-over-year growth, or
  - \$10 million 2015 (estimated) combined revenue + 2015 (estimated) ACV with 100% year-over-year growth, or
  - \$5 million 2015 (estimated) combined revenue + 2015 (estimated) ACV with 200% year-over-year growth
- \* Gartner defines total software revenue as revenue that is generated from appliances, new licenses, updates, subscriptions and hosting, technical support and maintenance. Professional services revenue and hardware revenue are not included in total software revenue (see "Market Share Analysis: Business Intelligence and Analytics Software, 2014" ).
- **Tier 3. Magic Quadrant Process Participation** – The vendor must have participated in all data collection activities, including:
  - Completing and providing documentation for a RFP-style questionnaire of detailed critical capabilities.
  - Completing an online questionnaire around market presence, growth, go-to-market strategy and differentiation.
  - Submission of a video up to one-hour long demonstrating how included products deliver on the predefined analytic scenarios defined by Gartner.
  - Verification of final BI and analytics revenue for 2014 (actual) and 2015 (estimated)
  - Providing references for an online customer and OEM survey.
  - Providing a vendor briefing for the Magic Quadrant authors.
  - Providing access to evaluation software.
  - Providing a factual review of its sections in both the Magic Quadrant and Critical Capabilities research.

### Product Level Criteria

- **Tier 4. Survey Reference Submission** – The vendor must have provided a minimum of 40 survey references demonstrating breadth across vertical industries and geographic regions as specified by Gartner.
- **Tier 5. Product Scoring and Ranking** – Products that progressed to this final tier were assessed by Gartner analysts using the information provided by each vendor in the data collection exercise outlined above. The vendors ranked in the top 24 following this step were included in the Magic Quadrant.

## Evaluation Criteria

### Ability to Execute

Vendors are judged on Gartner's view of their ability and success in making their vision a market reality that customers believe is differentiated and that they purchase. Delivering a positive customer experience, including sales experience, support, product quality, user enablement, availability of skills, ease of upgrade/migration, also determines a vendor's Ability to Execute. In addition to the opinions of Gartner's analysts, the ratings and commentary in this report are based on a number of sources: customers' perceptions of each vendor's strengths and challenges as gleaned from their BI and analytic-related inquiries with Gartner; an online survey of vendors' customers conducted during October 2015 (which yielded 1,902 responses); a questionnaire completed by the vendors; vendors' briefings, including product demonstrations, strategy and operations; an extensive RFP questionnaire inquiring how each vendor delivers the specific features that make up our 14 critical capabilities for this market (see "Toolkit: BI and Analytics Platform RFP" ); a prepared video demonstration of how well vendors' BI platforms address the 14 critical capabilities; and analyst access to evaluation software.

### Ability to Execute Criteria

*Note: These criteria are scored partly or wholly on the basis of input from the Magic Quadrant customer reference survey.*

**Product/Service:** How competitive and successful are the 14 product capabilities offered by the vendor in this market?

**Overall Viability:** What is the likelihood of the vendor continuing to invest in products and services for its customers and how do references rate the vendor's relevance in the future? Viability also includes an analyst assessment of the overall organization's financial health, the financial and practical success of the business unit and the likelihood of the individual business unit continuing to invest in the product, offer the product and advance the state of the art within its product portfolio.

**Sales Execution/Pricing:** Does the vendor provide cost-effective licensing and maintenance options? This covers the vendor's capabilities in all presales activities and the structure that supports them. It also includes deal management, pricing, negotiation and contracting, presales support and the overall effectiveness of the sales channel.

**Market Responsiveness and Track Record:** Does the vendor have momentum in the current market and is this momentum broad or confined to one geographic region?

**Customer Experience:** How well does the vendor enable its customers through availability of training, online tutorials, documentation and conferences and how available are skilled resources in the market with expertise in its product offering(s)? It also covers the extent to which customers realize tangible business benefits through use of the vendor's software. *Note: In the 2015 Magic Quadrant this category included the items that are now included in Operations, so the historical comparison feature has been disabled.*

**Operations:** How well does the vendor support its customers? How trouble-free is the software and how easy is it to migrate to a newer version? *Note: This category was not used in the 2015 Magic Quadrant as these items were then included in the Customer Experience category, so the historical comparison feature has been disabled.*

**Table 1.** Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High
Overall Viability	High
Sales Execution/Pricing	High
Market Responsiveness/Record	High
Marketing Execution	Not Rated
Customer Experience	High
Operations	High

Source: Gartner (February 2016)

## Completeness of Vision

Vendors are rated on Gartner's view of their understanding of how market forces can be exploited to create value for customers and opportunity for themselves. The Completeness of Vision ratings and commentary in this report are based on the same sources described in the Ability to Execute section. When determining Completeness of Vision for the Offering (Product) Strategy criterion, Gartner evaluated vendors' ability to support key trends that will drive business value in 2016 and beyond; these key themes (by category) are as follows:

### Infrastructure

Support for a marketplace where organizations can buy and sell custom-built analytic applications, aggregated data sources, custom visualizations and algorithms is beginning to form in the market, but is limited to a subset of vendors.

Native access to Hadoop and Spark is becoming increasingly important as data grows both in terms of volume and complexity.

Support for advanced security such as bioauthentication.

### Data Management

Smart data preparation on multistructured data is a core visionary feature in this category, because the need to automatically profile, enrich and infer relationships (to automatically generate a model for analysis) will be an area of innovation that will differentiate vendors in the future.

Support for real-time events and streaming data in support of IoT use cases is in its infancy, but will be an increasingly important data management consideration for organizations to adopt and integrate into analytic solutions to enhance their value to the business.

Seamless support for governed data discovery – with automated promotability from end-user personal spaces to system of record, and vice versa – through an integrated platform or set of capabilities, enabling a unified bimodal BI delivery model.

### Analysis and Content Creation

Smart pattern detection capabilities that automate the identification of patterns and clusters hidden in data and often missed by analysts manually exploring datasets. The automated identification of findings is key to enabling and expanding access to analytics to more users within the organization, and speeding the time to insight.

Embedded advanced analytic capabilities that further enable the citizen data scientist within organizations to perform sophisticated

analysis without specialized technical or statistical training. Support for seamless promotability to a data science workbench from within the BI and analytics platform is critical in order to validate findings and allow for deeper analysis by data scientists.

Support for a broad range of content analytics and text analytics against unstructured data as organizations explore new sources of information to enhance the analytical insights derived from structured data sources.

### Sharing of Findings

The ability to invoke business actions from within the platform represents a level of sophistication beyond current mainstream support for conditional alerts and event triggering based on system events.

