Magic Quadrant for Advanced Analytics Platforms

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Predictive analytics and other types of advanced analytics technology are becoming major factors in the analytics market. This Magic Quadrant evaluates 16 leading providers of advanced analytics platforms that are used to build solutions from scratch.

Market Definition/Description

Gartner defines advanced analytics as the analysis of all kinds of data using sophisticated quantitative methods (for example, statistics, descriptive and predictive data mining, simulation and optimization) to produce insights that traditional approaches to business intelligence (BI) — such as query and reporting — are unlikely to discover.

Organizations adopt advanced analytics in a number of different ways. One is through the use of advanced analytics platforms — the subject of this analysis — which enable users to create analytic models for almost any topic.

An advanced analytics platform provides a full suite of tools for use by knowledgeable users, traditionally data scientists. However, they are increasingly being directed at business analysts and "citizen data scientists," to enable them to perform a variety of analyses on different types of data. In today's market, much analysis is predictive in nature, although descriptive analysis is often needed as well, especially for data exploration. While these analytical capabilities remain important, additional analytic techniques such as forecasting, optimization and simulation will grow in importance (see Note 1).
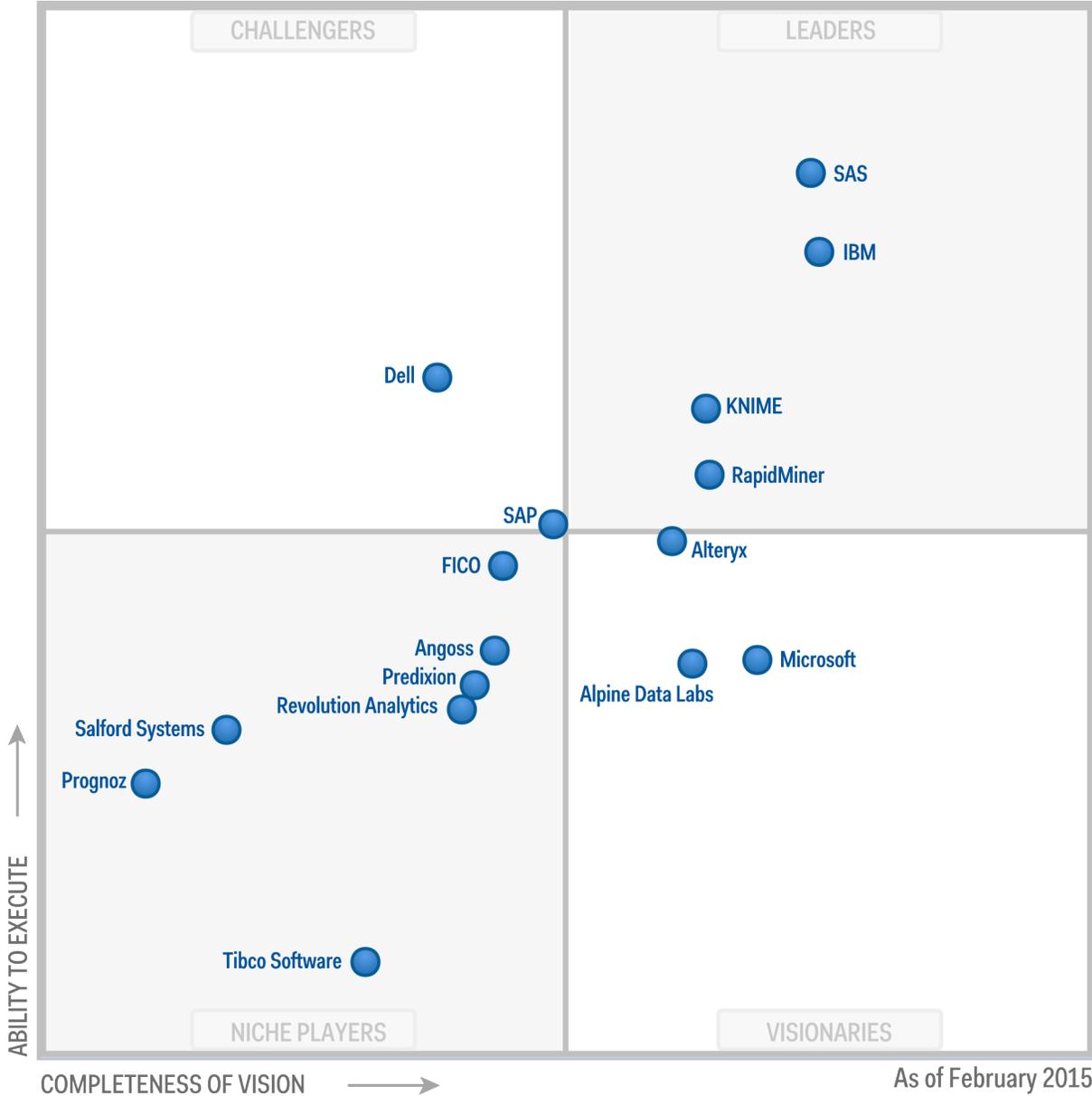
Two common alternative approaches to acquiring advanced analytics capabilities are:

- **Outsourcing:** This means working with advanced analytics service providers (such as Accenture, Mu Sigma and Opera Solutions) whose employees use either commercial or proprietary analytics tools to deliver insights to client organizations.

