Artificial intelligence unlocks the true power of analytics.

2020. Amanda, director of marketing, is watching two important campaigns unfold. Both are vital to her success—and to her bid for the VP slot. If she can keep revenue growing and inventory where it needs to be, all while launching a new line of running shoes, she'll be in a great position. It's an important launch that will confirm the company's dominance in the space and introduce new and evolving segments that will replace currently fading segments. With everything that's on the line, she knows she'll need the best technology she has at her disposal.

Today, artificial intelligence (AI) and analytics make a good team. But in just a few years, AI-powered analytics will help you create and deliver on all your most important strategies. Like Amanda, your success depends on your ability to focus energy where it counts. And with AI-powered analytics, you and your team can concentrate on the initiatives that really matter instead of burying yourself in reports.

Basic analytics packages report what has happened and help you investigate why. But to stay relevant today, you have to do more. You have to get on top of the mountains of data your customers generate as they engage through an ever-growing array of channels and devices. And then you have to turn around and use that data to create compelling experiences on every channel that delight your customers and exceed even their highest expectations.

Analytical tools that simply summarize and report what has happened are valuable. But these reports only answer the questions you know enough to ask. With so much data, there are plenty of insights that you don't even know exist. And to get at them, you need AI and machine learning.

Action is the goal. Analysis and insights are means to an end, not an end in themselves. AI and machine learning can identify the best action, and you can decide on situations where you want to automate business processes. They assist, augment, and amplify your work, lifting stress and tedious activity from your shoulders. And when done right, these insights can empower everyone in your company, not just a few specialists. All of this is why almost 85 percent of executives believe AI will enable their companies to obtain or sustain a competitive advantage, according to a MIT Sloan study.

What AI does for analytics.

Without AI, analytics is a tool to understand what has happened based on data you have selected and questions for which you have prepared answers. There is significant effort to create the reports and dashboards, but far more effort is involved in using them. You study the data to find problems, solutions, opportunities, risks; to verify all is well; and to understand what has changed, at what rate, and to what effect. You won't find the things you don't know that you don't know, because your dashboards can only report what they are designed to report.

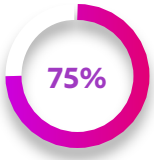
You can look at reports for months before you see an event that is truly significant. Or you can see a significant event and spend hours, days, or weeks trying to determine what really happened or how to respond. Understanding why something is significant is just as critical, if not more so, than simply recognizing that it happened.

For example, a basic analytics tool can send you alerts for events, such as when the number of online banking visits per hour drops below a threshold you set. As a result, you're bombarded with alerts on Sundays, holidays, Super Bowl Sundays—any time people are not interested in banking. This trains you to ignore the alerts, and when the day comes that there's actually something you should have responded to, you're probably in trouble. With machine learning, however, your analytics tool would recognize patterns of activity and alert you only when something was truly unusual.

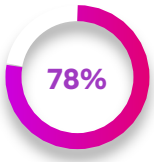
Here's another example. As a marketer, you're making educated guesses about how to respond to what little you know about events. You notice that Californians coming to you from Facebook view your top running shoe. You could reasonably assume that any Californian directed from Facebook should be shown that running shoe. But there are certainly dozens of other contributing elements to that action, and in reality, it may be that the Facebook element is actually irrelevant. Machine learning identifies the complex patterns of behaviors among all visitors and predicts what content will be most effective—whether that's a running shoe, a video, or a review of running gear.

As these examples show, machine learning and AI paired with analytics have the power to truly help marketers achieve their most ambitious goals. Research by consulting firm Capgemini bears this out as well. According to their research, three out of four organizations implementing AI and machine learning have increased their sales of new products and services by more than 10 percent.

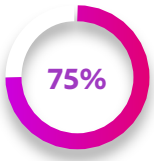
HOW AI IS DRIVING BENEFITS ACROSS THE ORGANIZATION



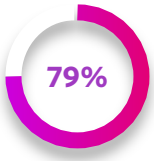
Influencing sales
3 in 4 organizations implementing AI increase sales of new products and services by more than 10%.



Boosting operations
78% of organizations implementing AI increase operational efficiency by more than 10%.



Engaging customers
75% of organizations using AI enhance customer satisfaction by more than 10%.



Generating insights
79% of organizations implementing AI generate new insights and better analysis.

Source: *Capgemini Digital Transformation Institute, State of AI survey*

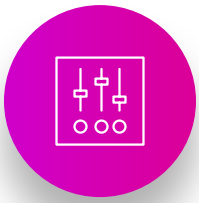
Understand the role AI and machine learning play in analytics.