Natural-language generation of insights is the next phase in the evolution from standard reporting to storytelling with descriptive text to augment the visually depicted content.

Contextual recommendations for relevant content – based on insight gained from collaboration and social interaction by users – will largely replace the need to manually share content and findings across the organization.

Existing and planned products and functions that contribute to the above trends were factored into each vendor's score for the Offering (Product) Strategy criterion listed below for Completeness of Vision.

### Completeness of Vision Criteria

**Market Understanding\*:** Does the vendor have the ability to understand buyers' needs and to translate those needs into products and services? Ease of use, ability to support complex data requirements, and the types and complexity of analysis users conduct with the platform – all key buying criteria – factor into this rating.

**Marketing Strategy:** Does the vendor have a clear set of messages that communicate its value and differentiation in the market? Is the vendor generating differentiated awareness?

**Sales Strategy\*:** Does the vendor have an innovative partner strategy, attractive pricing, flexible and clear product packaging, and a strong land-and-expand sales model?

**Offering (Product) Strategy:** Does the vendor's approach to product development and delivery emphasize differentiation and functionality that map to current and future requirements, based on the product vision criteria that are summarized by the key trends described at the beginning of the Completeness of Vision section?

**Vertical/Industry Strategy:** How well can the vendor meet the needs of various industries, such as financial services, life sciences, manufacturing and retail?

**Innovation:** Is the vendor focusing its resources, expertise or capital to address key market requirements for competitive advantage? Is the vendor investing in and delivering truly unique and in-demand capabilities? Is the vendor setting standards for innovation that others try to match?

**Geographic Strategy:** How well can the vendor meet the needs of locations outside its native country, either directly or through partners?

\* Note: These criteria are scored partly or wholly on the basis of input from the Magic Quadrant customer reference survey.

**Table 2.** Completeness of Vision Evaluation Criteria

Evaluation Criteria	Weighting
Market Understanding	High
Marketing Strategy	High
Sales Strategy	High
Offering (Product) Strategy	High
Business Model	Not Rated
Vertical/Industry Strategy	Medium
Innovation	Medium
Geographic Strategy	Low

Source: Gartner (February 2016)

### Quadrant Descriptions

#### Leaders

Leaders are vendors that demonstrate a solid understanding of the product capabilities and commitment to customer success that buyers desire in the current market, coupled with an easily understandable and attractive pricing model that supports proof of value and incremental purchases. In the case of the modern BI and analytics platform market, buying decisions are now being made, or at least

heavily influenced, primarily by business users that demand easy-to-use and easy-to-buy products that deliver clear business value and that enable powerful analytics with limited technical expertise and without the requirement for upfront involvement from IT. In a rapidly evolving market, with innovation being introduced constantly, a Leader must also demonstrate that it is not only focused on current execution but also has a robust roadmap that will solidify its position as a future market leader, thus protecting the investment of today's buyers.

### Summary of Leaders Quadrant Positions

The establishment of an updated modern BI and analytics platform definition for this year's Magic Quadrant has significantly transformed the Leaders quadrant relative to its composition in previous years. The market share leaders, SAP, IBM, Microsoft, Oracle, MicroStrategy and SAS have amassed large customer bases over time with their enterprise-reporting-based platforms. With the exception of Microsoft, these vendors are no longer in the Leaders quadrant, placement in which requires reaching a new breed of buyer with requirements that are fundamentally different than in the past. As a result, many have dropped into the Visionaries quadrant as they attempt to remain relevant in a modern BI world and to transform their product offerings, sales and marketing strategies and positioning to reflect the fact that it is business users, rather than IT, that influence most buying decisions in today's market.

Net new buying in the market is being dominated by vendors that are focused on agility and ease of use for business users, coupled with the ability to govern deployments and promote the responsible creation, distribution and use of analytic content created within the platform. While there is considerable "white space" in the top half of the Magic Quadrant – indicating that there is ample opportunity for improvement in market execution – there are currently three vendors positioned in the Leaders quadrant that are sufficiently executing on their vision to warrant this quadrant positioning: Tableau, Qlik and Microsoft.

Tableau is again the market leader in terms of overall execution, but the gap relative to its closest competitors, Qlik and Microsoft, has decreased dramatically compared with last year. While this change can be partially attributed to improved execution by Qlik and Microsoft in 2015, it is largely a consequence of Tableau's own success. Tableau has grown rapidly and now finds itself in a completely different position to that of only a few years ago; deployments in organizations have grown exponentially, which places an increased burden on Tableau's support structure as it scales to meet a much larger customer base that is using its products against more complex use cases. This is a good problem to have (relative to the challenges faced by other vendors in the market), but customer success must remain a top priority if Tableau is to continue to lead this increasingly competitive market.

Qlik has dramatically improved and clarified its messaging to the market around Qlik Sense and QlikView, which positions Qlik Sense Enterprise as its strategic product – built upon Qlik's underlying platform and its QIX associative engine, which now also powers QlikView (beginning in Version 12). Qlik Sense 2.x has closed a significant number of gaps that were present when Qlik Sense 1.x was released. There are still gaps relative to Tableau in terms of ease of use and overall analytic workflow, but Qlik continues to deliver releases at a rapid cadence – which will continue to improve the overall offering. Qlik is positioned to the right of Tableau for Completeness of Vision, primarily based on its future vision for Qlik Market, data as a service strategy (through its acquisition of DataMarket), application platform approach (with the Qlik Analytics Platform), unique associative engine (QIX) and governed data discovery roadmap.

Microsoft is the overall vision leader in the Magic Quadrant, having the greatest Completeness of Vision – as demonstrated by the commitment and focus of its BI and analytics leadership team to Power BI. Power BI is at the center of Microsoft's Azure story, which includes Azure Machine Learning, Azure HDInsight, Stream Analytics, and others, which solidifies its status as an area of continued strategic investment and innovation. Cortana Analytics Suite is an umbrella for several of these offerings. Its market execution of Power BI 2.0 (released in July 2015) is greatly improved compared with its initial launch of Power BI, which failed to gain any traction in the market due to the confusing packaging, positioning and infrastructure prerequisites that few organizations could easily satisfy.

### Challengers

Challengers are well-positioned to succeed in the market. However, they may be limited to specific use cases, technical environments or application domains. Their vision may be hampered by a lack of coordinated strategy across the various products in their platform portfolios, or they may lack the marketing efforts, sales channel, geographic presence, industry-specific content and awareness of the vendors in the Leaders quadrant.

### Summary of Challengers Quadrant Positions

In this redefined market, there are currently no vendors executing at a level that would challenge the market leaders, leaving the Challengers quadrant empty this year.