- **Buying:** This means purchasing and deploying, either on-premises or as SaaS, packaged analytics applications that target specific business domains (such as insurance fraud detection and retail merchandise planning).

These alternatives have their strengths and weaknesses and involve separate markets (see "An Eight-Question Decision Framework for Buying, Building and Outsourcing Data Science Solutions"). They are not included in this evaluation.

Magic Quadrant

Figure 1. Magic Quadrant for Advanced Analytics Platforms

CHALLENGERS

LEADERS

SAS

IBM

Dell

KNIME

RapidMiner

SAP

Alteryx

FICO

Angoss

Microsoft

Predixion

Alpine Data Labs

Revolution Analytics

Salford Systems

Prognoz

ABILITY TO EXECUTE

Tibco Software

NICHE PLAYERS

VISIONARIES

COMPLETENESS OF VISION

As of February 2015

Source: Gartner (February 2015)

Vendor Strengths and Cautions

Alpine Data Labs

Alpine Data Labs is based in San Francisco, California, U.S. It offers an analytics platform with a focus on analyzing big datasets by running analytic workflows natively within existing Hadoop or other parallel platforms. Alpine is developing expertise in the financial services, healthcare and manufacturing sectors.

Strengths

- Alpine has a strong focus on collaboration in its Chorus solution, which provides a single collaborative environment for data analysts and business users to share ideas and feedback during the model creation process. In addition, analytics leaders can view the analytics projects underway across their teams.

- Alpine is one of the vendors most committed to supporting cloud-based analysis. This accelerates the implementation process and earns Alpine strongly positive customer feedback regarding scalability across a variety of platforms.

- Alpine remains one of the strongest vendors for incorporating customer input into a product road map, although its overall customer satisfaction has dropped slightly from last year's very high level.

Cautions

- Alpine has a good breadth of functionality (including an end-to-end framework for data discovery, data transformation, modeling, model evaluation and management, as well as features for scheduling, versioning, sharing, data security, provisioning and search), but it still lacks depth of functionality. Several model techniques are either absent or not fully developed within its tool.

- Due to its small size, Alpine struggles to gain significant visibility in the market. As larger vendors increase their focus on this market and expand their big data stories, this will pose an increasing challenge to Alpine's ability to differentiate itself.

- Chorus' strength as a product component would benefit from wider adoption in the industry, which is something Alpine is trying to encourage. Still, adoption is currently slow and the effort to boost it may divert Alpine's resources away from the core product.

Alteryx

Alteryx is based in Irvine, California, U.S. It provides a data-blending and advanced analytics platform that enables analysts to blend internal, third-party and cloud data, and then to analyze it using spatial and predictive tools. This is done in a single workflow, with no programming required. Alteryx is particularly strong in the retail and communications industries.

Strengths

- Alteryx has solid offerings geared to customer analytics and location intelligence. It provides a modern UI with drag-and-drop functionality for the R language, and scalable performance through its partnership with Revolution Analytics and recent support for Apache Spark.

- Alteryx has changed its sales strategy to increase its customers by emphasizing small, quick-start projects, rather than large implementations. This is an effective approach for growing its customer base, but Alteryx will need to demonstrate that it can expand its customer relationships as part of an effective growth strategy.

- Customers cited ease of use (aided by a graphical drag-and-drop interface), ease of adoption and a short learning curve for new users as key elements delivering business value from Alteryx's software. Alteryx is the highest-ranked vendor for delivery of business value in this Magic Quadrant.

Cautions

- Some customers criticized Alteryx's licensing terms and conditions, although their overall impression was that the software delivered good value for money.

- Alteryx has traditionally relied on a partnership with Tableau (it is also teaming up with Qlik and others), but its product's lack of native data visualization capabilities was frequently criticized by customers (the recent 9.5 release has begun to address this issue). Customers generally consider the product's documentation to be weak, but feedback about customer service is generally positive.

Angoss

Angoss is based in Toronto, Ontario, Canada. It has a long history of advanced analytics with its KnowledgeSEEKER decision tree product. Angoss focuses on three main markets: risk analytics, marketing analytics and CRM analytics. Its largest group of customers is in the financial services sector.

Strengths

- Angoss is one of the most established players in the market, with far-reaching experience and well-established client relationships. Its privatization — it was bought by venture capital firm Peterson Partners in 2013 — should provide a source of funding for necessary changes.

- The planned extension of service bundles and packaged applications for particular industries (retail and telecom) should enhance Angoss' ease of use and domain expertise for new customers.

