THE BOTTOM LINE
The future of analytics resides in end user data access and analysis. Over the past six months, companies have demanded more frequent analytics input, increased insight from external data sources, improved guidance, and accelerated business decisions. Vendors answering these demands have been placed in the Technology Value Matrix for Analytics, which evaluates vendors that have a proven record of providing both usable and functional solutions in four core analytics areas: business intelligence (BI), performance management (PM), predictive analytics, and Big Data.

MARKET OVERVIEW
Over the past six months, the analytics market has expanded in two seeming contradictory directions. Companies have demanded easy and intuitive analytics tools for line of business usage. On the other hand, the rise of Big Data has resulted in a number of creative approaches to integrate Hadoop distributions and non-traditional databases with existing analytics deployments and improve the performance of Big Data analytics.

ANALYTICS VALUE MATRIX

[Diagram showing the Technology Value Matrix with vendors positioned according to Usability and Functionality criteria.]
Over the past six months, Nucleus has identified three emerging trends among enterprises that are maximizing their analytics ROI:

- **Ease of deployment.** Nucleus has seen a greater focus on quick and easy deployments focused on SaaS and hosted deployments where organizations do not need to invest in additional hardware or internal support resources. Vendors continue to increase the robustness of on-demand analytics offerings, which allows companies with a focused analytics project to accelerate their time-to-value and increase their total return during the life of the analytics project. By accelerating initial deployments, companies can initiate automated productivity improvements which result in projects with a return on investment averaging 188 percent (Nucleus Research *m17 - The stages of an analytic enterprise*, April 2012).

- **Broader adoption.** In a Moneyball world, organizations have re-evaluated and expanded the breadth of processes and departments that should make data-driven decisions. Organizations seek analytics tools that are robust enough to handle the scale and complexity of enterprise data, but are easy enough for line-of-business employees to use without providing significant training. Employees may get three to five days to learn how to use a product, but companies are not providing existing employees with the statistical modeling and developer training associated with becoming a data scientist. Although this in-house uptraining may become more common over time, companies currently seek to gain insight by hiring consultants to set up data correctly, then opening up data discovery and visualization capabilities to data analysts and hobbyists who understand the value of data in specific business areas.

- **Consistent analysis of enterprise data.** Businesses want to make sure that there is a standard form of data analysis regardless of the data source or the department analyzing the data. However, this standardization can be threatened when organizations have not chosen an analytics approach that can contain or analyze all of the data that employees deem relevant to making a business decision. This challenge has resulted in increased demand for analytics solutions that are both financially and technically efficient. By supporting greater numbers of end users in an enterprise analytics deployment, companies are able to develop enterprise-wide and strategic uses of analytics which result in an average incremental ROI of 580 percent.

Big Data has become an increasingly prevalent buzzword used to describe both structured and unstructured data originating from one prevalent source, several enterprise sources, or a multiplicity of consumer and automated sources. However, one trait that these use cases have in common is that they have outgrown traditional analytics deployments and require additional support to store large datasets, categorize information, or accelerate data processing. All of Nucleus’s Leaders have taken steps to unlock the value of Big Data in enterprise analytics over the past six months. Nucleus found organizations earn an average incremental ROI of 241 percent as Big Data is incorporated into analytics deployments and expects that this value will increase as best practices for Big Data...
deployment, integration, and analysis continue to mature (Nucleus Research m20 – *The big returns from big data*, April 2012). Although all of our Leaders support Hadoop in some way, the most valuable announcements came from vendors that allowed non-technical data users to analyze Big Data in the context of relevant business needs.

**LEADERS**

IBM, Oracle, SAP, and MicroStrategy are categorized as Matrix Leaders because of their diverse product offerings, which enable organizations to maximize the ROI associated with analytics with a complete offering that supports operational needs, provides analytics capabilities throughout the organization, and maximizes the utilization of analytics. Microsoft’s combination of embedded and pervasive analytics tools combined with its data management capabilities secure its position as an analytics Leader as well. EMC Greenplum, Teradata, and Birst also appear in the Leaders quadrant because Nucleus has documented their abilities to support high value analytics deployments above and beyond what would typically be expected from other analytics companies that they typically compete against.

