Predictive Analytics: Game-Changer for Brand Communications?

BY
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Thinking About Thinking

"Thinking about thinking" is at the core of psychology and neuroscience discussions around predicting human behavior. One of the most pressing questions in psychology and neuroscience is:

*"**To what extent are humans consciously responsible for their choices and decisions?**"*

To answer this question, we must first talk a little bit about conscious and unconscious thought…

OUTSIDE THE REALM OF RATIONALITY

Human choices are largely determined by forces outside the realm of rationality. Decisions are made in the subconscious mind — which then "informs" the conscious mind of its choices. If you follow the work of Dan and Chip Heath (authors of "Decisive" and "Made to Stick"), you probably have heard them use the paradigm of "The Rider & The Elephant." This metaphor compares the conscious, "decision-making" brain to a puny human riding atop a massive elephant. The elephant is in fact the subconscious mind.

Again focusing on subconscious thought, Nobel-Prize-winning psychologist Daniel Kahneman suggests rapid-fire unconscious processing is an evolutionary artifact that is not in step with our current information environment. Dr. Kahneman separates the brain's systems into "System 1" functions (the rapid processing that is largely automatic and unconscious) and "System 2" functions (the "slow" processing of our rational, analytical brain). There is an evolutionary "lag" in System 1 processing, and that means our System 1 processing is prone to errors. Although our rational thoughts (System 2) can compensate for some of our evolutionary errors around unconscious thought, System 2 must first be aware of them and then must have the will and the ability to change.

You see, humans have systemic shortcomings. As explorers in psychology and neuroscience, our conscious brain's errors are not uncommon when it comes to predictions.

So, how do we bring our reasoning back to reality and correct our sometimes incorrect unconscious biases?

Fortunately, we are developing external tools to help us overcome these natural biases and processing errors — among them, the burgeoning science of Predictive Analytics (PA).

Predictive Analytics is not a panacea — there are limits to its effectiveness. As with any tool, we need to recognize what it can (and cannot) do. Harvard Business School Prof. Tom Davenport offers this sage counsel: "We live in a predictive society… and the best way to prosper in it is to understand the objectives, techniques and limits of predictive models."

What, exactly, does it mean to live in a world that is "predictive"? According to author and analyst Eric Siegel, Predictive Analytics provide "the power to predict who will click, buy, lie, or die." In contrast to "forecasting," (the practice of predicting future events in aggregate) Predictive Analytics doesn't guarantee outcomes; it uses "machine learning" techniques to provide ever-evolving probabilities regarding individual behaviors and events. In this important regard, PA offers intelligence that goes far beyond traditional business intelligence.

The Signal and the Noise

Predictive Analytics took center stage in last year's presidential race, both behind-the-scenes (in President Obama's re-election campaign HQ) and publicly — most notably in the voting forecasts of

Nate Silver. (Silver — in the unlikely chance that you don't already know of him — gained national prominence in successfully predicting the outcomes of voting in 49 of 50 electoral contests.)

"Prediction is indispensable to our lives," says Silver. "Every time we choose a route to work, decide whether to go on a second date, or set money aside for a rainy day, we are making a forecast about how the future will proceed — and how our plans will affect the odds for a favorable outcome."

Author of "The Signal and the Noise," Silver points out that today's Information Age practices (which record data for everything of consequence) are guilty of a glaring omission. What's missing? "Knowledge of the events that would be most valuable: Things that have not yet happened." That indispensable information, he suggests, is the promise that effective Predictive Analytics can fulfill.

Predictive Analytics Meets Social Psychology

In both personal and business settings, customers and competitors are becoming more savvy about psychological matters. We know the power of "shiny objects" to attract our attention, "scent trails" to guide our information journeys and positive reinforcement to keep us coming back for more. Marketers have been well-schooled in psychographics and personas — and web analytics have provided data-driven metrics to facilitate low-

cost experiments with content, images, graphics and information architecture.

Using Prediction When Creating Content

As the contest for "remarkable content" continues to rage, marketers are driven by the mantra that it is content — not style — that drives online competitive advantage. But when it comes to understanding your audience and predicting their behaviors, that mantra isn't necessarily true.

Professor James Pennebaker is a pioneer in the use of computer-based text analysis to study human psychology. Given his subject matter expertise, Pennebaker knew that psychology and literature long had made associations between word use and individual personality types and traits. The common wisdom said that it was content words (primarily nouns, verbs and adjectives) that held the key to this understanding. Pennebaker, however, found something uncommon.

"The Secret Life of Pronouns" is Prof. Pennebaker's fascinating description of what he discovered by using text-mining techniques to extract predictive information on psychological matters. In this book, the professor describes his discovery that it is function words — not content words — that provide predictive windows on human perceptions and behaviors. (Function words are the seemingly innocuous words — such as: a, an, but, for, few, it, most, the, very, etc. — that escape our conscious awareness and constitute less than one percent of our overall vocabulary. As

Pennebaker demonstrates, however, these "stealth" words send clear signals that broadcast our mental states.)

What kind of predictive information can be gleaned by analyzing these function words in text? Gender, age and social class, for example, all are linked to language — but the correlations Pennebaker reports go far beyond mere demographics. He reports being able to extract information on leadership abilities, relationship traits, propensity for lying, emotional states, personality types and a wide range of other indicators.

"It's the style, stupid" — not the content — that tells us what we need to know about those who leave text trails. As Pennebaker says, words provide the "behavioral residue" that can tell us so much about those who used them. "The analysis of words tells us how people are thinking and, at the same time, gives us a way to guide their thinking in the future," he said. "Words can be both mirrors and tools."

Moving Into The Future

It doesn't take a Bayesian analyst to see that Predictive Analytics and text-mining will play ever-more-important roles in communications, marketing and messaging strategies. And with the exciting new learnings about linguistics, psychology, and neuroscience — this is a good time to step into that future.

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