- Angoss' vision for combining its workflow platform with the language of the SAS execution environment of World Programming Limited (WPL) will be welcome news to existing and prospective customers. It means that Angoss will offer the equivalent functionality of a SAS Analytics Pro environment with Angoss' ease of use and R-integration.

Cautions

- Angoss has yet to establish a dominant presence in the market. It is still going through uncertain times, as is indicated by the recent buyout.

- Angoss' overall customer satisfaction ratings have dropped from last year, to below those of many of its peers. It remains to be seen whether the company's new CEO, appointed in mid-2014, can turn this around.

- Some customers were unhappy with the software's processing speed, particularly for large datasets, and noted that the client/server version was unstable without frequent intervention (although this might simply reflect certain system configurations).

Dell

In 2014, Dell acquired StatSoft, one of the pioneers of the advanced analytics industry, and one with a long history in the academic, enterprise and desktop analytics space. Dell wants to exploit the analytics and data management capabilities of StatSoft's Statistica product. This will complement other Dell advanced analytics products for data exploration, provisioning and profiling, virtual data mashup, integration platform as a service, master data management and natural-language processing, and its ability to deploy advanced analytics within Hadoop and DBMSs.

Strengths

- Dell has significant financial resources and the sales presence to accelerate the development and market presence of Statistica.

- Dell has a very wide range of functionality. Clients particularly liked the integration of analytics, visualization, data processing and management in Statistica.

- Dell commands a good level of overall customer satisfaction. It also has some of the highest scores for sales relationship, analytic support and software quality.

Cautions

- Statistica had fallen behind the market in relation to aspects of usability and modern GUI. This is an issue that Dell has expressed a commitment to address, but at the time of writing new capabilities have yet to be delivered.

- Pricing remains an issue for some Dell users, but it is less of a problem than in recent years as this was one of the first things Dell addressed after the acquisition.

- Customers expressed concern about the lack of opportunity to interact with other customers, specifically the absence of an online community. Several communities do exist, but usage has been lower than is desirable (Dell is making a concerted effort to increase participation).

FICO

FICO is based in San Jose, California, U.S. It was a pioneer in the area of credit scoring, and has since branched into other domains with a focus on decision management and operationalizing analytics. FICO concentrates on the banking, insurance, retail and healthcare sectors. In 2014, it acquired InfoCentricity, a company best known as a specialist provider of cloud-based predictive analytics for credit risk decisions in the banking, retail, education and marketing sectors. It also acquired certain assets from Karmasphere, which delivers Hadoop-driven big data analytics to business users in many industries.

Strengths

- FICO's experience and reputation in credit scoring and fraud detection give it considerable credibility in the advanced analytics market. Its emphasis on ensuring that customers derive value from its analytics offerings — through an emphasis on decision making — positions it well for the future.

- FICO received consistently good feedback from customers about the availability and expertise of its customer support and consultants.

- The strength of FICO's optimization solution and decision management capabilities give the company a strong focus on "results," which can be missing from some of the market's more "predictive only" alternatives.

Cautions

- FICO is relatively weak in the areas of big data analysis and support for citizen data scientists, but its product road map and recent acquisitions promise significant developments.

- FICO's overall customer satisfaction is below average, with value for money and the expense of the solution being particular concerns.

- FICO still has to improve the orchestration and integration of its growing product stack, which derives from numerous recent acquisitions (of InfoCentricity, Infoglide and Karmasphere, for example).

IBM

IBM is based in Armonk, New York, U.S. It has evolved its portfolio so that its predictive analytics capabilities are accessible to multiple user types and skill levels. Best known for its SPSS Statistics and SPSS Modeler products and solutions, IBM addresses a wide range of analytic challenges relating to customers, operations, physical assets and risks.

Strengths

- IBM has demonstrated considerable corporate commitment to this market. It is well-known and its products' capabilities are broadly understood by prospective customers.

- IBM's has a large user base and user community, which helps it hire experienced analysts and should increase the market's understanding of its offerings.

- IBM's vision is strong, as shown by its integration of analytics into business-user-friendly tools, and the recent introduction of SPSS in the cloud, for example. However, additional details on the relationship between Watson Analytics (released in December 2014) and IBM's other analytics products must be forthcoming to clarify its road map.

Cautions

- IBM's product stack and individual offerings can make it difficult to use in settings where the required functionality spans many discrete product offerings. Improvements have been made, including the new integrated solutions called Predictive Customer Intelligence and Counter Fraud Management, to address this issue in specific domains, but a lack of integration among products remains a problem for the broad platform.

- IBM must continue the progress it made in 2014 by addressing customers' continuing concerns about pricing structure and value for money with changes like the introduction of line-of-business-driven pricing models (number of customers, number of claims scored and so on) and Watson Analytics as a freemium offering.

- Although some customers expressed high levels of satisfaction with IBM, its overall satisfaction rating was lower than average. Customers pointed to shortcomings in IBM's account management, poor or missing documentation, insufficient training, weak technical support, complexity of installation, and poor inclusion of feedback into the product development road map.

