

Five Keys to Choosing a Comprehensive Analytics Platform

Building a Foundation for Improving Business Decisions



WHITE PAPER



Table of Contents

| | |
|---|-----------|
| Considerations for Choosing Analytics | 3 |
| Requirement 1: User Roles and Self Service | 4 |
| Requirement 2: Information Optimization | 5 |
| Requirement 3: A Range of Analytic Capabilities | 7 |
| Requirement 4: Cloud and Mobile Deployment | 8 |
| Requirement 5: Action-oriented Analytics and Time to Value | 9 |
| A Comprehensive Approach | 11 |
| About Ventana Research | 12 |



Considerations for Choosing Analytics

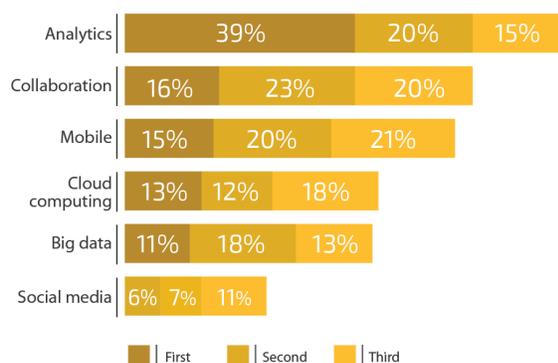
In today’s dynamic business environment, competitive forces are putting pressure on companies to better understand their customers and how to serve them, to optimize their operations and control costs, and to rigorously address security risks and regulatory requirements.

Properly applied, analytics can help in all these areas. Research conducted by Ventana Research finds that among significant business technology trends analytics is organizations’ top priority, identified as such by 39 percent of research participants.

Analytic technology comes in many shapes, sizes and varieties, ranging from single-purpose point tools to suites and platforms. Acquiring point analytics tools as needed to address particular needs can be appealing, but it also may

Top-Ranked Technology Innovation Priorities

Analytics expected to improve performance



Source: Ventana Research Business Technology Innovation Benchmark Research © Ventana Research 2017; All Rights Reserved

be shortsighted. Tools designed for a single function or type of analytics do not aid in architectural integration of the technology across the business. While it is possible for organizations to put together individual best-of-breed analytics tools, doing so is a complex and costly undertaking that requires technical expertise.

A more encompassing platform approach can avoid these challenges while potentially offering greater long-term value. An analytic platform is a technology environment that supports each step in the analytic process – data

acquisition, data preparation, data analysis and deployment within an organization’s production systems. A robust analytic platform provides the foundation for a comprehensive approach since it provides a single reliable, up-to-date source of data that is governed professionally and used by the entire organization to make decisions consistently. A platform also should provide “sandbox” capabilities for data exploration and analytic flexibility, thereby offering faster time to value and competitive advantage for the business.

Ventana Research has identified five requirements that analytic platform technology should satisfy. Organizations should look for each in the products or systems they evaluate and choose one that provides them all.



Requirement 1: User Roles and Self Service

Once the exclusive province of skilled professionals, analytics now is included in the job descriptions of many mainstream business roles. To understand

“

People today often cannot wait for IT assistance; they must be able to serve themselves across the range of activities they engage in.

usability in this evolving environment, Ventana Research identifies three categories of roles in organizations that a capable and flexible analytic platform must support. The end user includes an array of roles ranging from C-level executive to line-of-business manager to call center agent to the customer. While the end user typically is the least technically and analytically oriented of the categories, such users may need to access top-line metrics on the go or do discovery analysis to understand the root cause of a problem. The analyst category includes roles such as business planner, line-of-business analyst, operations researcher and marketing scientist. Members of this group have a wide range of spreadsheet, advanced mathematics and statistical skills; they are

often responsible for translating business needs into technical and analytic requirements. The IT professional category includes roles such as data architect, database administrator and business intelligence manager. This group is grounded in IT and is well versed in data modelling and applied computer science.