### Visionaries

Visionaries have a strong and unique vision for delivering a BI platform. They offer depth of functionality in the areas they address. However, they may have gaps relating to broader functionality requirements. Visionaries are thought-leaders and innovators, but they may be lacking in scale or there may be concerns about their ability to grow and still provide consistent execution.

### Summary of Visionary Quadrant Positions

The Visionaries quadrant is crowded this year, which is atypical of the BI and analytics Magic Quadrant. This is to be expected in a year when the underlying platform definition was significantly modified to reflect modern buying requirements, and vendors are therefore being evaluated from a different perspective. There are two main clusters of vendors in the Visionaries quadrant, separated largely by their Ability to Execute:

Vendors positioned in the upper cluster of the Visionaries quadrant – with a strong modern product offering that has momentum in the current market and is backed by an established customer base and a strong sales and customer service model fit to support their modern platform.

Vendors positioned in the lower cluster of the Visionaries quadrant – with an innovative and potentially disruptive product vision, but either having significant gaps in their current offerings or a lack of awareness and traction in the current market (or a combination of both). This cluster includes two new entrants to the Magic Quadrant in BeyondCore and ClearStory Data.

In the upper cluster of the Visionaries quadrant, SAS, SAP and MicroStrategy are established BI vendors that have been positioned in the Leaders quadrant for several years, largely driven by strong enterprise reporting capabilities that are not included in the modern platform definition. The shift to the Visionaries quadrant reflects the evolving nature of the market as these past Leaders pivot their product offerings, and sales and customer service strategies, to align with the expectations of today's buyers. The fourth vendor in this cluster, Alteryx, has been positioned in the Visionaries quadrant for the past few years and continues to demonstrate strong overall vision, even in this newly defined market:

Alteryx is positioned at the top and to the right of this cluster of visionary vendors as it continues to capitalize on the growing needs for self-service data preparation capabilities to augment data discovery tools that lack robustness in this area. Alteryx scored well for its strong product vision combined with a partner-centric sales strategy and a license model that supports land-and-expand – which should continue to fuel its growth.

SAS has strong overall product vision with product enhancements planned for Visual Analytics that address many of the visionary capabilities that are expected to drive future buying in this market. Sales execution and migration concerns (as reported by survey references) impacted its execution position, but were partially offset by strong overall product scores contributing to its position above both SAP and MicroStrategy.

SAP has strong product vision around governed data discovery, enabled by integration between SAP Lumira and the underlying SAP BusinessObjects BI platform as well as its vision for Cloud for Analytics – which combines planning, BI and advanced analytics in a unified SaaS offering. SAP was positioned slightly lower than SAS on Ability to Execute largely due to lower product scores for SAP Lumira, which SAP continues to enhance in order to increase its appeal and traction within its installed customer base.

MicroStrategy released its MicroStrategy 10 product in June 2015, which exemplifies the combination of product capabilities required for delivering a governed data discovery experience for users. MicroStrategy is known for solid integration of all of its components, which enables the interoperability between system-of-record and end-user-generated content that is critical to governed data discovery. MicroStrategy is positioned lower and to the left of the other vendors in this cluster primarily because of its relatively weak customer experience scores combined with a lower market understanding score (which affects Completeness of Vision).

The lower cluster of the Visionaries quadrant consists primarily of vendors that are either new to the market, with innovative product offerings that have the potential to disrupt the market in the future, or established vendors that are transforming their offerings with the same market disruption goal as the new entrants.

IBM is clearly the most established vendor in this cluster, but was not positioned in the top cluster of long-standing leaders because the focus of the Magic Quadrant – from an execution perspective – is focused on its Watson Analytics product, which has significant product capability gaps (resulting in a low overall product score that affected its position for Ability to Execute). Watson Analytics is a visionary product and is backed by a solid sales strategy and extensive global reach, which is reflected in its position on the Completeness of Vision axis. IBM Cognos Analytics did not meet the cutoff date for full inclusion in the Magic Quadrant evaluation, but was factored into the assessment of vision where appropriate.

Logi Analytics' two products (Info and Vision) are now underpinned by its DataHub, which provides a level of integration that was not present last year. This supports the governed data discovery vision that Logi is focused on delivering to its customers. Logi's position for Ability to Execute was greatly affected by the removal of traditional BI capabilities from this Magic Quadrant's platform definition/assessment; this is what Logi has traditionally been deployed for, even while it transitioned to more modern use cases. That strength in traditional BI contributed to its position in the Challengers quadrant in prior years, where its agile approach represented a threat to the market leaders at the time.

ClearStory Data is an innovative vendor focused on end-to-end analytic workflow enablement from data ingestion and harmonization to delivery of insights to business users through interactive storyboards. Data inference capabilities are a differentiator for ClearStory, because they solve difficult data integration problems for customers without reliance on IT for data modeling; something very few vendors can compete on. While ClearStory is differentiated and potentially disruptive to the overall market, its current market execution is weaker compared with the Leaders due to its early market momentum and limited geographic reach as a relatively new startup.

Pentaho has expanded beyond its heritage (as an open-source enterprise-reporting-focused platform) to become a visionary player in the big data and IoT space. This expansion began prior to its acquisition by Hitachi Data Systems, but has accelerated since then with big data, the IoT and embedded analytics now representing Pentaho's identity and its future vision. Its position for Ability to Execute was affected by poor customer experience and operations scores (from the customer reference survey).

TIBCO Software's market awareness has declined relative to the new breed of competitors included in this year's Magic Quadrant. In prior years, TIBCO Spotfire's message was differentiated, but new market entrants with a clearer message and a vision for the future of BI and analytics have raised the bar – pushing TIBCO closer to the Niche Players quadrant this year.

BeyondCore combines automated smart pattern detection with natural-language generation of findings and spans the full spectrum of analytics from descriptive to prescriptive, which represents strong product vision. However, as a new startup, it lacks the market traction and geographic presence needed for a higher position on Ability to Execute. BeyondCore recently announced a free version of its software – available as an add-in to Excel – to generate market awareness of its innovative and differentiated product capabilities.

## Niche Players

Niche Players do well in a specific segment of the BI and analytics platform market – such as cloud BI, customer-facing analytics, agile reporting and dashboarding, embeddability or big data integration – or have a limited capability to innovate or outperform other vendors. They may focus on a specific domain or aspect of BI, but are likely to lack depth of functionality elsewhere. They may also have gaps relating to broader platform functionality, or have less-than-stellar customer feedback. Alternatively, Niche Players may have a reasonably broad BI platform, but limited implementation and support capabilities or relatively limited customer bases (such as in a specific geography or industry). In addition, they may not yet have achieved the necessary scale to solidify their market positions.

