Build more value into your business and solutions with IBM Embedded Analytics

A perspective by Chris Tyler,
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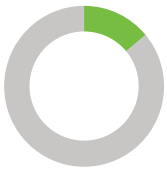
EXPAND YOUR OPPORTUNITIES FOR GROWTH

Embedded analytics has quickly evolved from a “nice to have” consideration in software product planning to a competitive “must have” for today’s solution providers. Technology advancements and a growing awareness of the value of analytics across business applications are fueling demand for these capabilities among customers in nearly every industry. And organizations that can deliver on these expectations realize significant gains in revenue growth, marketplace expansion and competitive advantage.

A recent study by the Aberdeen Group shows that leading providers of embedded analytics solutions saw an 18 percent increase in average deal size, along with a 13 percent increase in renewal rates. They also delivered embedded analytics capabilities in an average of 5.4 months, compared with 13.8 months for other providers.[1]



18%

The average increase in deal size year over year for solution providers that use embedded analytics[2]

USD13

The approximate return generated by every dollar invested in analytics[3]

With so much potential on the line, solution providers want and need solutions that allow them to embrace these new capabilities quickly, easily and profitably. IBM can help you capitalize on this opportunity with solutions that make deployment of embedded analytics seamless and simple for you and your customers. As you'll discover, embedded analytics solutions from IBM allow you to showcase your domain expertise through valuable insights that drive competitive differentiation, while keeping your costs competitive and maintaining margins.

BREAK FREE OF COMMON MISPERCEPTIONS—AND LIMITATIONS

Some of the most common misconceptions about embedded analytics come from the fact that people often define it too narrowly—as the integration of business intelligence tools or reporting capabilities, for example. But these definitions portray only part of the picture—and can limit your business vision and potential.

The most accurate description of embedded analytics is rooted in the definition of analytics itself:

Analytics is multidisciplinary. There is extensive use of mathematics and statistics, the use of descriptive techniques and predictive models to gain valuable knowledge from data—data analysis. The insights from data are used to recommend action or to guide decision making rooted in business context. Thus, analytics is not so much concerned with individual analyses or analysis steps, but with the entire methodology.

This definition from Wikipedia is right on track because it acknowledges the multidisciplinary nature of analytics. It also asserts that analytics is not simply individual steps, but rather an entire methodology. And it is this concept of analytical methodology that should be ingrained in your business, products and services because it is the foundation for valuable data-driven knowledge and insight.

This broader understanding of analytics highlights just how limiting many definitions of embedded analytics really are. Rather than referring to the integration of a tool or reporting function, embedded analytics should be defined as the application of a broad data and analytics platform as part of a product, service or process to deliver systems of insight to users outside of your organization.

This more accurate definition will help inform your vision of and approach to embedded analytics as a business opportunity, while enhancing how your solutions are perceived by your customers, partners, prospects, competitors and the industry.

REIMAGINE WHAT'S POSSIBLE FOR YOU AND YOUR CUSTOMERS

Whether you are an independent software vendor, software-as-a-service (SaaS) provider, managed service provider or cloud service provider, embedding analytics into your solutions can significantly boost your revenue streams.

INDEPENDENT SOFTWARE VENDORS

Independent software vendors (ISVs) will generally have a product or suite of products. These will be delivered in a few different models, including on-premises deployment, the cloud or a combination of the two—a hybrid approach. A financial services ISV focusing on regional banks and credit unions, for example, might deliver a solution to customers in an on-premises mode that has embedded business intelligence (BI) for reporting, ad hoc analysis and executive dashboards. Additionally, the solution stores and manages the data in a hosted transactional database and data warehouse. By comparison, SaaS vendors will provide their solutions only in a hosted mode, with the applications and data residing in their data centers and being managed and delivered as a service.

CASE IN POINT

A leading provider of healthcare analytics seeking to lower healthcare costs and improve the quality of care has collaborated with IBM Analytics to deliver multiple SaaS applications to its marketplace. Due to the volume of data it receives on a daily basis, the company leverages data lake technologies within the embeddable IBM Data and Analytics Platform, which delivers its self-service analysis capabilities to customers.

MANAGED SERVICE PROVIDERS

Managed service providers (MSPs) are responsible for delivering specific sets of services to their clients, which may center on IT, human resource, financial or other areas of focus. MSPs can leverage embedded analytics in a number of ways; however, process reporting is the most common. Customers can visualize managed service utilization or consumption trends. MSPs also often provide cross-service visibility using data warehouses to demonstrate the total impact that the MSP is having on a customer's business.

