



Decision Making Platforms

Driving Decisions from Insights

By Wayne W. Eckerson August 2017



Research Sponsored by

About the Author



Wayne Eckerson has been a thought leader in the business intelligence and analytics field since the early 1990s. He is a sought-after consultant, noted speaker and expert educator who thinks critically, writes clearly and presents persuasively about complex topics. Eckerson has conducted many groundbreaking research studies, chaired numerous conferences, and written two widely read books on performance dashboards and analytics.

Eckerson is founder and principal consultant of Eckerson Group, a research and consulting firm that helps business and analytics leaders use data and technology to drive better insights and actions. His firm helps companies develop strategies and roadmaps that maximize their investment in data and analytics.

About Eckerson Group

Eckerson Group is a research and consulting firm of veteran practitioners who help business analytics leaders use data and technology to drive better insights and actions. Its researchers and consultants each have more than 20 years of experience in the field and are uniquely qualified to help business and technical leaders optimize their investments in business intelligence, analytics, big data management, and the internet of things.

To see our research and learn about our consulting services, go to www.eckerson.com.



Putting It All Together

From PalmPilot to iPhone

In 1998, I walked into a tech store and held a Palm Pilot. Remember those devices? They were a popular personal digital assistant (PDA) that contained a calendar, address book, to do list, and memo pad and could synch with Palm desktop software. “This is great,” I thought, “but what’s the point if it doesn’t have email and Web connectivity.” So, I left the store empty handed.

It didn’t take long for PDA vendors to add missing components, and then some. In 2007, Apple launched the iPhone that added email, a phone, a geographic positioning system (GPS), accelerometer, camera, and hundreds (and soon tens of thousands) of downloadable applications, ranging from flashlights to games. Of course, the rest is history. By integrating previously stand-alone functions and applications into a single, hand-held device, Apple revolutionized computing and reshaped the way people work, communicate, and play.

Today, 77% of all Americans own a smartphone with 92% of 18- to 29-year-olds owning one, according to the Pew Research Center. According to Statista, there were 1.86 billion smartphone users worldwide, projected to grow to 2.87 billion by 2020. So, why have smartphones become so popular?

Convenience. The biggest reason is convenience. Before smartphones, people needed a multiplicity of devices to get things done: a desk phone with voice mail to make and receive calls; a fax machine to send and receive documents; a networked computer to send local email; a word processor to create documents; and a calendar and notepad to keep track of appointments and to-do’s, and so on. A smartphone replaced all those and much, much more. Best of all, people could carry it in their pocket or purse.

Integration. A second reason is integration. Prior to a smartphone, each device or application had its own user interface and devices and applications did not work together. Each was an island unto itself. If a friend emailed you their phone number, you had to write it down and then dial the number on your phone. With a smartphone, you can simply click on hyperlinked phone number in the email message. Moreover, smartphone apps automatically synchronize with desktop applications so you never miss a beat whether working on the road or in the office.

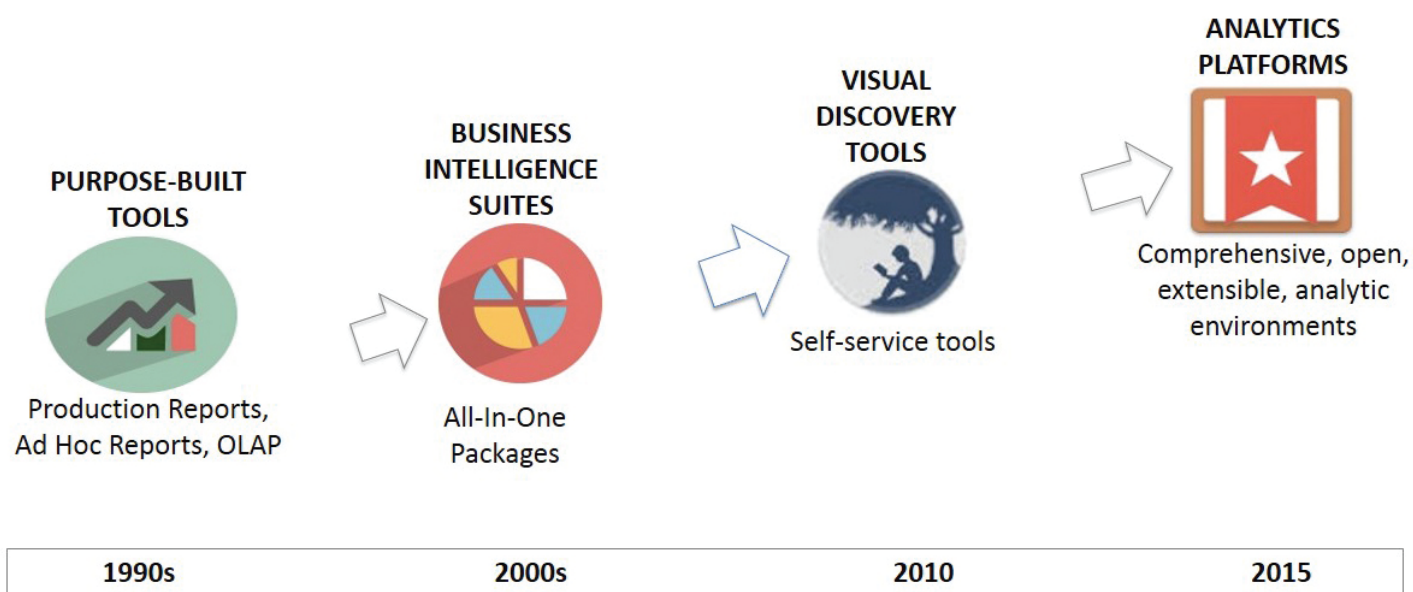
Platform. A third reason is that a smartphone is not just a device; it’s an application development platform with a rich, open application programming interface (API) that enable developers to build applications that run on the device. Today, the Apple App Store boasts 2.2 million applications for the

