Gartner.

Magic Quadrant for Analytics and Business Intelligence Platforms

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By Analysts James Richardson, Rita Sallam, Kurt Schlegel, Austin Kronz, Julian Sun

Augmented capabilities are becoming key differentiators for analytics and BI platforms, at a time when cloud ecosystems are also influencing selection decisions. This Magic Quadrant will help data and analytics leaders evolve their analytics and BI technology portfolios in light of these changes.

Strategic Planning Assumptions

By 2022, augmented analytics technology will be ubiquitous, but only 10% of analysts will use its full potential.

By 2022, 40% of machine learning model development and scoring will be done in products that do not have machine learning as their primary goal.

By 2023, 90% the world's top 500 companies will have converged analytics governance into broader data and analytics governance initiatives.

By 2025, 80% of consumer or industrial products containing electronics will incorporate on-device analytics.

By 2025, data stories will be the most widespread way of consuming analytics, and 75% of stories will be automatically generated using augmented analytics techniques.

Market Definition/Description

Modern analytics and business intelligence (ABI) platforms are characterized by easy-to-use functionality that supports a full analytic workflow — from data preparation to visual exploration and insight generation — with an emphasis on

self-service and augmentation. For a full definition of what these platforms comprise and how they differ from older BI technologies, see "Technology Insight for Ongoing Modernization of Analytics and Business Intelligence Platforms."

Vendors in the ABI market range from long-standing large technology firms to startups backed by venture capital funds. The larger vendors are associated with wider offerings that includes data management features. Most new spending in this market is on cloud deployments.

ABI platforms are no longer differentiated by their data visualization capabilities, which are becoming commodities. Instead, differentiation is shifting to:

- **Integrated support for enterprise reporting capabilities**. Organizations are interested in how these platforms, known for their agile data visualization capabilities, can now help them modernize their enterprise reporting needs. At present, these needs are commonly met by older BI products from vendors like SAP (BusinessObjects), Oracle (Business Intelligence Suite Enterprise Edition) and IBM (Cognos, pre-version 11).

- **Augmented analytics**. Machine learning (ML) and artificial intelligence (AI)-assisted data preparation, insight generation and insight explanation — to augment how business people and analysts explore and analyze data — are fast becoming key sources of competitive differentiation, and therefore core investments, for vendors (see "Augmented Analytics Is the Future of Analytics").

ABI platform functionality includes the following 15 critical capability areas (these have been substantially updated to reflect the refocus on enterprise reporting and the increased importance of augmentation):

- **Security:** Capabilities that enable platform security, administering of users, auditing of platform access and authentication.

- **Manageability:** Capabilities to track usage, manage how information is shared and by whom, perform impact analysis and work with third-party applications.

- **Cloud:** The ability to support building, deploying and managing analytics and analytic applications in the cloud, based on data both in the cloud and on-premises, and across multicloud deployments.

- **Data source connectivity:** Capabilities that enable users to connect to, and ingest, structured and unstructured data contained in various types of storage platforms, both on-premises and in the cloud.

- **Data preparation**: Support for drag-and-drop, user-driven combination of data from different sources, and the creation of analytic models (such as user-defined measures, sets, groups and hierarchies).

- **Model complexity**: Support for complex data models, including the ability to handle multiple fact tables, interoperate with other analytic platforms and support knowledge graph deployments.

- **Catalog:** The ability to automatically generate and curate a searchable catalog of the artefacts created and used by the platform and their dependencies

- **Automated insights**: A core attribute of augmented analytics, this is the ability to apply ML techniques to automatically generate insights for end users (for example, by identifying the most important attributes in a dataset).

- **Advanced analytics**: Advanced analytical capabilities that are easily accessed by users, being either contained within the ABI platform itself or usable through the import and integration of externally developed models.

- **Data visualization**: Support for highly interactive dashboards and the exploration of data through the manipulation of chart images. Included are an array of visualization options that go beyond those of pie, bar and line charts, such as heat and tree maps, geographic maps, scatter plots and other special-purpose visuals.

- **Natural language query:** This enables users to query data using business terms that are either typed into a search box or spoken.

- **Data storytelling**: The ability to combine interactive data visualization with narrative techniques in order to package and deliver insights in a compelling, easily understood form for presentation to decision makers.

- **Embedded analytics:** Capabilities include an SDK with APIs and support for open standards in order to embed analytic content into a business process, an application or a portal.

- **Natural language generation (NLG):** The automatic creation of linguistically rich descriptions of insights found in data. Within the analytics context, as the user interacts with data, the narrative changes dynamically to explain key findings or the meaning of charts or dashboards.

- **Reporting:** The ability to create and distribute (or "burst") to consumers grid-layout, multipage, pixel-perfect reports on a scheduled basis.

Magic Quadrant

Figure 1. Magic Quadrant for Analytics and Business Intelligence Platforms

Source: Gartner (February 2020)

Vendor Strengths and Cautions

Alibaba Cloud

Alibaba Cloud, a new entrant to this Magic Quadrant, is a Niche Player. As yet, it competes only in Greater China, but it has global potential.

Alibaba Cloud is the largest public cloud platform provider in China. It offers data preparation, visual-based data discovery and interactive dashboards as part of its Quick BI platform. It is available as a SaaS option running on Alibaba Cloud's own infrastructure or as an on-premises option on Apsara Stack Enterprise.

With release 3.4, Quick BI broadened its enterprise reporting functionality, thus reinforcing its strong focus on the needs of its local market.

Strengths

- **Support for Mode 1 (centralized) and Mode 2 (decentralized)**: In addition to Mode 2, self-service, visual-based data discovery capabilities, Quick BI provides Mode 1 capabilities such as Microsoft Excel-like reporting and write-back with form-based submission. Many of the organizations attracted to Quick BI are first-time customers with low levels of maturity in analytics. As a ABI platform that can meet both traditional and modern needs, Quick BI is suitable for them.

- **Operations**: According to the reference customers Gartner surveyed, Alibaba Cloud is operating well. They were very positive about the overall experience, service and support, and the migration experience delivered by Alibaba Cloud. Most would recommend Quick BI to others.

- **Wider data offering:** Quick BI is a core product within the Alibaba Data Middle Office offering, which is a productized version of the data and analytics technology built by Alibaba for its e-commerce business. This is driving market traction — Alibaba Data Middle Office is the most frequent topic raised by users of Gartner's client inquiry service who are interested in deploying a data and analytics platform in Greater China. Alibaba sees Quick BI as key to its plan to execute its overall business strategy to develop its ecosystem and win new business for other Alibaba Cloud products, such as Dataphin (for data management) and Quick Audience (for customer insights and marketing automation).

Cautions

- **Geographical presence**: Alibaba is a China-focused vendor, with a very limited installed base elsewhere. The quality of documentation and training materials for Quick BI available in Mandarin is not matched by those available for the same product in other languages.

- **Functional maturity:** Quick BI is a new product and its functional capabilities are relatively weak, compared with those of the other vendors in this Magic Quadrant. This is especially the case in terms of automated insight, data storytelling and data source connectivity. Reference customers indicated that they use Quick BI for simple BI tasks, with most viewing static reports or parameterized dashboards, rather than undertaking more complex self-service analysis.

- **Support for wide deployment**: Reference customers identified Quick BI's inability to support large numbers of users and its cost as limitations to wider deployment in their organizations.

Birst

Birst is a Niche Player in this Magic Quadrant. Its strategy and appeal are led by the aim of meeting the needs of the wider Infor installed base.

Birst provides an end-to-end data warehouse, reporting and visualization platform built for the cloud. It also offers its product as an on-premises appliance on commodity hardware. Since 2017, Birst has operated as a stand-alone subdivision of Infor. Judging by inquiries from Gartner customers, most organizations that consider using Birst are Infor customers.

In 2019, Birst extended its visual analytics capability with the guided Birst Visualizer, further developed its Smart Insights augmented analytics functionality and its core enterprise-readiness capabilities. Birst 7 brings together Mode 1 (centralized) and Mode 2 (decentralized) analytics in a single platform through a common interface.

Strengths

- **Metadata-powered cloud BI:** Birst provides data preparation, dashboards, visual exploration and formatted, scheduled reports on a single cloud-native platform.

Birst's networked semantic metadata layer enables business units to create models that can be promoted to the wider enterprise. Birst supports live connectivity with on-premises data sources and rapid creation of a data model and all-in-one data warehouse on a range of storage options (Microsoft SQL Server, SAP HANA, Exasol and Amazon Redshift).

- **Vertical applications**: Birst for CloudSuite gives Infor ERP customers prebuilt extraction, transformation and loading (ETL), data models, and dashboards that are fully integrated into Infor business applications. For non-Infor data sources, Birst provides solution accelerators for specific domains, such as wealth management, insurance, sales and marketing.

- **Global capability**: As part of Infor, Birst has a physical presence in 44 countries. Its software supports complete localization of the entire Birst platform, including at the application layer, in over 40 languages, in the metadata model and in user-generated content.

