: What are example uses of business analytics?

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There are many applications and uses of business analytics. Quantitative and analytical models and tools can help understand data, can help diagnose problems, can prescribe actions, and can predict outcomes. Power, Heavin, McDermott, and Daly (2018) note "Business Analytics is a systematic thinking process that applies qualitative, quantitative, and statistical computational tools and methods to analyse data, gain insights, inform, and support decision-making. Any particular analysis may use a variety of techniques including diagnostic, predictive, prescriptive, and optimisation models. Both business analytics and data analytics are specialized subtypes of analytics. The concepts diagnostic, predictive, and prescriptive analytics refer to types of models, and all three are shared subtypes of both business and data analytics (p. 51)."

Fifteen years earlier, Vesset (2003) explained that "Business analytics includes software and business processes that enable organizations to apply metrics-based decision making to all functions ranging from supply chain and financial management to workforce and customer relationship management. Business analytics software comprises tools and applications for tracking, storing, analyzing, and modeling data in support of decision-making processes."

Business analytics is about making and supporting business decisions.

According to Google Trends, business analytics has become a popular concept with search interest for the term steadily increasing since December 2011. There are many business and data analytics articles and examples available online. Please note that some use cases of analytics tools like credit scoring are categorized inconsistently as either business or data analytics. Analytics is a more general supertype and classification of cases and uses into subtypes can be challenging. Other common subtypes are identified as descriptive, diagnostic, predictive, and prescriptive analytics. These categories may overlap with business or data analytics, e.g., business predictive analytics.

According to a McKinsey presentation (2013), examples of business analytics uses include: pricing flexibility and differentiated pricing, customer preference management, credit risk analysis, fraud protection, discount targeting including using real-time location data to target customer offers, campaign lead generation, creating an integrated "picture" of a household and its product/brand holdings, churn/retention models, customer acquisition targeting, cross selling/upselling, and advertising targeting especially online and in social media.

Some examples of predictive analytics include: 1) Identifying customers who are likely to abandon or leave a service, webite or product; 2) Targeting marketing campaigns to customers who are most likely to buy; 3) Improving demand estimates to better meet customer needs; 4) Predicting equipment and machine maintenance needs; and 5) Using sales forecasts to adjust production and supplies to maximize revenues.

There are many interesting and innovative examples of business analytics. The following examples from companies show the diverse uses.

Coca-Cola Amatil is the largest bottler and distributor of non-alcoholic, bottled beverages in the Asia Pacific, and one of the largest bottlers of Coca-Cola products in the region. According to Faggella (2018), "Coca-Cola Amatil sales reps used Trax Retail Execution image-based technology to take pictures of store's shelves with their mobile devices; these images were sent to the Trax Cloud and analyzed, returning actionable reports within minutes to sales reps and providing more detailed online assessments to management." Sales reps could quickly identify performance gaps and take corrective actions in the store.

Accounting firm PwC (2014) reports a consulting case study where business analytics was used to support a global salesforce. A global consumer packaged goods company increased its revenues by implementing a business analytics strategy. A common business analytics platform was used across sales regions. PwC (2014) reports "The resulting dashboards, which are seamlessly accessible through a suite of Web-based tools both in the office and on mobile devices, power the mobile salesforce to share daily updates with their local sales managers and VP of sales and get clear direction in return. Once pilot versions of the tools were up and running, our change management advisors were on hand to work with the salespeople, helping them understand how improved analytics would help them become more productive day by day. With the integrated system in place, the clientï¿½s decisions are now powered by analytics, with seven constant data streams feeding statistical models that help the leadershipfacilitate literally millions of daily decisions in the field."

A CMGA report (2016) notes "At Unilever, .. the finance function has created
a data dashboard that draws upon a diverse set of sources, from social media through to market research agencies, to provide a set of KPIs that are globally
relevant, consistent and tangible. Critically they can be linked back to P&L reporting and cash flows.

According to a Revionics press release (2018), Lenta, one of the largest retail chains in Russia, plans to deploy Revionics Price Optimization across all of its Hypermarkets and Supermarkets in 2018. Chris Newbery, Lenta's Customer Loyalty Director reported that "with Revionics analytics and machine learning optimization we are able to review our store zones, improve our KVI lists and define specific roles for every single category, all the while delivering very focused competitive

pricing that engages customers and inspires loyalty."

In 2011, Ticketmaster launched LiveAnalytics with a dedicated team of statisticians, modelers, and researchers to provide fan and live event intelligence to sports teams and venues. John Forese (2012), Senior Vice President and Head of Data and Marketing Services at Ticketmaster, highlighted some business analytics research and analysis performed for clients in a presentation at the MIT Sloan Sports Analytics Conference. He discussed trends and best practices in fan segmentation and profiling, prospect and retention modeling, dynamic and variable pricing, secondary markets, social sentiment and mobile.

According to a Teradata press release (2018), "Overstock.com Inc. is using Teradata Path Analysis as part of its customer journey analytics. Overstock, a leader in online retail, needed a path analysis solution to visually analyze customer data from multi-channel marketing campaigns and key customer milestones in their journeys. With the overall goal of reducing unnecessary marketing spend and identifying loyalty opportunities, Overstock is leveraging a pathing interface developed by Teradata to put advanced path analysis, once solely the domain of specialists and data scientists, directly into the hands of marketers, business analysts and non-technical professionals."