iPhone and Android smartphone customers can choose from 2.8 million downloadable applications. Today, a smartphone can serve as a wallet, vehicle navigation system, music player, tape recorder, encyclopedia, and so on. If you can imagine it, there's probably an app that does it.

From BI Tools to Analytic Platforms

The same drivers that led to the introduction of the Palm Pilot and Apple iPhone have also shaped the market for business intelligence (BI) tools. In the 1990s, vendors shipped purpose-built tools for every mode of BI: production reporting, ad hoc reporting, dashboards, scorecards, OLAP, planning, forecasting, and data mining. Each tool came from a different vendor and had a distinct user interface and architecture. (See figure 1.)

Figure 1. The Evolution of BI Tools



In the 2000s, recognizing that customers need multiple BI tools, vendors created BI suites consisting of loosely integrated products. The BI suite provided a one-stop shop for BI tools. The problem is that most tools still had distinct user interfaces and architectures and were not tightly integrated.

By 2010, vendors once again retreated to selling purpose-built tools—this time visual discovery tools. These tools enable power users to connect to any data source, blend, visualize, and analyze data, and share the results with colleagues as dashboards. Visual discovery tools were initially a replacement for Excel, but then began serving as departmental and enterprise BI standards.

Today, companies recognize that visual discovery tools only go so far in meeting enterprise BI requirements. They don't support all modes of BI and all types of business users. Consequently, vendors are now shipping so-called decision-making platforms that provide a one-stop shop for all things BI. In many respects, decision making platforms are a second incarnation of BI suites but this time done right: with a unified interface, single architecture, integrated functionality, and an open API for extending the platform with new capabilities and applications.

Decision Making Platforms

A decision-making platform is the smartphone of BI. It provides a comprehensive set of tightly integrated BI, analytics, and planning functionality that provides superior convenience, integration, and development capabilities compared to existing BI toolsets. Rather than purchase multiple tools, each of which does slightly different things, a company can purchase a decision-making platform that does it all. Although each component itself might not be best of breed, together the platform provides an environment where the whole is greater than the sum of its parts.

Analytical Components

A decision-making platform contains the following analytical components:

- **Integrated Reporting and Analysis.** Business users and IT developers can create interactive reports, dashboards, and scorecards that provide data consumers the information they need to monitor core processes and perform root cause analysis on anomalies. This component consists of precision or production reporting, ad hoc reporting and analysis, dashboarding, and scorecarding.
- **Visual Discovery and Exploration.** This component enables power users to connect, combine, and explore data sets to answer new questions as they arise that traditional top-down reports and dashboards (see above bullet) don't address. These tools allow power users to share their insights with others in the form of dashboards and other types of visualizations.
- **Data Science and Optimization.** Data science turns BI from a reactive discipline to a proactive one. It uses historical data to create analytical models that can be used to predict future behavior and events as well as optimize existing processes.
- **Budgeting, Planning and Simulation.** This component enables business users to develop business plans for a functional area or enterprise. Companies can use this functionality to build plans, budgets, and forecasts and consolidate financial and other results in a timely manner. This component supports "what-if" modeling and generates targets for dashboards and scorecards.

Synergies

Like a smartphone, a decision-making platform creates synergies from its suite of integrated applications and functions.

BI and Planning. For instance, the same integrated repository of data used for reporting and analysis tasks can be used by visual discovery tools, data science, and planning and budgeting tools. Rather than create duplicate data sets for each functional area, a decision-making platform uses one data set to support all workloads. Similarly, planning tools set targets that can be incorporated into dashboards and scorecards. And planning spares BI tools from having to create a clumsy what-if analysis without detailed models that come from planning and budgeting tools.

In fact, the combination of BI and planning tools has a powerful multiplier effect: It aligns strategy with execution and finance with operations. Few companies can claim to marry these polar opposites. Most run these areas in isolation from each other, making it impossible for executives to connect the dots between what they plan and report to the board and what actually happens in the trenches. This causes organizations to miss valuable insights required to execute strategy.

The combination of BI and planning tools has a powerful multiplier effect: It aligns strategy with execution and finance with operations.