Each of these groups has a different approach to using an analytic platform and thus a unique set of requirements. For example:

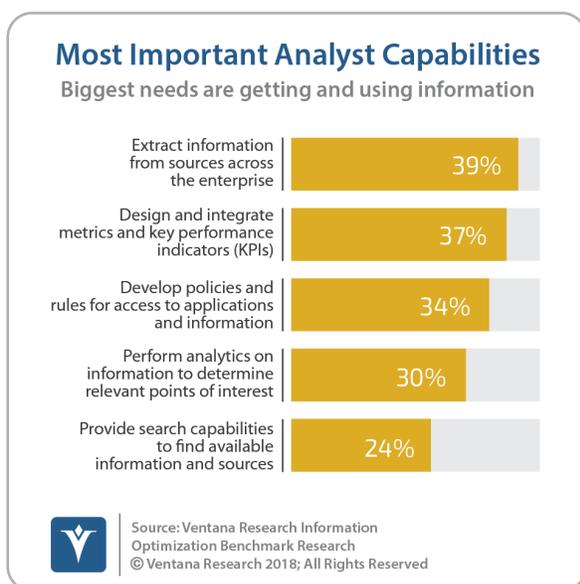
- A senior executive may want to view top-line metrics or content presented on a smartphone or other mobile device.
- A presales consultant may want to use visual discovery to conduct root-cause analysis in near real time in front of a prospect on a laptop or a tablet.
- A marketing analyst may need to access and combine information from financial systems, web click streams and third-party sources to design a new metric.
- A marketing scientist may need to write code in R to optimize lift from a marketing campaign and have the model run and output results automatically.



- A business intelligence manager may need to design a compelling user environment integrating analytics that attracts retail customers and operates in the context of a customer experience application across multiple devices.
- A data architect may need to integrate new content with existing security models and user data models without disrupting current business processes.

An effective enterprise analytic platform must accommodate all these roles with features that are easy to access and address the users' needs. The platform must support the requirements of different functions and skill levels. And it must do so without the organization having to customize capabilities for each of them, because for competitive reasons people today often cannot wait for IT assistance; they must be able to serve themselves across the range of activities they engage in.

Our benchmark research on information optimization yields insights into the analytics-related needs and working requirements of the three broad categories of organizational roles mentioned above.



The end user primarily needs to drill down into information (according to 37% of research participants), search (36%), collaborate (27%) and navigate and retrieve information (25%). The analyst needs primarily to extract information (39%), design new metrics (37%), develop policies for information access (34%) and perform analytics to determine interest (30%). IT staff need primarily to integrate into user and security access frameworks (37%), define, model and lay out information in applications (33%), integrate with operational systems (31%) and inte-

grate with data management and content systems (27%). Using these research findings, prospective buyers should map the specifics of the functionality that an analytic platform has to support and make sure that the software selected is designed to accommodate all of its relevant roles.

Requirement 2: Information Optimization

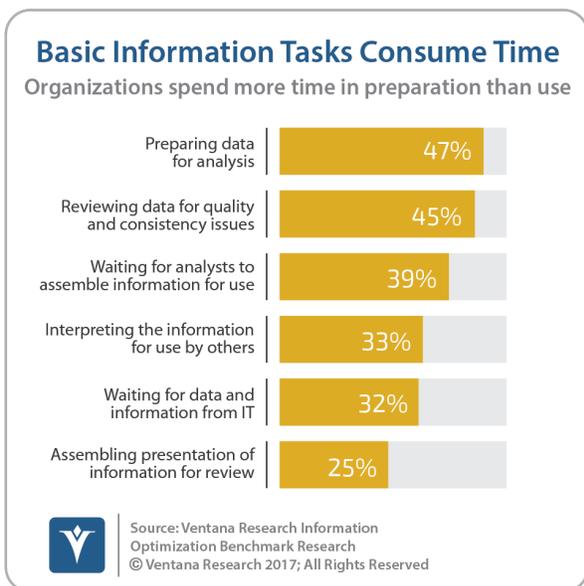
Information optimization is an increasing concern in business. Its purpose is to ensure that information is available as needed to support effective analysis and decision-making. It builds on existing investments in business applications,



business intelligence and information management and can benefit from recent advances in business analytics and big data. Optimizing information requires a common metadata layer with information described in a uniform and governable fashion.

