How to use predictive analytics in advertising

By [IBM Watson Advertising](https://www.ibm.com/watson-advertising/thought-leadership/the-weather-company)

12 April 2022

[Share this page on Twitter](https://twitter.com/intent/tweet?original_referer=https://www.ibm.com/watson-advertising/thought-leadership/how-to-use-predictive-analytics-in-advertising&text=How%20to%20use%20predictive%20analytics%20in%20advertising&hashtags=&url=https://www.ibm.com/watson-advertising/thought-leadership/how-to-use-predictive-analytics-in-advertising)[Share this page on Facebook](http://www.facebook.com/sharer.php?u=https://www.ibm.com/watson-advertising/thought-leadership/how-to-use-predictive-analytics-in-advertising&t=How%20to%20use%20predictive%20analytics%20in%20advertising)[Share this page on LinkedIn](http://www.linkedin.com/shareArticle?mini=true&url=https://www.ibm.com/watson-advertising/thought-leadership/how-to-use-predictive-analytics-in-advertising&title=How%20to%20use%20predictive%20analytics%20in%20advertising&source=IBM)[E-mail this page](mailto:?subject=IBM:%20%20How%20to%20use%20predictive%20analytics%20in%20advertising&body=%0D%0AYou%20might%20enjoy%20reading%20this%20article%20from%20IBM:%20%20How%20to%20use%20predictive%20analytics%20in%20advertising%0D%0A%0D%0Ahttps://www.ibm.com/watson-advertising/thought-leadership/how-to-use-predictive-analytics-in-advertising)

Predictive analytics is a form of advanced analytics that utilizes [AI](https://www.ibm.com/watson-advertising/thought-leadership/ai-in-advertising), machine learning and historical data to make predictions about future outcomes.

While the concept and practice of predictive analytics has been around for some time now, technology has become increasingly advanced in recent years and organizations have been wise to reap its benefits in regard to improving business performance. Advertisers, in particular, have an opportunity to use the power of predictive analytics to drive performance. By utilizing complex data sets backed up by [machine learning](https://www.ibm.com/watson-advertising/thought-leadership/benefits-of-machine-learning-in-advertising), advertisers can create highly [personalized advertising campaigns](https://www.ibm.com/watson-advertising/thought-leadership/personalized-ads-guide-without-cookies) based on the probability of a user taking a particular action.

What is predictive targeting in marketing?

Predictive targeting allows you to determine the best ways to optimize for each marketing campaign. This may include changes to behavioral, event-based, or revenue-based goals. This type of targeting utilizes advanced analytics as well as AI, machine learning and historical data in order to make predictions about future outcomes.

Types of predictive analytics models and techniques for advertising

There are many different predictive models and techniques that advertisers can leverage for their campaigns. Here are some of the most used.

Clustering models

Clustering models categorize people or items based on specific characteristics or attributes. For advertisers, this can mean looking at geo location or interests to target specific groups.

Forecast models

Forecast models can combine past trends and other data sources to make future predictions. For example, advertisers may be able to leverage weather data, location targeting and past foot traffic to better advertise before storms.

Time-series models

These models use specific periods of time to make predictions. This can be useful for advertisers when past trends may not influence future outcomes. For example, many advertisers needed to change their strategy during the pandemic. Many of these choices were not based on past trends since marketers were dealing with a completely new landscape.

Neural networks

Neural networks are a type of model that seek to mimic human intelligence to find relationships between data sets. They are often composed of a series of complex algorithms that are inspired by the biological structure of the human brain.

Types of data used in predictive analytics

While traditionally advertisers utilize a mix of historical and contextual data to inform decision-making, these forms of data can be broken down more specifically into the following categories:

Weather data

Weather can affect everyday life in a variety of ways, from emotional states to influencing demands. For example, during the winter months companies would expect to see the sales of winter coats, scarves, and hot chocolate increase. If it is a particularly stormy day, customers are also more likely to shop online rather than in-person. With [weather data](https://www.ibm.com/watson-advertising/thought-leadership/complete-guide-weather-triggered-advertising), companies are given the power to create more relevant ads for their target audience.

Location data

Weather and location data often work hand in hand to deliver personalized messaging for a target audience. By leveraging specific location data, advertisers can deliver what a customer wants to see when they want it based on what street they live on.