**IBM**

IBM has continued to develop analytics capabilities for its Cognos, SPSS, OpenPages, and Algorithmics products both as standalone software and as complex, business-driven solutions. From a standalone perspective, IBM’s products in core business intelligence, performance management, predictive analytics, and Big Data management have all provided demonstrable value, including multiple documented projects over the past six months with a payback period of less than a year.

IBM has also developed complex analytics solutions, such as IBM Decision Management and Watson, designed to combine predictive analytics, business intelligence, contextual insight, and decision-making capabilities. These products are also embedded within IBM’s Smarter Commerce, Smarter Cities, and Smarter Buildings industry offerings, which represent a strategic positioning of analytics as a core for much of IBM’s business. The ability to develop these synergistic and multi-component solutions while maintaining high-quality products across the analytics spectrum has led to IBM’s leadership position in functionality. In addition, IBM continues to acquire new technologies to fill out additional analytics capabilities and provide a complete suite to IBM customers.

In March 2012, IBM launched Cognos Insight, which filled an important self-service role previously missing in the IBM portfolio. This product provides in-memory data visualization for users to drag and drop information while remaining in a consistent Cognos BI environment. This product demonstrates IBM’s increasing focus on visualization and self-service, including charting, mapping, and metadata capabilities and the ability to share Insight-based dashboards with Cognos Enterprise users. With this product, IBM provides an in-house tool that allows casual data users and hobbyists to
collaborate with data analysts and scientists. In addition, IBM has provided Cognos Insight Personal Edition as a free tool for standalone use to support analytics adoption.

In May 2012, IBM acquired Vivisimo, which will be an important part of IBM’s Big Data capabilities going forward. Vivisimo allows people to search through multiple data sources, tag and annotate results, and then use that contextual metadata to improve future searches. This people-driven collation across data repositories allows enterprises to have a consistent index of information regardless of the source.

In June, IBM introduced Decision Management, which incorporates business rules, decision optimization, and predictive analytics into a single platform designed to support both operational processes and strategic, predictive challenges. The union of these products aligns with Nucleus Research’s stages of the Analytic Enterprise which showed how companies shifted from tactical and operational efficiencies to strategic and predictive analytics use cases to increase the ROI associated with their deployments.

MICROSOFT

The terms “embedded BI” and “pervasive BI” have been used over the past decade to describe the concept of analytics as an everyday business tool for all employees. However, Microsoft has taken this approach for granted for years as it has deployed SQL Server, SharePoint Server, Office, Power View, PowerPivot, and enterprise applications that include BI and performance management tools. Microsoft’s BI Semantic Model and ongoing Excel support have led to its leadership status from a usability perspective.

SQL Server 2012 has provided additional business value through the BI Semantic Model, which adds tabular models to the standard multi-dimensional modeling capabilities within Microsoft’s SQL Server Analysis Services. From a practical perspective, this provides a faster and less expensive option for modeling existing data because it uses the existing relational data model as the basis of analysis, which typically does not require a data mart or data warehouse approach. Although the tabular option is not suited for data that approaches Big Data status or for deep calculations, it is useful for bringing many different data sources together quickly and for high performance querying and reporting.

Microsoft Excel has long been a default self-service BI tool for the line-of-business user with PowerPivot and Power View plug-ins for data modeling functionalities and continues to be a standard entry point for the data hobbyist seeking to gain understanding of existing information and metrics. Although Office 2013 capabilities were not included in this year’s evaluation of Microsoft’s analytics functionality, embedded data modeling through native PowerPivot and Power View integration, HTML5 and JavaScript support for Excel-based apps, and increased focused on the web-based Excel experience are expected to provide additional end user access and business value.
**ORACLE**

Oracle is an analytics Leader because of its business intelligence applications that are purpose-built to support every key business function, ability to fully integrate with a single ERP data warehouse, and breadth of business solutions. Customers have also used User Productivity Kits built into Oracle’s enterprise applications to access analytics capabilities more easily. Oracle’s high functionality reflects the breadth of the Oracle offering, which includes business intelligence, performance management, predictive analytics, data mining, and Big Data tools.

In addition, Oracle’s combination of Oracle Big Data Appliance, Oracle Exadata and Oracle Exalytics provides a powerful combination of tools to improve both Big Data analytics and complex visualization and business intelligence demands for traditional analytics. Oracle has integrated many of its analytics capabilities with Oracle Exalytics, including financial management, Hyperion planning, and Endeca’s search engine, to provide greater performance across its analytics suite. This integration has resulted in rapid customer adoption of Oracle Exalytics, primarily within their current install base.