## Summary of Niche Player Quadrant Positions

Eleven of this Magic Quadrant's 24 vendors are included in the Niche Players quadrant this year, including four vendors that are new to the Magic Quadrant: Salesforce, Domo, Sisense and Platfora. All 11 vendors represented in the Niche Players quadrant have specialized strengths and differentiated capabilities that mean they are uniquely positioned to meet rapidly evolving customer requirements. There is a noticeable pattern, evident in the presence of cloud vendors forming a cluster in the upper right area of the quadrant — comprised of Birst, Domo, GoodData and Salesforce. This suggests an increase in the attractiveness and adoption of cloud BI and analytics platforms in the market, driven by line-of-business buyers prioritizing agility, flexibility and overall ease of use.

Birst is innovating in the governed data discovery space. Its Networked BI capabilities provide a unique approach to governance, with early indications of market traction in decentralized analytics. However, it may struggle to gain momentum due to evolving its messaging. Birst's marketing strategy is focused on enabling enterprises to combine centralized and decentralized analytics, enticing customers of incumbent vendors (specifically Oracle) to win new business through a conversion strategy. This is a niche that Birst is focusing on with new marketing campaigns as well as new accelerators to facilitate/automate the conversion.

Domo's primary focus is on rapid deployment of easy-to-use management dashboards to executives and business users, which is a relatively narrow focus in this market (relative to the other vendors on the Magic Quadrant). However, its sales and marketing efforts have been fueled by several significant private equity funding rounds, which has generated significant market awareness for the platform.

GoodData is an entirely cloud-based platform focused on establishing itself as the go-to vendor for end-users organizations to monetize their data through the development of customer-facing and business-facing analytic applications. GoodData provides go-to-market expertise to augment its technology offering in this segment of the market, which contributes to its differentiation.

Salesforce announced its Wave Analytics platform in October 2014 (at its annual Dreamforce event). It continues to invest in and sell this as a stand-alone platform, primarily into its installed base. In 2015, Salesforce added an analytic application strategy that is focused on sales and service analytics applications built on top of the Wave platform, which it intends to sell into its installed base; this is the primary reason for its position in the Niche Players quadrant.

Board International is focused on the integration of BI and CPM capabilities, and has added those that bolster its self-service data preparation capabilities in response to the market demand for flexibility and agility.

Sisense is focused on performance optimization to enable data blending and interactive visualization for the business user using its proprietary In-Chip and ElastiCube technologies. Sisense has little awareness in the market, but with consecutive years of 100% growth it is appearing on shortlists where buyers are looking for an end-to-end platform that can meet performance requirements against large datasets. Sisense recently received a large funding round that will give it the means with which to build awareness and sales momentum.

Information Builders' InfoAssist Plus product (which was the primary focus of the Magic Quadrant evaluation this year for this vendor), has little awareness or momentum in the market outside of the Information Builders installed base and this contributed heavily to its position in the Niche Players quadrant.

Pyramid Analytics is a well-funded vendor focused on leveraging megavendors' platforms, with initial focus on Microsoft. As such, it is a strategic partner for Microsoft and played a key role in the development of the July 2015 release of Power BI Desktop. Its BI Office platform delivers a governed data discovery experience for both on-premises and cloud deployments, and is further extended by the ability to publish Microsoft Power BI content to the Pyramid Analytics server.

Yellowfin offers an agile approach to centralized BI provisioning, with strong collaboration and social BI capabilities that are primarily focused in the Asia/Pacific market. Efforts to expand globally have been slow to manifest, which contributed to Yellowfin's position in the Niche Players quadrant.

Platfora serves the expanding segment of the market that has invested in a data lake architecture, either on-premises HDFS or cloud-based options such as Amazon S3, Microsoft Azure Data Lake or Google Cloud Storage. It offers interactive visual exploration via native access to the underlying raw data, which is ingested into in-memory lenses — allowing for iterative analysis of large, multistructured datasets.

Datawatch combines its Monarch data preparation product with visual discovery capabilities to deliver a unique product that is deployed in use cases where real-time visualizations and/or analysis of semistructured data is required.

This Magic Quadrant research presents a global view of Gartner's opinion of the main software vendors that should be considered by organizations seeking to use modern BI and analytics platforms. Buyers should evaluate vendors in all four quadrants and not assume that only the Leaders can deliver successful BI implementations. It is also important to avoid the natural tendency to ascribe your personal definitions for Completeness of Vision and Ability to Execute to this Magic Quadrant. For the purposes of evaluation in this Magic Quadrant, the measures are very specific and likely to be broader than the axis titles may imply at first glance. Readers are encouraged to look at the Evaluation Criteria and Vendor Strengths and Cautions sections carefully to fully understand the nuances of vendor placement that may not be apparent in the Magic Quadrant graphic. For guidance on the Magic Quadrant evaluation process and on how to use a Magic Quadrant, see "How Markets and Vendors Are Evaluated in Gartner Magic Quadrants."

## Context

Readers should not use this Magic Quadrant in isolation as a tool for vendor selection. This year, Gartner has dramatically modified and modernized the underlying BI and analytics platform definition in order to reflect the segment of the overall market where the majority of active net new buying is taking place. As a result of this change, historical comparison with Magic Quadrants from previous years (to assess vendor movement) is irrelevant and is strongly discouraged. Consider this Magic Quadrant to be more of a summary of Gartner's research on this market, with a particular focus on modern BI platforms. When making specific tool selection decisions, use it in combination with our Market Guide for enterprise reporting-based platforms (new in 2016), Critical Capabilities, Survey Analysis

research, and Strengths, Weaknesses, Opportunities and Threats (SWOT) publications, as well as our analyst inquiry service. Moreover, readers should be careful not to ascribe their own definitions of Completeness of Vision or Ability to Execute to this Magic Quadrant, which often map narrowly to product vision and market share, respectively. The Magic Quadrant methodology factors in a range of criteria in determining position, as defined in the extensive Evaluation Criteria section.

## Market Overview

The overall BI and analytics market segment continues to expand and is expected to sustain its 2014 growth rate of 5.8% (adjusted for constant currency) through 2019 — as reflected in Gartner's current estimate of the compound annual growth rate for the sector (see "Forecast: Enterprise Software Markets, Worldwide, 2012-2019, 3Q15 Update"). However, this lower rate of growth reflects a market in transition, with changing buying patterns and requirements. Purchasing decisions continue to move from IT leaders to line-of-business executives and users who want more agility and more flexible personalized options — making the land-and-expand model the new norm. This is in stark contrast to the large, enterprise-scale deals that fueled double-digit growth at a time when IT had larger budgets and wielded much more influence in buying decisions. The primary drivers of new growth in this rapidly evolving market are being influenced by the following dynamics:

**New vendors continue to emerge, offering innovative products to the market for buyers to consider.** During the next several years, buyers will benefit from the attention that vendors are giving to the BI and analytics market and will have ample opportunity to invest in the innovative product offerings that are brought to market. The downside of having a plethora of innovative products to pilot and vendors to engage in POCs with, is the tendency for organizations to incur technical debt over time — as multiple stand-alone solutions that demonstrate business value quickly (and hastily) turn into production deployments without adequate attention being paid to design, implementation and support. In this rapidly evolving BI market, organizations should be careful to limit their technical debt by developing a formal strategy and reference architecture to work within when evaluating their options; thus avoiding major rework and redesign efforts in the future.