First party data

First party data includes all of the data that is collected and stored by a company. This data is gained through interactions directly with the customer, including website or mobile app activity, activity on the company’s social media page, customer surveys, e-mail subscriptions, and technology product usage. Having access to this data can help advertisers nurture a more personalized marketing experience and offer the right product at the right time.

Contextual data

Contextual data is data gleaned from the environment. While it includes weather and location data, it also involves the internet of things, customer interactions, the content on webpages and the market. [Contextual marketing](https://www.ibm.com/watson-advertising/thought-leadership/what-is-contextual-advertising) allows companies to create more relevant messaging, while improving interactions and targeting efforts.

Historical data

Historical data looks at information collected in the past. Predictive models can then take this data and identify patterns to create mathematical models which capture trends. They can also create predictive scores for anything that the data pertains to, whether that be customers, patients, product SKUs and more. It is also both structured and unstructured.

Real-time data

A lot of our decision making is based on real-time data. This data set can include ad context, forecasting data, and location. Real-time data can be an important component in determining how to target the right people at the right time.

How predictive analytics works

Predictive analytics is a type of analysis which uses data to predict marketing trends as well as potential scenarios. By leveraging data with predictive AI, you can create effective marketing strategies and drive even better decisions.

Using predictive analytics to stay a step ahead of consumer trends and desires is also the only way to remain competitive in today’s market. Predictive analytics helps marketers understand consumer behaviors and trends, predict future shifts, and plan their campaigns accordingly.

How is predictive analytics used in marketing and advertising?

Predictive analytics helps determine the right message and the right audience for each campaign. For example, when a consumer purchases a movie ticket, the transaction is captured by the ticket seller’s computer system and then entered into its database. The predictive analytics algorithm can then use that information to determine which kinds of movies are popular and when people are most likely to buy tickets, based on criteria such as time of day and weather forecast.

Here are some of the other things marketers can do when available data is mined, and predictive analytics are applied:

Forecast seasonal customer behavior:

Weather is the original influencer, since it impacts how consumers feel. [Weather-triggered advertising](https://www.ibm.com/watson-advertising/thought-leadership/complete-guide-weather-triggered-advertising) can be an effective strategy to target consumers, since it is unbiased and doesn’t require cookies. By leveraging predictive analytics alongside [accurate weather data](https://www.ibm.com/weather/industries/broadcast-media/complete-guide-accurate-weather-forcasting), your team can make accurate predictions on the impact of seasonality or local forecast.

Develop the right message:

Predictive analytics can determine which message to serve to audiences to improve conversions. By using contextual data, weather information, and geo-targeting, predictive analytics will [leverage machine learning](https://www.ibm.com/watson-advertising/thought-leadership/combining-data-science-and-targeted-advertising) to serve the right message to the right audience.

Develop more effective marketing strategies:

The ability to target the right audience does not matter if your creative doesn’t resonate or the timing of these messages is wrong. By targeting the right audience with messages, images, and themes that will attract them to your product or service, you will find much more success. Your strategy should also feel cohesive across your entire ad ecosystem and incorporate data across platforms and digital touchpoints.

Create an omnichannel experience:

By leveraging predictive analytics, you can create a personalized experience across your entire advertising ecosystem. Contextual signals can determine when ads are appropriate to serve to customers across a wide variety of platforms including OTT, digital out of home, and web banners.

What are the benefits of predictive analytics in advertising?

There are many benefits to predictive analytics that advertisers would be wise to use when developing their marketing strategy. They include the following:

Create better messaging

Marketers frequently segment their audiences based on interests and demographics. Predictive analytics allow you to see how these audiences behave at different points in the buyer journey by utilizing unbiased and universal data signals. This kind of analytics goes beyond typical assumptions and standard data points to really determine who is likely to convert and what creative is needed to do so.

Understanding customer behavior can help you better target the right  audience. This helps you create tailored messaging in order to attract customers. This messaging will be able to help retain customers long term, which is better for your reputation and revenue stream.

By taking a look at data and trends, users can get a sense of what messaging is resonating with audiences and what’s not. Analytics allow you to create a truly personalized experience for your target audience that’s timely, relevant and drives conversions.