Cautions

- **Performance**: Most of Birst's reference customers named poor performance as a problem they had encountered in their deployment, and identified this as a concern regarding wider deployment. This finding is consistent with feedback gathered for the 2019 edition of this Magic Quadrant. Poor responsiveness is an inhibitor of user adoption for any modern ABI product.

- **Customer support**: Providing high-quality and timely support has long been a problem for Birst. Birst's reference customers' view its software quality and support quality as ongoing inhibitors of wider use.

- **Self-service usage**: Although Birst now offers improved data visualization functionality, relatively few customers use it for self-service. Judging from reference customers, Birst is overwhelmingly used for Mode 1 static and parameter-driven reporting, rather than Mode 2 requirements.

BOARD International

BOARD International is a Niche Player in this Magic Quadrant. It predominantly serves a submarket for financially oriented BI.

BOARD positions itself as a vendor of an "end-to-end decision-making platform" and defines its leading go-to-market targets as organizations using IBM, Oracle and SAP enterprise reporting tools. The company has transitioned to a hosted cloud model, and seen strong growth in the U.S., which now accounts for around one-quarter of its global license revenue.

In May 2019, BOARD introduced version 11 of its platform, based on a reengineered in-memory calculation engine that replaces its long-standing multidimensional online analytical processing (MOLAP) approach. The investment made by Nordic Capital early in 2019 is evident in BOARD's head count growth — up almost 25% in a year — and its sharper marketing.

Strengths

- **Unified analytics, BI, and financial planning and analysis (FP&A):** BOARD is one of only two vendors in this Magic Quadrant to offer a modern ABI platform with integrated FP&A functionality. As such, it is highly differentiated for buyers looking to close the gap between BI and financial processes.

- **Breadth of analytics:** The reference customers surveyed for this research use BOARD for a wide range of analytic tasks. This illustrates its platform's breadth of capabilities, which range from Mode 1 reporting and simulation using write-back, to predictive analytics using the Board Enterprise Analytics Modelling (BEAM) statistical function library.

- **System integrator ecosystem:** BOARD has a well-established network of system integrator (SI) partners. These are helping to drive its growth and giving it presence, by proxy, outside the nine countries where it has significant direct operations, namely the U.S., Switzerland, the U.K., Italy, Germany, Australia, France, Benelux and Spain.

Cautions

- **Recognition outside finance departments:** In most cases, BOARD enters a company via the finance department, its brand being well known there. Persuading nonfinance end users to use its platform as an alternative to better known BI platforms may prove difficult. None of the reference customers we surveyed said BOARD was their sole enterprise BI standard.

- **Product direction**: BOARD is not innovating as quickly as its competitors. Although it offers some augmented analytic capabilities in the BOARD Cognitive Space, particularly for automated forecasting, its vision is lagging behind that of the market as a whole in the key areas of openness and consumerization.

- **Customer experience**: BOARD's reference customers were relatively unenthusiastic about their experience of working with the company. In particular, they identified issues with the product migration experience and the quality of the software product.

Domo

Domo is a Niche Player in this Magic Quadrant. Its focus on business-user-deployed dashboards and ease of use characterize its appeal.

Domo's cloud-based ABI platform offers over 1,000 data connectors, consumer-friendly data visualizations and dashboards, and a low/no-code environment for BI application development. Domo typically sells directly to business departments, such as marketing and sales, that are attracted to its platform's ease of use and fast time to deployment.

In the fourth quarter of 2019, Domo announced a strategic partnership with Snowflake, a leading cloud data platform provider, to offer a native API integration and joint go-to-market strategy. In the second quarter of 2019, Domo announced a package of 20 data connectors to Amazon Web Services (AWS) services including Simple Storage Service (S3), Redshift, Athena, Aurora, DynamoDB and CloudWatch. In the first quarter of 2019, Domo announced its Business Automation Engine (BAE), an orchestration layer that coordinates event-based workflows and helps Domo move from descriptive to prescriptive analytics.

Strengths

- **Customer satisfaction**: Domo scored well in several areas of Gartner's reference customer survey, including overall vendor experience and product quality. All of Domo's reference customers indicated they would recommend its product.

- **Renewed business momentum**: Domo's subscription revenue increased by over 25% between the first nine months of 2018 and the first nine months of 2019.

- **Speed of deployment**: Domo's ability to connect quickly to enterprise applications enables rapid deployment. Domo's connectivity is differentiated in that it maintains API-like connectors that can respond dynamically to changes in source-side schemas.

- **Preparation for consumer-centric analytics**: Since 2010, Domo has been competing with a consumer-centric approach in a market almost exclusively focused on "power users," but new market dynamics emphasizing the "analytic consumer" and the "empowered analyst," should help it.

Cautions

- **Standardization rate**: Comparatively few of Domo's reference customers consider it their sole enterprise ABI platform standard. However, this is likely because Domo is often deployed by lines of business — in isolation from IT — for domain-specific analysis in the areas of marketing, finance and supply chain. This finding is consistent with customer reference feedback received in 2019.

- **Geographic presence**: Although Domo's platform supports multiple languages (English, Japanese, French, German, Spanish and Simplified Chinese), the company has a direct presence in only four countries: the U.S., Japan, the U.K. and Australia. This impairs its perception as a viable option for enterprises based in other countries.

- **Marketing differentiation**: Domo's most used capability remains its easy-to-use management dashboards. Few of Domo's surveyed reference customers were using its product for complex analysis (predictive analytics in particular). The market is moving away from dashboards and, although Domo's product roadmap acknowledges this development, its brand is not associated with the shift toward augmented analytics.

Dundas

Dundas, a Niche Player, is a new entrant to this Magic Quadrant. Greatly evolved from its origins as provider of a chart engine for developers, it now offers a fully featured platform.

The Dundas BI platform enables users to visualize data, build and share dashboards, create pixel-perfect reports, and embed and customize analytics content. It is built on Dundas' in-memory engine and built-in data warehouse. Dundas sells to large enterprises, but specializes in embedded BI, with 70% of its revenue coming from OEMs that extend, integrate, customize and embed Dundas BI in their applications.

In 2019, Dundas introduced its new in-memory engine, added point-and-click trend analysis, a new natural language query capability, support for Linux (in addition to Windows), and an application development environment for highly customized analytic applications.

Strengths

- **Embedded BI specialty:** With fully open APIs, Dundas specializes in highly customized and embedded analytics use cases. By drawing on its mature global partnership program, which includes e-learning and certifications, customers can enhance web portals and on-premises and SaaS offerings with Dundas reporting and dashboards, and build highly customized data applications from scratch.

- **Integrated traditional reporting and modern ABI:** Within Dundas BI, users can create pixel-perfect reporting content in the same environment that is used for drag-and-drop dashboard and self-service design.

- **Customer support, sales and overall experience:** Gartner Peer Insights reviewers and surveyed reference customers for Dundas view Dundas positively across these three measures. They also praised its training and user community. As a small vendor in a crowded market, Dundas advertises its provision of a personalized customer experience as a core differentiator.

Cautions

- **Cube focus**: Although Dundas offers a patented in-memory engine and built-in data warehouse, its platform's reliance on a cube architecture can become a limitation as data size and diversity grows. A higher proportion of Dundas customers identified inability to handle large data volumes as a platform limitation than was the case with any other vendor in this Magic Quadrant.

- **Product vision:** Dundas has made limited investments in augmented analytics features, although some data preparation features and expanded investments in NLP are on its roadmap. These investments may help address the concerns of the reference customers who identified "difficulty of use" as a limitation of its platform.

- **Market recognition and geographical presence**: As a small, niche vendor, Dundas is focused on North America, Europe and Australia. Despite having 2,500 customers, Dundas is not well known beyond its installed base.

IBM

IBM is a Niche Player in this Magic Quadrant. IBM Cognos Analytics is primarily of interest to existing IBM Cognos customers who are looking to modernize their ABI use.

IBM Cognos Analytics supports the entire analytics life cycle, from discovery to operationalization. For augmented analytics Cognos Analytics now supports statistically significant differences/insights, time series forecasting, key driver detection, NLP and NLG. As Cognos Analytics is an upgrade from earlier versions of Cognos, it brings formatted, production-style reporting for Mode 1, along with visual-based exploration and agility for Mode 2 ABI.

In the fourth quarter of 2019, IBM released a Cognos Analytics Cartridge for Cloud Pak for Data, which uses the Red Hat OpenShift Container Platform for both analytic deployments and DataOps. Also in the fourth quarter, IBM introduced a Cognos Analytics and Planning Analytics offering, paving the way for unified planning, "what if?" analysis and reporting.

Strengths

- **Comprehensiveness of functionality:** IBM Cognos Analytics is one of the few offerings that includes enterprise reporting, governed and self-service visual exploration, and augmented analytics in a single platform. In addition, as existing IBM Cognos Framework Manager models and reports from earlier versions can be used in the single environment, there is a migration path and the ability to use existing content.

- **Product vision**: Visionary elements on IBM's roadmap include a social insights add-on, AI-driven data preparation, and analytic quality scores for data sources. A big part of the vision is to unify planning, reporting and analysis in a common portal that offers "what if?" planning, Mode 1 reporting, and predictive models and forecasts.