CASE IN POINT

A managed print services provider is leveraging IBM Predictive Analytics to accurately determine when a customer's printer toner cartridge may fail or run out. This allows it to provide just-in-time toner delivery. Its customers recognize 50 percent less toner wastage, dramatically reducing printing costs. The company also reduces its environmental impact, with fewer toner cartridges ending up in the landfill.

CLOUD SERVICE PROVIDERS

Cloud service providers (CSPs) will generally provide infrastructure-as-a-service (IaaS) or platform-as-a-service (PaaS) solutions. CSP customers want to ensure that their system uptime and performance levels are exceeding service level agreements, and embedded analytics can give them the visibility they need to understand current and historical results, as well as the factors influencing them. Embedded real-time analytics also can allow customers to monitor system health and trigger alerts or to recommend corrective actions, helping ensure that systems are performing optimally.

CASE IN POINT

A leading provider of integrated cloud services delivers relational database as a service (DBaaS) capabilities. The CSP has fully integrated DBaaS with the other cloud services it offers, which makes it easier for customers to leverage the high-performance, in-memory, columnar storage of the IBM Data and Analytics Platform, powering large-scale, analytical workloads. At the push of a button, its customers have access to speed-of-thought analytics and advanced data-handling features, resulting in faster, more cost-effective queries.

DATA SERVICE PROVIDERS

Data service providers (DSPs), or data aggregators, consume large volumes of data and provide deep insights about the data to a wide variety of customers across many different industries.

CASE IN POINT

A DSP that stores and processes credit-related data leverages an IBM data lake repository and IBM service technologies for handling billions of credit transactions per month and aggregating them for multiple consumer-oriented applications. Its customers receive value from the insights in multiple forms, including quarterly insights into the performance of various lending instruments, portfolio management, marketing campaign lists and risk management.

DEVICE SOLUTIONS AND APP PROVIDERS

Vendors who manufacture and deliver solutions involving hardware—such as automobiles, cell phones and wearables—are leaders in the Internet of Things (IoT) environment. Millions of devices are all interconnected now and are delivering valuable data to consumers of all types.

CASE IN POINT

A leading provider of fitness-related applications and sports apparel is delivering high-value insights to consumers. Users of its apps, interconnected wearables and other devices can automatically track their daily fitness level, weight, heart rate and diet. The data is stored with temporal and geospatial awareness. It is then processed with IBM Watson™ Machine Learning algorithms and advanced analytics to enhance the data. Information is then pushed to users based on the analysis of their individual records in comparison with the millions of other users like them. The apps then provide recommendations on how users can improve their fitness or encourage them to “keep up the great work.”

GROW YOUR POTENTIAL WITH IBM

The opportunity presented by embedded analytics is clear, but capitalizing on it can be challenging. Many solution providers struggle to find solutions that allow them to go to market quickly—or to deliver the exact capabilities their customers are seeking.

THE IBM DATA AND ANALYTICS PLATFORM

The IBM Data and Analytics Platform delivers the full breadth of capabilities needed to meet the precise demands of your customers. And with the IBM Embedded Analytics Program, we deliver those capabilities using a flexible business model that aligns with how you go to market, making it easier for you to keep your costs competitive and maintain margins.