Over the past six months, Oracle has also focused on expanding the scope of their mobile BI offerings in Oracle Business Intelligence Foundation Suite by providing both online and offline access to business reports and visualizations. These improvements will provide additional value as mobile BI becomes a core capability for retail, field service, and plant operations.

To accelerate time to value, Oracle announced Business Accelerators for Oracle Business Intelligence Applications for Oracle E-Business Suite and JD Edwards EnterpriseOne in May. These accelerators set up the data warehouse based on each organization’s business processes and allow managers to track metrics and performance across all relevant business processes that have been taken into account by the accelerator. As a result, customers can spend less time with discovery and report creation and move directly to analysis and action.

**SAP**

SAP provides a wide variety of analytics capabilities ranging from Visual Intelligence to BusinessObjects to Enterprise Performance Management to HANA to run the gamut from self-service to high performance Big Data. This combination of functionality and an increasing focus on ease of use and deployment have led to SAP’s placement as a leader in this space. Over the past six months, Nucleus has seen SAP focus on improvements in high performance analytics, predictive analytics, visualization, and cloud deployments, all of which have improved SAP customers’ capabilities to increase ROI on analytics-driven projects.

In just over a year, HANA has quickly progressed from an interesting proof of concept to a high powered data warehousing standard that has scaled up to 100 TB and poses as a
credible business competitor to Oracle’s combination of Exadata and Exalytics. To support this Big Data approach, SAP also introduced BusinessObjects Predictive Analysis software in early April to provide advanced modeling and visualization capabilities. By supporting data analysis of HANA, Sybase IQ, and other data sources, SAP has taken an important step towards aligning data, analytics, and process management.

SAP has also introduced offerings to increase the potential reach and scope of analytics within the organization and make information more available to the entire business both as a standalone solution and in conjunction with SAP’s existing ERP and other enterprise application offerings. In May 2012, SAP announced Visual Intelligence, a desktop version of BusinessObjects Explorer, to provide data discovery capabilities to business users. End user data discovery has become a crucial component in maximizing the value of analytics deployments. The expectation that data analysts will fully extract value from analytics solutions without broad-based employee buy-in is not realistic.

On a related note, SAP released SAP Enterprise Performance Management (EPM) OnDemand, in September. These cloud-based apps improve usability by supporting mobile usage as a standard feature while providing visibility to expenses, profit and loss (P&L), and capital investment. This offering builds on the initial launch of SAP EPM 10.0 which was covered in the Spring 2012 Analytics Value Matrix.

**TERADATA**

Teradata has continued to show leadership in expanding the capabilities of its database, data warehouse platform, and analytical environment. In particular, Teradata’s focus on Big Data and supporting the scalability of enterprise analytics has resulted in customer satisfaction and increased partnership with other analytics companies focused on visibility and reporting. This combination of customer and partner satisfaction demonstrates the ease of partnership and functionality that allows Teradata to provide value to enterprise analytics deployments.

Recently, Teradata announced its Aster Big Analytics Appliance, which improves the ability to analyze Hadoop-based information both by accelerating data input and analysis by an order of magnitude and by providing default analytical business functions for marketing, fraud, and social analysis. This approach will provide business users with increased access to Big Data.

Teradata also has built deeper partnerships with TIBCO Spotfire, SAS, and other analytics vendors. Analytics vendors seeking to gain a more integrated and scalable reporting deployment continue to see Teradata’s parallel processing as a strong approach to support customers. In addition, Teradata has also developed a number of data-driven solutions to combine governance and business risk with improved data analysis, including a new Solvency II solution for European regulatory risk management.
MICROSTRATEGY

MicroStrategy’s emergence into the Leaders quadrant has been driven by its continued focus on supporting social, mobile, and cloud capabilities while improving its core analytics and business intelligence capabilities. The development of Wisdom Professional to analyze Facebook activity and the release of a Cloud Express product provide corporate analytics users with additional options to use MicroStrategy’s analytics tools even if they lack on-premise support and infrastructure resources.