KNIME

KNIME (the name stands for "Konstanz Information Miner") is based in Zurich, Switzerland. It offers a free, open-source, desktop-based advanced analytics platform. It also offers a commercial, server-based on-site or customer cloud solution that provides additional enterprise functionality. KNIME competes in a range of industries, but has particular experience in the life sciences, government, education, banking and communications sectors.

Strengths

- Customers identified as compelling differentiators KNIME's "openness, so that we can invest in our own customized features," and the ability to use its platform as an analytics framework with which to tie together the "work we do in R, Python and other tools."

- KNIME's customers value its "dynamic" and "active" user community and customer interactions.

- Overall customer satisfaction with KNIME is high, particularly with regard to the delivery of business value.

Cautions

- Despite having many customers, KNIME lacks a high level of visibility in this market outside the core data mining community, which can limit its acceptance within organizations.

- KNIME received mixed feedback from customers for its support. In general, its person-to-person support was rated positively, but its online documentation and training were deemed poor. The company's limited size and resources raise concerns about its ability to serve large enterprises.

- KNIME offers a broad range of functionality, but its UI, though functional, is not considered attractive by some customers, and its support for visualization needs improvement.

Microsoft

Microsoft is based in Redmond, Washington, U.S. It offers its predictive analytics capability (SQL Server Analysis Services [SSAS]) embedded within SQL Server. Microsoft's new Azure Machine Learning (AML) cloud offering was still in beta at the time of evaluation, so only limited early feedback on it is incorporated into this Magic Quadrant.

Strengths

- With its Windows, Office, SharePoint, SQL Server and Exchange product lines, Microsoft has unparalleled reach into most organizations.

- Microsoft's ambitious AML cloud offering will bring together best-of-breed components (extraction, transformation and loading [ETL], data storage, data preparation, different analytics and presentation layers), deep integration with R, and R packages and solutions from an entire ecosystem of third parties via its marketplace. Microsoft is one of four cloud megavendors — the others being Amazon, Google and IBM — that offer a growing range of applications as part of platform-as-a-service offerings. Microsoft's considerable resources and investments to enable hybrid cloud scenarios and adoption should ensure it can execute its plans for advanced analytics.

- The AML offering is brand-new, and Microsoft's support for SSAS will most likely slowly diminish in importance. Nevertheless, Microsoft scored well in terms of ease of deployment (especially for AML) and integration with many Microsoft platforms.

Cautions

- Like its predecessor, the 2014 edition of SSAS lacks breadth, depth and usability, in comparison with the Leaders' offerings. The AML offering is only the start of a promising, but long, journey for Microsoft.

- Microsoft received low scores from SSAS customers for its willingness to incorporate their feedback into future versions of the product. This may change, however, as Microsoft progresses with a significant overhaul of its portfolio via AML. Microsoft's clients find themselves facing extremes: SSAS is a low-performing product (with poor features, little data

exploration and questionable usability), while the AML offering represents a radical change of paradigm. For some organizations, using the public cloud remains unacceptable, which makes delivery of a hybrid cloud offering crucial.

Predixion

Predixion is based near Los Angeles, California, U.S. Its focus is on providing targeted applications for different use cases and industries, such as healthcare, life sciences, the Internet of Things (IoT) and predictive maintenance, on top of its predictive analytics platform. Together with its investor and partner Accenture, it places heavy emphasis on its go-to-market strategy for the deployment of models into BI platforms, business applications, workflows, mobile devices and portals.

Strengths

- Customers rated Predixion highly in terms of their overall satisfaction and its delivery of value for money.

- Predixion's vision for ease of deployment in different environments, and particularly to remote devices, differs significantly from other vendors in this market. This will become a significant factor as the IoT proliferates across market sectors and industries.

- Predixion received positive customer feedback about its vision, road map, knowledgeable staff, and excellent after-sales support and training.

Cautions

- For a company of its size, Predixion lacks focus by catering to too many industries with specialized solutions.

- Initial deployment can be complex, as factors such as the lack of a thin-client HTML5 interface introduce Microsoft dependencies that can impact performance.

- Low market visibility makes Predixion very dependent on its distribution partners and investors, such as Accenture and GE, to introduce it to deals.

Prognoz

Prognoz is based in Perm, Russia. It is a privately held provider of software and services, with a strong presence in the public, finance and corporate sectors. Its Prognoz Platform product is natively integrated with BI, analytics and visual discovery functionality, and has particular strengths in time-series analysis, scenario forecasting, target modelling and optimization for economic modeling and financial system analysis.

Strengths

- Prognoz commands a high level of customer loyalty (mostly in Russian and Asian markets). Very few of its customers even consider switching to another platform.

- Customers like their sales relationship with Prognoz. They also value its pricing structure and consider that its product delivers good value for money and business value.

- Prognoz consistently receives good scores for its responsiveness to customers' input.