- **Deployment options**: IBM offers a variety of deployment options to meet all customer requirements. These include on-premises, cloud (IBM-hosted cloud and IBM OnDemand Cloud Service), "bring your own license" for any of the major infrastructure as a service (IaaS) platforms (Microsoft Azure, Google, AWS), and the Cloud Pak for Data.

Cautions

- **Loss of momentum and perception as innovator**: IBM is no longer acting as a disruptor, but instead playing catch-up. Interest in IBM Cognos from Gartner clients failed to rebound in 2019, judging from their inquiries and searches.

- **Rareness as sole enterprise standard**: IBM Cognos Analytics is rarely the sole enterprise-standard platform for ABI. Less than one-fifth of IBM's reference customers considered it to be their only enterprise standard.

- **Prices**: Prices for IBM Cognos Analytics Standard, Plus and Premium, at $15, $35 and $70 per user per month respectively, are in line with those of other independent BI specialists, but significantly higher than those of other large cloud providers. Consequently, IBM struggles to be competitive in new deals — that is, when Cognos Analytics is not already the incumbent platform.

Information Builders

Information Builders is a Niche Player in this Magic Quadrant. Its WebFOCUS Designer is of most interest to its installed base and little evaluated in competitive sales cycles of which Gartner is aware.

Information Builders sells the integrated WebFOCUS ABI platform, as well as individual components thereof. WebFOCUS Designer (formerly InfoAssist+) includes components from the WebFOCUS stack that are intended to satisfy modern self-service ABI needs.

In 2019, Information Builders focused on reengineering its UI and moving the overall product to a cloud-first, microservice-based architecture aimed at shortening the time to value for users.

Strengths

- **External and large-scale deployments**: Information Builders is well-known for deploying externally facing analytic applications at scale — sometimes to thousands of users. Almost half of its surveyed reference customers stated they had deployments for over 1,000 users. No reference customer had encountered problems with WebFOCUS Designer's ability to support large user numbers or large data volumes.

- **Prepackaged analytic apps**: Information Builders provides prebuilt assets and customizable data models designed for a variety of horizontal and vertical areas, such as the banking, healthcare, insurance, law enforcement, visual warehouse/facilities management, retail, public and higher education sectors.

- **Support for complex data and modern appeal**: A core strength of Information Builders is data connectivity and integration of a variety of data sources, including real-time data streams. The redesigned UI of WebFOCUS Designer combines visual data discovery, reporting, dashboard creation and interactive publishing capabilities with mobile content and an in-memory engine.

Cautions

- **Marketing and sales strategy**: In late 2019, Information Builders began offering a full SaaS option for those wishing to deploy in the cloud without managing their own data center or cloud instance. However, although new and improved augmented functionality is being delivered and appears on Information Builders' roadmap for 2020, its reference customers reported low utilization of augmented analytics capabilities such as automated insights, and of natural language query (NLQ) and NLG.

- **Performance and ease of use**: Information Builders' reference customers identified poor performance as the issue they most often encounter with WebFOCUS Designer. Ease of use also remains a challenge for this vendor, although it has improved from previous years.

- **Innovation and product strategy:** Although Information Builders' product roadmap shows drastic improvements to the existing platform, its overall vision and product strategy are not entirely differentiated from those of its competitors. Information Builders is perceived as more of a fast follower than a market disruptor that others need to copy.

Logi Analytics

Logi Analytics is a Niche Player, owing to its dedicated focus on the embedded analytics segment and appeal to developers.

The Logi Analytics Platform is focused solely on embedded analytics and application teams. The bulk of its revenue comes from OEM software and service vendors. Logi Analytics' platform provides embedded dashboard, reporting and end-user authoring. Logi Predict provides an embeddable workflow to produce predictive models.

Logi acquired Jinfonet Software and its JReport product for pixel-perfect operational reporting in February 2019. It acquired Zoomdata for its streaming data in June 2019. Each year, it produces two major releases and offers frequent minor releases as service packs.

Strengths

- **Embedded BI and OEM practice:** Logi continues to focus on application teams. It offers a full set of APIs to enable organizations to build sophisticated analytics within apps or websites. It has also designed a dedicated OEM practice with a sales team and pricing to align with its go-to-market strategy.

- **Platform openness:** Logi reinforces its vision for platform openness with an improved microservices architecture. Its adaptive security approach can adopt existing security infrastructure in multitenant environments. Reference customers view Logi's integration and deployment capabilities as strengths.

- **Actionable advanced analytics:** Logi offers a predictive analytics solution to embed advanced capabilities directly inside existing applications. It also supports the ability to group data into logical segments with incremental data. These capabilities enable users to take actions based on analytic results without leaving the application.

Cautions

- **Narrowness of usage:** Judging from the reference customers surveyed, few Logi users conduct ad hoc analysis, whereas a very high proportion use its product for viewing static reports, data integration, preparation, and accessing parameterized reports and dashboards.

- **Product vision:** Logi has invested in a broad set of visionary capabilities in terms of openness, but not ones aligned with the consumerization and automation trends identified by Gartner as key market drivers.

- **Natural language capabilities:** Logi has been slow to react to the shift to augmented analytics capabilities. As yet, it offers no built-in NLG features.

Looker

Looker is a Challenger in this Magic Quadrant for the first time. Its pending acquisition by Google both increases its market visibility and raises questions about its future integration into Google's portfolio.

Looker offers modern ABI reporting and dashboard capabilities using an agile, centralized data model and an in-database architecture optimized for various cloud databases.

Looker's product enhancements in 2019 included integration with Slack, a redesigned dashboard experience and content organization structure, as well as automated model generation capabilities that convert SQL scripts into Looker data models. In addition, Looker has enhanced its developer tools and introduced a new developer portal, API sandbox and marketplace.

Note: Google announced a plan to acquire Looker in June 2019, but at the time of writing the acquisition is not complete. As such, Looker is evaluated on its own merits, although the public announcement of Google's interest has inevitably improved Looker's market visibility and reference customers' views of its viability as a supplier.

Strengths

- **In-database design:** Unlike most competing solutions, Looker's offering does not require in-memory storage optimizations. Rather, it leaves data in the

underlying database and uses its LookML modeling layer to apply business rules. This enables power users and data engineers to model data and then reuse data and calculations in other applications in a trusted and consistent way. This approach exploits the performance and scalability of the underlying database and supports data source flexibility. Looker's key differentiator is native support for cloud-based analytic databases, particularly Amazon Redshift and Athena, Google BigQuery, Microsoft Azure and Snowflake, which Google has committed to maintain postacquisition.

- **Embedded uses and customer development**: The developer is a key persona for Looker. It offers extensive APIs, SDKs, developer tools and workflow integration support for end-user organizations and OEMs that want to create and embed analytics in application workflows, portals and customer-facing applications.

- **Customer experience**: Reference customers scored Looker positively for support, product quality, and migration experience. Gartner Peer Insights reviewers have similar views and assess Looker favorably for the availability and quality of partner resources and for its user community and training.

Cautions

- **Power user skill requirement for data modeling**: In contrast to the point-and-click and augmented approach taken by competing solutions, which are targeted at enabling less skilled users, Looker's data modeling requires coding. Its product lacks data preparation capabilities for visually manipulating data.

- **Narrowness of product vision**: A comparatively high proportion of Looker's reference customers identified absent or weak functionality as a limitation of its platform. Missing from Looker's roadmap are key elements that are needed if a company is to compete in a market transitioning to AI-automated, augmented analytics and natural-language-driven, consumer-like experiences. Investments in these may, however, be announced, once the acquisition by Google closes.

- **Geographic presence**: Currently, Looker has a direct presence in only four countries: the U.S., the U.K., Ireland and Japan. This is a drawback for organizations that want a direct relationship with Looker in other countries.

Microsoft

Microsoft is a Leader in this Magic Quadrant. It has a comprehensive and visionary product roadmap and massive market reach through its Microsoft Office channel.

Microsoft offers data preparation, visual-based data discovery, interactive dashboards and augmented analytics in Power BI. It is available as a SaaS option running in the Azure cloud or as an on-premises option in Power BI Report Server. Power BI Desktop can be used as a stand-alone, free personal analysis tool. Installation of Power BI Desktop is required when power users are authoring complex data mashups involving on-premises data sources.

Microsoft releases a weekly update to its cloud service, which added hundreds of features in 2019. Recent additions include decomposition tree visuals, LinkedIn data connectivity and geographic mapping enhancements.

Strengths

- **"Viral" spread:** Although the price of Power BI Pro, at $10 per user per month, has helped the product's market traction, this is secondary to its inclusion in Office 365 E5, which makes it "self-seeding" in many organizations. Prompts in other Microsoft Office products, like Excel, encouraging users to "visualize in Power BI" increase its exposure further — its reference customers claimed more deployments with more than 1,000 users than those of any other vendor in this Magic Quadrant. Power BI is now almost always mentioned by users of Gartner client inquiry service who ask about ABI platform selection.

