A Guide to Monetizing Data

How to Create Intelligent Applications and Products

By Wayne W. Eckerson June 2017

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About the Author

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About Eckerson Group

Eckerson Group is a research and consulting firm that helps business and analytics leaders use data and technology to drive better insights and actions. Through its reports and advisory services, the firm helps companies maximize their investment in data and analytics. Its researchers and consultants each have more than 25 years of experience in the field and are uniquely qualified to help business and technical leaders succeed with business intelligence, analytics, data management, data governance, performance management, and data science.

About This Report

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Executive Summary

As executives recognize the inherent value of data in the information age, data processing is quickly moving from the back office to the front office. Executives now ask how to create data-driven products and services that generate revenue, reduce costs, cement customer loyalty, and deliver a competitive edge.

The first step in monetizing data is to recognize that there are three approaches: 1) Deliver data analytics internally to employees so they can make better decisions, optimize processes, and reduce costs. 2) Enrich existing products with data analytics, improving customer retention and preserving market share. 3) Sell data products and services to customers, generating new product lines and revenue.

Despite the promise, monetizing data is not easy. Data is notoriously slippery. To succeed, companies need vision, planning, and execution as well as a multi-faceted team of data analytics specialists, product managers, domain experts, and application developers. They also need a well designed, go-to-market process and a robust data and analytics infrastructure tuned to meet the requirements of target users.

The Promised Land of Data

Back Office to Front Office

Data analytics professionals have toiled for years in relative obscurity in the back office of their organizations. They've created data warehouses and data marts, delivered reports and dashboards, and implemented self-service analytic environments to help business users make more informed decisions with data.

During the past five years, business executives have finally begun to see data as manna from heaven. Their organizations are awash with it. Thanks to the incessant drumbeat of big data evangelists, executives now see this plentiful resource as raw material for new products and services. Even executives in old-line manufacturing businesses—such as automobiles, lighting, and appliances—see information as the future.

Consequently, the stock of data analytics professionals has risen. If they are savvy and forward-looking, they can turn their cost center into a profit center and orchestrate a new, profitable career path.

Cost Center to Profit Center

Consider Darren Taylor. He served for many years as the data warehouse manager at Blue Cross and Blue Shield of Kansas City (Blue KC). Around 2010, Darren developed a strategic plan to use the company's data warehouse and analytics environment to provide fee-based analytics services to other healthcare organizations. Blue KC executives loved the plan and in 2012 created a for-profit subsidiary called Cobalt Talon, naming Darren the President and Chief Operating Officer. Blue KC sold Cobalt Talon last year to Health Lumen.

Keys to Data Monetization

But monetizing data is not for the faint-hearted. It requires time, energy, investment, and an assortment of business and technical experts with complementary skills. Although an organization might have stellar internal data analytics capabilities, this doesn't necessarily translate into profitable data products and services.

To succeed with data monetization, an organization needs the following:

- **Vision.** Executives who understand the potential for monetizing data and allocate their time, energy, and trusted lieutenants to execute the vision.

- **Team.** A close-knit team of product managers, data architects, analytics specialists, application developers, and sales and marketing professionals who turn data into dollars.

- **Data.** Voluminous data with lots of attributes that is clean, consistent, and timely. Product usage data and customer transaction and interaction data are good candidates.

- **Analytics.** Analytics that provides shape and meaning to the data through categorization, calculations, summarizations, benchmarks, and models. Data becomes more valuable the more it is processed and analyzed.

- **Processes.** A development process that tailors data and analytics to target customers and go-to-market processes that price, sell, market, service, and enhance the data product throughout its lifecycle.

- **Delivery.** A delivery system that distributes analytics to users. It can be as simple as a PDF document delivered by email, or as sophisticated as an embedded analytic service within a cloud application.

Data Analytics Platform. A scalable, high-performance computing platform that supports a rich information supply chain that refines data for various use cases and a comprehensive set of reporting and analysis capabilities designed to meet a majority of business requirements. In short, organizations that want to monetize data need to develop a comprehensive business plan that treats data like any other product. The plan needs to define the goals, the team, processes, and technology to design, sell, and support the data product over its entire lifecycle.

Levels of Monetization

There are three levels of data monetization. Each delivers unique benefits and requires different mechanisms to implement. Not all levels put cold, hard cash in your organization's pocket; some monetize data indirectly. (See figure 1.)