Cautions

- Prognoz is strong at forecasting and simulation, but is only just entering the market for general advanced analytics. There are gaps in functionality, such as in predictive analytics algorithms and the ability to deal with unstructured data.

- Prognoz's inexperience in this market shows in the relative weakness of its product in core areas of predictive analytics.

- Prognoz has a global presence but generally low visibility outside Russia and Asia.

RapidMiner

RapidMiner is based in Cambridge, Massachusetts, U.S. Its platform has a code-free UI and is available both in the cloud and as an open-source client/server platform. Additionally, a commercial edition has the ability to work on larger datasets and to connect to more data sources. The platform is easily extendable via third-party languages, analytic libraries, BI platforms and Web applications.

Strengths

- The RapidMiner platform supports an extensive breadth and depth of functionality.

- RapidMiner was most frequently selected by customers for its ease of use, ease of implementation and license cost (the desktop version is free to try, but the server version must be paid for).

- A new leadership team and an ambitious road map focused on big data, the cloud and industry accelerators mean that RapidMiner ranks high for innovation.

Cautions

- Despite having many customers, RapidMiner lacks high visibility in the market outside the core data science community.

- RapidMiner seems to be experiencing growing pains, as its scores for customer satisfaction and delivery of business value have fallen over the past 12 months.

- Customers identified poor training and a lack of documentation. They also highlighted the sales relationship and customer support as areas of weakness.

Revolution Analytics

Revolution Analytics is based in Mountain View, California, U.S. It provides an enterprise-grade, multiplatform execution framework and an ecosystem of partnerships for the increasingly popular

open-source R language. In January 2015, Microsoft announced its intention to acquire Revolution. The acquisition will strengthen the R community and Microsoft's place within that community.

Strengths

- Revolution was quick to recognize the growing popularity of R, along with R's limitations for enterprises. It was the first to address the market's need for multiplatform scalability and support, for example, by developing a commercial software product that enhances and extends open-source R.

- Revolution's overall customer satisfaction has improved from last year, although a significant group of customers expect to re-evaluate their use of its platform in the next few years.

- Revolution is consistently selected for its performance, the attractiveness of its open-source capabilities and its relatively low license cost, compared with some other tools.

Cautions

- Revolution's platform, like R, is demanding in terms of the coding skills required to make the best use of it. Although Revolution offers a variety of training courses, some customers identified a lack of training and documentation for non-R users as a hindrance to the transition to Revolution's tool.

- As Python continues to grow in popularity (albeit it remains less popular than R and is mostly used for data processing), and as product support for the R ecosystem matures among most vendors (albeit technical support generally lags), support for R is becoming a less compelling competitive differentiator.

Salford Systems

Salford Systems is based in San Diego, California, U.S. It is self-financed and has grown organically to serve over 6,000 end users at over 300 companies and universities. It also has a long history of offering the tool used by groups competing in data mining competitions, such as the KDD Cup.

Strengths

- Customers praised the power and speed of model building using Salford's Classification And Regression Tree (CART) decision analysis, and the accuracy of, and the visualization features in, its TreeNet Gradient Boosting.

- Customers reported that analyses using Salford's software consistently deliver good business value (the third-best of the vendors in the Magic Quadrant) and good overall satisfaction.

- Salford's road map has a strong emphasis on adding analytic techniques (such as uplift modeling), integration with Hadoop, R and Python, and improving performance and scalability.

Cautions

- Salford's product road map does not include related aspects of data mining functionality, such as support for collaboration with business users, data discovery and analytic marketplaces.

- Salford suffers from low market visibility and awareness. A significant investor could provide the go-to-market funding to dramatically raise its profile, ranking and competitiveness in an increasingly complex market.

SAP

SAP is based in Walldorf, Germany. It is close to fully integrating the KXEN InfiniteInsight product into its previously developed SAP Predictive Analysis product in order to launch a new SAP Predictive Analytics product.

Strengths

- SAP has a strong commitment to the advanced analytics market and the financial, sales and technical resources to become a leading vendor in this sector. SAP already has embedded advanced analytics solutions in several industries' business processes (separately from its Predictive Analytics platform products).

- The combination of SAP Predictive Analysis and KXEN InfiniteInsight products could produce a very strong solution for SAP. KXEN's business-analyst-targeted ability to deal with large numbers of variables was a significant differentiator, and the combination with SAP's more data-scientist-targeted solution could be compelling.

- Integration with SAP Hana (not required) can deliver performance and scalability benefits.

Cautions

- Many customers — but particularly former KXEN customers — remain uncertain about SAP's product road map and to what extent the ease-of-use aspects of KXEN will be retained in the new combined product (SAP Predictive Analytics 2.0, expected in 1Q15).Overall customer satisfaction with SAP remains relatively low, with pricing, delivery of business value and value for money all being problematic.

- Some customers warn that a lack of Hana skills can hinder the proper deployment of Hana that is required to capture the benefits of integration.