Decision Making at a Major University

Consider this true scenario. The executive council of a large, major U.S. university wants to understand the impact on infrastructure and resources if it grows the student population by 10%. To perform this “what-if” analysis is a manual process that requires a team of expert data analysts. They need to spend weeks combining and crunching data from many different sources, including the university’s data warehouse. The result is a static document with no ability for members of the executive council to adjust the scenario.

In contrast, with a decision-making platform, the executives themselves can create various scenarios using a point-and-click interface. They can adjust variables in the models, click a button, and see the impact on other variables, such as staffing, class size, teacher-student ratio, and costs. The application is ready and available when they want to use it; it doesn’t require a team of data analysts to customize the data set and visualizations.

Every Type of User

Given the breadth of analytical functionality above, it’s not surprise that decision-making platforms

support every type of user. With a decision-making platform, organizations no longer need to support multiple toolsets from different vendors. Once department heads experience the value-added functionality of a decision-making platform, they will be less likely to want to purchase another BI tool with fewer capabilities.

Here are the types of users a decision-making platform supports:

- **Casual users** who consume reports and dashboards and perform root cause analysis on anomalies that see in top-level views.
- **Power users** who mash up data from across the enterprise to generate insights and predictive models that they share with business users in the form of reports and dashboards.
- **BI developers** who create sophisticated reports and dashboards tailored to individual departments and roles.
- **Financial analysts** who create plans and forecasts for the business and work with functional heads to build detailed plans for their areas.
- **Application developers** who extend the platform with new capabilities (e.g. new data connectors or visualizations), create new applications that run on the platform, or embed the platform in other applications.

Data Foundation

The foundation of a decision-making platform is an integrated data architecture that delivers a single version of truth for dimensional data. The platform ingests all forms of data and models it for easy access and fast performance. For semi-structured data, the platform first parses and then arrays the data in rows and columns in the platform's built-in relational or OLAP database. The platform usually comes with data parsing, manipulation, and modeling tools to ingest and refine such data for dimensional analysis.

Ideally, the platform can also query data directly in operational systems. This is important if users need real-time or granular data in operational systems. The platform should also be able to query data in multiple locations and stitch it together in real-time for display on a dashboard. Finally, the platform should scale to supports hundreds of internal users, and perhaps as many or more external users. Performance should remain lightening fast (i.e., response times of three seconds or less) as the number of concurrent users increases.

Perhaps the biggest benefit of a decision-making platform is that it makes it easy for organizations to provide self-service without sacrificing data governance.

Data governance. Perhaps the biggest benefit of a decision-making platform is that it makes it easy for organizations to provide self-service without sacrificing data governance. By managing the entirety of an organization's data on one platform that also delivers a comprehensive set of BI and analytic functions, a company can tailor the delivery of information to every individual. Using centralized permissions, organizations can govern the data users see and access, the reporting and analysis functionality they use, and the people with whom they can share information. These permissions balance agility and architecture, speed and standards, governance and self-service.

Migration

The biggest challenge facing companies that want to implement a decision-making platform is migrating business users and legacy reports to the new environment. Generally, business users don't switch BI tools, unless the new product provides 150% of the functionality of their existing environment. And when one product claims to replace a number of tools, the challenges grow exponentially.

Consequently, most organizations implement decision-making platforms to obtain a specific module or functionality, such as reporting or planning. But once they become familiar with the platform, they begin to turn on additional functionality and see the value of an integrated platform. As a result, many companies implement decision-making platforms gradually, function by function, rather than in a massive rollout of all functionality to all users.

Summary

As a one-stop shop for all BI functionality—from reporting to discovery to prediction and planning—decision-making platforms provide a comprehensive set of analytics functionality designed to appeal to every type of business user. Since this functionality runs on a unified data architecture, a decision-making platform provides a single version of truth that keeps users aligned with common data sets and definitions.

Moreover, the synergies that arise from integrating multiple BI and planning tools make up for any deficiencies in the individual modules. And since all functions run on a common data foundation, organizations can tightly manage data access and sharing so users have all the data and functionality they need to perform their work. A common platform enables organizations to balance governance and self-service in an optimal manner.



Need help with your business analytics or data management and governance strategy?

Want to learn about the latest business analytics and big data tools and trends?

Check out **Eckerson Group** research and consulting services.

Sponsor



BOARD is the #1 decision-making platform for organizations of any size. Founded in 1994, BOARD International has enabled more than 3000 companies worldwide to rapidly deploy Business Intelligence, Corporate Performance Management and Predictive Analytics applications on a single unified and programming-free platform. The BOARD platform allows companies to achieve a single, accurate and complete view of business information and a full control of performance across the entire organization, from strategic formulation down to operational execution. Thanks to its programming-free toolkit approach, global enterprises such as H&M, KPMG, DHL, Mitsubishi, NEC, Puma, Coca-Cola, Siemens, Toyota have rapidly deployed end-to end decision-making applications in a fraction of the time and cost associated with traditional solutions. Headquartered in Chiasso, Switzerland, and Boston, MA, BOARD International has 21 offices around the world and a global reseller network. BOARD has been implemented in over 100 countries.