- **Product capabilities:** For years following its 2013 launch, Power BI was a "follower" product that had only to be "good enough," given its price. That is no longer the case — and with the releases in 2019, the Power BI Pro cloud service overtook most of its competitors in terms of functionality. It outstripped many by including innovative capabilities for augmented analytics and automated ML. AI-powered services, such as text, sentiment and image analytics, are available within Power BI and draw on Azure capabilities. The vast majority of Microsoft's surveyed reference customers would recommend Power BI without qualification.

- **Comprehensiveness of product vision:** Microsoft continues to invest in a broad set of visionary capabilities and to integrate them with Power BI. This aligns

well with the openness, consumerization and automation trends identified by Gartner as key market drivers.

Cautions

- **On-premises version:** Compared with the Power BI Pro cloud service, Microsoft's on-premises offering has significant functional gaps, including dashboards, streaming analytics, prebuilt content, natural language Q&A, augmentation (what Microsoft calls Quick Insights) and alerting. None of these functions are supported in Power BI Report Server.

- **Azure-only:** Microsoft does not give customers the flexibility to choose a cloud IaaS offering. Its offering runs only in Azure.

- **Connectivity:** Power BI offers a very wide range of data connectors, but feedback from users of Gartner's client inquiry service indicates that the query performance of on-premises data gateways is variable and requires effort to optimize. Connectivity to SAP BW and HANA direct queries is problematic — a known issue that Microsoft is working on. Customers generally choose to load data into Power BI instead, which is more performant.

MicroStrategy

MicroStrategy is a Challenger in this Magic Quadrant. It is extremely strong functionally and has released innovations recently, but its limited market momentum and recognition outside its installed base hinder wider adoption.

MicroStrategy offers one of the most comprehensive ABI platforms, supporting both Mode 1 and Mode 2 analytic and reporting requirements. Its core analytic product family for data connectivity, data visualization and advanced analytics is supplemented by complementary mobile, cloud, embedded and identity analytics products.

MicroStrategy's semantic graph is central to a new category of content, which the company calls HyperIntelligence. HyperIntelligence overlays and dynamically identifies predefined insights within existing applications. In another significant recent development, MicroStrategy has opened up its semantic layer to competing ABI platforms. This breaks a long-standing tradition in the ABI platform sector that

emphasizes a more proprietary architecture. We expect both HyperIntelligence and the open architecture to be imitated by MicroStrategy's competitors.

Strengths

- **Consumer-friendly design focus**: HyperIntelligence is among the most innovative product features to appear in the ABI platform space in the past two years. It puts the analytic consumer at the center of the design experience and brings analytic content into the workflow of web, office application and mobile users.

- **Use as enterprise standard**: MicroStrategy's reference customers were twice as likely to select it as the sole enterprise standard ABI platform in their organization, in comparison with the average across vendors in this Magic Quadrant. In line with this finding, almost all of MicroStrategy's reference customers upgraded their product in the prior year, which indicates its importance to their operations.

- **Stability of integrated product**: MicroStrategy does not acquire codebases. All new developments are built organically. This leads to more stable, less buggy code, especially when compared to competitors that fill product gaps with acquisitions. A high proportion of MicroStrategy's reference customers indicated they had encountered no problems using its platform.

Cautions

- **Cost of software**: Half of MicroStrategy's reference customers identified the cost of its software as a barrier to wider deployment, as compared with the market average of around one-fifth across all vendors.

- **Business momentum**: Compared with the vendors it competes with, MicroStrategy has little traction with new customers. Although it is making a profit, total product licenses and subscription services were relatively flat, at $79 million, when comparing the first nine months of 2019 to the corresponding period in 2018.

- **Lack of advantage of stack ABI solutions**: Much of the momentum in the ABI platform market comes from the shift to deployment on cloud stacks, as well as to cloud-based business applications. Although MicroStrategy's platform

interacts well with other technologies, ABI solutions that are owned by cloud and business application vendors have a go-to-market advantage.

Oracle

Oracle is a Visionary in this Magic Quadrant, for the first time since re-entering it in 2017. Its continued focus on augmented analytics is now coupled with an improved go-to-market approach.

Oracle's very broad ABI capabilities are available both in the Oracle Cloud and on-premises. Oracle Analytics Cloud (OAC) offers an integrated design experience for interactive analysis, reports and dashboards.

During 2019, Oracle simplified its product packaging to three offerings, including a new offering for analytic applications, introduced new, competitive pricing, and revamped its OAC customer success organization and customer and partner communities. It also continued to enhance its innovative augmented analytics and NLP integration with OAC and collaboration tools, such as Slack and Microsoft Teams, and added an analytics catalog.

Strengths

- **Augmented analytics and robust NLG:** Oracle has implemented augmented analytics capabilities across its platform earlier than most other vendors, and reference customers reported broad use of its augmented analytics features. OAC also features NLG with adjustable tone and verbosity in English and French (eight more languages are on Oracle's roadmap). It is the only platform on the market to support NLQ in 28 languages.

- **Product vision:** Oracle continues to invest aggressively in augmented analytics capabilities and consumer-like, conversational user experiences, including chatbot integration coupled with autogenerated insights. These are central to OAC and Day by Day, Oracle's mobile app.

- **Full-stack enterprise cloud:** Oracle offers an end-to-end cloud solution, including infrastructure, data management, analytics and analytic applications with cloud data centers in almost all regions of the world. During 2019, Oracle made significant investments in its Oracle Analytics for Applications, which offers native integration, packaged augmented analytics and closed-loop

actions for Oracle's ERP, human capital management, supply chain, customer experience and NetSuite products.

Cautions

- **Oracle Cloud and Oracle application-centric**: Although OAC can access any data source, it runs only in the Oracle Cloud, and packaged analytic applications are available only for Oracle enterprise applications at the time of writing.

- **Market awareness**: Oracle has a competitive product, but its differentiators are not well known, and Oracle is not considered as frequently as the Leaders in competitive evaluations known to Gartner.

- **Rebuilding of customer perception**: Oracle is in "rebuilding mode" and making significant investments to reestablish the perception that it is a trusted enterprise ABI partner to its existing customers and the broader market. However, changing hearts and minds takes longer than changing products. This effort is a work in progress.

Pyramid Analytics

Pyramid Analytics is a Niche Player in this Magic Quadrant. It is growing by attracting organizations that want an on-premises, private cloud or hybrid deployment, instead of a public cloud-based platform.

Pyramid offers an integrated suite for modern ABI requirements. It has a broad range of analytical capabilities, including data wrangling, ad hoc analysis, interactive visualization, analytic dashboards, mobile capabilities and collaboration in a governed infrastructure. It also features an integrated workflow for system-of-record reporting. Pyramid has now fully decoupled from Microsoft (on which it had relied) and is increasing awareness of its brand, growing new markets and audiences, and making strategic communications about its platform-agnostic offering.

The release of Pyramid v2020 brings sophistication and simplicity to technical and nontechnical users alike. Additionally, the adaptive augmented analytics platform now covers the entire data life cycle out-of-the-box, from ML-based data preparation to automated insights and automated ML model building.

Strengths

- **Range of use cases**: Pyramid supports agile workflows and governed, report-centric content within a single platform and interface. Its solution is well-suited to governed data discovery, with features such as BI content watermarking, reusability and sharing of datasets, metadata management and data lineage.

- **Augmentation**: Augmented features such as Smart Discovery, Smart Reporting, Ask Pyramid (NLQ), AI-driven modeling, automatic visualizations and dynamic content offer powerful insights to all users, regardless of skill level.

- **Ease of deployment and administration, with single workflow**: Reference customers scored Pyramid higher than most vendors for overall experience with the tool. They particularly value the platform's single integrated workflow that supports all ABI use cases.

Cautions

- **Product vision and innovation**: Pyramid has made significant progress over the past few years, but is still only catching up with the visionary elements delivered by competitors.

- **Availability of market resources**: Reference customers for Pyramid scored it below the average for the availability and quality of third-party resources such as integrators and service providers. They also gave a below-average score for the quality of Pyramid's peer user community.

- **Lack of market recognition**: 2018 and 2019 were retooling and transition years for Pyramid. In 2020, it is focused on market growth and product differentiation — something that Pyramid has struggled to communicate in a crowded market.

Qlik

Qlik is a Leader in this Magic Quadrant. Its strong product vision for ML- and AI-driven augmentation is clear, but so is its lower market momentum, relative to its main competitors.

Qlik's lead ABI solution, Qlik Sense, runs on the unique Qlik Associative Engine, which has powered Qlik products for the past 20 years. The engine enables users of all skill levels to combine data and explore information without the limitations

of query-based tools. Qlik's cognitive engine adds AI/ML functionality to the product and works with the Associative Engine to offer context-aware insight suggestions and augmentation of analysis.

Qlik continues to enhance its platform's microservices-based architecture and multicloud capabilities. A full SaaS version of Qlik Sense Enterprise is available and forms the basis of Qlik's new SaaS-based trial experience. Qlik introduced "associative insights" in June 2019 as an augmented analytics capability that uses Qlik's cognitive engine to uncover otherwise hidden insights. Qlik's acquisition of Attunity, whose product remains stand-alone, broadens the data integration capabilities of the Qlik ecosystem.