Here are four strategies for using analytics to deliver ever-increasing value.

Descriptive analytics

Reporting and dashboard summarizing what's happened

Example: Preparing a daily revenue and traffic report



Diagnostic analytics

Select, filter, and summarize to figure out what has happened

Example: Determining conversion by segment and product category

Predictive analytics

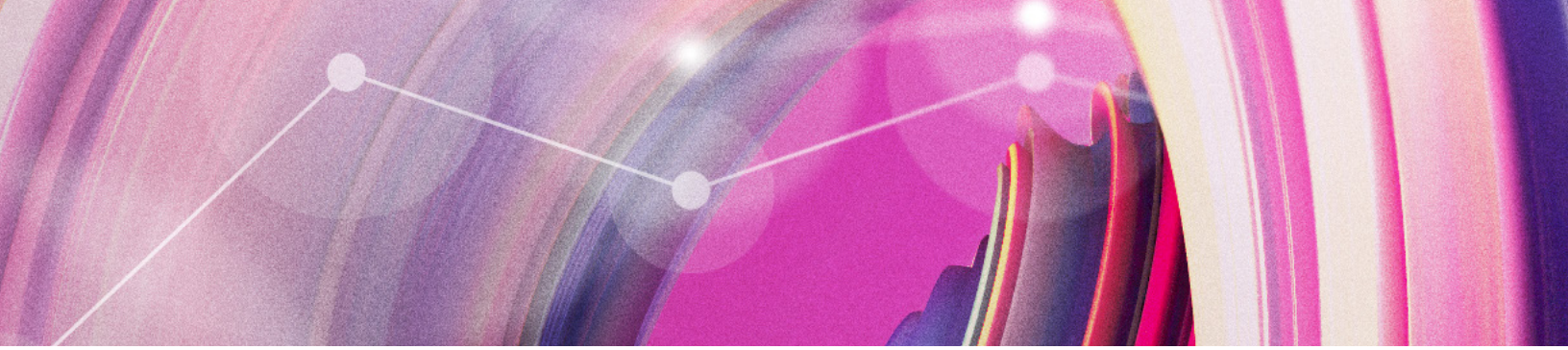
Based on patterns, predict what will be the most likely outcome

Example: Identifying like groups of visitors and predicting what actions and outcomes are most likely for individuals who match each segment

Prescriptive analytics

Identify what to do in certain situations. Reap even greater value when actions are taken automatically

Example: Automatically identifying and delivering the best-performing experience for a visitor



Descriptive Analytics

Christopher, the product manager on Amanda's team who is responsible for the launch, is focused on adoption. He wants every elite runner in the world using his shoes. He is currently focused on understanding the target market for the shoes. In his reports, he can see the attributes of segments identified by analytics and how the members of segments overlap. He can also ask for segments that are very similar to his current targets, quickly expanding his reach and increasing his likelihood to hitting his goal.

Descriptive analytics is the most basic of analysis functions. It summarizes and reports what has happened, such as click-throughs and revenue per visitor. This gives marketers historical context and prompts them to ask questions based on past customer behavior. In Christopher's case, for example, he could use descriptive analytics to dig into the various segments and get a good idea of all the behaviors and marketing touchpoints that led them to buy in the past so that he can make some educated guesses about how to appeal to similar audiences in the future.

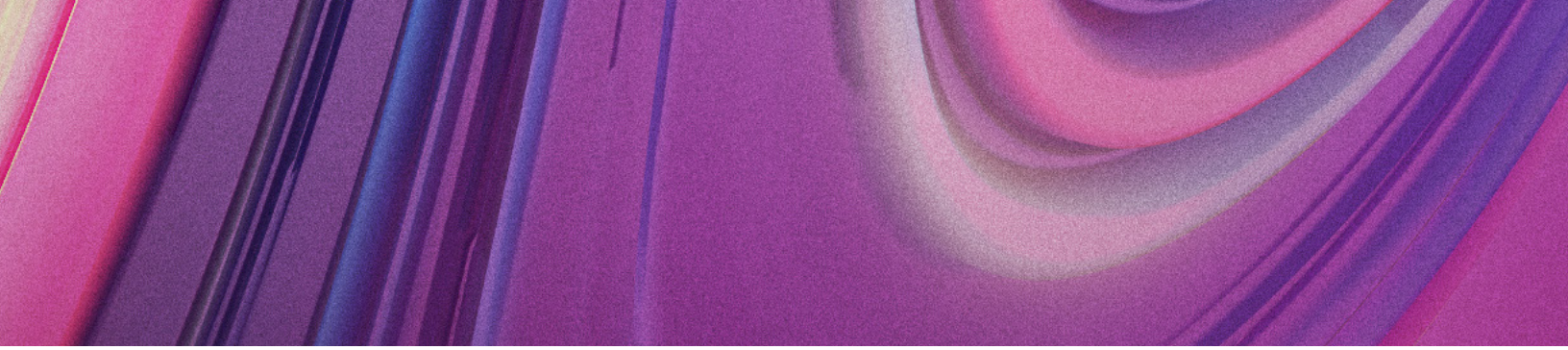
All users of analytics start by using descriptive analytics, and it can lead to valuable insights, but it is limited by the imagination of the person using it. Because the analyst or marketer can only evaluate the data in front of them, they can only find answers to questions that focus on that limited data set.