Microstrategy updated its core BI offering, Microstrategy 9.3, in September with improvements to Big Data and predictive analytics support by developing support to R and Hadoop. R support will allow MicroStrategy line-of-business users to support predictive analytics projects more effectively. This support is important because Nucleus has found that the resources and skill investments associated with predictive analytics projects have been rewarded with an average 1,209 percent ROI.

However, Microstrategy also improved its usability in 9.3 through an improved search experience and automated administration that will reduce the time needed to find information and support an enterprise analytics deployment. These details are often overlooked by vendors only seeking to create a bigger and faster analytics solution, but Microstrategy’s focus on usability provided immediate value for users upgrading their deployments.

BIRST

Birst has established itself as a leading SaaS analytics vendor, but it also has on-premise capabilities that have expanded Birst’s ability to provide value across all enterprises regardless of the deployment model requested. Over the past six months, Birst has increased access to its analytics capabilities by providing a free product called Birst Express and obtaining SOC 2 Type II certification to support improved cloud data security.

Birst has also developed a Big Data Services offering that allows companies to analyze and visualize both structured and unstructured data more easily with pre-built MapReduce routines and tools to pull information from a variety of sources directly into Birst’s data analysis tools.

In addition, Nucleus has also spoken with over a dozen analytics customers over the past year that have chosen Birst over other analytics vendors including traditional BI suites and newer visualization and discovery vendors. In choosing Birst, these customers noted Birst’s high levels of customer service, data management capabilities, and total cost of ownership as key differentiators (Nucleus Research m117 - Anatomy of a decision: Birst vs. QlikView, October 2012).
EMC GREENPLUM

EMC Greenplum has improved its Big Data, application development, analytics-driven collaboration, and predictive analytics capabilities over the past year to build on its traditional strengths as a high-performance database.

Greenplum has continued to bridge the gaps between Big Data and traditional analytics. Because Hadoop distributions are not designed to provide high performance, enterprise Big Data deployments require additional functionality to improve time-to-information for end users. In this context, Greenplum has provided value by updating its gNet interconnect to accelerate data transfer between Hadoop and the Greenplum database and developing a NAS solution for Hadoop to reduce the complexity of Hadoop deployments.

In addition, Greenplum Chorus has provided greater value to analytics deployments as an open source tool that supports enterprise collaboration. Chorus has also developed partnerships to increase access to data scientists, social data, and data visualization.

EXPERTS

Experts are defined as vendors that have invested in robust and complex functionalities that typically require additional consulting, training, or expertise resources compared to Leaders. This may be because there are relatively few analysts and developers who are sufficiently experienced to support these applications or because the functionality provided is more advanced than is generally available in the general market. Vendors in the Experts quadrant include HP, Information Builders, Jaspersoft, Kognitio, ParAccel, Pentaho, and SAS.

SAS

SAS provides a complete suite of business intelligence, performance management, and analytics applications built on top of a strong programming environment designed to support these analytical use cases. In addition, SAS has developed strong partnerships in areas such as in-memory appliances where SAS works closely with EMC Greenplum and Teradata. This focus on empowering the data scientist has established SAS as the most functional Expert solution in the Value Matrix.

HP

HP provides multiple Expert capabilities resulting in its investments in both an analytic database from Vertica and a Big Data search solution in Autonomy while partnering with Microsoft SQL Server to provide hardware for a data warehouse appliance. However, HP has been unable to provide value that is proportionate to the technical capabilities that it brings to market. Vertica and Autonomy’s search and IDOL server, as pure technologies, are on par or superior to their competitors but until these products consistently provide
documented and measurable business value for new end users under the HP umbrella, HP should be seen as an interesting potential solution that requires due diligence.

**ADDITIONAL EXPERTS**

Information Builders, Pentaho, and Jaspersoft all have a broad range of analytics capabilities both for general business intelligence and performance management use cases. Over the past year, Information Builders has stood out for its customer service and retention for its BI platform, WebFOCUS. Pentaho’s open source BI platform has provided documented value as a software provider for a Nucleus Research 2012 ROI Award (Nucleus Research m54 – ROI Case Study: Pentaho, June 2012).