**The increased need for governance will serve as the catalyst for renewed IT engagement as business-user-led deployments expand.** When the market shift first began, business users felt empowered to circumvent IT and autonomously purchase and begin using any product that addressed the gaps in their enterprise BI program. Over time, as deployments have grown — both in terms of number of users and in complexity of use cases — business users are re-engaging with IT to collaborate and develop agile processes that support self-service requirements, with appropriate controls in place to ensure appropriate and responsible use. This will bolster the business case for self-service data preparation products to be combined with data discovery products, offering an agile and cohesive alternative to traditional approaches that lack agility and do not support collaborative development between IT and business users. This is consistent with the "pendulum swing" that has occurred at various points in this market — where end-user experimentation has eventually swung to the opposite extreme of IT-centralized control. The need for governance over the rapidly expanding universe of business-user-generated content is now swinging the pendulum back toward the more collaborative middle ground.

**Market awareness and adoption of smart data discovery will extend data discovery to a wider range of users, increasing the reach and impact of analytics.** These emerging capabilities facilitate discovery of hidden patterns in large, complex and increasingly multistructured datasets, without building models or writing algorithms or queries. It goes beyond just data discovery, because business users and business analysts can benefit from advanced analytics (to highlight and visualize important findings, correlations, clusters, predictions, outliers, anomalies, linkages or trends in data that are relevant to the user), with user interaction and exploration via interactive visualizations, search and natural-language query technologies. Some tools also interpret results for the user with natural-language generation of text to highlight patterns and explain insights. This will also reduce the time to insight, as well as the time and expertise needed for manual data exploration and modeling. Smart data discovery does not replace advanced analytics or the data scientist; it complements them by adding a class of citizen data scientists that can develop hypotheses that can be explored in more detail and then validated by the data scientist.

**The need for organizations to integrate and derive insight from a growing number of multistructured data sources will drive innovation in smart self-service data preparation and smart data discovery.** Organizations will require sophisticated software capabilities that automate the ingestion, inference, enrichment and creation of search indexes when accessing new data sources. Manual efforts to perform these tasks will not scale to match the increase in data variety and complexity, which will continue to increase exponentially over time. Similarly, automation in the discovery of patterns and the finding of insights is required in order to scale analytics and expand the reach of actionable analytical insights to a more diverse range of users.

**Search-based data discovery enabled by natural-language query will extend the reach of analytics to more users.** As BI and analytics platforms increasingly support natural-language query, allowing nontechnical users to analyze data by asking questions in a conversational way, new users are more likely to engage with and leverage analytics. Advancements in the underlying search capabilities required for effective end-user-driven natural-language query against multistructured data will improve the usability and credibility of this emerging product feature.

**Marketplaces will expand and mature, creating new opportunities for organizations to buy and sell analytic capabilities.** The availability of an active marketplace where buyers and sellers converge to exchange analytic applications, aggregated data sources, custom visualizations and algorithms is likely to generate increased interest in the BI and analytics space and to fuel its future growth. An established marketplace also provides BI vendors with a new channel — where solutions built on top of their platforms can be sold into their customer channel or partner networks. The main beneficiary of a mature marketplace is the end-user organization, which will gain access to a virtually limitless array of capabilities that can be leveraged in their own internally developed solutions and processes.

**Organizations will need to support real-time events and streaming data capture in support of IoT use cases.** In order for organizations to prepare for the volume of data that is generated by devices, sensors and people in a connected world, organizations will have to make new investments in products that are designed to capture and process this type of data. The players in the BI and analytics market will need to invest in similar capabilities — in order to offer buyers a single platform on which to combine real-time events and streaming data with other types of source data and to develop a new breed of high-impact analytic applications that

leverage the power of real-time actionable insight.

## Appendix

### Other Modern BI and Analytics Platform Vendors That Did Not Qualify for Inclusion

A number of interesting vendors participated in the Magic Quadrant process (with most identifying reference customers and providing information), but did not meet the criteria for inclusion in the Magic Quadrant itself. These vendors fall into the following categories:

- Cloud BI
- Hadoop-based data discovery
- Link/graph-based data discovery
- Real-time process and operational intelligence/IoT
- Search-based data discovery
- Smart data discovery and natural-language generation (NLG)
- Data-blending-centric modern BI platforms
- Other modern BI platform vendors

Specific vendors and products (where applicable) are listed below (see Table 3). These vendors will feature in forthcoming research (due later in 2016) that will be similar to the "Other Vendors to Consider" section included in previous versions of the BI and analytics Magic Quadrant.

**Table 3.** Other Relevant Vendors

Vendor (– Product)	Headquarters
<b>Cloud BI</b>	
1010data ( <a href="http://www.1010data.com/">http://www.1010data.com/</a> )	New York, New York, U.S.
Bime ( <a href="http://www.bimeanalytics.com/">http://www.bimeanalytics.com/</a> )	Montpellier, France
OpenText ( <a href="http://www.actuate.com/">http://www.actuate.com/</a> ) (Actuate) – <i>OpenText Big Data Analytics</i>	San Mateo, California, U.S.
<b>Hadoop-Based Data Discovery</b>	
Datameer ( <a href="http://www.datameer.com/">http://www.datameer.com/</a> )	San Francisco, California, U.S.
FICO ( <a href="http://www.fico.com/">http://www.fico.com/</a> ) – <i>Big Data Analyzer (Karmasphere)</i>	San Jose, California, U.S.
Oracle ( <a href="http://www.oracle.com/">http://www.oracle.com/</a> )	Redwood Shores, California, U.S.
<b>Link/Graph-Based Data Discovery</b>	
Ayasdi ( <a href="http://www.ayasdi.co/">http://www.ayasdi.co/</a> )	Menlo Park, California, U.S.
Cambridge Semantics ( <a href="http://www.cambridgesemantics.com/">http://www.cambridgesemantics.com/</a> )	Boston, Massachusetts, U.S.
Centrifuge ( <a href="http://www.centrifugesystems.com/">http://www.centrifugesystems.com/</a> ) Systems	McLean, Virginia, U.S.
SynerScope ( <a href="http://www.synerscope.com/">http://www.synerscope.com/</a> )	Helvoirt, Netherlands
<b>Real-Time Process and Operational Intelligence</b>	
Fusionex ( <a href="http://www.fusionex-international.com/">http://www.fusionex-international.com/</a> )	London, U.K.
Halo ( <a href="http://www.halobi.com/">http://www.halobi.com/</a> )	San Diego, California, U.S.
Lexmark ( <a href="http://www.kofax.com/">http://www.kofax.com/</a> ) (Kofax)	Irvine, California, U.S.
Splunk ( <a href="http://www.splunk.com/">http://www.splunk.com/</a> )	San Francisco, California, U.S.
<b>Search-Based Data Discovery</b>	