- SAP customers also identified poor sales relationships, weak customer support and the lack of a customer community for mutual support as factors fueling dissatisfaction (although there is an SAP Community Network [SCN] for SAP Predictive Analysis).

SAS

SAS is based in Cary, North Carolina, U.S. With over 40,000 customers and the largest ecosystem of users and partners, SAS has been the most common choice for organizations seeking an

advanced analytics environment. SAS has strength in the banking, insurance, business services and government sectors.

Strengths

- SAS's product stack is the widest in the industry. It is most closely rivaled in terms of the range of analytic techniques available by the open-source programming environment R.

- The strength of SAS's user community and high product scores contribute to a high level of customer loyalty. Customers frequently praised SAS for its training programs.

- Customers identified the performance, scalability, stability and reliability of the platform as reasons for choosing SAS.

Cautions

- SAS's product stack includes multiple products with similar capabilities (for example, predictive modeling). Customers identified issues with the integration of, and interoperability between, product offerings and with the variety of UIs.

- The complexity of the learning curve for SAS's product line is a concern for nonexpert users.

- High license fees and a complex licensing structure remain concerns for SAS users and are the main reason for organizations switching to competitors' solutions. Most of the surveyed customers thought SAS's platform enabled them to achieve their business objectives, but few thought it delivered good value for money.

Tibco Software

Tibco Software is based in Palo Alto, California, U.S. Its advanced analytics capabilities are part of its Spotfire Platform aimed at business analysts and citizen data scientists. It is complemented by the Tibco Enterprise Runtime for R (TERR) engine for highly skilled data scientists. Tibco's new ownership by Vista Equity Partners might result in a shift of strategy and road map for Tibco's advanced analytics capabilities, including the potential to broaden or accelerate its market development.

Strengths

- Spotfire offers a number of analytic techniques directly within its visual analysis UI, as well as support for the R open-source language, S-Plus and SAS for non-native techniques.

- Customers like the all-in-one nature of Tibco's Spotfire solution, and its range — from data visualization to predictive analytics.

- Customers gave positive feedback about speed and performance when using the TERR engine, a capability compatible with R scripts.

Cautions

- Customers' satisfaction with Tibco is generally low, both overall and for multiple aspects of their relationship (sales relationship, analytic support and willingness to listen to customers' input about product enhancements).

- Customers consider Tibco's current personnel to be good but overstretched. They question whether Tibco will invest to expand its support and consulting teams.

- Customers do not consider Tibco's pricing to be predictable and controllable, or that its solution offers good value for money and delivers business value. (However, in mid-2014, Tibco added two new pricing models to its existing named and perpetual license options. The new options include an annual subscription and hourly pricing to enable lower prices that can be tied directly to usage of the environment.)

Vendors Added and Dropped

We review and adjust our inclusion criteria for Magic Quadrants and MarketScopes as markets change. As a result of these adjustments, the mix of vendors in any Magic Quadrant or MarketScope may change over time. A vendor's appearance in a Magic Quadrant or MarketScope 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

- Dell

- Predixion

- Prognoz

- Salford Systems

- Tibco Software

Dropped

- Actuate, due to insufficient completed references for evaluation.

- InfoCentricity has been acquired by FICO, so it is evaluated as part of FICO.

- Megaputer, due to insufficient completed references for evaluation.

- Oracle offers its solution as a tightly integrated component of its database, BI and big data offerings, rather than as a stand-alone product.

- StatSoft has been acquired by Dell, so it is evaluated as part of Dell.

Inclusion and Exclusion Criteria

To be included in this Magic Quadrant, vendors had to meet all of the following criteria (for some relevant vendors that did not meet these criteria, see Note 2):

1. A vendor must offer advanced analytics functionality as a stand-alone product or set of products. The product must be application-neutral. It must support multiple different use cases across an organization, not be a packaged application for a specific domain or business problem.

2. A vendor must offer native support (not third-party functionality such as R) for the following capabilities:

   - Data access (access to Hadoop data as well as basic ETL)

   - Data preparation and exploration (binning, feature selection and custom mappings)

   - At least four of the following six predictive analytics techniques: linear and logistic regression, decision trees, neural nets, time series analysis, support vector machine (SVM) and ensemble models

   - At least three of the following five descriptive analytics techniques: k-means clustering, hierarchical clustering, analysis of variance (ANOVA), link analysis and principal component analysis (PCA)

   - Model testing and validation, such as k-fold cross-validation and return on capital (ROC) curve (lift curve with some action/strategy consideration)

   - Model deployment: Predictive Model Markup Language (PMML) support and R-integration/ export

3. Market presence:

   - A vendor must have generated at least $3 million in advanced analytics-related software license revenue in the 12-month fiscal reporting window closest to CY13.

   - A vendor must have at least 15 completed customer survey responses.