A uniform and governed approach is ever more essential today is that information sources are exploding in number and volume. According to our information optimization research, almost two in five companies have more than 10 data sources that they need to integrate for optimum performance. Much of the information to be integrated comes from what often are referred to as systems of record – business intelligence and performance management applications (56%), CRM (45%) and ERP (38%). However, in addition to structured information stored internally, unstructured data from external data sources now must be integrated as well to provide a single complete information source. The two most widely used outside sources are cloud applications (by 54%) and social media data (46%); additional data sources, including internet, consumer, market and government sources, also are common (39% to 42% each). Nearly all (92%) organizations said it is important or very important to include data from cloud applications in their analytics.

This explosion of data sources sets the scene for the issues most commonly encountered in managing information and preparing analytic data sets: data



spread across too many systems (67%), multiple versions of the truth (64%) and poor-quality data (58%). The research makes clear that faced with these and related challenges, most analysts spend the majority of their time on preparing data (47%) and reviewing data for quality and consistency (45%) rather than doing actual analysis.

An analytics platform must be able to manage multiple data sources and resolve information challenges such as these while providing easy access to actionable information for all the user

roles in the organization. To do so, the analytic platform must handle both analytic discovery and predictive analytic processes in a manner that assures data quality and governance. In sum, the platform must allow users to extract data easily from a variety of sources and clean and enrich the data prior to analysis. It also must enable users to define metrics to be produced by the



analytics and then deploy those metrics in a scalable, high-performing manner that can be governed fully.

Requirement 3: A Range of Analytic Capabilities

Functionally, it is useful to view analytics as consisting of two categories, discovery processes and predictive analytics. Discovery processes include the following:

- visual discovery (the ability to visualize data in a two- or three-dimensional format)
- data discovery (the ability to apply statistical processes to uncover otherwise unseen patterns in data)
- information discovery (the ability to discover information across a variety of distributed data sources; this type of discovery is often thought of in the context of search)
- event discovery (the ability to discover events or processes).

Predictive analytics utilizes historical data to give guidance on possible future outcomes. It is increasingly important for organizations seeking to be proactive

“

An analytic platform should be able to integrate a variety of familiar BI products for those who use them and the information they produce.

rather than reactive to changes in the volatile business environment. Long the domain of the statistician and the data scientist, it now is an undertaking that different organizational functions need to be involved in. Among them, our research finds, are personnel from data science teams (32%), business intelligence and data warehousing (31%) and the lines of business (19%).

To be effective, an analytic platform must accommodate the needs of the various stakeholders – needs that range from self-service discovery analytics to more advanced uses such as predictive analytics. The analytic platform should provide user-friendly interfaces for discovery processes such as search and visual analytics. In some cases,

in-memory capabilities and statistical calculations running in the background can enable less sophisticated users to perform tasks such as clustering of target groups and basic forecasting of trends. Automated data science capabilities should be part of the platform, as should the ability to easily



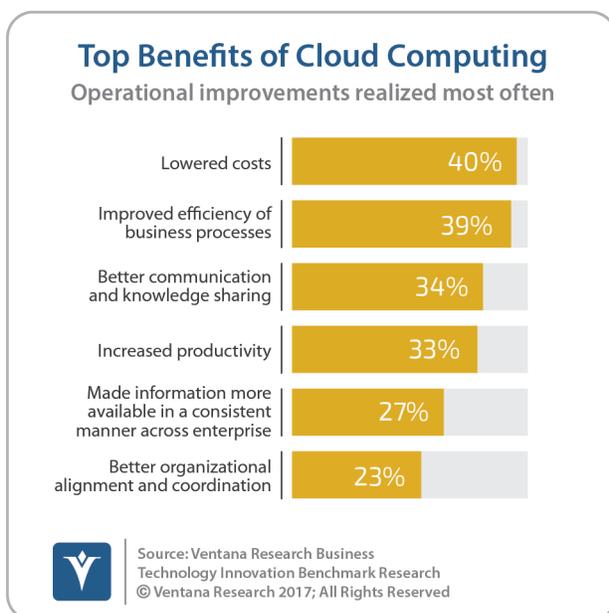
integrate advanced statistical libraries such as models built utilizing the open source language R.