Mitigate bias:

[Advertising bias](https://www.ibm.com/watson-advertising/thought-leadership/bias-in-advertising) can easily creep into marketing campaigns. These assumptions are often unconscious and can even be programmed into algorithms.

By using the right predictive analytics solution, your team can mitigate these biases, so you can create more genuine connections with customers.

Improve customer retention rates:

Repeat and devoted customers are valuable to a business. As prices continue to climb due inflation, it’s more important than ever for brands to cultivate relationships with existing customers. According to [Forrester](https://www.forrester.com/blogs/retail-in-2022-highlights-from-the-us-cx-index/) (opens outside ibm.com), devoted customers spend 109% more per year than shoppers who aren’t as devoted to your brand. Predictive analytics can help your team better target these individuals and deliver more personalized experiences.

Prepare for the loss of cookies

With the loss of cookies, most third-party audience data is going to diminish in size. Advertisers will need to rely heavily on [cookieless tactics](https://www.ibm.com/watson-advertising/thought-leadership/cookieless-targeting-what-it-is" \t "_blank), such as predictive analytics and AI, in order to segment and target audiences to provide them with a [personalized experience](https://www.ibm.com/watson-advertising/thought-leadership/personalized-ads-guide-without-cookies).

Sift through vast amounts of data

The amount of data generated can be overwhelming to marketers and businesses alike. According to the [Invesp](https://www.invespcro.com/blog/data-driven-marketing/), almost 9 out of 10 marketers note that data is the most underrated resource in their organization. With the right predictive analytics solution, it’s easier to ensure that data is clean and usable.

Optimize advertising campaigns

The predictive analytics solution allows users to attract, retain and nurture customers based on historical data and their likelihood of performing a given action. For example, an advertiser can determine the likeliness of a consumer buying rain boots when there’s a 70% chance of rain. Alternatively, advertisers can identify trends in how consumers prepare for [severe weather](https://www.ibm.com/weather/industries/broadcast-media/severe-weather), allergy seasons or a warm day. This information can be combined with contextual and location data to serve the right ad to the right person at the right time [without the use of cookies](https://www.ibm.com/watson-advertising/thought-leadership/cookieless-targeting-what-it-is).

Improve team efficiency

Advertisers can streamline operations through predictive analytics by better forecasting resources and costs. They do this by identifying the advertising channels in which increased marketing spend and resources are warranted. The predictive analytics solution makes it easier for advertisers to get their targeting and messaging right the first time, opening up resources for other strategic projects.

Boost audience engagement

You can gain better insights about your customers regarding their interests and behaviors by using predictive analytics. Advertisers can better understand their audience and what they want so that you can put information in front of them that they are more likely to want to see. By using algorithms, ad placements can be delivered to more-targeted audiences to help make the most of your budget.

Target the right people

The predictive analytics solution provides advertisers with insights regarding the type of audiences, demographics and niche groups you should be targeting in your ad campaigns. In fact, some tools, like the [IBM Watson Advertising Predictive Audiences](https://www.ibm.com/watson-advertising/solutions/ibm-predictive-audiences) solution analyzes relevant data and scores users on the probability of them taking a particular action. By targeting the right audience the first time, your team can save on resources that would be used in testing the effectiveness of a particular strategy. Additionally, your team can combine the power of [data science and targeting](https://www.ibm.com/watson-advertising/thought-leadership/combining-data-science-and-targeted-advertising) to deliver the right message to the right audience the first time.

Industries that are using predictive analytics in their campaigns

Many companies that span industries are realizing the benefits of using advanced data to optimize their campaigns. They include the following:

Retail

The retail industry can use advanced data to help them with merchandise planning, price optimization and planning events. They can also analyze buying behavior and better determine their ROI. Retailers can promote specific products based on insights from [weather forecasting technology](https://www.ibm.com/weather/industries/broadcast-media/innovation-weather-forecasting-technology-broadcast) and AI. They can also use weather and location data to drive foot-traffic to their stores or encourage users to shop online.

Healthcare/Pharma

Predictive analytics can help the healthcare and pharmaceutical industry by improving quality, cost and patient satisfaction. How? By gaining insights regarding who to target, what to offer and how to offer it. There is an opportunity to use [weather analytics](https://www.ibm.com/weather) and target niche groups based on symptoms caused by weather, such as dry eyes or allergies.