Evaluation Criteria

Ability to Execute

High importance:

- **Product or Service:** A use-case-weighted average of the scores in the accompanying "Critical Capabilities for Advanced Analytic Platforms" (see Note 3).

- **Customer Experience:** A combination of feedback from users about their overall satisfaction with the company and its product, and the product's integration. (We have increased this criterion's weighting from last year's medium.)

Medium importance:

- **Overall Viability:** An evaluation of the viability of best-of-breed vendors and the importance of this product line to larger vendors.

- **Market Responsiveness and Track Record:** An evaluation based on the size of the active customer base and new sales traction since last year.

- **Marketing Execution:** An evaluation based on how well the product has achieved market awareness and the market's understanding of its value proposition.

Low importance:

- **Sales Execution/Pricing:** Based on customer feedback about the sales process and pricing.

- **Operations:** Based on customer feedback about the product development process and customer support capabilities.

Table 1. Ability to Execute Evaluation Criteria

Evaluation Criteria	Weighting
Product or Service	High
Overall Viability	Medium
Sales Execution/Pricing	Low
Market Responsiveness/Record	Medium
Marketing Execution	Medium
Customer Experience	High
Operations	Low

Source: Gartner (February 2015)

Completeness of Vision

High importance:

- **Market Understanding:** A vendor's market understanding and how prepared it is to track the market's evolution.

- **Innovation:** An evaluation of a vendor's product road map against important areas of innovation, such as R-integration, analytic marketplaces, support for citizen data scientists and data discovery.

Low importance:

- **Marketing Strategy:** A vendor's marketing strategy does contribute to its overall vision for the market, but is less significant than its market understanding and innovation.

- **Sales Strategy:** A vendor's sales strategy does contribute to its overall vision for the market, but is less significant than its market understanding and innovation.

- **Offering (Product) Strategy:** A vendor's product strategy does contribute to its overall vision for the market, but is less significant than its market understanding and innovation.

Not rated:

- **Business Model:** This criterion is excluded as vendors do not differentiate themselves greatly in terms of business model at present.

- **Vertical/Industry Strategy:** This is a significant criterion for the overall advanced analytics market, but less so in the platform segment (which is industry-neutral) than in the application markets (which are often defined by industry).

- **Geographic Strategy:** This consideration is covered under marketing strategy and sales strategy.

Table 2. Completeness of Vision Evaluation Criteria

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

Source: Gartner (February 2015)

Quadrant Descriptions

Leaders

Leaders are vendors with a strong track record in the market. They are also likely to influence the market's growth and direction. Leaders are suitable vendors for most organizations to evaluate. They should not be the only vendors evaluated, but at least two are likely to be included in the typical shortlist of five to eight vendors.

Challengers

Challengers tend to fall into one of two categories. They may be long-term competitors that need to revitalize their vision to stay abreast of market developments and become more broadly influential. Alternatively, they may be vendors well established in adjacent markets that are entering this market and have solutions that can reasonably be considered by the majority of their customers. As these vendors prove they can influence this market, they may eventually become Leaders.

Visionaries

Visionaries are usually smaller vendors that embody trends that are shaping, or will shape, the market. They represent an opportunity for some organizations to skip a generation of technology, or they provide some compelling capability that will offer competitive advantage as a complement to, or substitute for, existing solutions. As Visionaries mature and prove their ability to execute over time, they may eventually become Leaders.

Niche Players

Niche Players fall into one of two categories. Some are "Visionaries in waiting" in that they have some vision but are struggling to make it compelling or to develop the track record for continual innovation that will make them Visionaries. Others are "Challengers in waiting" — often vendors from adjacent markets that are still maturing their solutions in this domain; their products and track records are not quite strong enough to make them a safe "default" choice for their existing customers (the attributes of a Challenger), but they are likely to become Challengers if they continue to develop their products and demonstrate success.

Context

Existing users of advanced analytics platforms should start re-evaluating their options six to nine months before their current software contracts expire. Even organizations satisfied with their current provider should consider whether introducing another vendor's platform would deliver specific benefits for certain types of analysis — for example, help with specific data types or more rapid model development for highly volatile domains.

Potential users of advanced analytics platforms should look beyond the traditional market leaders. Although these vendors remain viable options, many of the other providers represent compelling

options for organizations with particular requirements. Furthermore, this market's accelerating evolution makes it likely that some of the traditional vendors will struggle to match the pace of innovation of newer entrants.

Market Overview

Gartner estimates that the advanced analytics market amounts to over $1 billion across a wide variety of industries and geographies. Financial services, retail and e-commerce, and communications are probably the largest industries, although use cases exist in almost every industry. North America and Europe are the largest geographical markets, although Asia/Pacific is also growing rapidly (see "Forecast: Enterprise Software Markets, Worldwide, 2011-2018, 4Q14 Update").