<b>Vendor (– Product)</b>	<b>Headquarters</b>
Attivio ( <a href="http://www.attivio.com/">http://www.attivio.com/</a> )	Newton, Massachusetts, U.S.
Connexica ( <a href="http://www.connexica.com/">http://www.connexica.com/</a> )	Stafford, U.K.
Incorta ( <a href="http://www.incorta.com/">http://www.incorta.com/</a> )	Redwood Shores, California, U.S.
ThoughtSpot ( <a href="http://www.thoughtspot.com/">http://www.thoughtspot.com/</a> )	Palo Alto, California, U.S.
Zoomdata ( <a href="http://www.zoomdata.com/">http://www.zoomdata.com/</a> )	Reston, Virginia, U.S.
<b>Smart Data Discovery and Natural-Language Generation (NLG)</b>	
Automated Insights ( <a href="http://www.automatedinsights.com/">http://www.automatedinsights.com/</a> )	Durham, North Carolina, U.S.
DataRPM ( <a href="http://www.datarpm.com/">http://www.datarpm.com/</a> )	Redwood City, California, U.S.
Emcien ( <a href="http://www.emcien.com/">http://www.emcien.com/</a> )	Atlanta, Georgia, U.S.
Narrative Science ( <a href="http://www.narrativescience.com/">http://www.narrativescience.com/</a> )	Chicago, Illinois, U.S.
Yseop ( <a href="http://www.yseop.com/">http://www.yseop.com/</a> )	New York, New York, U.S.
<b>Data Blending-Centric Modern BI Platforms</b>	
Lavastorm ( <a href="http://www.lavastorm.com/">http://www.lavastorm.com/</a> )	Boston, Massachusetts, U.S.
<b>Other Modern BI Platform Vendors</b>	
OpenText ( <a href="http://www.actuate.com/">http://www.actuate.com/</a> ) (Actuate) – <i>OpenText Analytics</i>	San Mateo, California, U.S.
Advizor Solutions ( <a href="http://www.advizorsolutions.com/">http://www.advizorsolutions.com/</a> )	Downers Grove, Illinois, U.S.
AFS Technologies ( <a href="http://www.afsi.com/">http://www.afsi.com/</a> )	Phoenix, Arizona, U.S.
Altair ( <a href="http://www.hiqube.com/">http://www.hiqube.com/</a> ) – <i>HiQube</i>	Troy, Michigan, U.S.
Antivia ( <a href="http://www.antivia.com/">http://www.antivia.com/</a> ) – <i>DecisionPoint Enterprise</i>	Leeds, U.K.
Bitam ( <a href="http://www.bitam.com/">http://www.bitam.com/</a> )	Tampico, Tamaulipas, Mexico
Chartio ( <a href="http://www.chartio.com/">http://www.chartio.com/</a> )	San Francisco, California, U.S.
DataHero ( <a href="http://www.datahero.com/">http://www.datahero.com/</a> )	San Francisco, California, U.S.
Dundas Data Visualization ( <a href="http://www.dundas.com/">http://www.dundas.com/</a> ) – <i>Dundas BI</i>	Toronto, Ontario, Canada
ElegantJ BI ( <a href="http://www.elegantjbi.com/">http://www.elegantjbi.com/</a> )	Gujarat, India
iDashboards ( <a href="http://www.idashboards.com/">http://www.idashboards.com/</a> )	Troy, Michigan, U.S.
InetSoft ( <a href="http://www.inetsoft.com/">http://www.inetsoft.com/</a> )	Piscataway, New Jersey, U.S.
Looker ( <a href="http://www.looker.com/">http://www.looker.com/</a> )	Santa Cruz, California, U.S.
Oracle ( <a href="http://www.oracle.com/">http://www.oracle.com/</a> ) – <i>Visual Analyzer</i>	Redwood Shores, California, U.S.
Panorama ( <a href="http://www.panorama.com/">http://www.panorama.com/</a> ) – <i>Necto</i>	Toronto, Ontario, Canada
Phocas ( <a href="http://www.phocassoftware.com/">http://www.phocassoftware.com/</a> )	Coventry, U.K.

Vendor (– Product)	Headquarters
Prognoz ( <a href="http://www.prognoz.com/">http://www.prognoz.com/</a> )	Perm, Russia
Rocket Software ( <a href="http://www.rocketsoftware.com/">http://www.rocketsoftware.com/</a> )	Waltham, Massachusetts, U.S.
Targit ( <a href="http://www.targit.com/">http://www.targit.com/</a> )	Hjørring, Denmark
WingArc ( <a href="http://www.wingarc.com/">http://www.wingarc.com/</a> )	Shibuya, Tokyo
Zucchetti ( <a href="http://www.zucchetti.com/">http://www.zucchetti.com/</a> )	Lodi, Italy

Source: Gartner (February 2016)

## Acronym Key and Glossary Terms

ACV	Annual Contract Value
AWS	Amazon Web Services
BI	business intelligence
ETL	extraction, transformation and loading
HDFS	Hadoop Distributed File System
IoT	Internet of Things
KPI	key performance indicator
TCO	total cost of ownership

## Evidence

Gartner defines total software revenue as revenue that is generated from appliances, new licenses, updates, subscriptions and hosting, technical support, and maintenance. Professional services are not included in total software revenue (see "Market Share Analysis: Business Intelligence and Analytics Software, 2014"). Gartner's analysis, the ratings and commentary in this report are based on a number of sources: customers' perceptions of each vendor's strengths and challenges (as gleaned from their BI-related inquiries to Gartner); an online survey of vendors' reference customers (which was conducted during November 2015 and yielded 1,902 responses); a questionnaire completed by the vendors; vendors' briefings (including product demonstrations, strategy and operations); an extensive RFP questionnaire inquiring about how each vendor delivers the specific features that make up our 14 critical capabilities (see "Toolkit: BI and Analytics Platform RFP"); a prepared video demonstration of how well vendor BI platforms address specific functionality requirements across the 14 critical capabilities; and access to evaluation software from each vendor.