Figure 1. Three Levels of Data Monetization
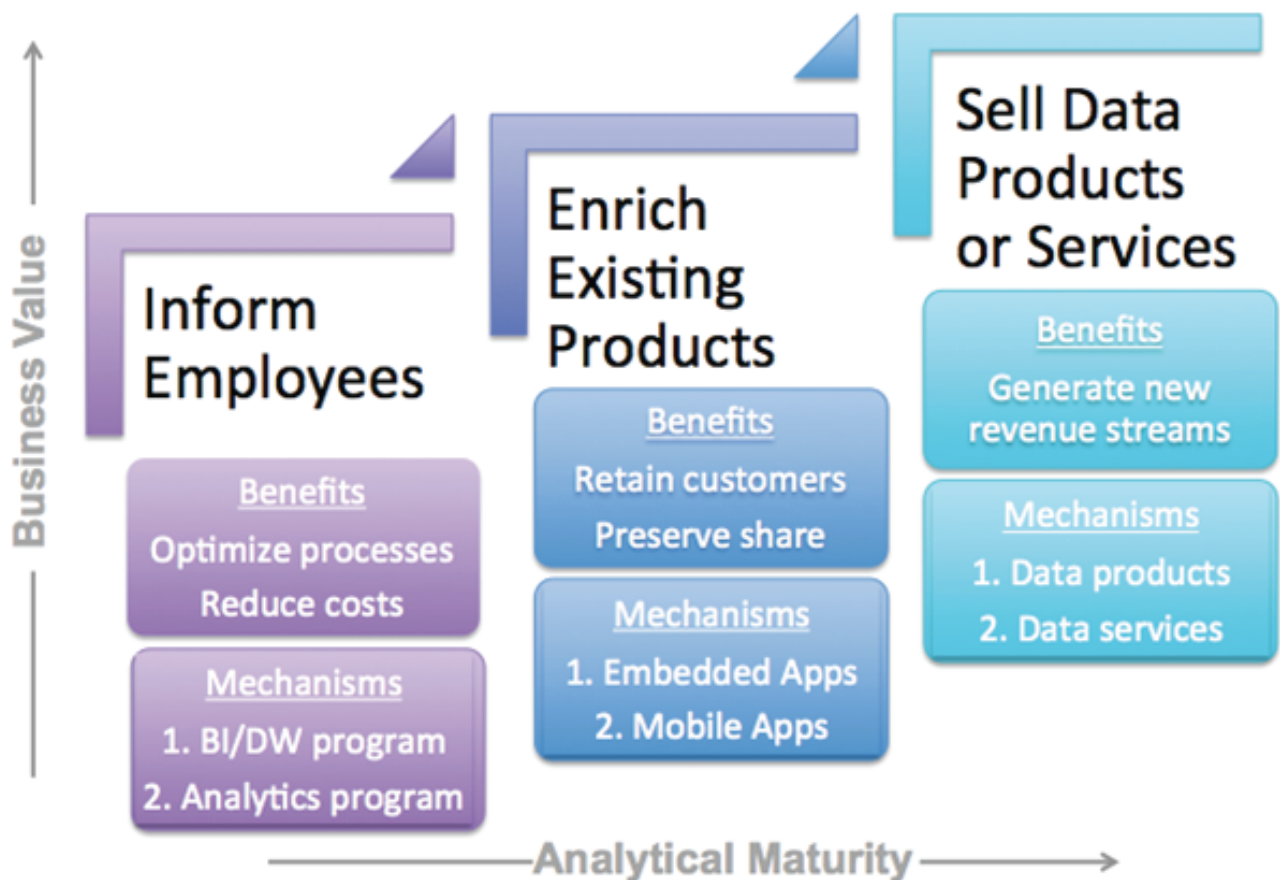
Evolution. Organizations typically move through the levels in a sequential manner. The expertise and knowledge gained in one level gives organizations the confidence to move to the next level. Each step requires organizations to expand the horizon of people, processes, and technologies required to capitalize on their data asset. It is possible for organizations to skip right to the final stage, but they'll need to recruit experienced data and product experts to succeed.

① Inform Employees

Initially, organizations use data and analytics to optimize internal processes, reduce costs, and improve decision making. Most organizations have pursued this approach to data monetization for a decade or more. The goal is to give employees timely, relevant, and accurate data so they can gain greater visibility into the business processes they manage and make better, more timely decisions.

The way to inform employees is to establish a data analytics program.

The way to inform employees is to establish a data analytics program. The purpose of the program is to create a repository of clean, integrated data (that is, a data lake and/or data warehouse) that employees query using reporting and analytics tools. By centralizing data and decentralizing data access and analysis, organizations can align employees with a common understanding of shared data elements while maximizing insights and usage.

There are three ways companies monetize data and analytics internally:

- Historical reporting and analysis
- Advanced analytics
- Custom analytic applications

Historical Reporting and Analysis

Most data analytics programs deliver reports and dashboards that summarize past activity—last year, last month, last week, or yesterday. Many companies have operational dashboards that display up-to-the-minute activity through real-time data collection and streaming technology. Most reports and dashboards are interactive—they let users filter, drill, pivot, sort, and visualize the data in new ways to analyze root causes of trends displayed on the home screen of the dashboard.

KPIs. Historical reporting and analysis enables individuals, teams, and entire organizations to monitor, measure, and manage performance against key performance indicators (KPIs) embedded in interactive dashboards. Users can scan a dashboard, quickly identify problems and opportunities, and immediately

make course corrections. These metrics align employees to a common set of goals and help them optimize and streamline business processes, saving time and money.

Advanced Analytics

Analytical Models. Today, companies are moving beyond historical reporting and analysis. They are hiring data scientists to mine large volumes of internal and external data to make predictions. The scientists create analytical models that companies can use to automate or optimize many core business processes. For instance, the models can improve customer retention, generate online recommendations, detect fraud, optimize work schedules and routes, and prioritize sales leads and mailing lists.

The use of data science, machine learning, and artificial intelligence increases the value of data exponentially. In the hands of capable data scientists, these techniques and tools enable companies to work proactively to address customer needs and adapt more quickly to shifting patterns in the marketplace. Rather than reacting to events, organizations can use advanced analytics to take actions that optimize future activity.

The use of data science, machine learning, and artificial intelligence increases the value of data exponentially.

Custom Analytic Applications

Increasingly, organizations want to build custom analytic applications that combine analytics and actions into a seamless workflow. The applications use machine learning, mobile technology, and advanced graphical interfaces to help managers and workers make everyday decisions with greater accuracy, effectiveness, and timeliness.

Rather than spray data and metrics at users, a custom analytic application gives users just the data they need when they need it. They use predictive algorithms that mine internal and external data to alert users to potential issues before they become problems, and they recommend actions based on historical patterns. These applications close the proverbial last mile of analytics between insights and action.

These [custom analytic] applications close the proverbial "last mile" of analytics between insights and action.

Retail Example
A retail company with hundreds of stores built a custom analytic application to help store managers use

data to work more efficiently. The retailer wanted managers to spend more time on the store floor interacting with customers and employees rather than glued to a computer screen analyzing data.

Rather than present the manager with an array of metrics, the application presents him or her with a specifically tailored news feed that combines relevant and timely insights with tasks. It uses traditional targets to show managers how their performance compares to plan and other stores, with the ability to drill into detail. It also prompts them to complete a staffing schedule for the following week and shows how today's weather will impact sales.

The custom analytics application uses a predictive model that blends historical purchasing and staffing data with promotions data and external data from weather and events databases to automatically generate a daily staffing schedule. The automated staffing model not only recommends the number of staff hours required each day, but also explains the rationale for the recommendation. Giving users a machine-generated recommendation doesn't normally spur them to take action; they need a common-sense reason to justify adopting an automated suggestion. Once a user validates the proposed schedule, he or she clicks "Create Schedule", and the application imports the recommendations into the store's scheduling system.