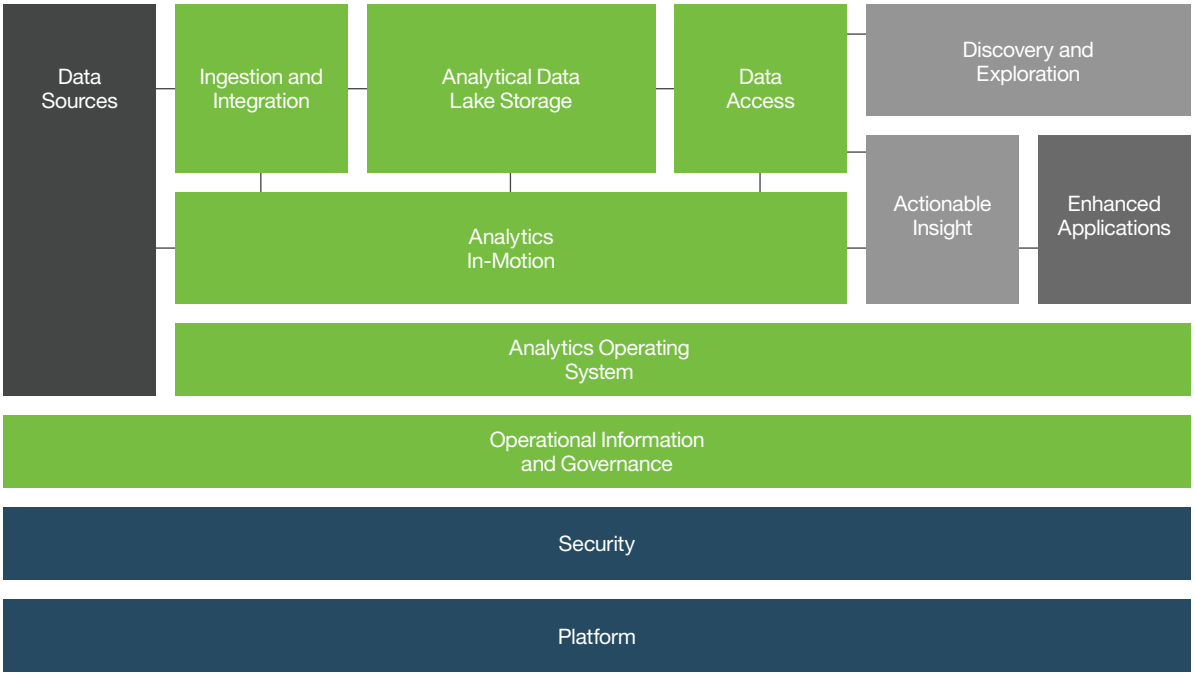


Figure 1: The embedded analytics platform

Let's take a closer look at the core platform components and capabilities that can help drive your success.

DATA SOURCES

The IBM Data and Analytics Platform can help you process any type of data, including operational data; transactional data; real-time data; batch feeds; employee, customer and partner data; activities; alerts; and sales data. Then you may want to include external sources such as social media, weather and macroeconomic data. You may also include unstructured data such as text, videos and images.

INGESTION AND INTEGRATION

The IBM Data and Analytics Platform provides crucial capabilities around ingestion and integration:

- Extract, transform and load (ETL) or extract, load and transform (ELT)
- Data quality and cleansing
- Master data management
- Change data capture

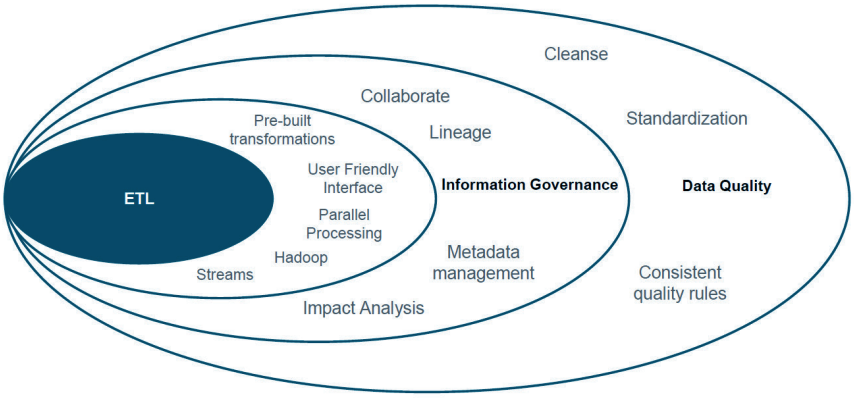
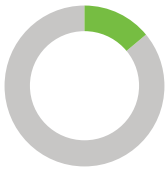


Figure 2: Ingestion and integration

As an example, a leader providing solutions to consumer package goods, retail and healthcare industries combines marketplace, product and shopper information to give analytical insights that help its customers drive and grow their businesses. To eliminate the bottleneck of ingesting new data sources, it leverages the ingestion and integration capabilities. This allows it to speed time to market and reduce development and maintenance costs, increasing margins.



15%

Year over year growth in revenue for organizations utilizing embedded analytics solutions from IBM

20%

Increase in average deal sizes for organizations utilizing embedded analytics solutions from IBM

ANALYTICAL DATA LAKE STORAGE

IBM's analytical data lake is a comprehensive set of capabilities allowing you to store and manage structured, unstructured and semistructured data types and to enable transactional, operational or analytical workloads, whether in the cloud, on premises or as a hybrid of the two. A data platform with a hybrid and fluid architecture can improve data performance for multiple use cases at a cost-effective scale. As more data moves to the cloud, while other information remains on premises, a hybrid and fluid architecture can help you add new and different data stores, without changing queries.