Finally, it's important to remember the ongoing role of standard business intelligence tools, which enable creation of dashboards and reports that guide executives and other decision-makers. An analytic platform should be able to integrate a variety of familiar BI products for those who use them and the information they produce.

Requirement 4: Cloud and Mobile Deployment

In seeking appropriate tools and systems, organizations today look for effective software that strains neither their budgets nor the limits of their technical staff. In assessing an analytic technology platform, two increasingly important considerations are whether it can operate in a cloud computing environment and whether it supports the use of mobile devices.

With both the volume of data and the need to process it quickly and efficiently increasing rapidly, cloud computing capability is an ever more immediate consideration.



Our business technology innovation research finds that the operational benefits of cloud computing include lowered costs (40%), more efficient business processes (39%), better communication and knowledge sharing (34%) and increased productivity (33%). Cloud-based systems offer performance and scalability gains, both identified in our research as important considerations.

Support for mobility, which our research identified as the third-most important technology innovation category for businesses today, is another critical deployment consideration.

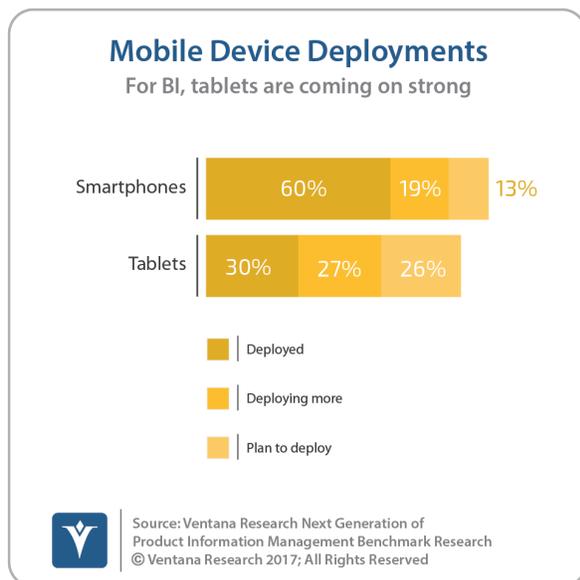
Adoption of mobile technology for accessing and acting on information is progressing rapidly. Our research shows that mobile technology is used for disseminating and accessing information in more than two-thirds (69%) of companies currently and is planned for use by another 18 percent in the next 12 months. Our research on next-generation business intelligence shows that deployment of smartphones is much greater than of tablets (60% vs. 30%)



now, but for those currently deploying or with plans to deploy them, tablet adoption will be higher (53% vs. 32%).

Access to mobile technology alone is not enough, though. An analytic technology platform must also support the rapid and efficient development of mobile applications and their deployment across desktops, tablets and smartphones in a scalable and high-performing manner.

The cloud and mobility can synergize in important ways. Where companies need to reach tens of thousands of users and render information almost in-



stantly, mobile deployment can play a key role to disseminate it across a variety of devices. And cloud deployments, built on scalable architectures, can help manage the workloads. The cloud and mobility often are considered together because the architecture of cloud applications lends itself to the elastic scaling and flexible deployment necessary in today's mobile environments.

Cloud computing and mobility are important business trends today. Be sure that the analytic platform technology being considered can address each of these effectively.

Requirement 5: Action-oriented Analytics and Time to Value

Action-oriented analytics provide analysis that can be acted on in a timely and effective manner. This category of analytics addresses an increasingly critical metric for organizations investing in software: time to value, or the elapsed time between when an event is triggered and the value from that event is realized.