Boulton (2017) reported that "Merck created MANTIS (Manufacturing and Analytics Intelligence), an ï¿½ber data warehousing system comprising in-memory databases and open source tools that can crunch data housed in structured and unstructured systems, including text, video and social media. Importantly, the system was designed to allow non-technical business analysts to easily see data in visualization software. Conversely, data scientists could access information through sophisticated simulation and modeling tools. MANTIS has helped decrease the time and cost of the company's overall portfolio of IT analytics projects by 45 percent. The tangible business outcomes include a 30 percent reduction in average lead time, and a 50 percent reduction in average inventory carrying costs."

In 2015, Laskowski summarized 10 analytics success stories described by Gartner Analyst Doug Laney at the Gartner Business Intelligence and Analytics Summit. According to Laney, "For the last few years, Westpac Banking Corp., an Australian bank, has been using technology from SAS Institute to build a 360-degree view of the customer program called "KnowMe." The program is built on, in part, capturing and centralizing customer activity such as ATM usage and call center interaction from its 12 million customers. Based on behavioral analysis, Westpac is matching customers with new programs or offerings. In nine months, the program enabled Westpac to grow its customer engagement from 1% to 25%."

The financial press covers analytics successes. Nash (2015) reports "Every day at Carnival, a data science team sets in motion several algorithms that crunch information about items such as

passenger behavior, vacation trends and queries from travel agents and potential customers online and by phone, Mr. Leibowitz said. The analytics systems run for eight hours overnight, devising thousands of recommendations for ticket price tweaks to Carnivalï¿½s slate of scheduled cruises worldwide, he said."

In an interview with Power (2006), Henry Morris, Fellow for International Data Corporation's (IDC) Worldwide Big Data, Analytics and Cognitive Software Research and founder of the Analytics program, was asked "What is the financial impact of business analytics? Is the ROI of analytics projects a useful metric?"

Morris's Response was: "Three years ago IDC published a study on the financial impact of business analytics. We examined 42 analytics projects across North America and Europe in a variety of industries, collecting metrics from business users and IT. There was a significant return on investment. The benefits we could measure had to do with labor productivity improvements and business process enhancement (i.e. driving more revenue or reducing business costs). The biggest challenge of the study was finding organizations that had maintained metrics that we could examine. And this raises an important point -- the need to clarify objectives and capture data that will enable an analysis of the business impact of an analytics project."

In the 2002 study, Morris et al. (2003) found "that a business analytics implementation generates a median five-year return on investment (ROI) of 112% with a mean payback of 1.6 years on average costs of $4.5 million. Of the organizations included in this study, 54% have an ROI of 101% or more."

Morris et al. (2003) concluded "Business analytics solutions are the next step in using technology to support the decision-making process. These solutions provide trend analysis and performance feedback and facilitate decisive actions that result in measurable gains in cost efficiency or revenue growth."

In 2012, Chen et al. wrote an extensive review of Business Intelligence and Analytics research that was included in the special issue of MIS Quarterly they edited. They started a conversation about "how the IS discipline can
better serve the needs of business decision makers in light of maturing and emerging BI&A technologies, ubiquitous Big Data, and the predicted shortages of data-savvy managers and of business professionals with deep analytical skills. How
can academic IS programs continue to meet the needs of their traditional students, while also reaching the working IT professional in need of new analytical skills?"
The field of business analytics has matured since 2012, but much more needs to be done to address the questions they raised. Business analytics does involve Information Systems, but it is a

cross disciplinary area of research and practice.

Business analytics covers many activities and tasks. The results from implementing business analytics seems to vary by the amount of use and the commitment to using business analytics in decision making. It is important for managers to track data about business analytics projects, monitor results, and continually improve and expand the use of analytics. Analytics has become part of the job of every manager.

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Predictive Analytics and ROI:
Lessons from IDC's Financial Impact Study

Henry D. Morris
IDC OPINION

A variety of technologies form the basis for business intelligence tools and analytic
applications. Predictive analytics utilize mathematically oriented techniques (such as
neural networks, rule induction, and clustering) to discover relationships in data and
make predictions. The category of business intelligence tools includes predictive
analytics (in the form of data mining tools) as well as tools for query, reporting, and
multidimensional analysis. Analytic applications can incorporate either or both sets of
technologies - predictive and nonpredictive. In The Financial Impact of Business
Analytics: Key Findings (IDC #28689, January 2003), IDC examined analytics
projects at more than 40 sites across North America and Europe. There were
significant differences in the pattern of costs and benefits for projects that
incorporated predictive analytics versus those that did not. IDC's findings include:

* Both predictive and nonpredictive projects yielded high median ROI, 145% and
89%, respectively.

* The major benefits of business analytics projects that employed predictive
analytics centered on business process enhancement, especially improving the
quality of operational decisions.

* Predictive analytics projects required higher investment levels and yielded
significantly higher overall returns over five years, implying that these projects
tackled problems of greater scope and complexity.

https://www.the-modeling-agency.com/IDC-Report.pdf
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