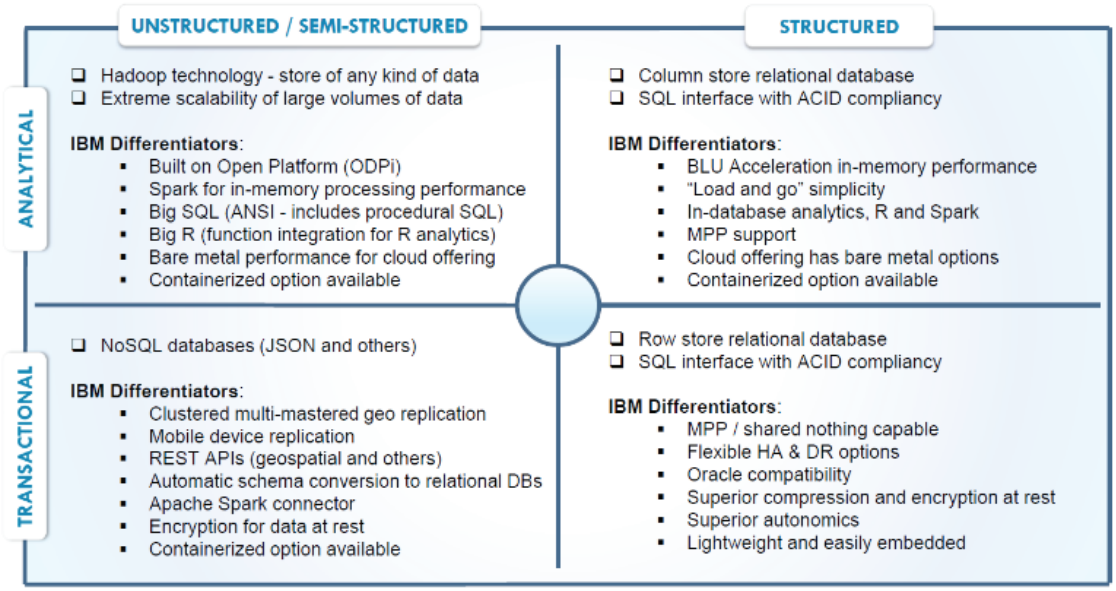


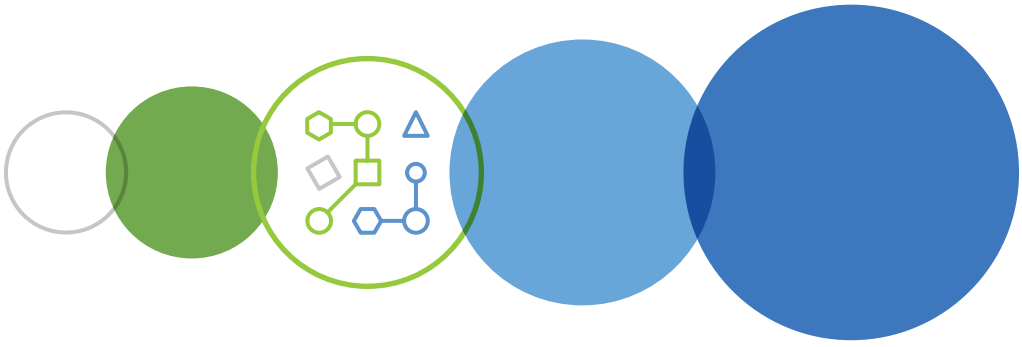
Figure 3: Analytical data lake

For example, an industrial IoT provider, which delivers an intelligent analytics solution for energy, manufacturing and transportation customers, needs the ability to store and manage data from a wide variety of devices. However, this requires a flexible data architecture that can easily adapt to and scale with new data types and increasing volumes. By using the analytical data lake and leveraging IBM NoSQL technology, semistructured data from disparate devices can easily be accepted and stored. Prebuilt integration with in-memory, columnar data warehouse capabilities will allow the provider to provide highly efficient, self-service analytics to customers in near real time. Further, by leveraging these capabilities, the provider can empower customers to increase on-time performance by reducing in-service breakdowns and to optimize mechanic productivity with proactive maintenance requirements and knowledge.

ANALYTICS IN MOTION

Stream computing enables organizations to process data streams, which are always on and never ceasing. Stream computing by IBM helps organizations spot opportunities and risks across all data, continuously analyzing data and connecting to all data sources. Stream computing offers a complete solution with a development environment, runtime and analytics toolkits such as natural language processing, image and voice recognition, and spatiotemporal analysis.

As an example, a healthcare startup recently put this capability to work. Dedicated to the development and commercialization of medical analytics technologies as solutions for unmet critical care needs, the company leverages IBM Streams to perform analytics in motion within its premature infant monitoring solutions. The monitors and sensors, connected to each infant, generate more than 1,200 data points per second and nearly 90 million data points per day. The solution is designed to issue early warning signs when a premature baby may be at risk of infection or other health complications. The solution significantly reduces potential, unnecessary neonatal surgery costs, provides alerts to potential risks up to 24 hours earlier than previously possible, and provides technology and medical expertise found in large, urban hospitals to remote communities.