This market has existed for over 20 years. Some have considered it relatively stable, but if that was ever the case, it is no longer, as the concept of big data has not only increased interest in this market but significantly disrupted it. The following are key disruptive trends:

- Growing interest in applying the results of advanced analytics to improve business performance is rapidly expanding the number of potential applications of this technology and its audience across organizations. Rather than being the domain of a few select groups (for example, those responsible for marketing and risk management), every function now has a legitimate interest in this capability.

- The rapid growth in the amount of available data, and particularly new varieties of data (such as unstructured data from customer interactions and streamed machine-generated data), requires greater levels of sophistication from users and systems, as well as the ability to rapidly interpret and respond to data in order to realize its full potential.

- The growing demand for these types of capability is outpacing the supply of expert users, which necessitates higher levels of automation and increases demand for self-service and citizen data scientist tools.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"How Markets and Vendors Are Evaluated in Gartner Magic Quadrants"

"Critical Capabilities for Advanced Analytic Platforms"

"Predicts 2015: A Step Change in the Industrialization of Advanced Analytics"

"Toolkit: RFP for Advanced Analytics or Data Science Platforms"

"Who's Who in Advanced Analytics"

"Planned Acquisition Raises Questions for Tibco Software Customers"

"Forecast: Enterprise Software Markets, Worldwide, 2011-2018, 4Q14 Update"

Evidence

Information for this report came from:

- An evaluation of the instruction manuals of selected vendors, to check their functionality.

- A series of briefings and demonstrations by the vendors to Gartner analysts.

- A survey completed by 600 organizations regarding their experience of working with the vendors' products. At least 15 references were completed for each vendor to provide a reasonable sample size. The list of surveyed organizations derived from a combination of information supplied by the vendors and Gartner clients who had expressed a willingness to be surveyed as part of the Magic Quadrant process.

- Interactions between Gartner analysts and Gartner clients making selection decisions about their evaluation criteria, and Gartner clients' opinions about how successful vendors were at meeting those criteria.

Note 1 Critical Capabilities

Vendors were evaluated by Gartner's analysts, and by the customers who responded to the survey, on the following 10 categories of functionality:

1. **Data access, filtering and manipulation:** This refers to the product's ability to access and integrate data from disparate sources and types, and to transform and prepare data for modeling.

2. **Data exploration and visualization:** This refers to the product's ability to visually interact with and explore data, and to perform basic descriptive statistics and pattern detection.

3. **Predictive analytics:** The central capability of advanced analytics platforms is facilitation of the synthesis of models that predict future behavior or estimate unknown outcomes using a range of techniques, such as regression, decision trees and ensemble models. It also includes an ability to compare and validate models for selection.

4. **Forecasting:** This is a specific type of prediction using time series or econometric methods to predict the value of a variable or outcome at a specified time — for example, sales in the next quarter or the number of calls that a call center will receive next week.

5. **Optimization:** This refers to a type of prescriptive analytics that uses a mathematical algorithm to choose the "best" alternative(s) that meet specified objectives and constraints.

6. **Simulation:** This is a predictive analytics approach that involves building a model of a system or process to experiment with, or study how, it works with a focus on understanding the range of possible outcomes.

7. **Delivery, integration and deployment:** This refers to the ease and speed with which the user can move models from a development environment to a deployment environment.

8. **Platform and project management:** This refers to the platform's ability to manage and monitor models in production and to keep track of important data and issues relating to model deployment.

9. **Performance and scalability:** This refers to the time required to load data, to create and validate models, and to deploy them in a business.

10. **User experience:** This refers to the usability, UI, skill level required to use the platform, and the support provided to users via documentation, guidance and the user community.

Note 2 Significant Vendors Not Included in This Magic Quadrant Evaluation

Although relevant for some organizations, the following vendors are not included in this Magic Quadrant because they did not meet all the inclusion criteria:

- **Fuzzy Logix:** This vendor's flagship product is DB Lytix, an advanced analytics platform that offers a wide range of mathematical functions and machine-learning modules. Its primary selling point is high-performance analytics processing, achieved mainly by in-database capabilities. Fuzzy Logix also offers additional analytic techniques specifically for the financial services industry.

- **Rapid Insight:** This vendor offers two products. Rapid Insight Veera focuses on ease of use. It is data-agnostic, limits the need to extract, move and copy large amounts of data, and is therefore extremely fast and efficient at processing, organizing and analyzing data. Rapid Insight Analytics focuses on automation and speed of analysis. It directly ties models and analyses back to data preparation processes.

The open-source solution R is not included in this evaluation because there is no corporate presence behind it that can be used to evaluate Magic Quadrant criteria such as market understanding, innovation, market responsiveness and customer experience. Many of the vendors in the Magic Quadrant have integrated R into their solutions, making it more a complement than a direct competitor in many respects.

For further insight into other vendors in the advanced analytics market, see "Who's Who in Advanced Analytics."

Note 3 Weighted Average of Critical Capability Use Cases Used in This Magic Quadrant

- **Traditional data sources:** exploration, 38%; production, 36%

- **Big data sources:** exploration, 14%; production, 12%

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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