

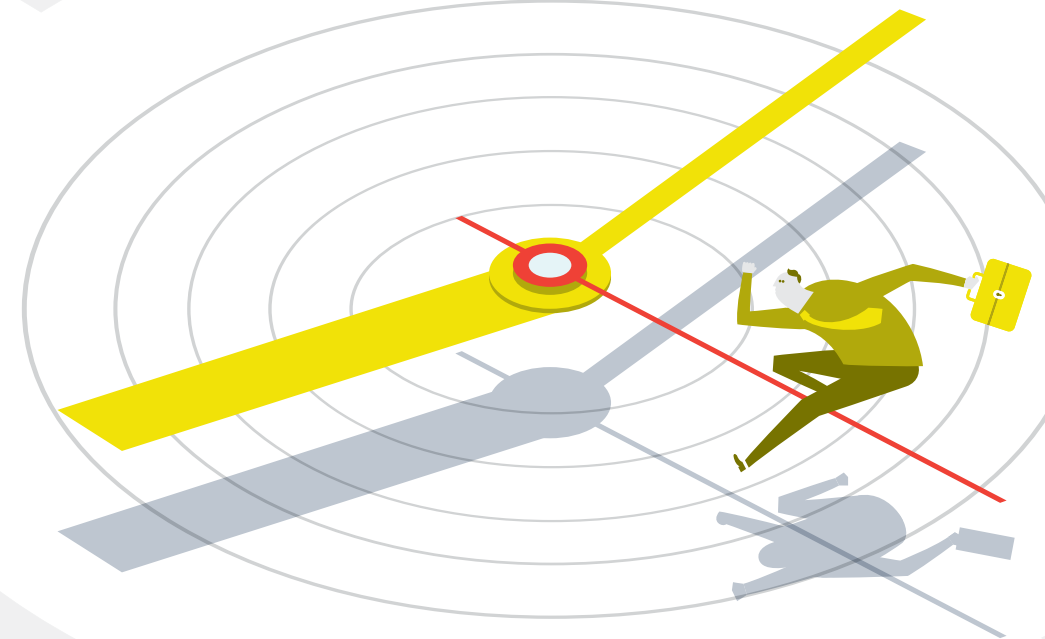
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# MARKETING IN MILLI SECONDS

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Marketers have a determined goal—to predict what people will buy, before they know they want it. By understanding subtle changes in a person’s online behavior that occurred a second before, marketers can take advantage of this altered profile with a product or service the consumer may want. »»

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BY RUSS BANHAM

**Let's call this consumer Mary.**

**Everything a marketer knows about Mary—her age, gender, date of birth and educational status—became richer a moment ago when she bought a bathing suit online, or hovered on page after page of bathing attire without making a purchase. She previously had splurged on a pair of designer sunglasses. Contextually, this information seems to indicate Mary is headed on a vacation and will likely need some sunblock.**

**POUNCE!**

That's the power of instant marketing: extracting insight into people and companies' prospective purchasing pattern by accessing, analyzing and modeling online search and browsing histories, in addition to more conventional demographic information. Delicate movements of a mouse's cursor across a computer monitor are subjected to machine learning systems and powerful algorithmic formulas to narrow the odds of someone buying something.

While all the above is not exactly news, what is remarkable is the speed at which this data is turned into actionable information. By constantly upgrading a consumer's profile with his or her most recent search and browsing behaviors, the marketing context continually evolves. Instantly delivering this new information to the marketer most poised to take advantage of it enhances

the company's sales opportunity. "Data increases in value at an exponential rate when you are able to add another related data set to the profile," says John Rizzuto, Vice President of software, social media and information management at Gartner Invest.

It's the right message to the right audience at the right time. "The more information you get on a customer faster, the better insight you have into that customer," Rizzuto explains. "By having this information a millisecond ahead of your competitors, you are in a better position to encourage the consumer through pointed advertising messages to get them to do something—in this case buy your product."