DISCOVERY AND EXPLORATION

A smart data discovery service guides users through data exploration, automates predictive analytics and enables effortless dashboard and infographic creation. It also helps your customers get answers and gain new insights to make confident decisions in minutes, all on their own. The discovery and exploration capabilities are powered by users asking questions using natural language. The insights can easily be shared with others to tell a compelling story, powered by their data.

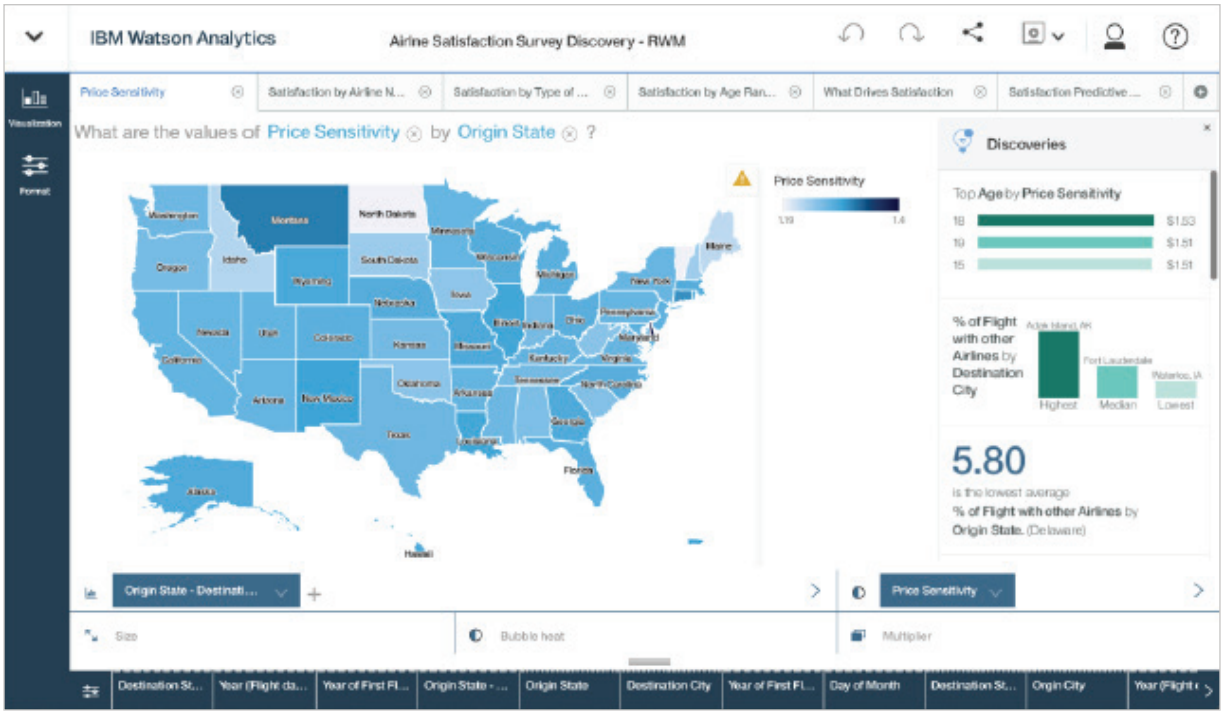


Figure 4: Discovery and exploration

For example, one of the leading players in the media rights management industry recently put this capability to work. Serving content owners and distributors, gaming companies, intellectual property licensors, and sports leagues, the company serves some of the world's largest brands with solutions around rights management, advertising optimization and marketing. It uses the IBM Data and Analytics Platform's cognitive, discovery and exploration capabilities to understand natural language, create interactive visual models, automate the development of complex statistical analysis, and storyboard the analysis of complex business problems. Its solutions are helping customers optimize time slots to maintain viewer interest and improve the profitability of advertising, nearly doubling its returns. And because the solution is cloud based, it has reduced its time to market and total cost of ownership.

ACTIONABLE INSIGHTS

The IBM Data and Analytics Platform offers smart, self-service capabilities that allow you to quickly and confidently identify and act on insight. The engaging experience empowers business users to create and personalize dashboards and reports on their own, while providing IT with a proven and scalable solution that is available on premises or in the cloud. Business users, data scientists and developers can leverage the power of predictive analytics to get deeper, more meaningful insights from data and to predict what is likely to happen next. These capabilities bring together advanced analytics capabilities, spanning ad hoc statistical analysis, predictive modeling, data mining, text analytics, entity analytics, optimization, real-time scoring, machine learning and more.