Automobile

The auto industry can use predictive analytics to determine who is most likely to purchase a given vehicle. Advertisers can leverage advanced consumer insights like time since last auto purchase, current mileage, number of repairs on a vehicle, and model of care. All of these details can help [automotive advertisers](https://www.ibm.com/watson-advertising/thought-leadership/automotive-advertising-ultimate-guide) identify the right audience to put in front of their campaigns.

Marketing and sales

Predictive analytics can be used in any marketing or advertising campaign to [improve audience engagement and increase ROI](https://www.ibm.com/watson-advertising/thought-leadership/artificial-intelligence-advertising-examples). By uncovering the behavior and patterns of each unique audience, advertisers can be smarter about what they put in their campaigns and help ensure that what they’re putting forth is information the audience truly wants to see.

Predictive analytics in action

The predictive analytics solution uses a combination of machine learning, statistical modeling, and data mining techniques to make predictions about future outcomes. Organizations can use these models to search through current and historical data and detect patterns, forecasts, trends, events and conditions that might occur.

Getting started with predictive analytics should involve utilizing predictive analytics tools. At [IBM Watson Advertising](https://www.ibm.com/watson-advertising), we offer the following:

* [**Predictive targeting**](https://www.ibm.com/watson-advertising/solutions/ibm-predictive-audiences): Through AI, advertisers can better predict who is more receptive to specific messaging to deliver the right ad to the right client at the right time. The ads that get in front of consumers contain more-targeted information, which may lead to more clicks and conversions.
* [**Weather targeting:**](https://www.ibm.com/products/weather-targeting) IBM Watson Advertising Weather Targeting combines the power of the ability of weather to drive emotion and action with IBM’s AI capabilities to model and train algorithms.  For example, a forecast of 50 degrees in one city may not cause the same behavior in another. Rather than relying solely on temperature or other basic factors, each Weather Targeting trigger uses machine learning to improve resonance by recognizing what the weather “feels like” and how consumers in that specific area are likely to react.
* [**Accelerator**](https://www.ibm.com/products/watson-advertising-accelerator): IBM Watson Advertising Accelerator uses [dynamic creative optimization (DCO)](https://www.ibm.com/watson-advertising/thought-leadership/what-is-dynamic-creative-optimization) for digital display, video and [OTT](https://www.ibm.com/watson-advertising/thought-leadership/ott-advertising) to help exceed your campaign goals and reveal robust creative insights. The tool uses machine learning to understand real-time consumer engagements to predict the best creative for each user.

Use cases for predictive analytics in advertising

Mastercard uses Accelerator to deliver the rights ads

[Mastercard](https://www.ibm.com/case-studies/mastercard-watson-advertising) came to [IBM Watson Advertising](https://www.ibm.com/watson-advertising) with the goal to educate consumers about their partnership with “Stand Up to Cancer” and their mission to donate up to USD 4,000,000 to help fund cancer research.

Mastercard uses [IBM Watson Advertising Accelerator](https://www.ibm.com/products/watson-advertising-accelerator) to continuously learn which creative elements will resonate with each audience based on not only how consumers react but also on many key elements like DMA, device type, and time of data. They were able to use Accelerator to predict and deliver ads with creative elements most likely to be relevant, engaging and translate into action. With IBM Watson’s help, Mastercard was able to achieve the following results:

* **81** creative variations
* **144%**lift in CTR from start of campaign
* **+54** campaign CTR above their benchmark

LL Bean delivers personalized creative

IBM Watson Advertising Accelerator delivered personalized creative at scale by harnessing [machine learning](https://www.ibm.com/watson-advertising/thought-leadership/benefits-of-machine-learning-in-advertising) and [AI](https://www.ibm.com/watson-advertising/thought-leadership/ai-in-advertising) in order to predict the optimal combination of creative elements. These predictions were based on key signals such as consumer reaction, weather, and time of day.