Kognitio and ParAccel provide in-memory analytics platforms to improve reporting performance and Big Data analysis. In this high performance role, these vendors compete with SAP HANA and Oracle Exadata and Exalytics. Nucleus has found that Kognitio has provided value to organizations seeking to consolidate value from many disparate locations as a cost-effective in-memory solution. In contrast, ParAccel’s focus on deep Hadoop access and data connectivity creates an environment where both structured and unstructured data can be analyzed in a single high performance environment.

**FACILITATORS**

Facilitators are typically brought into companies to meet specific analytical needs for visualization, collaboration, or line-of-business analytics uses. They have focused on providing solutions that solve a specific niche in the analytics market, such as data discovery, performance management, collaboration, or Big Data analytics, which are easy to use and quick to implement. Vendors in the Facilitators quadrant include Aktana, Board, Centrifuge, KXEN, Lattice Engines, LogiXML, Panorama, QlikView, Splunk, Tableau, and TIBCO Spotfire.

QlikView, Tableau, and TIBCO Spotfire have played important roles in improving data discovery, reporting, and visualization in the analytics market by focusing on interactivity, ability to drill down multiple layers easily, and user experience. This focus is reflected in their status as highly functional Facilitators, yet each has its own particular model for providing value.

**TIBCO SPOTFIRE**

TIBCO Spotfire’s combination of predictive analytics, visualization, and collaborative BI provides additional functionality, but at the cost of increased complexity which often leads to the need for additional consulting. Although analytics projects often require additional consulting, training, and human resources to maximize ROI, this approach makes TIBCO Spotfire different from Tableau and QlikView, which focus on ease of use to a greater
extent (Nucleus Research m135 – The Magic Middle: The Key to Analytics ROI, October 2012).

**TABLEAU**

Tableau has focused on individual data discovery, which has led it on a unique path among analytics vendors. Although Tableau is often compared to QlikTech, Nucleus found that Tableau’s data discovery capabilities serve a different role than QlikTech and other data visualization vendors. Tableau’s visual analytics toolbox is built to provide individuals with direct access to multiple data sources and the freedom to define the report structure. This allows end users to directly choose the data sources used to provide insight without requiring complex data management skills.

This approach is reflected in Tableau’s support of data sources from IBM, Oracle, Microsoft, and SAP. Also, Tableau’s support of MapR Hadoop to accompany existing support for Cloudera’s Hadoop distribution (CDH) provides enterprises with a roadmap to support data discovery as they shift their Big Data from expensive relational databases to cheaper Hadoop distributions. Tableau’s unique role in the enterprise analytics world justifies its placing as the most usable and functional vendor in the Facilitator category of the Analytics Value Matrix.

**QLIKVIEW**

QlikView is a strong data visualization tool for ad hoc data and was considered to be revolutionary when it came to market over a decade ago. However, QlikView’s traditional strengths are being challenged by an increased market focus on visualization, end users asking for more individualized and nuanced data discovery capabilities, and QlikView’s increasing focus on mid-sized and large enterprises at the expense of its traditional small and medium business market. As corporate analytics demands have evolved, QlikView now faces challenges both from smaller SaaS-based vendors and traditional BI platforms.

Over the past six months, Nucleus has spoken to over ten companies that considered QlikView, but ended up choosing Tableau, Birst, GoodData or other analytics solutions due to the desire for better service, more individualized discovery, the need for a scalable data warehouse, and interest in an on-demand SaaS-based analytics solution that minimizes deployment time.

QlikTech has taken steps to counter its new analytics rivals and retain its position and market share as a top visualization player, including the acquisition of ETL vendor Expressor and an increased focus on the cloud with its participation in the Google Cloud Platform program. Over the next six months, Nucleus looks forward to QlikView’s approach as it has shifted from first-mover innovator to an established analytics vendor being targeted both by innovative new companies and by traditional BI vendors.
BOARD
Swiss-based Board provides an integrated BI and corporate performance management (CPM) solution that is cost effective and has provided revenue improvements and cost savings for its customers. With a multidimensional database, a hybrid user interface supporting both client-based and web-based interactions, and a focus on self-service and ease of use, Nucleus found Board to be useful both for internal usage and for client-facing reporting needs (Nucleus Research m118 – ROI Case Study: Board, October 2012).