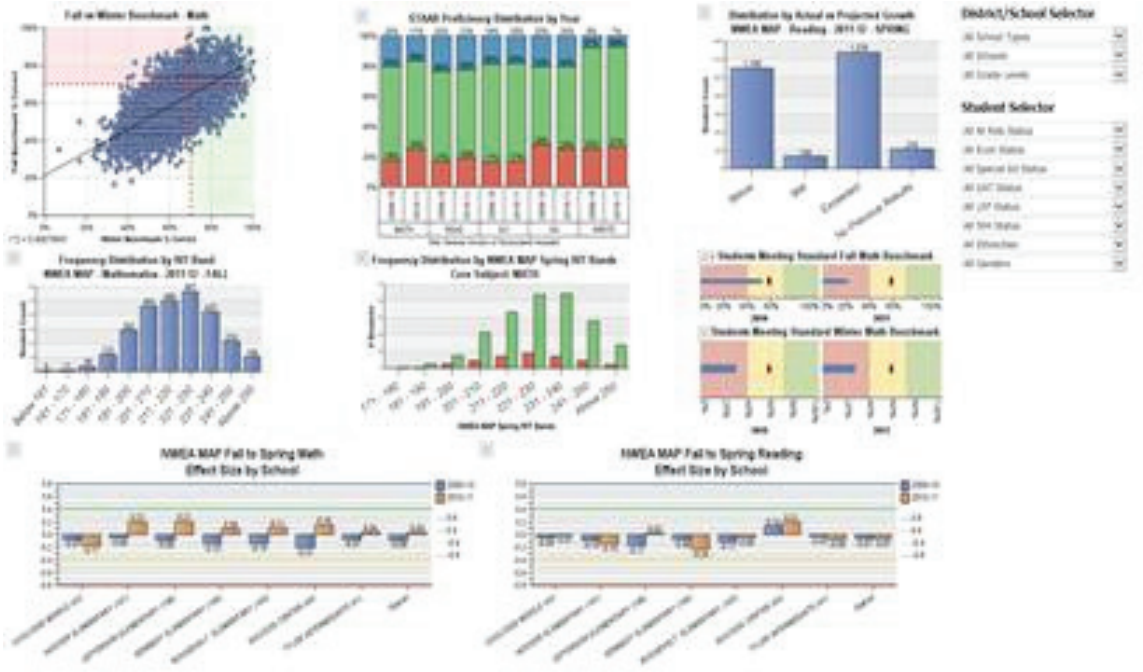


Figure 5: Predictive insights

As an example, a leading provider of K–12 performance management solutions is putting these capabilities to work to create actionable insights for school districts and departments of education. Using IBM predictive analytics and business intelligence for reporting and dashboards, it is helping customers identify at-risk students earlier and create timely, actionable plans to improve teacher and student performance and increase graduation rates.

ANALYTICS OPERATING SYSTEM

IBM is committed to Apache Spark as the engine that will power the next wave of machine learning. An open source project, Apache Spark is an application framework for doing highly iterative analysis that scales to large volumes of data. Apache Spark provides a platform to bring application developers, data scientists and data engineers together in a unified environment. It is an open-source, in-memory compute engine powering a stack of high-level tools such as Spark SQL, MLlib for machine learning, GraphX and Spark Streaming.

Solution providers can leverage the Spark platform to create new, analytics-based applications. IBM is integrating Spark into the components of the IBM Data and Analytics Platform to provide parallel processing, in-memory capabilities for analyzing large of amounts of data rapidly. IBM has also created the Spark Technology Center, which allows engineers, Apache Spark committers and designers to contribute to Apache Spark and design optimal user experiences for those using Spark-based applications. The Center also investigates new avenues for the technology and shares experiences using Spark in real-world projects, from large-scale enterprises to small, nonprofit organizations.

DATA INFORMATION AND GOVERNANCE

Organizations work to manage information knowledge and answer questions relating to the potential value, source and quality of their data. They benefit from a holistic approach to managing, improving and leveraging information to help gain insight and build confidence in business decisions and operations. IBM's data governance solutions let you locate and retrieve information about data objects, as well as their meaning, physical location, characteristics and usage. This helps improve IT productivity and meet regulatory requirements.