With the help of Accelerator, LL Bean saw impressive results:

* 76% lower site visit cost vs brand benchmark
* 68% lower order cost vs brand benchmark
* 48% increase in online orders

How to integrate predictive analytics into your marketing campaigns

1. Define the question you want to answer

Before you directly go to the data, you will need to have a clear idea of what you are doing. You’ll want to define the question you want to answer with your predictive modeling. This may include something like  “what may happen based on what’s happened before?”

2. Collect the data you need to answer your question

Once you settle on a question, you will then want to begin collecting the data you need to answer it. This may include different data points from different groupings of consumers.

3. Analyze the data you’ve collected

Once you have the data you need to do an analysis, it is time to start crunching numbers. You can see which direction you want to go with your marketing campaigns and more.

4. Build and test your hypotheses with statistical techniques

Once you are happy with your question list, then you will need to get into number crunching mode. Afterwards, it’s time to test your hypotheses to see what results you can derive.

5. Deploy predictive model

IBM Watson Advertising’s Accelerator leverages machine learning, real-time consumer engagements and even cookieless data signals in order to predict the best creative for each user. This can help you not only achieve campaign success but uncover additional creative insights. Once deployed, these models adapt and assess the next best creative based on the audience.

Final thoughts

At IBM Watson Advertising we are dedicated to designing cutting-edge solutions that enable users to make [the most accurate predictions about their target audience](https://www.ibm.com/watson-advertising/solutions/ibm-predictive-audiences). By utilizing advanced algorithms, historical data, and AI, advertisers can start optimizing their campaigns and achieve their goals the first time around.

Ready to learn more about the benefits of predictive analytics? [Contact us](http://info.watsonadvertising.ibm.com/website-contact-us) today.

The performance data and client examples cited are presented for illustrative purposes only. Actual performance results may vary depending on specific configurations and operating conditions.

Predictive Analytics FAQs

How is data analytics used in advertising?

Data analytics is used to inform decisions for advertising campaigns.The insights derived from this data allows companies to create more specific campaigns that target what the consumer wants at the right time.

How is data used in online advertising?

Data is used to predict trends in online advertising. Mediums such as website and app activity can lend insight into what kind of product a consumer is looking to purchase during their online journey. Social media can also provide a large amount of insight into upcoming trends and consumer preferences to inform marketing campaign decisions.

What's the difference between structured and unstructured data?

In essence, structured data is quantitative in nature. It is organized and can be used by machine learning algorithms in order to search through and manipulate structured data. Structured data includes names, addresses, dates, and numerical information. It can be used by AI to fit a data model that reveals customer behavior as well as predict future trends.

Unstructured data is qualitative. Thus it cannot be as easily processed by algorithms and is often managed by non-relational databases or data lakes. It includes data like the internet of things, social media posts, and text. While it requires specific tools to use, it is more adaptable than structured data and can be collected with more ease.

What is a predictive model in advertising?

The predictive model is a data model used to predict how consumers will respond to a marketing promotion or campaign. It utilizes statistical data to predict outcomes. It can be used to predict how a new product or service launch will be received by consumers.

What is a predictive model in marketing?

A predictive model uses AI and machine learning to determine how probable a specific outcome is. Based on its analysis, it will determine who the correct audience is and what message to serve them.

How do you use predictive analytics for better marketing performance?

With big data and AI continually on the rise, marketers can use these powerful analytics tools more than ever before. Using these data-backed customer insights can help enhance marketing efforts at each and every stage of the funnel, while also improving customer retention rates.

Is predictive advertising good for customers?

Consumers like [personalized ad experiences](https://www.ibm.com/watson-advertising/thought-leadership/personalized-ads-guide-without-cookies). In fact, [66% of customers](https://www.salesforce.com/resources/research-reports/state-of-the-connected-customer/) (opens outside ibm.com) expect companies to anticipate their unique needs. However, many customers also have concerns with how organizations are using their personal information. Since predictive analytics and AI can rely on cookieless and contextual data signals, marketers can still deliver personalization at scale while protecting consumer privacy.

What does the future of advertising look like?

Cookies are disappearing, but the need for personalization isn’t. Predictive analytics will help marketers still deliver these personalized experiences, while improving conversion rates and engagement. Predictive analytics and [AI will change advertising](https://www.ibm.com/watson-advertising/thought-leadership/how-ai-is-changing-advertising) and how brands interact with consumers.