KXEN
KXEN has improved end user access to predictive analytics and data mining through its InfiniteInsight product and consistently competes against market leaders IBM SPSS and SAS. By accelerating model development and allowing organizations to use predictive analytics even when they lack trained statisticians, KXEN helps companies to unlock the value of predictive analytics. One of the traditional challenges to unlocking the business value of predictive analytics is the lack of trained internal resources that can create the necessary models and identify the proper targets that translate statistics into increased revenue and greater productivity. Despite KXEN's focus on predictive analytics, both its value and ease of use have validated its status as a Facilitator in the Analytics Value Matrix.

LOGIXML
LogiXML allows companies to quickly build analytics-driven applications and provides embedded analytics for enterprise applications. Drag-and-drop visualizations and dashboards, bi-directional data writing capabilities, and ease of application deployment allow LogiXML customers to gain value quickly whether they are focused on revenue-driven analytics projects or simply replacing a legacy analytics deployment with an application and portal-based approach to support end user requests for information (Nucleus Research m119 – ROI Case Study: LogiXML, October 2012).

AKTANA AND LATTICE ENGINES
Aktana and Lattice Engines provide predictive analytics for the sales force that simplify enterprise data into actionable decisions. Nucleus found that standard analytics deployments are often difficult to embed into revenue-driving applications and are slow to gain adoption, which drives the need for a sales or service-specific application. Aktana’s ability to provide embedded information and intelligent suggestions for sales reps served as differentiators between these vendors while Lattice Engines was seen as an effective tool to combine multiple sources of information for centralized and inside sales forces.

CORE PROVIDERS
Core Providers typically provide limited functionality at a low cost or meet a specific need that has been overlooked by the general analytics market. These vendors often represent a good starting point for companies seeking core analytics capabilities with a limited
budget. Core Providers in the Matrix include Actuate, Adaptive Planning, Advizor Solutions, arcplan, Datameer, GoodData, Host Analytics, MarkLogic, and SpagoBI.

GOODDATA
GoodData has quickly emerged as an interesting SaaS-based business intelligence platform which Nucleus is continuing to evaluate. GoodData has recently launched a concept called Bashes, which allow companies to connect data sources with specific departmental uses, such as performance management, marketing, sales, service, and social business analysis. This business-driven approach provides companies with a high degree of functionality. However, Nucleus has spoken with GoodData customers who were attracted to GoodData’s core functionalities, but concerned with increasing costs as GoodData starts to approach pricing parity with other BI platforms.

MARKLOGIC
MarkLogic provides a schemaless NoSQL database for Big Data storage and querying. This platform provides companies with search capabilities and Big Data analysis, but Nucleus has found that the speed of MarkLogic’s real-time and near real-time reporting and trending updates were just as important as the context provided and the large volumes that MarkLogic was able to process (Nucleus Research m91 – ROI Case Study: MarkLogic, August 2012).

METHODOLOGY
The Value Matrix is based on functionality and usability, the two core measures that Nucleus has found indicate an application’s ability to deliver initial ROI and, ultimately, maximum value over time.

Usability composite scores are based on a number of factors including intuitiveness of the application, availability of role-based interfaces, training requirements, and productivity impact on users. Functionality composite scores are based on the breadth and repeatability of functionality in the core application, the availability, and ease of integration of add-on functionality that delivers additional benefit, and the vendors’ investment in innovative functionality outside the application that will deliver additional benefits.

The Matrix is divided into four quadrants: Leaders, Experts, Facilitators, and Core Providers:

- Vendors in the Leaders quadrant have invested in both functionality and usability features likely to deliver the greatest potential returns.
- Vendors in the Experts quadrant have invested in deep functional capabilities that, by nature, make the application more complex and thus require more training and expertise to use than Leaders.
- Vendors in the Facilitators quadrant have invested in making their applications intuitive and easy to use, driving rapid adoption with limited training requirements.
- Vendors in the Core Providers quadrant are point solutions or those that provide limited functionality at a relatively low cost, giving them a high value proposition when limited functionality is needed.

Companies can use this Matrix to assess their investment short list as well as to evaluate the case for maintaining an existing product that may lag behind the value offered by other options. Nucleus expects the center point of the Matrix, which represents the composite average point in the market, will move up and to the right over time as vendors make more investments in functionality and usability – effectively increasing the average value delivered across all products. To learn more about the vendors in this Value Matrix, visit [www.NucleusResearch.com](http://www.NucleusResearch.com) or email us at info@NucleusResearch.com.