Diagnostic Analytics

Matt reports to Amanda and is leading the inventory team. It's not as glamorous as the launch, but Matt's success is what keeps the doors open and the lights on. Right now, his focus is late-season clearance to make way for the new shoe line. He's seeing puzzling news that a lot of the shoes he is trying to clear out are going into carts and then being abandoned. He quickly compares these drop-offs with a segment of customers who did buy and notices that people who are buying the shoe are buying smaller items as well. Then it hits him. The price for the shoes is three cents short of the threshold for free shipping. He quickly checks the impact of a free shipping offer on orders, revenue, and shipping costs. He takes action with confidence. It's clear that the offer will make his goal of clearing inventory prior to launching the new line.

If descriptive analytics is about prompting educated guesses and good questions, diagnostic analytics is about drilling down and filtering that descriptive data to figure out the why and the how of what has happened. Almost everyone who uses descriptive analytics asks, "Why did this happen?" and uses diagnostic analytics to investigate by comparing different data sets. "Why is revenue per visitor so low this week?" leads to "Is it low for everyone, or just for some groups?" which might lead to "Has it been low all week, or just for a few days?" and "Is it getting better or worse?"

As critical as this diagnostic process is to business, it too is limited. As the amount of incoming data increases and the number of variables in customer behavior grows, the power of diagnostic analytics becomes limited to specific situations, specific anomalies, leaving a vast sea of data questions unasked and unanswered.



Predictive Analytics

Amanda lives and dies by her marketing dashboard, which shows whether sales are on track to meet goals, based on pattern-based predictions from her analytics. Things are not going quite as well as she hoped, but with the insights in her dashboard, she is able proactively to make crucial changes to the campaign that will get it back on track.

"I'm able to concentrate on the strategic issues because my dashboard tells me what will happen, not what has happened," she tells her peers at the monthly executive staff meeting. "The action to be taken is clear to me."

Predictive analytics uses machine learning and other forms of artificial intelligence to meet this problem of scope head-on. These technologies can recognize patterns, match events to the patterns, and thereby predict the most likely next events. For example, based on how customers have responded to a campaign, predictive analytics will identify segments that respond in like ways, reaching the same outcome. It will identify what it attributes of those groups are important in defining the segment, such as a particular past purchase, or number of purchases, or geography. It will then "recognize" any visitor that matches that segment and predict the outcome that visitor will reach.

According to a Narrative Science study, fully one-quarter of enterprises are already using predictive analytics. The same study notes that 61 percent have deployed artificial intelligence, with expectation of four significant business benefits: identifying business opportunities, automating repetitive tasks, improving workforce productivity, and competing with peers.

Prescriptive Analytics

Ashley, the merchandising specialist, is working on a strategy to reach her average order value (AOV) goal. She relies on the pattern analysis capability of their analytics platform to suggest a few dozen bundles for her best performing audiences. The bundles are different: hydration accessories for desert runners, stay-dry accessories for the East Coast regions, skinny jeans for the fashion buyer. She quickly notices that the many of suggested bundles include the same three items, which are currently priced to clear inventory. Ashley quickly convenes a conference with Matt to preserve the inventory, to be sold during the launch and at a higher margin.

Prescriptive analytics applies prediction to suggest the best course of action. For example, having discovered a segment that almost always responds to a particular campaign by adding an item to the cart but not buying it, prescriptive analytics would suggest the most likely way to nudge those visitors to take the next step. In some cases, the nudge could be performed automatically—in real time. In other cases, marketers would study and consider the course of action.