Most companies have deployed reporting analysis capabilities, and many are now deploying advanced analytics teams to use data more proactively. However, few have built custom analytic applications that blend analytics and operations in a guided workflow. This will change as data analytic platforms open up their APIs to application developers and companies recognize the value of custom analytic applications.

2 Enrich Products

Once an organization establishes a solid data foundation for internal consumption, it often leverages this capability to enhance the experience of external customers. Banks, utilities, and telecommunications companies have long sent customers activity reports with monthly bills. Today, companies in these and other industries are ratcheting up the sophistication of customer-facing reports and dashboards.

First, they are deploying reports at scale. Some companies, such as U.S. Bank, provide online interactive reports to 20,000+ customers. This requires a secure, scalable, data analytics platform. Second, many of these reports incorporate value-added analytics, such as benchmarks, recommendations, and alerts and allow customers to customize reports and dashboards to their needs. make products These features make products sticky, increasing customer retention and loyalty.

Data analytics make products sticky, increasing customer retention and loyalty.

Smart Products

Data-enriched products have gone mainstream. For example, many people now wear fitness bands that monitor their heart rate, sleep, exercise, weight, and food intake. The centerpiece of these wearable products is a customizable dashboard that displays a current and historical view of an individual's exercise activity and health metrics. Using gamification techniques, the application rewards people for achieving milestones and enables them to compare their activity with friends. (See figure 2.)

Figure 2. FitBit Dashboard

FitBit, maker of a wearable health tracker, generates a custom dashboard that displays current and historical health data captured by the device for each customer

Likewise, many traditional consumer products are getting a data facelift. Customers can now purchase smart light bulbs, smart refrigerators, and smart automobiles that track product usage and enable customers to control the product remotely through a mobile application. For example, owners of Tesla electric automobiles can use a downloadable mobile application to unlock the doors of their car, turn on the air conditioning, and open the roof remotely.

In addition, many industrial products, such as jet engines, excavation machines, and ventilation systems, are being outfitted with sensors that transmit information via the internet to the manufacturers, who can remotely monitor the products and alert owners to critical issues. In some cases, manufacturers proactively ship replacement parts when they detect an anomaly that indicates a component might fail in the near future. Predictive maintenance is one of the key drivers in the emerging Internet of Things marketplace.

Intelligent Support Solution

One example of a data-enriched product is Informatica's PowerCenter data integration tool. Informatica provides every customer who has a maintenance contract with an intelligent cloud application called DiscoveryIQ. The cloud service is a personalized support portal that enables customers to:

- **Monitor operations.** They can track and analyze the number and type of data processing tasks run over time and associated data volumes.

- **Benchmark activity.** The application lets them compare data processing activity with peer companies in the same industry with similar revenues and numbers of employees.

- **Forecast usage.** They can view projected usage based on past activity to better plan capacity and systems requirements.

- **Better manage upgrades.** DiscoveryIQ defines tasks, manages workflow, tracks completion, and suggests release notes that customers should read.

Personalized recommendations. In addition, DiscoveryIQ generates personalized recommendations that help customers optimize product usage and maximize ROI. To create the recommendations, Informatica mines its vast support database, which includes support tickets, customer configuration files, escalation requests, and resolution data from thousands of Informatica customers who have given the company permission to use their data. It then tailors the models to each customer based on product usage, trouble tickets, and knowledge base searches. (See figure 3.)

Figure 3. DiscoveryIQ Personalized Support Portal
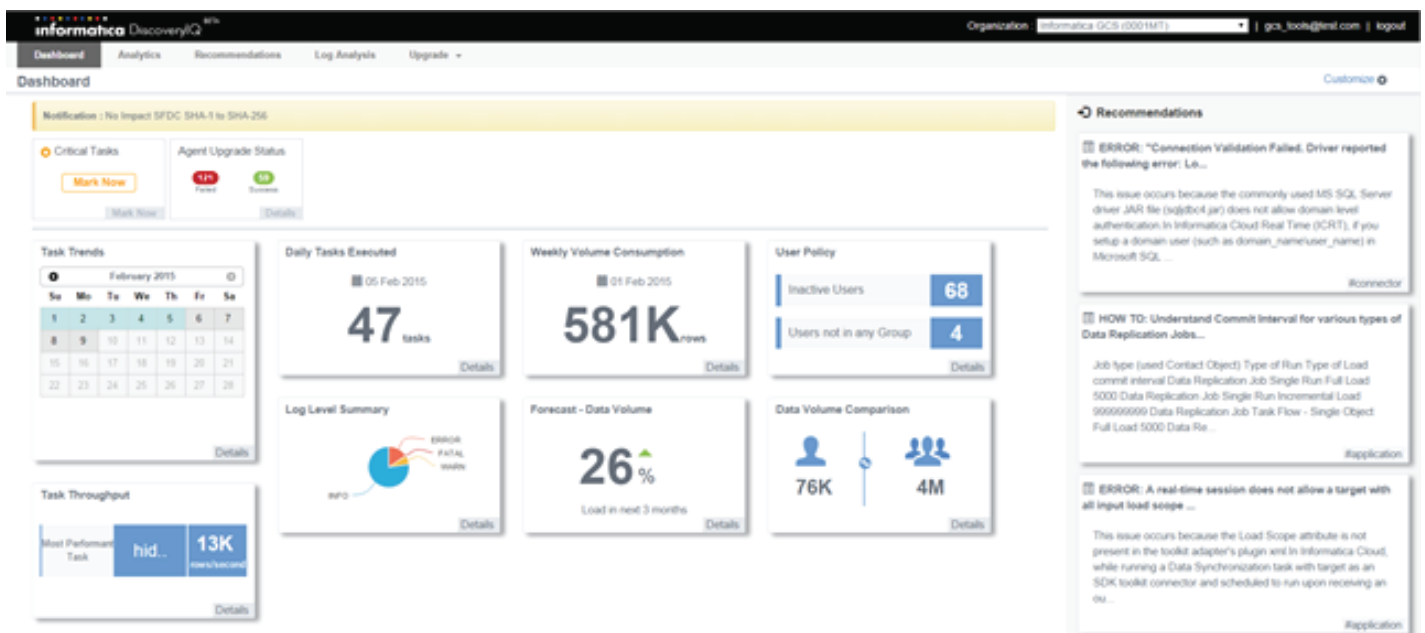
Recommendations can be personalized based on usage data.