ENHANCED APPLICATIONS

By leveraging analytics, you can deliver a broader range of solution benefits to your customers:

- New, valuable insights
- Trusted, consistent information
- More efficient, interactive, self-service analysis
- Improved decisions based on forward-looking, predictive results
- Easy-to-use, cognitive solutions

The IBM Data and Analytics Platform delivers a broad set of capabilities that allow you to create new, high-value offerings, enhance your existing portfolio to expand your customer base, and secure more renewals with existing customers. Also, because the platform provides so much functionality out of the box and is built for integration and embedding, you can speed your time to market and reduce your development costs.

BUSINESS MODELS BASED ON HOW YOU GO TO MARKET

Enhancing the value of your solutions with embedded analytics doesn't need to diminish the profitability of your products, processes or services. An innovative program developed by IBM helps ensure your ability to provide these capabilities while maintaining competitive pricing and margins.

Developed as part of the IBM Embedded Analytics Program, the IBM Embedded Solutions Agreement allows you to work in partnership with IBM to develop distinct business models that align with your go-to-market pricing strategy. Traditional software licensing is based on a sell-to customer model or an earned-discount reseller model. In other words, we use a sell-through licensing model that is tailored to your fee structure and your IBM solution offering.

The following pricing parameters are typically used to design each licensing model; however, other metrics may be used to accommodate specific partner needs:

Basis

On what do you base the cost of your products and services?

- Number of users or per customer
- Processing capacity
- Features of the solution being used
- Transactions
- Size of the customer (e.g., the number of patient beds for healthcare organizations or the total assets under management for financial services companies)

Schedule

How frequently do your customers pay for the products or services you deliver?

- One time or up front
- Monthly, quarterly or yearly
- Pay for use
- As a teaser or loss leader

CHOOSE YOUR OWN PATH FORWARD

The best way to capitalize on the opportunity of embedded analytics depends on your solution offerings, marketplace and business goals. IBM offers a number of informative workshops to help you map out the right strategy and solutions to achieve the results you want—all at a pace that makes sense for your business.

EMBEDDED ANALYTICS WEBINAR SERIES

The IBM Embedded Analytics Team has delivered a series of webinars that cover the different parts of the IBM Data and Analytics Platform.

You can view the recordings and register for future events at https://ibm.ent.box.com/v/EmbeddedAnalyticsWebinarSeries.

1. **IBM Analytics Platform Overview—**An overview of the IBM Embedded Analytics Platform and the value to solution providers
2. **Ingestion and Integration—**Data management capabilities such as ETL, data quality and master data management
3. **Data Foundation Data Lake—**The foundations of data and analytics, including transactional databases, data warehouses, Hadoop and NoSQL
4. **Data Discovery and Exploration—**Valuable insights gained from reports, dashboards and self-service, cognitive analytics
5. **Actionable Insights—**Advanced analytics, data mining, predictive analytics and optimization that are being leveraged to improve decision making
6. **Data in Motion—**Analytics that is being infused into streaming data to make real-time decisions
7. **Analytics Operating Systems—**The Apache Spark open-source, in-memory framework that is powering the next generation of analytics, being infused by IBM into its own products and simplifying adoption by IBM's partners

REVENUE IMPACT PROJECTION WORKSHOP

Our IBM Embedded Analytics team can help you project the potential revenue impacts that could be obtained by embedding IBM Analytics technologies with the IBM Embedded Analytics Program.

IBM DATAFIRST DISCOVERY WORKSHOPS

IBM Analytics uses a consultative approach called DataFirst, a business-centric approach to discover, validate and build a prioritized use cases inventory and planning roadmap to help organizations realize the full value of data. As you can see in Figure 6, most partner initiatives can be classified into one of the following four stages along the analytics maturity scale:

1. Operational efficiency of data management activities and systems
2. Modernization of BI and data warehousing for reporting
3. Democratization of data access to enable self-service analytics
4. Monetization of solutions through new business models