Strengths

- **Flexibility of deployment:** Qlik was one of the first vendors to offer a seamless end-user experience and management capabilities across multicloud deployments. The flexibility to deploy on-premises, or with any major cloud provider, or to use a combination of both approaches, or to utilize Qlik's full SaaS offering, remains a focus of Qlik's vision.

- **Expansiveness of platform capabilities**: Qlik's portfolio of offerings spans a number of phases in the analytics life cycle. Qlik Sense delivers self-service visual data discovery capabilities for analysts or business users, while also supporting developer-embedded analytics from the same platform. Qlik Data Catalyst is used for cataloging and additional governance. Also, although Qlik Data Integration Platform (formerly Attunity) is a stand-alone offering, it adds powerful integration and data movement capabilities under the Qlik umbrella.

- **Augmentation and data literacy:** The associative insights capability uses Qlik's unique "associative experience" to automatically uncover insights on data that may otherwise have been missed by query-based tools. While users of the augmented features may be nonanalyst personas, Qlik's Data Literacy Project helps users of all levels, Qlik customers or not, to better understand and utilize data.

Cautions

- **Momentum:** After a period of realignment in 2019, Qlik is now adding staff again. The company made some visionary moves in 2019: technology

acquisitions, major product releases and refreshed migration offerings. However, relative to other Leaders its momentum remains low, judging by Gartner's search and client inquiry data and a range of other indicators. Furthermore, less than half of Qlik's reference customers said it supplied their enterprise-standard ABI tool.

- **Product migration:** Despite Qlik's emphasis on providing support and dedicated resources for customers moving from QlikView to Qlik Sense, surveyed reference customers for this vendor identified the migration experience as a key concern, relative to those of all other vendors.

- **Self-service usage:** Although Qlik Sense is designed to support visually driven self-service, Qlik's reference customers reported that most of their users are consuming parametrized dashboards. That said, Qlik's core associative experience offers an alternative way to automatically uncover insights, which may reduce need for some forms of self-service.

Salesforce

Salesforce is a Visionary in this Magic Quadrant. It remains strongest in terms of augmented analytics functionality, but other vendors are catching up. Furthermore, questions about how Salesforce Einstein Analytics and Tableau will be positioned for the future are creating uncertainty among customers.

Einstein Analytics is available in three packages, which differ in price and functionality. Einstein Analytics Plus — the comprehensive product — offers Einstein Prediction Builder, Sales Analytics, Service Analytics, Analytics Studio, Data Platform, Einstein Discovery and Einstein Data Insights. Salesforce's midtier product, Einstein Analytics Growth, offers a more limited bundle of Sales Analytics, Service Analytics, Analytics Studio, and Data Platform. And Salesforce's lowest price offering, Einstein Predictions, offers Einstein Predictive Builder and Einstein Discovery.

On 1 August 2019, Salesforce completed its acquisition of Tableau — the most significant market change of the year. The addition of Tableau gives Salesforce enormous customer, product and channel momentum, but it also introduces uncertainty. Salesforce already had a very robust product line that heavily overlapped with Tableau's. Moreover, Salesforce Einstein Analytics customers

indicate strong satisfaction, which has prompted many to ask why Salesforce needed to make the $15 billion acquisition.

Note: Salesforce announced a plan to acquire Tableau in June 2019. The acquisition was completed on 1 August 2019. However, the U.K. Competition and Markets Authority (CMA) implemented a "hold separate" order, which required Salesforce and Tableau to operate separately, pending a review. The CMA lifted this order at the end of November 2019. As a result, product and company integration plans were not developed and available to share with Gartner in time for consideration for this Magic Quadrant. As such, representing the joined offering as one entity was not warranted, nor would it be useful to readers at this point. Salesforce and Tableau are therefore represented separately in this Magic Quadrant.

Strengths

- **Embedded analytics:** Einstein Analytics is much more likely to be embedded in business applications — commonly Salesforce's own apps — than other ABI platforms. This propensity for embedded deployment, coupled with strong workflow integration, will become a major factor in customers' selection decisions.

- **Literacy of partner ecosystem and developer marketplace**: Salesforce has over 36,000 Einstein Analytics community members, and their numbers have been growing at 50% to 75% a year. Moreover, Salesforce Trailhead provides an effective way to measure the literacy of community members.

- **Support for large deployments:** According to the survey of reference customers, almost one- quarter of Salesforce's respondents had deployments with more than 5,000 users, which is much higher than the survey average.

Cautions

- **Threat to augmented analytics lead**: In 2019, Salesforce's competitors made significant progress in closing the gap with Einstein Analytics' differentiation in terms of augmented analytics. Salesforce is defending its position by innovating. In 2019, it added functionality such as a public API enabling consumption of Einstein Discovery predictions in any application, and unique capabilities like bias protection that warn users of unintentional bias in predictions they create using Einstein Analytics.

- **Cost:** With Einstein Analytics Plus, Einstein Analytics Growth and Einstein Predictions prices starting at $150, $125 and $75 per user per month, respectively, Salesforce's Einstein Analytics is one of the highest-priced platforms on the market.

- **Rarity of use as enterprise standard:** Surveyed reference customers for Salesforce indicated that Einstein Analytics is unlikely to be deployed as the enterprise standard. It tends to be used with Salesforce CRM applications alone, other ABI tools being used for enterprisewide analytics.

SAP

SAP is a Visionary in this Magic Quadrant, thanks to its improved product functionality and strong vision, but it remains of interest predominantly to the wider base of SAP enterprise application users.

SAP Analytics Cloud is a cloud-native multitenant platform with a broad set of analytic capabilities. Most companies that choose SAP Analytics Cloud already use some SAP business applications.

In 2019, SAP continued to strengthen the product's core capabilities in data connectivity (via SAP Cloud Platform Open Connectors) and visualization. It also added a set of open APIs to support the OEM/embedded use case for the first time. As the strategic analytics offering for all SAP applications and data sources, SAP Analytics Cloud is offered as the embedded analytics and planning solution for the SAP Intelligent Suite, which includes SAP SuccessFactors, SAP C/4HANA and SAP S/4HANA.

Strengths

- **Closed-loop capability:** SAP Analytics Cloud's integrated functionality for planning, analytical and predictive capabilities in a unified, single platform differentiates it from almost all competing platforms. The associated SAP Digital Boardroom is attractive to executives as it supports "what if?" analyses and simulations.

- **Augmented and advanced analytics:** Reference customers for SAP Analytics Cloud scored its advanced analytics functions highly. SAP included augmented analytics in its design approach some years ago, and SAP Analytics Cloud

offers strong functionality for NLG, NLP and automated insights. SAP has continued to develop its augmented capabilities by adding support for automated time-series analysis and explainable findings.

- **Breadth of capability**: SAP offers a library of prebuilt content that is available online for SAP Analytics Cloud. This content covers a range of industries and line-of-business functions. It includes data models, data stories and visualizations, templates for SAP Digital Boardroom agendas, and guidance on using SAP data sources. Additionally, SAP Analytics Cloud now forms part of a wider data portfolio that includes the new SAP Data Warehouse Cloud.

Cautions

- **Perception by potential users**: SAP's brand has long been associated with traditional BI, and the legacy of that is a perception among potential users that does not reflect SAP Analytics Cloud's capabilities. The effort of convincing internal users that SAP Analytics Cloud is worth considering puts it at a disadvantage versus the competition.

- **Scale of user deployments and number of data sources**: Consistent with data gathered for the 2019 edition of this Magic Quadrant, SAP Analytics Cloud user deployments (although growing) were among the smallest reported by reference customers surveyed for the present edition. They were also connected to a relatively low number of data sources. These findings may be not indicative of the entire SAP Analytics Cloud installed base, however.

- **Cloud-only focus:** SAP Analytics Cloud runs in SAP data centers or public clouds (on AWS infrastructure). For organizations that want to deploy a modern ABI platform on-premises, SAP Analytics Cloud is not a viable choice. SAP Analytics Cloud can, however, connect directly to on-premises SAP resources (SAP BusinessObjects Universes, SAP Business Warehouse and SAP HANA) for live data and to non-SAP data sources for data ingestion as a hybrid option.

SAS

SAS is a Visionary in this Magic Quadrant. This status reflects its robust product and global presence, as well as its challenges in terms of marketing and price perception.

SAS offers Visual Analytics on its new cloud-ready and microservices-based platform, SAS Viya. SAS Visual Analytics is one component of SAS's end-to-end visual and augmented data preparation, ABI, data science, ML and AI solution.

In 2019, SAS significantly enhanced its augmented analytics capabilities. These now include automated suggestions for relevant factors, and insights and related measures expressed using visualizations and natural language explanations. They also include automated predictions with "what if?" and AI-driven data preparation suggestions. Additionally, SAS has enhanced Visual Analytics' location intelligence capabilities and introduced a new SDK.