Time to value is key both in the development of the analytics and in their use to provide a competitive edge in decision-making. Delivering on this time-to-value metric involves the use of agile processes, iterative prototyping and real-time dashboards and the ability to build business workflows that include data from the analytic application.



Until recently deploying an analytic product was a long and cumbersome process. Today, though, the “waterfall” approach of designing a conceptual model, logical model and physical model has given way to more agile approaches in which discovery processes and iterative prototyping of dashboards allow IT to have a two-way conversation with business users about the design of the software. These approaches not only save time but ensure that the resulting tool will deliver as needed without the need for significant reworking. Furthermore, this approach allows business users to conduct ad hoc analyses to serve particular business needs without assistance from IT staff.

Operational speed is another time-to-value consideration: how quickly queries can be run and how quickly information will render on a user screen. To arrive at that point multiple calculations may be required or a predictive model may have to be scored in real time. Nearly instant rendering of information is particularly important in mobile environments where the ability to access the right information quickly can make or break a sale.

Embedding analytic systems is another key criterion for these systems since users often need information within the context of another application. Technology such as web services, including REST-based approaches, allows analytic



Defining requirements and preparing to take full advantage of an analytic platform are necessary first steps.

content and capabilities to be included in end-user applications. This enhances time to value by enabling users to conduct analytics and understand metrics and performance indicators in the context of a particular workflow, which can save time and energy otherwise lost in switching between applications.

In-memory processing technology, when built into the analytic platform, helps support the effort to deliver on the time-to-value proposition. Our research into big data analytics shows that companies that use in-memory systems have better organizational outcomes. Furthermore, the same research shows that in-memory systems enhance the ability to apply analytics in real time

(65%), do ad-hoc analysis without defining a data model first (44%), view multiple data sets side by side (39%) and marry operational and transactional systems (38%).

The time-to-value requirement and actionability of the analytic platform are essential given the speed at which today’s businesses must operate. Make sure that the analytic platform provider uses in-memory processing effectively to enable capabilities such as discovery processes, rapid prototyping, right-time rendering of dashboards and embedded analytics.



A Comprehensive Approach

Our research supports the view that these five considerations should form the core of the process of finding the right reliable, powerful analytic platform. However, while satisfying these requirements will lead to an effective analytic technology capability, they alone do not ensure organizational success. Rather, these business technology requirements must be considered in the context of all four dimensions that constitute business performance: in addition to technology, the organization's people, processes and information. For instance, if an organization is not ready to involve more people in analytics, change ineffective processes that use spreadsheets or include new information sources in analytics, the best analytic platform likely will provide only limited value.

Aligning these elements is seldom an easy task, but defining requirements and preparing to take full advantage of an analytic platform are necessary first steps. If that is done, an effective analytic platform can be an important tool in enabling organizations to meet their enterprise performance goals and compete successfully.



About Ventana Research

Ventana Research is the most authoritative and respected benchmark business technology research and advisory services firm. We provide insight and expert guidance on mainstream and disruptive technologies through a unique set of research-based offerings including benchmark research and technology evaluation assessments, education workshops and our research and advisory services, Ventana On-Demand. Our unparalleled understanding of the role of technology in optimizing business processes and performance and our best practices guidance are rooted in our rigorous research-based benchmarking of people, processes, information and technology across business and IT functions in every industry. This benchmark research plus our market coverage and in-depth knowledge of hundreds of technology providers means we can deliver education and expertise to our clients to increase the value they derive from technology investments while reducing time, cost and risk.

Ventana Research provides the most comprehensive analyst and research coverage in the industry; business and IT professionals worldwide are members of our community and benefit from Ventana Research's insights, as do highly regarded media and association partners around the globe. Our views and analyses are distributed daily through blogs and social media channels including [Twitter](#), [Facebook](#) and [LinkedIn](#).

To learn how Ventana Research advances the maturity of organizations' use of information and technology through benchmark research, education and advisory services, visit www.ventanaresearch.com.