#### BUCKSHOT TO SHARPSHOOTER

This lifecycle of ever-richer digital content equates to an evolving consumer profile. Knowing what a person or company is likely to want or need in a given moment is the objective, but this insight has an expiration date. For example, a marketer offering a discount on sunblock to Mary tomorrow may miss the opportunity to make the sale, as she is now gone on vacation. "You need to make real-time decisions with this big load of constantly changing data—decisions at the point of relevance," Rizzuto says.

Instant marketing is not confined to consumers and B2C uses. Businesses selling to other businesses in a B2B marketplace

also can get a jump on their competitors by panning for gold from the stream of structured and unstructured Big Data about a current or prospective customer. "By capturing relevant data on a company, based on their online interactions and search and browsing behaviors, you can become much more predictive about what they might need," says Maribeth Ross, research director for marketing effectiveness and strategy at Aberdeen Group. "Over time, you can better imagine their purchase behaviors."

The goal is to collect as much information as possible, but have the technological capabilities internally or externally to sift the wheat from the chaff. Data that is not relevant is jettisoned by machine learning systems fine-tuned to recognize information of value. Algorithms turn the discrete data into a narrative of marketing possibilities, powerful stuff, indeed.

Companies can allocate their marketing resources with greater precision and confidence, making wiser bets on their advertising programs—an ad on Mary's smartphone offering a discount on a sun hat, rather than a multi-million dollar TV commercial or print ad. By measuring the effectiveness of the campaign in diverse ways, such as asking consumers if the product they just bought came at the right time, metrics can be developed to guide future marketing strategy.

**“ BY CONSTANTLY UPGRADING A CONSUMER'S PROFILE WITH HIS OR HER MOST RECENT SEARCH AND BROWSING BEHAVIORS, THE MARKETING CONTEXT CONTINUALLY EVOLVES. INSTANTLY DELIVERING THIS NEW INFORMATION TO THE MARKETER MOST POISED TO TAKE ADVANTAGE OF IT ENHANCES THE COMPANY'S SALES OPPORTUNITY. ”**



Anindya Ghose has studied and teaches the emerging power of marketing technology. As a professor of both IT and marketing at New York University's Stern School of Business, where he also is co-director of the Center for Business Analytics, Ghose points out that the meaning of "real time" is continually being redefined—from "sometime today" to "right about now" to the snap of a finger. "The best way to reach consumers with a powerful marketing message is to make it as precise as possible, and you do that by understanding who they are this second, not who they were yesterday—which by now is historical data," he says. "Today's context is a much more important predictor of behavior, particularly as it evolves through the day."

#### THE RHYTHM OF ALGORITHMS

Human beings are impulsive creatures, changing our whims as the day wanes. Machine learning systems and algorithms are the technological means to access these impulses—a person's search and browsing activities—and make sense of them from a marketing standpoint. Each and every byte of knowledge about the consumer is aggregated, although only a few will yield the desired insight into the person's likely buying behavior. "The key thing is to collect as much data as possible—really Big Data," says Clement Chung, lead data scientist at Chango, a platform connecting marketers with results in real time with display, social, mobile and video advertisements.

## The more data the merrier, from a person's gender, age, income, education and geographic location to his or her search and browsing actions in the last week, last month and this very minute.

"Since this flow of information is constant, the picture of the person is continually changing," says Chung, who holds a PhD in from the University of Toronto. "It's through artificial intelligence, in this case the algorithms used to create this picture and predict possible behaviors, that marketers can use to create instant targeted messages."

Simply put, an algorithm is a set of problem-solving rules or instructions that lead to a predictable result. These rules are embedded in machine learning systems, Chung's field of study and a type of artificial intelligence in which a computer learns something from evolving data sets, such as a person's ongoing browsing and search activities. For example, a machine learning system can be focused on email to distinguish between spam and legitimate messages, and then program the computer to reject the unwanted queries.

To illustrate machine learning in a marketing context, Chung presented the hypothetical example of a jewelry retailer. "By setting the variables in the algorithm, machine learning systems can fine tune and figure out which consumers, based on the continuing stream of data we have on them, are most likely to want to buy a particular kind of jewelry this second, versus those who are most unlikely," he says. "The ultimate answer sought by the retailer is 'Tell me which people are most likely to convert into a sale?' Today, this is now possible through constant learning. And it is occurring behind the scenes."