Strengths

- **End-to-end platform vision:** SAS's compelling product vision is for customers to prepare their data, analyze it visually, and build, operationalize and manage data science, ML and AI models, in a single integrated, visual and augmented design experience (with progressive licensing). Moreover, with Visual Analytics, SAS is the only vendor in this Magic Quadrant to support text analytics natively.

- **Augmented analytics:** SAS is investing heavily in automation, with augmented analytics present across its entire platform. Investment areas include voice integration with personal digital assistants, chatbot integration and homegrown NLG, with outlier detection on the roadmap.

- **Global reach with industry solutions:** SAS is one of the largest privately held software vendors, with a physical presence in 47 countries and a global ecosystem of system integrators. Visual Analytics forms the foundation of most of SAS's extensive portfolio of industry solutions, which includes predefined content, models and workflows.

Cautions

- **Market perception:** Although SAS now supports the open-source data science and ML ecosystem and has introduced a new SDK for SAS Visual Analytics, it was slow to respond to the open-source trend. This slowness has contributed to a market perception that SAS is expensive and proprietary, which has been a barrier to broader market consideration outside SAS's installed base.

- **Sales experience**: Despite new capability-based and metered pricing options introduced in 2019, Gartner Peer Insights reviewers rate SAS comparatively poorly for pricing and contract flexibility. Moreover, a relatively high percentage of SAS Visual Analytics reference customers identified cost as a limitation to broader deployment in their organization.

- **Migration challenges**: SAS Viya represented a major redesign of the user experience and platform to create a more open environment. Although SAS has continued to improve its utilities to make migration easier, reference customers continued to view migration as challenging. SAS has also received relatively low scores and write-ups for product quality and support by reference customers and Gartner Peer Insights reviewers.

Sisense

Sisense is a Visionary in this Magic Quadrant, one best known for its success with the embedded use case. Its new emphasis on serving the "builder" buyer persona represents a change in marketing focus and market segmentation as it seeks competitive advantage.

Sisense provides an ABI platform that supports complex data projects by offering data preparation, analytics and visual exploration capabilities. Half of its ABI platform customers use the product in an OEM form.

Sisense 8.0.1 was released in September 2019 with new ML capabilities to uncover hidden insights and suggest new visualizations. In May 2019, Sisense acquired Periscope Data to reinforce its advanced analytics capabilities. Integration of the products has begun and will continue over the coming months.

Strengths

- **Native cloud BI**: Sisense was early to rearchitect its offering as a cloud-native analytics platform. It can run on modern scalable cloud applications such as Docker containers and Kubernetes orchestrations. The underlying components can be elastically scaled within Sisense's managed cloud offering or the client's deployment.

- **Support for complex data mashups**: Sisense has continued to add augmented data preparation capabilities to ElastiCube, the vendor's proprietary caching

engine that uses both in-memory and in-chip processing for fast performance. By introducing augmented text deduplication, Sisense can automatically deduplicate incorrect or misaligned data and group similar strings.

- **Use as enterprise standard:** Sisense's reference customers strongly consider it their sole enterprise ABI platform standard. An improved, open, single stack with entirely browser-based interface helps customer penetration.

Cautions

- **Depth of use**: Responses from Sisense reference customers indicated that a high proportion of customers manage complex data projects, but that a low proportion of Sisense users do moderately complex or highly complex ad hoc analysis and discovery, relative to the market norm.

- **Narrowed marketing focus**: Sisense's acquisition of Periscope has sharpened its focus on power users and developers, whom it terms "builders," and the integration of Periscope gives Sisense additional capabilities to enable data professionals to perform data science and analytics. But although this sharpened focus brings differentiation, it represents a somewhat narrower, less consumer-oriented vision than that of Sisense's key competitors.

- **Deployment size**: Although Sisense has continued to grow its strategic accounts and has some very large deployments with thousands of active users, deployment sizes (judged by number of users) remain small, in comparison to other vendors. The percentage of reported deployments for over 500 people was low.

Tableau

Tableau is a Leader in this Magic Quadrant. It offers a visual-based exploration experience that enables business users to access, prepare, analyze and present findings in their data. It has powerful marketing and expanded enterprise product capabilities, but there is some uncertainty about its direction as part of Salesforce.

In 2019, Tableau significantly broadened the scope of its product offerings, particularly their augmented analytics and governance capabilities. For augmented analytics, Tableau introduced both Ask Data and Explain Data to provide natural language query and automated insights. For governance, Tableau

improved Tableau Prep Builder (which comes with Tableau Creator) and introduced Tableau Prep Conductor to schedule and monitor data management tasks. Tableau Prep Conductor comes bundled with Tableau Catalog as part of the Data Management Add-on. Tableau also introduced the Server Management Add-on, which provides server management, content migration and workload optimization. Tableau also moved a significant portion of its customer base to the cloud with Tableau Online.

On 1 August 2019 Salesforce completed its acquisition of Tableau. This acquisition creates opportunities and challenges for Tableau. Salesforce bolsters Tableau in three key emerging areas of the ABI Platform market: AI, Cloud, and embedded analytics. However, Tableau had already made significant progress in all three areas prior the acquisition, and must now reconcile a complicated and overlapping product roadmap.

Note: Salesforce announced a plan to acquire Tableau in June 2019. The acquisition was completed on 1 August 2019. However, the U.K. Competition and Markets Authority (CMA) implemented a "hold separate" order, which required Salesforce and Tableau to operate separately, pending a review. The CMA lifted this order at the end of November 2019. As a result, product and company integration plans were not developed and available to share with Gartner in time for consideration for this Magic Quadrant. As such, representing the joined offering as one entity was not warranted, nor would it be useful to readers at this point. Salesforce and Tableau are therefore represented separately in this Magic Quadrant.

Strengths

- **Customer enthusiasm**: Customers demonstrate a fanlike attitude toward Tableau, as evidenced by the more than 20,000 users who attended its 2019 annual user conference. Reference customers scored Tableau well above the average for the overall experience. These users serve as strong champions for Tableau.

- **Ease of visual exploration and data manipulation**: Tableau enables users to ingest data rapidly from a broad range of data sources, blend them, and visualize results using best practices in visual perception. Data can easily be manipulated during visualization, such as when creating groups, bins and hierarchies.

- **Momentum:** Tableau grew its total revenue to just over $900 million through the first quarter of 2019, and achieved 14% growth from the first six months of 2018 to the first six months of 2019. Tableau remains a constant presence on evaluators' shortlists and continues to expand within its installed base. The reference customers surveyed had mostly upgraded to Tableau's latest version and expressed positive views about the migration experience.

Cautions

- **New risks in a changing market**: Tableau dominated the visual data discovery era of the ABI platform market, but as the market moves toward the augmented era, new entrants may prove disruptive. So far, however, Tableau has made sound choices in terms of balancing short-term and long-term product roadmap priorities.

- **Governance**: Despite new data and server management product releases that added governance and administrative capabilities in 2019, perceptions of weak governance and administration persist among some of Tableau's reference customers. These are also evident during some Gartner inquiry calls.

- **Sales experience, contracting and cost**: Negotiating with Tableau has always had its pros and cons. In general, customers like Tableau Viewer as a lower-cost option for analytic consumers, and they are accommodating Tableau's push toward subscription pricing. However, with the Server Management Add-on and Data Management Add-on, Tableau customers will be faced with a la carte pricing, which means they should expect to pay extra for new functionality.

ThoughtSpot

ThoughtSpot is a Leader in this Magic Quadrant. Its innovative search-first approach remains attractive and continues to be emulated, but its differentiation is becoming slim.

ThoughtSpot differentiates itself with its search-based interface, which supports analytically complex questions with augmented analytics at scale.

In 2019, ThoughtSpot raised an additional $248 million in Series E funding, to bring its total venture capital investment to $554 million. During the year, it deepened its augmented analytics capabilities, introduced new AI-driven crowdsourced-driven

recommendations, and added new autonomous monitoring of business metrics. Importantly, ThoughtSpot also added an in-database query option, initially for Snowflake and subsequently for Amazon Redshift, Google BigQuery and Microsoft Azure Synapse.

Strengths

- **Specialism in search and AI at scale**: Given ThoughtSpot's search feature, and use of NLP as the primary interface for querying data, questions can be posed by typing or speaking. ThoughtSpot supports analytically complex questioning of large amounts of data, with more than one-third of its reference customers analyzing over 1 terabyte of data. SpotIQ, ThoughtSpot's augmented analytics capability, discovers anomalies, correlations and comparative analysis between data points without the need for coding.

- **Consumer-oriented and augmented product vision**: ThoughtSpot is prioritizing the building of Facebook-like consumer experiences into its platform. Priorities include continuous feeds of related content (for example, to monitor individual headline metrics), automated anomaly detection and proactive alerting.

- **Market awareness**: Despite ThoughtSpot's relatively small size, the market's awareness of its search-based value proposition is high. This vendor is shortlisted by most of the customers who make use of Gartner's client inquiry service when prioritizing NLP and augmented analytics features.