## Note 1

### Change in Capabilities Definitions From Last Year's Magic Quadrant

As a result of the underlying BI and analytics platform definition that was implemented this year, the critical capabilities were significantly changed from last year to better reflect the requirements of a modern platform. These changes are outlined below and the final set of detailed criteria is included in Note 2 and also in the published RFP template (see "Toolkit: BI and Analytics Platform RFP").

#### Critical Capabilities Dropped or Changed:

**IT-Developed Reporting and Dashboards** was dropped as a critical capability. Some subcriteria that are relevant to the development, distribution and printing of modern interactive analytic content were moved to the new Publish Analytic Content critical capability this year. The remaining capabilities previously included in this category will be assessed in the new Market Guide for enterprise reporting-based platforms.

**Traditional Styles of Analysis** was dropped because ad hoc query and OLAP are covered in the new Market Guide for enterprise reporting-based platforms.

**Development and Integration** was dropped, but the capabilities necessary to embed content and extend the platform were included in the Embed Analytic Content critical capability this year.

**Internal Platform Integration** was dropped as the underlying subcriteria were added to Governance and Metadata Management.

**Security** -related subcriterion was removed from BI Platform Administration and placed into a new separate category called Security and User Administration.

**Embedded BI** was renamed as Embed Analytic Content and the embedded advanced analytics related subcriteria were moved to a separate new critical capability.

**Cloud Deployment** was renamed to Cloud BI.

**Mobile** was renamed to Mobile Exploration and Authoring.

**Collaboration and Social Integration** was renamed to Collaboration and Social BI.

#### Capabilities Added:

##### **Self-Contained ETL and Data Storage**

**Governance and Metadata Management** – Combined Internal Platform Integration and Metadata Management critical capabilities from 2015 into a single category.

**Embedded Advanced Analytics** – Split out as a separate category from Embedded BI, which also included capabilities for developers to embed content that is unrelated.

**Data Source Connectivity** – Split out from the 2015 Metadata Management critical capability and created as a separate dedicated category.

**Security and User Administration** – Split out from the 2015 BI Platform Administration critical capability and created as a separate dedicated category.

**Publish Analytic Content** – Subcriteria from IT Developed Reporting and Development and Integration critical capabilities from 2015 were combined into a single category that is specific to the publishing capabilities for modern platforms covered in this year's Magic Quadrant.

**Embedded Advanced Analytics** – Split out from the 2015 Embedded BI critical capability into a separate category to differentiate it from the unrelated capability of content embeddability assessed in the Embed Analytic Content critical capability.

## Note 2

### Detailed Capabilities Subcriteria

**BI Platform Administration:** Capabilities that enable scaling the platform, optimizing performance and ensuring high availability and disaster recovery.

Architecture

High availability and disaster recovery

Scalability and performance

**Cloud BI:** Platform-as-a-service and analytic-application-as-a-service capabilities for building, deploying and managing analytics and analytic applications in the cloud, based on data both in the cloud and on-premises.

Direct connect for both cloud and on-premises data sources (hybrid)

Cloud data storage

Packaged content

Self-service administration

Cloud authoring

Self-service elasticity

Marketplace

Multitenancy

**Security and User Administration:** Capabilities that enable platform security, administering users, and auditing platform access and utilization.

Authentication

Authorization

User administration

Application support

Auditing

Usage monitoring

Biosecurity

Vulnerability

Encryption

**Data Source Connectivity:** Capabilities that allow users to connect to structured and unstructured data contained within various types of storage platforms both on-premises and in the cloud.

OLAP connectivity

Personal and Web data

Unstructured and semistructured data

Out-of-the-box enterprise application connectivity

Relational query access

Hadoop/NoSQL sources

**Governance and Metadata Management:** Tools for enabling users to leverage the same systems-of-record semantic model and metadata. These should provide a robust and centralized way for administrators to search, capture, store, reuse and publish metadata objects such as dimensions, hierarchies, measures, performance metrics/KPIs and report layout objects, parameters and so on. Administrators should have the ability to promote business-user-defined data mashups and metadata to the systems-of-record metadata.

Data lineage and impact analysis

Watermarks

Data modeling

Metadata layer capabilities

Promotability

Reuse

**Self-Contained ETL and Data Storage:** Platform capabilities for accessing, integrating, transforming and loading data into a self-contained storage layer, with the ability to index data and manage data loads and refresh scheduling.

Built-in data integration capabilities

Built-in data storage capabilities

In-database processing

Search or natural-language processing index management

Data loading

Load scheduling and monitoring

**Self-Service Data Preparation:** Drag-and-drop, user-driven data combination of different sources and the creation of analytic models such as user-defined measures, sets, groups and hierarchies. Advanced capabilities include semantic autodiscovery, intelligent joins, intelligent profiling, hierarchy generation, data lineage and data blending on varied data sources, including multistructured data.

Business user data lineage

Business user data mashup

Business user joins

Business user data inference

Business user data enrichment

Business user data masking

Business user data profiling

**Embedded Advanced Analytics:** Enables users to easily access advanced analytics capabilities that are self-contained within the platform itself or through the import and integration of externally developed models.

Advanced algorithms

Advanced analytics visualizations

Analytical functions

Open standards

Forecasting

Real-time scoring

Statistical functions

**Analytic Dashboards:** The ability to create highly interactive dashboards and content with visual exploration and embedded advanced and geospatial analytics to be consumed by others.

Search-based discovery

Content authoring

Chart types supported for design

Chart formatting options

Animation and playback

Disconnected exploration

Geospatial and location intelligence

Formatting and layout

Reusable dashboard templates

**Interactive Visual Exploration:** Enables the exploration of data via the manipulation of chart images, with the color, brightness, size, shape and motion of visual objects representing aspects of the dataset being analyzed. This includes an array of visualization options that go beyond those of pie, bar and line charts, including heat and tree maps, geographic maps, scatter plots and other special-purpose visuals. These tools enable users to analyze the data by interacting directly with a visual representation of it.

Consumer interactivity and exploration

Custom groupings

Global filters

Bins

Chart types supported for analysis

Display as percentages

Visualizations linking

Conditional formatting

Information visualizations

Natural-language query

Automatic chart selection and optimal display

Tutorials and online information

**Mobile Exploration and Authoring:** Enables organizations to develop and deliver content to mobile devices in a publishing and/or interactive mode, and takes advantage of mobile devices' native capabilities, such as touchscreen, camera, location awareness and natural-language query.