While there are millions and millions of people online in any given second, the marketing goal is to narrow down this pool to a hundred or so very strong prospects.

"Assuming you already have all the demographic data, which you either accumulated yourself or purchased from vendors in similar verticals or through other third party sources, you can build a model to predict overall behavior," Chung says. "But, this is 'overall behavior' and not exactly precise."

Sharpening the precision is real-time data added to extant data and then all of it funneled into an algorithmically enhanced machine learning system.

And because this is now literally possible, it profoundly alters the status quo of marketing. To create our own algorithm, real-time data leveraged by real-time media equals real-time optimization. Sticking to Mad Men-era advertising concepts—the buckshot approach—is shooting oneself

in the foot these days. "You can't improve what you can't measure," Ghose says. "And real-time measuring is more important than historical measuring. And it is increasingly available through the mixing of artificial intelligence with sophisticated statistical and econometric models."

He adds, "We are moving from a marketing environment where we had only gut-driven intuition to drive decision-making to one in which decisions are being driven by tons of historical and current data. Companies that fail to adopt these systems run the risk of falling behind."

Rizzuto shares this opinion. "There is a dire need for platforms to rapidly subscribe to new data sources as they appear," he asserts. "Submitting a project (for this) to the IT department might take anywhere from weeks to months, which is not realistic. So that is a problem."

Another problem is ongoing public concern over the personal data that marketers increasingly have at their disposal, and whether or not this may guide more stringent privacy regulations. Ross pointed to the now-famous story of the teenage girl who received coupons for baby supplies from a retailer at the home she shared with her parents. Her online buying behaviors had indicated she was probably pregnant. In effect, the retailer knew she was pregnant before her parents found out. "For a diaper company, this kind of data is a gold mine," Ross says. "For her parents, less so."

**“ BY HAVING THIS INFORMATION A MILLISECOND AHEAD OF YOUR COMPETITORS, YOU ARE IN A BETTER POSITION TO ENCOURAGE THE CONSUMER THROUGH POINTED ADVERTISING MESSAGES TO GET THEM TO DO SOMETHING—IN THIS CASE BUY YOUR PRODUCT. ”**

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Ross is sanguine that these impediments are temporary. "There's just too much to be gained from greater marketing efficiency and effectiveness for this to fall by the wayside," she says. In other words, the horse has already left the barn.

"Our surveys indicate that for the most part, B2B marketers are not satisfied with the accuracy and quantity of the data they currently have," Ross adds. "They want more data more quickly, and they want it to be more precise, assisting their ability to develop more predictive modeling."

“ IT'S THROUGH ARTIFICIAL INTELLIGENCE, IN THIS CASE THE ALGORITHMS USED TO CREATE THIS PICTURE AND PREDICT POSSIBLE BEHAVIORS, THAT MARKETERS CAN USE TO CREATE INSTANT TARGETED MESSAGES. ”

There are also financial benefits for consumers from instant marketing. "If a marketer knows from your immediate search and browsing history that you bought a pair of sunglasses and posted on your Facebook page that you can't wait to go to Hawaii, you're going to save money on suntan lotion when a marketer extrapolates your likely desires and pops you a coupon for fifty percent off," Rizzuto says.

A veritable win-win for the marketer and Mary. 🌟



**RUSS BANHAM** is a Pulitzer Prize-nominated business journalist and author of twenty-three books, including *The Ford Century*, the award-winning, international best-selling history of Ford Motor Company, translated into 13 languages. Banham has written more than 3,000 articles for dozens of U.S. and foreign publications, including *Forbes*, *The Economist*, *Wall Street Journal*, *Time*, *Financial Times*, *The Atlantic*, *Euromoney*, Chief Executive, *Global Finance*, *Venture, Inc.*, *U.S. News and World Report*, and *CFO*. His next book is a 100-year history of *The Boeing Company*.

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—  
*ELBERT HUBBARD*



**Chango**