Shopping Up a Storm

When You Check the Forecast, the Weather Channel Knows and Predicts What You Are Likely to Buy

By Katherine Rosman

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The Weather Channel knows the chance for rain in St. Louis on Friday, what the heat index could reach in Santa Fe on Saturday and how humid Baltimore may get on Sunday.

It also knows when you're most likely to buy bug spray.

The enterprise is transforming from a cable network viewers flip to during hurricane season into an operation that forecasts consumer behavior by analyzing when, where and how often people check the weather. Last fall the Weather Channel Cos. renamed itself the Weather Co. to reflect the growth of its digital-data business.

The Atlanta-based company has amassed more than 75 years' worth of information: temperatures, dew points, cloud-cover percentages and much more, across North America and elsewhere.

The company supplies information for many major smartphone weather apps and has invested in data-crunching algorithms. It uses this analysis to appeal to advertisers who want to fine-tune their pitches to consumers.

"People generally check the weather because they're planning to do something," says David Kenny, the company's chairman and chief executive. "We are getting better at knowing the kind of things people will be planning based on where and when they are checking the weather and what the weather is."

The Weather Co. has learned, for instance, that insect repellent sells well in the spring in Dallas when there is a below-average dew point (which is used to measure humidity and signifies the likelihood of fog or ice developing). But in Boston, spring bug-spray sales do well when the dew point is above average.

Company scientists found that the first day of above-average heat in Chicago results in a surge in air-conditioner sales. Meanwhile, in often-muggy Atlanta, people sweat out hotter-than-average temperatures for two days before making a run to the appliance store. "The old paradigm of business and weather was cope and avoid. With technology, the paradigm is now anticipate and exploit," says Paul Walsh, a former United States Air Force meteorologist who is now the Weather Co.'s vice president for weather analytics.

In launching its new Pantene Pro-V Smooth with Argan Oil products, Pantene decided to buy humidity. That is, on a humid day, a woman checking her Weather Channel app via her smartphone would be greeted by the sticky forecast—as well as an ad for a frizzy-hair-taming product.

Specific data from the Weather Co. that pairs the exact location and climate a woman is in allows for highly targeted advertising, says Kevin Crociata, a marketing director for Pantene's parent company, Procter & Gamble Co. If a woman checks the weather in a hot and humid location, it's a great moment to introduce her to the new Pantene Smooth, he says. However, if she's in an area experiencing low humidity, her hair might be flat, so she would see an ad for a volumizing product. Consumers see ads most relevant to the weather in the ZIP Code they are in.

Mr. Crociata says his company has started experimenting with offering a coupon code for a hair product in a Weather Channel ad—as well as a notice of the location of a nearby drugstore, as the app generally can tell a user's current location. "When weather is on our customer's mind, we can give her a good solution for her hair," he says.

When Jenn Schirmer, a 21-year-old Northeastern University student in Boston, was set to walk to work last month on what she called "an oppressively hot day," she checked Weather.com from her phone and entered her ZIP Code. Next to the humid forecast, she saw an anti-frizz ad for Pantene Smooth. "I was like, 'Wow, they know!' " she says, adding that she didn't find that level of tailored advertising "creepy." She often checks the weather to get a sense of how her hair is going to look.

Weather has always influenced the retail economy, and the Weather Co. has long sold forecasts to airlines and energy traders. But now that it is combining that information with data gleaned from mobile devices, it is marketing its platform to a wider range of consumer companies. The digital business now generates 50% of the company's advertising revenue, the company says.

Since Mr. Kenny took charge of the Weather Co. last year, he has invested in technology that can pick up granular data. A few years ago, the company, which is owned by NBCUniversal Inc., Blackstone Group and Bain Capital, had focused on 500,000 locations world-wide, each with its own forecast. Those locations have since been subdivided into three million.

"Depending on the city you are in or the microclimate you live in, your relationship with products is different," says Vikram Somaya, who oversees the crunching of data as general manager of the company's WeatherFX division, which launched this year.

Messrs. Somaya and Walsh say it is essential to weave into their analyses and algorithms not just location and weather, but timing as well. On Thursdays, mothers often shop for the weekend. When someone checks an hourly forecast at 9 a.m., they likely are planning their day. Sixty degrees in late August drives different consumer behavior than 60 degrees in April.

Jeff Gooding, director of consumer marketing for Ace Hardware Corp., says this approach has benefitted his company. "They help us leverage the weather," he says. If it's over 50 degrees and sunny on your forecast, the Weather Co.'s digital users get an Ace lawn-care ad. If it's cold, they get snow-removal tools.

Last year, the arts and crafts retailer Michaels Stores Inc. approached the company about advertising on rainy days, when their customers often do craft projects. The WeatherFX department took the sales data that Michaels provided and compared it with the weather records of areas that have Michaels stores.

The team found that sales of crafts surged not on rainy days but when the forecast called for rain three days in advance. It then advised Michaels to consider advertising against extended forecasts that called for rain in three days. "It helps transform something from being an advertisement to being advice," Mr. Walsh says. Paula Puleo, chief marketing officer for Michaels, says the company will continue to explore these methods.

Weather Co. researchers are now diving into weather-sentiment analysis—how local weather makes people feel, and then act—in different regions of the country. To cull this data, Mr. Walsh's weather-analytics team directly polls visitors to the Weather.com website, asking them about their moods and purchases on specifics days.

In a series of polls conducted between June 3 and Nov. 4 last year, residents of the Northeast region responded to the question, "Yesterday, what was your mood for most of the day?"

They were most unhappy around the time of Hurricane Sandy, as well as during the rainy last week of August. But more people responded that they were happy during a warm, dry week in late October than during a pleasant week in the middle of the summer, indicating people appreciate warm weather after summer months more than seasonally warm weather.

When people are very happy on only a moderately nice but unseasonably warm day, Mr. Somaya says, it might, for instance, be smart for advertisers to push garden supplies. If people are feeling glum after a hurricane, advertisers can take mood into consideration. He says his company would ask them, "Do you want to sell a pick-me-up or comfort food, or would you rather slow your ad buying to a better day?"