Categories of Enrichment

There is a range of data analytics functionality that vendors can embed in an application to enrich a customer's product experience. Table 1 presents 20 methods in four categories for enriching products with data and analytics. (These functions also can be used to monetize data directly.)(See Table 1.)

Table 1. Categories of Data Analytics Enrichment

Interaction	Analytics	Creation	Actions
View	Status	Snapshots	Comments
Navigate	Trends	Custom groups	Alerts
Search	Forecasts	Custom metrics	Forms
Modify	Benchmarks	Custom dashboards	Updates
Model	Recommendations	Storyboards	Functions

Interaction
Interaction is the means by which customers engage with data. There are five levels of interaction:

1. **View.** Customers view static content, such as a PDF report sent by email or a CSV file delivered through file transfer protocol (FTP). Many companies begin their data monetization journey this way.

2. **Navigate.** Customers click on interactive elements in a report or dashboard to filter, drill, sort, pivot, and visualize data in predefined ways.

3. **Search.** Customers craft specific queries in a search box, a query panel, or visualization engine to explore data

4. **Modify.** Customers edit or modify existing reports and dashboards to create custom views.

5. **Model.** Customers conduct "what if" scenarios to view the impact of proposed changes or apply regression or clustering models to project trends or correlate variables

Analytics
Analytics displays comparative views of data elements. The most common types of analytics for embedded applications are the following:

- **Status.** The program compares current performance to a prior period or a target value.

- **Trend.** The program tracks performance over time, such as monthly sales for the past year.

- **Forecast.** The program projects performance based on historical trends.

- **Benchmark.** The program compares performance against peers. Benchmarks can be simple side-by-side charts (see figure 4) or leaderboards that score and rank individuals or teams.

- **Recommendation.** The program generates suggestions to optimize usage of the product based on current and predicted performance.

Figure 4. Benchmarks
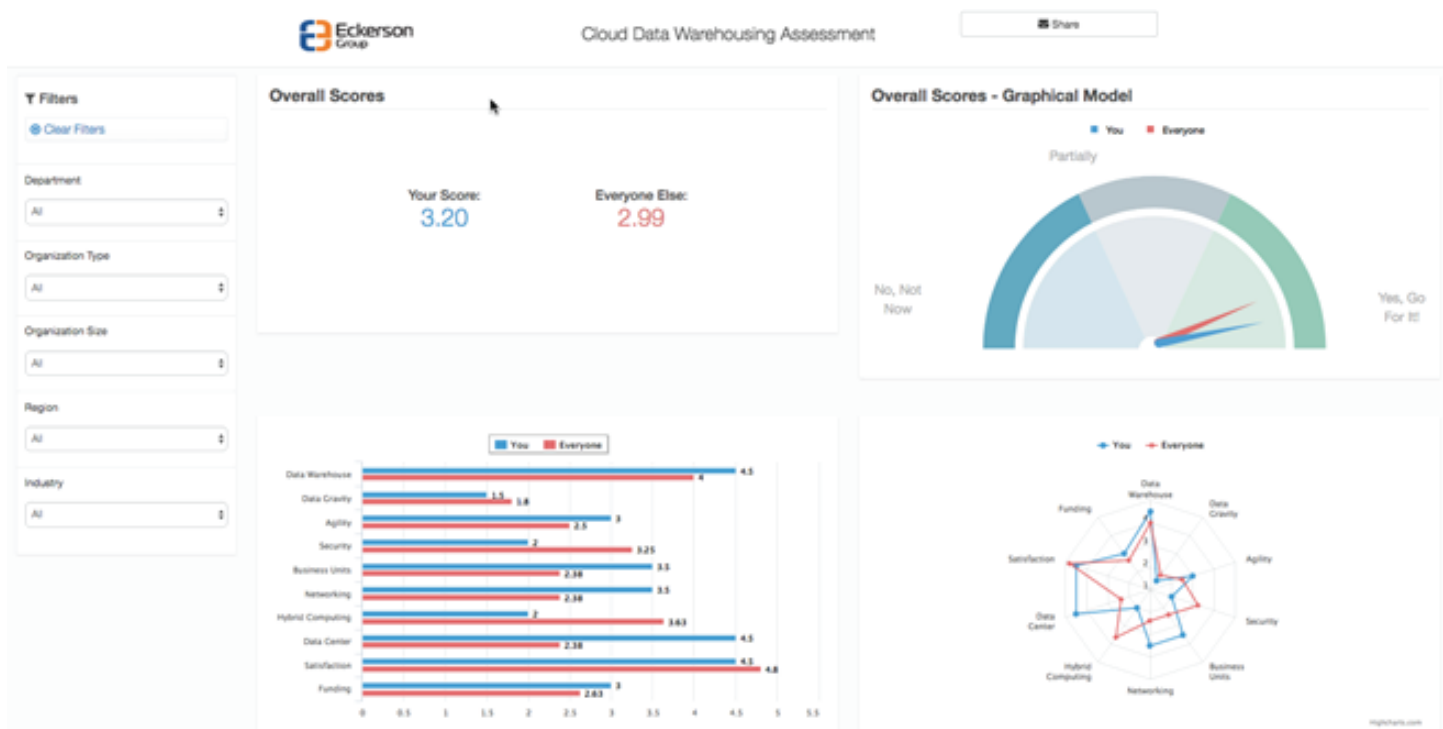
Eckerson Group's Rate My Data cloud assessment service compares individual scores to the average for all respondents and provides dynamic filtering so individuals can benchmark their scores against a specific peer group.

Creation

Creation defines self-service analytics, with the following features:

- **Snapshots.** Business users can save a live view of a dashboard they've created through simple interactions.

- **Custom groups.** Users can create and reuse custom groups and hierarchies to compare performance and activity of individuals, teams, products, and so on.

- **Custom metrics.** Business users can create and apply custom calculations to existing data and reuse custom metrics created by others.

- **Custom dashboards.** Business users can create reports and dashboards from scratch using ad hoc query and visualization functionality.

- **Storyboards.** Business users can compile visualizations, text, and tables into live or static presentations for a meeting or conference.