Cautions

- **Gaps in data preparation, visual exploration and dashboards**: ThoughtSpot's software typically complements other products, and does not cover the full spectrum of ABI requirements. Data must be prepared and cleansed using third-party tools to either load data into ThoughtSpot's massively parallel processing engine or into a high-performance database like Snowflake for in-database processing. The software does not allow users to readily manipulate data into groups or bins without using formulas, and dashboards are basic, lacking rich mapping features. Relatively few reference customers viewed ThoughtSpot as their only enterprise standard for ABI.

- **Limited global reach, ecosystem and user community**: Relative to the other Leaders in this Magic Quadrant, ThoughtSpot has a limited international

presence, but one that is growing. Its partner ecosystem is a work in progress, with new investments having been made in 2019. However, the customer impact of these investments has yet to be seen. Gartner Peer Insights reviewers' ratings of ThoughtSpot are lower than those for most other vendors in this Magic Quadrant for user community and availability of third-party resources.

- **Requirement for IT setup:** Successful implementation of ThoughtSpot's software requires data preparation and mapping of data in advance. This typically demands IT skills and effort. Moreover, ThoughtSpot's product offers limited prebuilt content for specific vertical and functional domains. Customers must build their own applications for particular functional areas.

TIBCO Software

TIBCO Software is a Challenger in this Magic Quadrant for the first time. Although extremely strong and mature functionally and in terms of delivery, it lacks momentum outside its installed base.

TIBCO Spotfire offers strong capabilities for analytics in dashboards, interactive visualization, data preparation and workflow. Spotfire's "A(X)" represents an augmented, focused approach that enables Spotfire users to use data science techniques, geo-analytics or real-time streaming data in easily consumable forms, such as NLQ and NLG, and automatically suggested visualizations.

Over half the Spotfire installed base is already using Spotfire X (version 10.0) or newer. Since the release of Spotfire X in 2018, TIBCO has continued to expand the breadth of capabilities within this platform. The latest versions of Spotfire add support for Python, additional augmented ABI features, and the power of TIBCO's native real-time streaming to the Spotfire web client.

Strengths

- **Product functionality:** TIBCO Spotfire scores highly for its overall product capabilities. Its platform features ML-based data preparation capability for building complex data models. An end-to-end workflow is accomplished in a unified design environment for interactive visualization and for building analytic dashboards. As part of that environment, analysts and citizen data scientists have access to an extensive library of drag-and-drop advanced analytic

functions, with some automated insight features. Capabilities from Statistica are fully integrated with Spotfire, along with the existing TIBCO Enterprise Runtime for R (TERR) engine.

- **Delivery of business benefits**: Reference customers identified TIBCO's ability to deliver expected business benefits as a strength, particularly its ability to help make better information, analysis and insights available to more users.

- **Overall customer experience**: Reference customers' scores for their overall experience with TIBCO were above the average. Although TIBCO scored slightly below the average in terms of sales experience, its ability to understand the needs of customers makes it above average in terms of sales execution.

Cautions

- **Market momentum**: TIBCO has less momentum than many competitors in this market. The Spotfire product was one of the original disruptors of the traditional BI sector, along with products from Qlik and Tableau, but it now accounts for only a tiny fraction of inquiries from users of Gartner's client inquiry service. This suggests a smaller community and fewer experienced staff available to hire who have TIBCO Spotfire skills. Further evidence for this is the lack of SI partners working with TIBCO, relative to other vendors.

- **Marketing strategy and perception**: There is relatively little perception of TIBCO as a significant player in the modern ABI market. TIBCO rarely provides the sole standard for organizations. Its message tends not to resonate with first-time buyers of ABI platforms.

- **Cost of software**: TIBCO's reference customers consistently identified the cost of its software as the main barrier to wider deployment.

Yellowfin

Yellowfin is a Visionary in this Magic Quadrant for the first time. Although a small and geographically limited vendor, its product innovation is among the strongest in the market, as it extends beyond augmentation.

Yellowfin began as a vendor of a web-based BI platform for reporting and data visualization, but has expanded to include data preparation and, since 2018,

augmented analytics.

In 2019, Yellowfin enhanced the time series and relevancy capabilities of its augmented functionality, launched a new mobile app, and added support for embedded workflows.

Strengths

- **Product functionality:** Overall, Yellowfin offers one of the top-scoring products in terms of functionality. Its capabilities span data preparation, Mode 1 reporting with scheduled distributions, Mode 2 visual exploration, and augmented analytics. All are accessed via a browser-based interface.

- **Product vision:** For a relatively small vendor, Yellowfin has an expansive and innovative product vision. It already offers automated alerting based on ML algorithms in its Signals module. Yellowfin provides NLG natively and in a range of languages. Further, its Stories module supports data journalism and can embed content from Tableau, Qlik (Qlik Sense) and Microsoft (Power BI). Its Collaborate module uses a social network analogy to consumerize BI experiences for users.

- **Customer experience:** The Yellowfin reference customers surveyed for this Magic Quadrant were very satisfied. A higher proportion than for any vendor said they had encountered no problems with the product, and satisfaction with support quality was high. This represents a turnaround for Yellowfin and marks a maturation in the company's operations.

Cautions

- **Data connectivity:** Judging from the functionality analysis done for this Magic Quadrant, Yellowfin's platform offers fewer data connectivity options than those of a number of competing vendors. Further, support for more complex, unstructured or semistructured, types of data requires the use of Freehand SQL, which, while powerful, needs technical skill.

- **Market momentum:** Although it has a differentiated message, Yellowfin shows little market traction and rarely appears on the vendor shortlists of users of Gartner's client inquiry service. Nor is it much searched for on gartner.com. The company has fewer than 200 staff, despite being founded in 2003. Additionally,

the size of ABI platform's user community greatly influences its likelihood of selection — and in Yellowfin's case, the community is small.

- **Geographic presence:** Yellowfin is little known outside Asia/Pacific and has a significant direct presence in only four countries, including Australia, where it is headquartered. It operates via its well-developed partner network elsewhere, but the lack of its own local staff in many areas inhibits its selection by enterprises.

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

- Alibaba Cloud

- Dundas

Dropped

- GoodData, which did not meet the Tier 1 market traction criterion.

Inclusion and Exclusion Criteria

This year's Magic Quadrant features 22 vendors, which met all the inclusion criteria described below.

A tiered process was used to select which vendors would be included. The approach used to determine inclusion was based on a funnel methodology whereby requirements for a tier must be met in order to progress to the next tier.

Tier 1 — market traction: A vendor's market traction was evaluated using a composite metric. The metric comprised internal Gartner data, vendor-supplied data and other external sources of information to assess the level of market

interest in, and the momentum of, each vendor and its modern ABI platform. Inputs included:

- Level of interest among Gartner's clients

- Volume of job listings and head count trends

- Internet search volume and trend analysis

- Social media trends

- Gartner analysts' opinions about the extent to which a vendor and/or product shows significant potential to disrupt the market

- Gartner analysts' opinions informed by interactions with customers and reviews of the marketing messages that vendors compete with in the modern ABI platform market

- Growth in new customers with at least 50 users

Tier 2 — product fit: Only products that met Gartner's definition of a modern ABI platform were considered for inclusion.

Product fit was evaluated by Gartner analysts based on responses to an RFP and a demonstration video submitted by vendors.

Tier 3 — product deployments: Vendors were asked to identify reference customers who could demonstrate production deployments of their modern ABI platform for at least 100 users.

Note: Vendors whose formal acquisition was completed after 31 July 2019 are considered separate entities from their acquirers in this Magic Quadrant.

Note: Gartner had full discretion to include in this Magic Quadrant a vendor (or vendors) which it deemed important to the market, regardless of that vendor's level of participation in the Magic Quadrant process. This discretion was not exercised this year, because all vendors participated fully in the process.

Evaluation Criteria

Ability to Execute

Gartner assesses each vendor's ability to make its vision a market reality that customers will regard as differentiated and that they will be prepared to buy into. Gartner also assesses each vendor's success in actually doing so. A vendor's ability to deliver a positive customer experience — encompassing sales experience, support, product quality, user enablement, availability of skills, and ease of upgrade and migration — also influences its position on the Ability to Execute axis.

In addition to the opinions of Gartner analysts, the analysis in this Magic Quadrant reflects:

- Customers' perceptions of each vendor's strengths and challenges, drawn from ABI-related inquiries received by Gartner

- An online survey of vendors' reference customers

- Gartner Peer Insights data

- A questionnaire completed by the vendors

- Vendors' briefings, including product demonstrations, and overviews of strategy and operations

- An extensive RFP questionnaire inquiring how each vendor delivers the specific features that make up our 15 critical capabilities for this market

- Video demonstrations of how well individual vendors' ABI platforms address the 15 critical capabilities

The Ability to Execute criteria used in this Magic Quadrant are as follows:

- **Product or service**: For this criterion, Gartner analysts assess how competitive and successful a vendor's product is with regard to the 15 critical capabilities.

- **Overall viability**: For this criterion, Gartner analysts assess the overall organization's financial health, the financial and practical success of the business unit, and the likelihood of that unit continuing to invest in and offer the product and innovate within its product portfolio. This criterion also takes account of how reference customers view the vendor's likely future relevance.