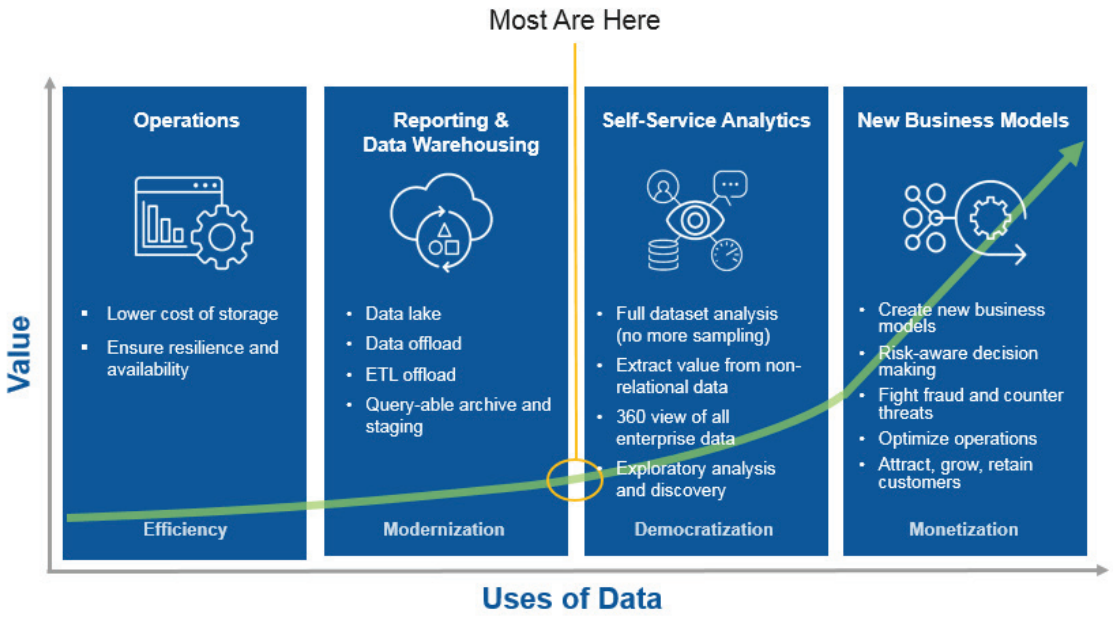


Figure 6: IBM DataFirst Method

Most companies tend to fall somewhere in the middle of the value scale. The left-hand side represents investments that are designed to save money. The right-hand side represents investments that are designed to make money. Both sides are very important and provide value, but, as you move to the right, the value received from the investments begins to grow exponentially.

If you're interested in getting started, we can schedule an IBM DataFirst Discovery Workshop, which entails a one-day session covering the following modules:

- Confirm workshop objectives and requirements
- Interview key stakeholders
- Identify one to three use cases

At the conclusion of the workshop, IBM experts will provide you with an executive briefing and final report. The report outlines key recommendations and next steps based on the information gathered during the workshop and on your specific situation and needs. The report also contains a prioritized list of use cases, as well as an action plan on the appropriate IBM DataFirst Method track.

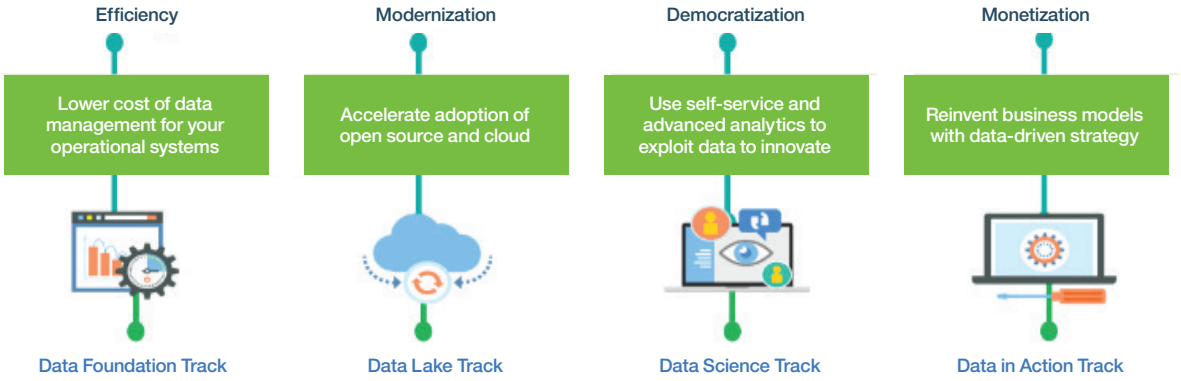


Figure 7: IBM DataFirst Method tracks

Learn more

For more information on the IBM Embedded Analytics Platform and Program, contact: EmbeddedAnalytics@us.ibm.com or Joe Costabile (jcostab@us.ibm.com).

About the author

Chris Tyler is a senior embedded analytics architect with IBM. A recognized thought leader in the field, Chris brings more than 25 years of experience working with the application of analytics solutions to amplify business impact and accelerate speed to market. He is a trusted advisor to numerous embedded analytics partners that are engaged in building repeatable solutions. Follow him on Twitter @chrisatyler.

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ENDNOTES

[1,2]Aberdeen Group, "Next-Generation Business Tools: Embedded BI at the Core," Knowledge Brief, November 2016.

[3]Nucleus Research, "Analytics Pays Back $13.01 for Every Dollar Spent," Report O204, September 2014.