Actions
Actions consist of functions that users execute to accomplish a task. Typical actions are the following:

- **Comments.** Users can engage in discussions with colleagues in the context of a dashboard or data set so they resolve issues and make decisions.

- **Alerts.** Users are notified when performance exceeds predefined thresholds and requires action.

- **Forms.** Users can enter data into an application as part of a larger workflow.

- **Updates.** Users can edit or correct data values in specific fields.

- **Functions.** Users can execute tasks in another application, such as a scheduling or purchasing application.

The 20 listed methods are not exhaustive. There are many ways to enrich products with data and analytics. The challenges are deciding which methods are best suited to target customers and building them into an application.

Data Analytics Platform
It's also critical that organizations devise a strategy to ingest data for analysis. In the emerging world of IoT connected devices and applications, this can be a huge challenge. First organizations need to connect devices (e.g., wrist watch, appliance, software application, or industrial machine) to the Internet. They then need to collect data from a sensor or embedded database and send it over the Internet to a gateway or (cloud) repository where the data can be filtered, sorted, calculated, aggregated, and made accessible to individual customers.

Somehow customers must be able to query the database with sub-second response time (i.e. FitBit application) using a high personalized graphic interface or dashboard that displays their activity along with various charts, comparisons, benchmarks, alerts, and so on. Building a real-time, internet-based, customer-facing application requires a robust data processing and analytics platform, lots of systems and development talent, and strong project management and testing resources.

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The next section discusses techniques for building data products and services, including how to design, price, administer, and roll them out to the marketplace.

3 Sell Data Products or Services

Once organizations gain experience with data and analytics, either internally to support decisions or externally to enrich existing products, they are ready to take the next step and monetize data. There are four primary ways to generate revenue from data and analytics:

- Sell data sets
- Sell data analytics services
- Sell a data analytics solution
- Upcharge customers for data analytics functionality

We'll examine each approach in detail below.

Sell Data Sets

Selling data sets—or syndicating data—involves packaging data sets for commercial sale. Almost every consumer-facing industry has an information provider that makes a good living selling aggregated data derived from customer transactions and interactions. Think IRI, Nielsen, and SPINS in the retail space and IMS Health (now QuintilesIMS) in the pharmaceutical industry. (See figure 5.) In addition, companies such as Data Market (now Qlik Data Market) consolidate, normalize, and sell open data—publicly available data sets from governments and other sources.

Figure 5. Data Syndication Portfolio

QuintilesIMS offers dozens of analytic products based on its rich repository of pharmaceutical data above.

But any company that generates a lot of transactions or interactions or brokers transactions between players (that is, a distributor or marketplace) can play in the space. For example, State Street Bank launched State Street Global Exchange, which sells information about the private equity industry using anonymized and aggregated data from more than 3,000 private equity clients.

Any company that generates a lot of transactions or interactions or brokers transactions between players can [monetize data].

Getting Started. Craig MacDonald of Accenture Interactive works with telecommunications clients whose data meets all the requisites for monetization: It's voluminous, personally identifiable, and highly attributed. Call detail records contain subscriber names, usage activity, geo-locations, search history, application downloads, and so on. The data can be used to measure how people interact with physical locations and use their mobile phones. "There are a myriad of advertisers and marketers out there that are interested in [this data]," MacDonald says.[1]

But when sitting on a data stockpile, it's easy to imagine building a data megalopolis. MacDonald cautions that it's best to start small. He encourages companies to identify a minimally viable product that can be delivered quickly to test assumptions and market traction: "Pick a use case that is high value, low risk, and can be delivered in 12 to 16 weeks," he says. "Then continue developing the product over time."

Analytics Services. Most data syndicators offer more than just data. Many enrich the data by segmenting, aggregating, filtering, and processing it for specific use cases. Many also provide analytical functionality to make it easy for users to consume and analyze the data. Data and analytical processing makes data more valuable, allowing data syndicators to charge more money. For example, QuintilesIMS offers dozens of analytic products, solutions, and consulting services based on its treasure trove of pharmaceutical data.

Data and analytical processing makes data more valuable, allowing data syndicators to charge more money.

Sell Data Analytics Services

Many data syndicators also sell professional services. Some offer consulting services to help clients interpret their data and use it to develop strategies and go-to-market plans. Others offer technical services to help clients integrate syndicated data with their own systems. In some cases, these systems integrators provide managed services in which clients outsource their data analytics infrastructure to the system integrator who designs, implements, and runs the environment on behalf of the client.

For example, Cobalt Talon (now LumenHealth – see above) designs and manages data warehousing and analytics environments for clients using its own data analytics platform. It also sells consulting services to help clients create their own data analytics environments.

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[1]Accenture "Ask the Expert" Series, "Data Monetization: Where do we start in building a data monetization business?" Video transcript.

Sell a Data Analytics Solution

Data is meaningless without context. That's why most data syndicators, such as QuintileIMS, offer analytics solutions in addition to data. But creating an analytics solution requires a lot more expertise and forethought than just sending a cache of raw data to an organization. It requires experience in analytics, the business domain, application development, and product management. (See figure 6.)

Figure 6. Experts Required to Monetize Data Analytic

Input from four types of experts should be gathered to succeed with generating revenue.

Organizations that want to monetize data need to create a team with the following experts:

- **Product Managers.** They serve as the interface between the external customers and internal developers, mediating requirements, developing product plans, and soliciting feedback.

- **Sales/Marketing Managers.** They develop a strategy to bring a product to market and sustain it through its lifecycle.

- **Data Analytics Specialists.** They build the data infrastructure and analytics delivery mechanism, tailored to a target audience.