- **Sales execution/pricing**: This criterion covers the vendor's capabilities in sales activities. It includes sales experience, the ability to understand buyers' needs, and pricing and contract flexibility.

- **Market responsiveness/record**: This criterion addresses the extent to which a vendor has momentum and success in the current worldwide market.

- **Customer experience**: For this criterion, Gartner analysts consider the experience of working with a vendor postpurchase. Inputs include reference customers' feedback about the availability of quality third-party resources (such as integrators and service providers), the quality and availability of end-user training, and the quality of the peer user community.

- **Operations**: This criterion concerns how well a vendor supports its customers, and how trouble-free its software is.

Table 1: Ability to Execute Evaluation Criteria

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

Source: Gartner (February 2020)

Completeness of Vision

Gartner assesses vendors' understanding of how market forces can be exploited to create value for customers and opportunity for themselves. The Completeness of Vision assessments in this Magic Quadrant are based on the same sources described in the Ability to Execute section above.

The Completeness of Vision criteria used in this Magic Quadrant are as follows:

- **Market understanding**: This criterion addresses the question of whether a vendor can understand buyers' needs and turn that understanding into products and services. It assesses how aligned a vendor's deployments are with the needs of complex analytics and how widely its reference customers use new and emerging capabilities.

- **Marketing strategy**: This criterion considers whether a vendor has a clear set of messages that communicate its value and differentiation in the market, whether that vendor is generating awareness of its differentiation.

- **Sales strategy**: For this criterion, Gartner analysts assess the extent to which a vendor's sales approach benefits from a range of options and drivers that encourage customers to evaluate its product(s).

- **Offering (product) strategy**; Gartner evaluates a vendor's ability to support key trends that will create business value in 2020 and beyond. Existing and planned products and functions that contribute to these trends are factored into each vendor's score for this criterion. Specifically, Gartner analysts scored each vendor's vision across three attributes:

  - **Openness**: The extent to which openness is a core design principle of the vendor's future architecture, which ideally should be nonproprietary and open to competitors' products at the back and front ends. Key question: How open is the vendor's product vision?

  - **Consumerization**: Ease of use is becoming more a matter of what analysis a platform does for the user than how easy is it for the user to perform analysis. Key question: How consumer-focused is the vendor's product vision?

  - **Automation**: Vendors should understand that augmentation represents a path to automation, that ABI is colliding with data science and ML, and that,

in future, ABI is likely to be mainly machine-driven. Key question: How driven by automation is the vendor's product vision?

- **Vertical/industry strategy:** This criterion assesses how well a vendor can meet the needs of various industries, such as financial services, life sciences, manufacturing and retail.

- **Innovation:** This criterion gauges the extent to which a vendor is investing in, and delivering, unique and in-demand capabilities. It considers whether a vendor is setting standards for innovation that others are emulating.

- **Geographic strategy:** This criterion considers how well represented a vendor is around the world.

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	Low
Innovation	High
Geographic Strategy	Medium

Source: Gartner (February 2020)

Quadrant Descriptions

Leaders

Leaders demonstrate a solid understanding of the product capabilities and commitment to customer success that buyers in this market demand. They couple this understanding with an easily comprehensible and attractive pricing model that supports proof of value, incremental purchases and enterprise scale. In the modern ABI platform market, buying decisions are made, or at least heavily influenced, by business users who demand products that are easy to buy and use. They require these products to deliver clear business value and enable the use of powerful analytics by those with limited technical expertise and without upfront involvement from the IT department or technical experts. In a rapidly evolving market featuring constant innovation, Leaders do not focus solely on current execution. Each also ensures it has a robust roadmap to solidify its position as a market leader and thus help protect buyers' investments.

Challengers

Challengers are well-positioned to succeed in this market. However, they may be limited to specific use cases, technical environments or application domains. Their vision may be hampered by the lack of a coordinated strategy across various products in their platform portfolio. Alternatively, they may fall short of the Leaders in terms of effective marketing, sales channels, geographic presence, industry-specific content and innovation.

Visionaries

Visionaries have a strong and unique vision for delivering a modern ABI platform. They offer deep functionality in the areas they address. However, they may have gaps when it comes to fulfilling broader functionality requirements or lower scores for customer experience, operations and sales execution. 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.

Niche Players

Niche Players do well in a specific segment of the market — such as financially oriented BI, customer-facing analytics, agile reporting and dashboarding, or embeddability — or have limited ability to surpass other vendors in terms of innovation or performance. They may focus on a specific domain or aspect of ABI,

but are likely to lack deep functionality elsewhere. They may also have gaps in terms of broader platform functionality, or have less-than-stellar customer feedback. Alternatively, they may have a reasonably broad ABI platform but limited implementation and support capabilities or relatively limited customer bases (such as in a specific region or industry). In addition, they may not yet have achieved the necessary scale to solidify their market positions.

Context

This Magic Quadrant assesses vendors' capabilities on the basis of their execution in 2019 and future development plans. As vendors and the market are evolving, the assessments may be valid for only one point in time.

Readers should not use this Magic Quadrant in isolation as a tool for selecting vendors and products. Consider it as one reference point among the many required to identify the most suitable vendor and product. When selecting a platform, use this Magic Quadrant in combination with "Critical Capabilities for Analytics and Business Intelligence Platforms." Also use Gartner's client inquiry service.

Readers should not ascribe their own definitions of Completeness of Vision or Ability to Execute to this Magic Quadrant (they often incorrectly equate these with product vision and market share, respectively). The Magic Quadrant methodology uses a range of criteria to determine a vendor's position, as shown by the extensive Evaluation Criteria section above.

Market Overview

From a financial perspective, the market for modern, self-service ABI platforms continues to grow at speed, but slower than before. According to Gartner's market share analysis, the market's revenue grew by 22.3% in 2018, compared with 35.0% in 2017. Pricing pressure and strong competition were broadly responsible for this deceleration. See "Market Share Analysis: Analytics and BI Software, Worldwide, 2018."

But although spending is growing more slowly than before, the number of people using ABI platforms is accelerating massively. Microsoft alone now has millions of users around the world using its Power BI cloud service, which was launched just

five years ago. The huge increase in user numbers is because the price per user is a fraction of what it was a decade ago.

2019 was a year of transition toward cloud ecosystem dominance. The rapid growth of the Microsoft Azure-based Power BI cloud service, along with Salesforce's acquisition of Tableau and Google's purchase of Looker, signaled a change whereby cloud stacks are now expected to come with a competitively priced ABI platform (see "Recent Acquisitions Signal Big Changes to the Analytics and Business Intelligence Platform Market"). Of course, along with this transition comes a natural concern about lock-in. The balancing factors here are vendors' attitudes toward, and implementation of, openness in their stacks and the growing importance of "multicloud" approaches, whereby customers can choose to run an application in, and spanning, multiple cloud IaaS offerings.

The move to cloud platform as a service (PaaS)-aligned ABI as a norm is impacting how nonaligned vendors are positioning their offerings and competing. Two main strategies are emerging. The first is to open previously closed products in order to minimize competition with almost ubiquitous ABI tools (such as MicroStrategy's connectors for Microsoft Power BI, Qlik Sense and Tableau). The second is to focus on finding specific market segments and matching offerings to their needs.

Within the field of ABI there is effectively a submarket for embedded ABI. It has a different set of key buyers, namely software developers and product managers. Gartner considers embedded ABI an important use case as organizations want to create extranet applications, monetize data, and provide ABI as part of overall business applications. These applications may reach beyond internal stakeholders to include customers, suppliers and citizens. Independent software vendors also consider embedded ABI capabilities increasingly important. For some vendors, the embedded use case represents their primary market; this is the case with Logi Analytics. For other vendors, it is a smaller focus, but nevertheless represents a new battleground requiring specific pricing models and improved APIs.

Evidence

Gartner's analysis in this Magic Quadrant is based on a number of sources:

- Customers' perceptions of each vendor's strengths and challenges, as gleaned from their ABI-related inquiries to Gartner.

- An online survey of vendors' reference customers.

- A questionnaire completed by the vendors.

- Vendors' briefings, including product demonstrations, and discussions of strategy and operations.

- An extensive RFP questionnaire inquiring about how each vendor delivers the specific features that make up the 15 critical capabilities.

- Video demonstrations of how well vendors' ABI platforms address specific functionality requirements across the 15 critical capabilities.

Online Survey for This Magic Quadrant

An online survey was developed by Gartner as part of its research for this Magic Quadrant. Vendor-identified reference customers — end-user customers and OEMs — provided responses.

The survey was conducted in September and October 2019. It gathered 467 responses, with a minimum of 10 responses per vendor.

Although these responses represent a good size of pool from which to draw directional inferences, data from reference customers is not representative of the total ABI platform market. Rather, it is representative of the customers who elected to participate in the survey.

Gartner Peer Insights

Gartner Peer Insights reviews were considered for metrics relating to operations (service and support, and quality of technical support), sales experience (pricing and contract flexibility) and market responsiveness (value received). We considered reviews for modern ABI platform products posted from 1 October 2018 through 1 October 2019.

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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