How AI and machine learning make analytics easier.

Gartner predicts that by 2022, one in five workers engaged in mostly non-routine tasks will rely on AI to do a job. Analytics is no exception. Beyond opening new opportunities outside of diagnostic analytics, AI and machine learning bring other significant benefits to an analytics practice. For example, they can take over tedious tasks that deflect your attention from strategy. Many of these tasks involve building and maintaining rules that would guide the analysis of data. These tasks are critical, but by automating them you can focus on the message, the creative, and the content, as well as responding to what is happening.

Using AI and machine learning to move from rules-based to AI-powered analytics brings significant benefits.

Business requirements	Rules-based analytics	AI-powered analytics
Warn you whenever activity is greater or lesser than average.	You set a threshold for activity (e.g., "200–275 orders per hour") and then manually investigate whether each alert is important.	Your analytics tool automatically recognizes that activity is unusual for this moment in time and determines that the event is worthy of an alert.
Conduct a root cause analysis and recommend action.	You manually investigate why an event may have happened and consider possible actions.	Your tool automatically evaluates what factors contributed to the event and suggests a cause and action.
Evaluate campaign effectiveness.	You manually set rules and weights to attribute the value of each touch that led to a conversion.	Your tool automatically weights and reports the factors that led to each successful outcome and attributes credit to each campaign element or step accordingly.
Identify customers who are at risk of defecting.	You manually study reports on groups of customers that have defected and try to see patterns.	Your tool automatically Identifies which segments are at greatest risk of defection.
Select segments that will be the most responsive to an upcoming campaign.	You manually consider and hypothesize about the attributes of customers that might prove to be predictive of their response.	Your tool automatically creates segments based on attributes that currently drive the desired response.
Find your best customers.	You manually analyze segments in order to understand what makes high-quality customers different.	Your tool automatically identifies statistically significant attributes that high-performing customers have in common and creates segments with these customers for you to take action on.

Steps to success with analytics and AI.

Amanda's cross-functional team is managing the most strategically significant campaign of the year. They share a goal and their AI-powered analytics platform gives them a set of connected tools that enable them to be more effective as a team.

To be successful, your marketing organization doesn't need to learn how artificial intelligence works or how to create an effective algorithm. When getting started with AI-powered analytics, here are a few things to consider:

1. **Make sure your analytics tool includes AI capabilities.** Otherwise you are at a competitive disadvantage, delivering substandard campaigns. "Good enough" analytics is not good enough anymore. Without artificial intelligence, you are spending your time trying to understand what has happened while your competitors are taking action.

2. **AI-powered capabilities should be usable across your organization, not just by specialists.** Novices or occasional users should be able to get useful, actionable insights quickly and easily on their own. If you have a data science team, don't spend their scarce time and resources creating reports. Everyone should be empowered to find the insights they need, when they need them, doing their job in the moment that matters.

3. **Establish the practice of cross-functional teams.** This includes analysts, marketers, business, and IT to guide how analytics are best applied and to leverage the results.

4. **Make sure early projects are important and impactful.** Evaluate the success of projects-based business results.

5. **Be confident.** AI is there to assist you and to make your work—maybe even your life—better.

It's time for AI-powered analytics.

Gartner states that in 2021, AI augmentation will generate $2.9 trillion in business value and recover 6.2 billion hours of worker productivity. The Consumer Technology Association reports that firms adopting AI at scale or in a core part of their business report current profit margins that are 3 to 15 percentage points higher than the industry average in most sectors. In the next three years, these AI leaders expect their margins to increase by up to five percentage points more than the industry average.

This a train you want to be on, and it's already leaving the station. Analytics is an area of increasing AI maturity and now is the time to invest. With AI-powered analytics on your side, you'll pull ahead of your competitors and win the hearts and minds of every customer.

Unlock the potential of AI-powered analytics.
Learn more ›

REFERENCES

"Current and Future Prospects of Artificial Intelligence," Consumer Technology Association, March 2018.

Digital Transformation Institute, "Turning AI into concrete value: The successful implementers' toolkit," Capgemini Consulting.

"Gartner Says By 2020, Artificial Intelligence Will Create More Jobs Than It Eliminates," Gartner Newsroom, December 13, 2017.

"Outlook on Artificial Intelligence in the Enterprise," Narrative Science in partnership with the National Business Research Institute, 2018.

Sam Ransbotham, David Kiron, Philipp Gerbert, and Martin Reeves, "Reshaping Business with Artificial Intelligence," MIT Sloan, September 6, 2017.