- **Application Developers.** They create the host application and embed data analytics using configuration settings, application libraries, application programming interfaces, and code.
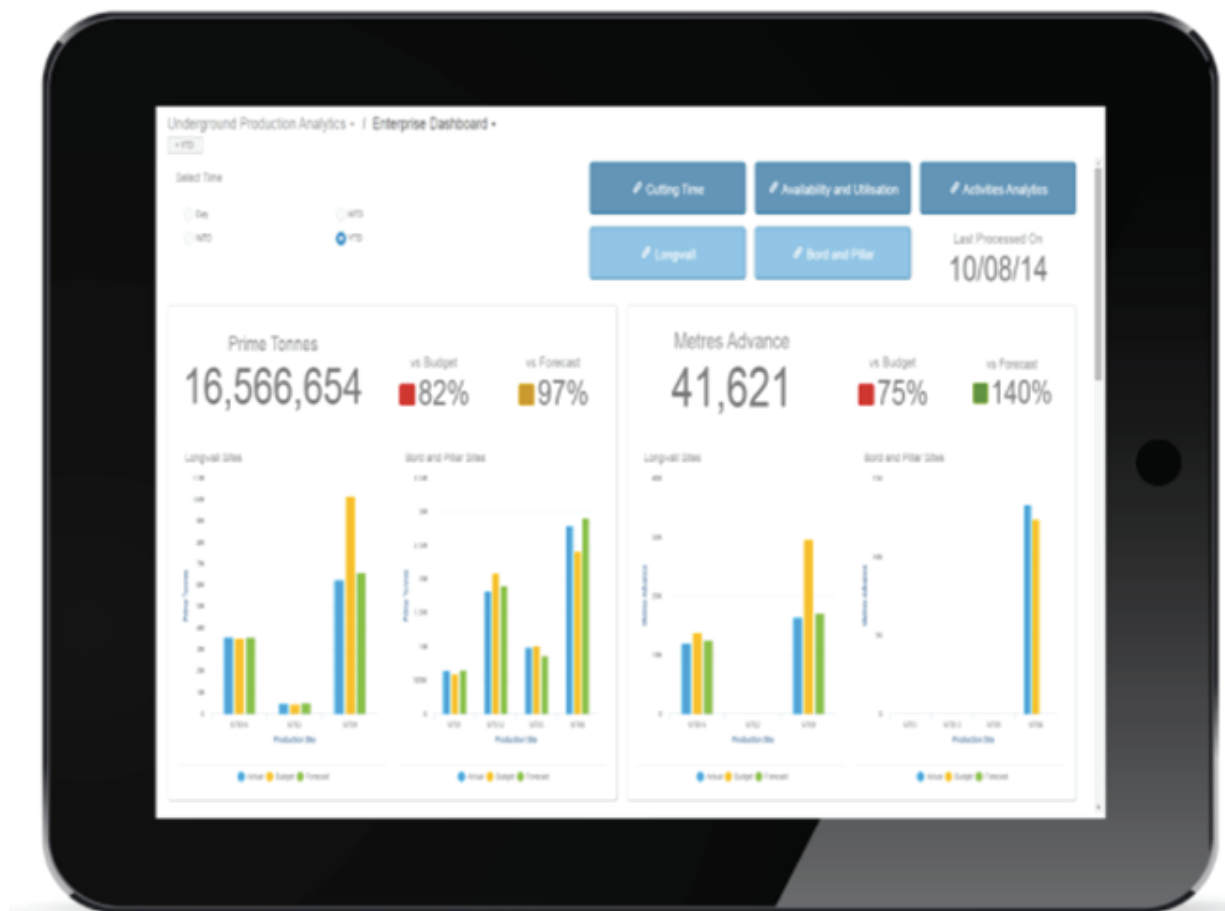
Pulse Analytics

One company that has built a data analytics solution from scratch is Australia-based Pulse Systems Mining, which makes enterprise resources planning software for the mining industry. As a software provider, it understands how to produce, market, and sell software to the mining industry. Several years ago it recognized the value of delivering a stand-alone analytics solution that would help mining companies cut operational costs significantly. But it lacked expertise in building data analytics products.

So, it tapped its head of business intelligence, Ash Bosworth, to work with corporate software developers and domain specialists. The team gained experience with data analytics by building custom analytic applications for several customers. It then used this experience to build a packaged solution called Pulse Analytics. The product combines data from excavators, ERP solutions, and environmental monitoring gear to create a series of KPI-driven dashboards. (See figure 7).

Figure 7. Pulse Analytics Dashboard for Mining Companies

Pulse Systems Mining uses a series of KPI-driven dashboards that combine data from excavators, ERP solutions, and environmental monitoring gear.

Pulse Analytics contains dozens of analytic modules. With the product, mining companies can track and manage work orders, gate roads, underground production, workplace safety, and spending on repair and maintenance, among other things. To accelerate development and deployment, Pulse embedded a third-party cloud analytics tool that provides a vertically integrated data analytics solution. "We didn't want to build a massive data warehouse for each customer, which would take a long time," says Bosworth.

Upcharge Customers for Data Analytics Functionality

The final way to monetize data is to upcharge customers for data analytics functionality added to an existing product. Many vendors embed analytics into software products or mobile applications to capitalize on the growing interest in data among consumers and give products added stickiness. (See earlier section, "Enrich Products.")

Build versus Buy

But monetizing data analytics functionality in an existing product is not easy. First, vendors need to decide whether to build or buy data analytics functionality.

Build. Most start by building reports and basic query functionality using in-house developers. This makes sense if analytic functionality is narrowly constrained. But requests for custom reports and complex analytical functionality quickly overwhelm many vendors. Many also use open source databases to store and process data because they are free. But most of these databases are not designed to process huge volumes of complex queries from hundreds or thousands of concurrent users with sub-second response time.

Buy. Consequently, many vendors decide to embed a third-party product, either a reporting and analysis tool or an analytic database, or both. Third-party tools generally have best-of-breed functionality, compelling visualizations, and high levels of scalability and concurrency. Most also provide rich application programming interfaces that enable vendors to integrate analytics with their application functionality in a highly custom manner.

But third-party tools don't just plug and play—companies need to white label the analytic GUI so it looks and feels like their core product or application. They may also want to add functionality not available in the tool or build bidirectional data flows between their application and the data analytics product. Both cases require time and money. Also required is a data analytics vendor that wants to partner with its OEM cutomers and has a proven methodology for onboarding custom solutions quickly. (To decide whether to build or buy an analytics capability, read the 2016 Eckerson Group report Which Embedded Analytics Product is Right for You?)

Pricing

Second, vendors need to determine how to price data analytics add-ons. Most create a tiered model that provides different levels of analytic functionality at different prices. Segregating BI features avoids overwhelming business users with too many functions and optimizes revenue from data analytics capabilities.