Touchscreen experience

Mobile device support

Device-based security

Offline exploration

Interactive manipulation

Mobile content creation

Natural-language query

GPS integration

**Embed Analytic Content:** Capabilities including a software developer's kit with APIs and support for open standards for creating and modifying analytic content, visualizations and applications, embedding them into a business process and/or an application or portal. These capabilities can reside outside the application, reusing the analytic infrastructure, but must be easily and seamlessly accessible from inside the application, without forcing users to switch between systems. The capabilities for integrating BI and analytics with the application architecture will enable users to choose where in the business process the analytics should be embedded.

Software development kit capabilities

Portal integration

Embeddability

**Publish Analytic Content:** Capabilities that allow users to publish, deploy and operationalize analytic content through various output types and distribution methods with support for content search, scheduling and alerts.

Output format

Content search

Infographics

Scheduling

Event-based scheduling

Conditional alerts

Mobile distribution

Printing

Content posting

Storytelling/natural-language generation

**Collaboration and Social BI:** Enables users to share and discuss information, analysis, analytic content and decisions via discussion threads, chat and annotations.

Discussion threads

Integration with social platforms  
Real-time collaboration  
Mobile collaboration  
Timelines  
Rating and recommendations

## Note 3 Customer Survey Metrics Referenced in This Report

Magic Quadrant customer survey composite success measures are referenced throughout the report. Reference customer survey participants scored vendors on each metric; these metrics were calculated as follows:

**Customer Experience:** This is a combined score consisting of ratings for achievement of business benefits, availability of skills and user enablement (which includes scores for training, online videos, online communities and documentation) and is based entirely on survey reference responses. *(Note that, in the 2015 Magic Quadrant, this category included the items that are now included in Operations, which makes year-over-year comparison of Customer Experience scores invalid.)*

**Operations:** This is a combined score consisting of rating for product quality, support and ease of migration and is based entirely on survey reference responses. *(Note that this category was not used in the 2015 Magic Quadrant, because these items were included in the Custom Experience category, which makes year-over-year comparison of Customer Experience scores invalid.)*

**Sales Experience:** Customers rate their satisfaction with presales, contracting, pricing and account management.

**Market Understanding:** This is a composite measure of ease of use for consumers, ease of use for developers, and ease of use for administration and deployment; and complexity of analysis (described below). We believe these two measures map to current buying requirements.

**Complexity of Analysis:** This is a combined score consisting of an analyst opinion rating of how well the platform handles complex data needs, and a survey-based weighted average score based on the score for percentage of respondents reporting use of the platform for the types of analysis users conduct with the platform; more interactive and advanced types of analysis result in a higher score than static or parameterized reporting. Activities are weighted as follows:

Viewing static reports = 1  
Monitoring performance via a scorecard = 1  
Viewing parameterized reports = 1  
Performing simple ad hoc analysis = 3  
Using predictive analytics and/or data mining models = 3  
Interactive exploration and analysis of data = 4  
Performing moderately complex to complex ad hoc analysis = 5  
Data integration and preparation = 5

Analysts' opinion of how well the platform handles complex data needs were also evaluated, based on an assessment of:

Diversity of data source connectivity  
Ability to combine multiple data sources  
Support for streaming data  
Multipass SQL capabilities  
Ability to federate data

**User Enablement:** This is a composite score consisting of individual ratings for documentation, online tutorials for content authors, online tutorials for consumers, online communities, training, availability of skills and user conferences.

**Business Benefits:** The business benefits score is a score average taken from 11 different benefit areas, as follows:

Increased revenue  
Better, faster decisions  
Business benefits — customer satisfaction  
Reduce IT head count  
Reduce line-of-business head count  
Reduce external IT costs  
Reduce other non-IT costs  
Expand types of analysis  
Make better insights available to more people  
Link KPIs to corporate objectives

## Evaluation Criteria Definitions

### Ability to Execute

**Product/Service:** Core goods and services offered by the vendor for the defined market. This includes current product/service capabilities, quality, feature sets, skills and so on, whether offered natively or through OEM agreements/partnerships as defined in the market definition and detailed in the subcriteria.

**Overall Viability:** Viability includes an assessment of the overall organization's financial health, the financial and practical success of the business unit, and the likelihood that the individual business unit will continue investing in the product, will continue offering the product and will advance the state of the art within the organization's portfolio of products.

**Sales Execution/Pricing:** The vendor's capabilities in all presales activities and the structure that supports them. This includes deal management, pricing and negotiation, presales support, and the overall effectiveness of the sales channel.

**Market Responsiveness/Record:** Ability to respond, change direction, be flexible and achieve competitive success as opportunities develop, competitors act, customer needs evolve and market dynamics change. This criterion also considers the vendor's history of responsiveness.

**Marketing Execution:** The clarity, quality, creativity and efficacy of programs designed to deliver the organization's message to influence the market, promote the brand and business, increase awareness of the products, and establish a positive identification with the product/brand and organization in the minds of buyers. This "mind share" can be driven by a combination of publicity, promotional initiatives, thought leadership, word of mouth and sales activities.

**Customer Experience:** Relationships, products and services/programs that enable clients to be successful with the products evaluated. Specifically, this includes the ways customers receive technical support or account support. This can also include ancillary tools, customer support programs (and the quality thereof), availability of user groups, service-level agreements and so on.

**Operations:** The ability of the organization to meet its goals and commitments. Factors include the quality of the organizational structure, including skills, experiences, programs, systems and other vehicles that enable the organization to operate effectively and efficiently on an ongoing basis.

### Completeness of Vision

**Market Understanding:** Ability of the vendor to understand buyers' wants and needs and to translate those into products and services. Vendors that show the highest degree of vision listen to and understand buyers' wants and needs, and can shape or enhance those with their added vision.

**Marketing Strategy:** A clear, differentiated set of messages consistently communicated throughout the organization and externalized through the website, advertising, customer programs and positioning statements.

**Sales Strategy:** The strategy for selling products that uses the appropriate network of direct and indirect sales, marketing, service, and communication affiliates that extend the scope and depth of market reach, skills, expertise, technologies, services and the customer base.

**Offering (Product) Strategy:** The vendor's approach to product development and delivery that emphasizes differentiation, functionality, methodology and feature sets as they map to current and future requirements.

**Business Model:** The soundness and logic of the vendor's underlying business proposition.

**Vertical/Industry Strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of individual market segments, including vertical markets.

**Innovation:** Direct, related, complementary and synergistic layouts of resources, expertise or capital for investment, consolidation, defensive or pre-emptive purposes.

**Geographic Strategy:** The vendor's strategy to direct resources, skills and offerings to meet the specific needs of geographies outside the "home" or native geography, either directly or through partners, channels and subsidiaries as appropriate for that geography and market.



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