For example, a vendor might include basic reports in the base package at no cost, offer self-service analytics at the next tier, and include benchmarks and recommendations at the highest level. The goal is to provide customers just enough functionality at each level to meet their immediate needs but offer functionality that will entice them to upgrade later on.

Kevin Smith, founder of NextWave BI, devised a simple pricing model to help companies calculate pricing options for embedded analytics software. It defines three product tiers between cost of goods sold and the price of a top competitor. The price of the each tier should exceed the current product price by about the same amount as the cost of adding the additional analytics. The advanced tier approaches the price of a top competitor with embedded analytics but does not exceed it. (See figure 8.)

Figure 8. Model for Visualizing How to Price Software with Analytics
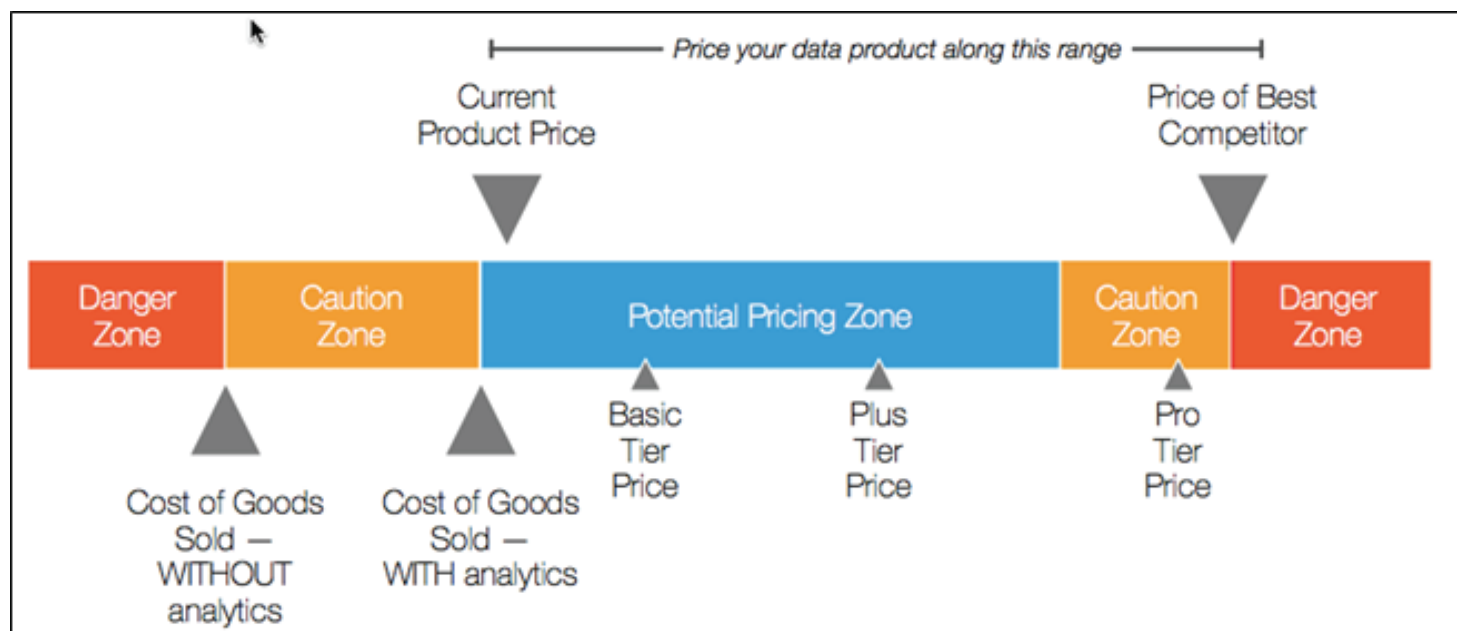
From "*Ten Things to Consider When Embedding Reports and Analytics into Applications,*" *Eckerson Group White Paper, 2015.*

Administration

Product vendors also need a robust administration system to manage the complexity of supporting multiple customers with different product configurations. The vendor must be able to provision

customers quickly, change configurations and pricing on demand, and seamlessly upgrade customers when either the host application or the third-party analytics product ships a new software version.

To make things even more complex, the product needs distributed administrative capabilities so customer clients can assign unique permissions to each user who needs to access data and analytics functionality. Some users may need to access all the data, while others only be allowed to see a single domain. This requires multi-tenant administration in which each customer and client can administer its own instance of the data analytics software.

"If every client is looking at the same dashboard, it's easy to embed analytics functionality," says Smith. "But if each customer has its own dashboard with its own data and custom workflows, it's much more complex. Few vendors offer robust administrative features to support custom data analytics deployments."

Tailored Functionality
Many companies take shortcuts in the process of designing data analytics solutions, thinking one size fits all. Unless the solution meets needs of individuals at each client, adoption will suffer; companies will invest time and money into data analytics and then wonder why users aren't using the functionality. To avoid regretting their decision, companies need to identify user requirements and develop a roadmap to deliver required data and functionality.

Many companies take shortcuts in the process of designing data analytics solutions, thinking one size fits all.

There are five key steps to designing an analytics capability that will drive user adoption:

- **Identify Key Personas.** Define the role, characteristics, goals, workflow, and information pain points for each target persona in the client community. Start with two or three personas; more than that will overwhelm the design process.

- **Identify Analytic Workflows.** For each persona, define a five- to seven-step analytic workflow that describes how the persona might use information to accomplish a mission.

- **Identify Pain Points.** Identify the points in each workflow where target users can't access the information they need to manage the process in an optimal manner.

- **Map Pain Points to Functionality.** Match types of metrics, charts, tables, and other analytics to pain points in each workflow.

- **Build Prototype and Test Functionality.** Create the prototype and test the functionality. Solicit user feedback before sending the module into production.

A company may create several analytic workflows for each persona. This is why it's important to limit the number of personas to two or three initially. Report and dashboard designers use the workflows to design tabs, layouts, drill downs, filters, and charts. Rather than blasting every imaginable analytic to users, tailored functionality matches the graphic interface to user experience and requirements.

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Go-to-Market Strategy

Once an organization has designed an analytic adjunct to its product, operationalizing it requires coordination among sales, marketing, operations, billing, training, support, legal, and development departments. Representatives from each department need to meet to step through the customer lifecycle and define go-to-market processes. Here are the key decision points:

- **Marketing.** How do we position the new offering to the market? What content and marketing materials do we need? What messages do we communicate? How can we proactively answer customer questions?

- **Sales.** How do we convert interest into sales? Do we need to create a canned demo or hold regular Webcasts? How do we train our sales people, or do we provide analytics specialists to assist the sales force?

- **Operations.** How do we provision new customers with BI functionality? Does BI just magically appear on every customer's application screen or does it need to be added once users sign up and pay? How do we enable existing customers as well as new ones?

- **Billing.** Do we have to bill extra for analytics or is it part of the standard tiered pricing? Do we raise prices or keep them the same. If we raise prices, how do we explain this to customers?

- **Training.** What kind of documentation and videos do we need to offer customers? Do we provide training videos or weekly live Webcasts?

- **Support.** How do we answer questions that customers might have about analytics? Do we train our entire support staff or create analytics specialists? Do we pass support to our vendor partner?

- **Legal.** Have our contracts been updated to reflect that a third party vendor is processing customer data? Do we have an opt-in clause that allows customers to supply data anonymously for benchmarking purposes? Have we established service level agreements (SLAs) for analytics that match the SLAs of our core application?

- **Change Management.** How do we identify and fix bugs in the product? How do we capture new requirements from customers and add them to future releases?

- **Rollout.** How do we roll out new features to minimize risks? It's wise to divide a customer base into groups and deliver functionality to each group sequentially with time between each roll out to assess the impact and fix issues that might arise.

- **Monitoring.** How do we monitor our analytics capability so we detect and respond to issues quickly?

A rich analytics environment cannot compensate for a poor go-to-market strategy. Execution trumps architecture every day. So it's wise not to short-shrift this final step in delivering an analytics add-on capability.

A rich analytics environment cannot compensate for a poor go-to-market strategy. Execution trumps architecture every day.

Decision Points

Like most things in life and business, monetizing data is not easy. It requires considerable planning to succeed. There are many decision points along the way:

- **Type of Monetization.** Do you monetize data by deploying data analytics functionality internally or externally or both? If external, do you enrich your existing products with data analytics without charging customers, or do you try to generate revenue by selling data analytics products, services, or add-ons?

- **Free or Fee?** Do you charge for data analytics capabilities or make them available for free in the core product?

- **Products or Services.** Do you sell data, analytics, or services? Or all three? Many companies start with data, then wrap analytical functionality around the data, and provide professional services to a subset of customers who want additional help.

- **New or Existing Product?** Do you wrap data analytics around an existing product or service or create a new data-driven solution with its own brand and sales team? Most companies start by wrapping data analytics functionality or services around existing products to make them more attractive to customers and then build stand-alone analytics solutions.

- **New or Existing Team?** Do you use internal data analytics specialists and developers to deliver new data analytics capabilities or do you hire a new team with more customer- and product-centric experience?

- **New or Existing Technology?** Do you build an analytics capability using the same infrastructure that supports internal employees? Or do you build a new analytics environment from scratch to support customers?

- **Build or Buy?** Do you build data analytics capabilities using internal developers or do you embed a third party analytics tool and/or database to support your requirements? If buying, make sure the vendor is an eager partner who will accommodate your unique needs.

Data presents a huge opportunity for organizations that are savvy and skilled enough to turn data into insights and action. As executives recognize the value of data, organizations will seek to turn data from a cost center into a profit center.

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?
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Data Monetization with Dundas BI

As one of the first providers of data visualizations for business intelligence technologies, Dundas Data Visualization is known for software that powers superior user experiences for data consumption. Dundas' software was designed to help more users, regardless of role, discover deeper insights faster, make better decisions, and achieve greater success. This superior user experience is critical for the success of any data monetization solution.

Dundas BI is an enterprise-level BI and analytics tool, all in one, fully embeddable platform. It easily works with your existing programs and systems for an integrated BI experience. While modern and easy-to-use, Dundas BI is a fully open and completely programmable BI platform. Dundas BI delivers advanced data prep, interactive dashboards, operational reporting and visual data analytics, enabling users with instant access to all of their data. Complete with rich built-in capabilities, advanced customization options, a built-in scripting engine and open API, Dundas BI's users are enabled to quickly deliver analytical solutions that are easily adapted to their very specific business needs. With Dundas BI, organizations get the ability to differentiate their applications with beautiful analytics, which empowers internal users and better serves external customers.

Designed for white-labeled and embedded BI scenarios, Dundas BI allows organizations to either create new standalone data products or enhance their existing products' analytics layer by embedding Dundas BI within it. By enriching organization's products, Dundas BI in turn provides them with the ability to monetize their new data analytics functionality.

Dundas BI enables monetization of an analytics solution in a myriad of ways. Users choose to embed Dundas BI or produce standalone, custom, white-labeled data products that can either be deployed on-premises or hosted and sold in a SaaS model. In this case, users rely upon Dundas BI's multi-tenancy instance, as this allows them to serve all of their customers with tailored experiences within a single, secure and scalable solution. By operating as a white-labeled, one-stop-shop, users easily harness Dundas BI to diversify their product portfolio, and better customize their offerings to supplement their customer's existing needs. By building data products with Dundas BI, organizations improve customer satisfaction, win rates, and forge deeper, more meaningful connections with their customers.

In an effort to capitalize on their customer's ever-growing interest in data, Dundas BI's users often offer additional analytics capabilities as add-ons. This includes access to self-service capabilities for dedicated users, as either an additional module, or as additional capabilities within the existing analytics module. Strictly speaking, by expanding the customer's experience and providing them access to full self-service, ad-hoc reporting and mashup capabilities, customers better understand and can manipulate their data, over and above filtering and drilling-down, thus giving them greater experimentation of their own data discovery without depending on others. Dundas BI's pure HTML5 web based architecture enables going beyond embedding canned reports and dashboards, by embedding self-service capabilities, thereby offering greater value.

Dundas BI is an all-in-one BI platform, whose customization capabilities power developing effective data solutions for new revenue channels.