Marketing

What Psychological Targeting Can Do

And how to use it ethically by Sandra Matz

From the Magazine (March–April 2023)

Carson Davis Brown

Summary. Controversy has swirled around psychological targeting—the practice of influencing people's behavior by mining their digital footprints, identifying their personality traits, and then tailoring messages to them. Because it was misused to try to sway votes during recent… **more**

MARKETING

Psychological targeting, the practice of influencing behavior through interventions customized to personality traits, burst onto the world stage in 2018, when Cambridge Analytica's involvement in the 2016 U.S. presidential election made international headlines. The company had allegedly created psychological profiles of millions of Facebook users without their knowledge and then hit them with fearmongering political ads tailored to their psychological vulnerabilities.

Since then, there has been a lot of speculation about what psychological targeting can and cannot do. Some have declared it the next frontier of psychological warfare, while others have brushed it off as marketing swamp water.

I was one of the first scientists to study this practice and helped break the Cambridge Analytica story. Over the past 10 years I've examined how we can turn people's digital footprints—their social media profiles, search queries, spending records, browsing histories, blog posts, and smartphone data, including GPS records—into intimate predictions about their inner lives using machine learning. I've explored how such insights can be used to sway opinions and change behavior. And I've suggested ways we can implement psychological targeting ethically.

Cambridge Analytica folded amid the controversy over its data-collection and persuasion tactics, but psychological targeting as a service is very much alive and thriving. I know because I regularly get consulting requests from companies that want to implement psychological targeting and from start-ups trying to enter the space. They come to me with slightly different narratives, but typically their goals are similar: to create value for businesses and their stakeholders by tapping into people's psychological needs and motivations.

In this article I'll clarify what psychological targeting is actually capable of and then offer guidance on how to use it in a way that both upholds

basic ethical principles and maximizes the benefits that companies and their customers realize.

What Exactly Is Psychological Targeting?

Let's start by debunking a persistent myth: Psychological targeting *isn't* the brainwashing machine Cambridge Analytica made it out to be. Even with the most accurate understanding of a person's psychological profile, you are unlikely to turn a sworn Hillary Clinton voter into a Donald Trump supporter or convert an iOS fanatic into an Android lover. But that doesn't mean it has no influence on people, either. My research (and that of others in the field) all points in the same direction: Psychological targeting is an effective marketing tool. It can be used to shift opinions and attitudes, create demand that wasn't there initially, and engage with consumers on a much more personal level than ever before.

Psychological targeting is qualitatively different from the psychographic targeting that was hyped in the late 1970s but failed to deliver on its promise. Traditional psychographic targeting built on the intuition of marketing professionals to define personas representing segments of customers that were based on consumers' opinions, attitudes, and lifestyle choices. In contrast, psychological targeting builds on validated psychological constructs that capture fundamental differences in how people think, feel, and behave. The most popular of such constructs is the Big Five model of personality, also known as the OCEAN model for the dimensions it measures: openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism. Although there are many other dimensions that could prove valuable for psychological targeting (say, people's personal values, motivational orientation, or moral foundations), the Big Five model dominates both research and practice.

The Big Five are a valuable starting point because they can predict people's preferences for products and brands. A project my colleagues and I worked on demonstrates how. In 2016 we teamed up with a large international bank in the United Kingdom to study the spending habits of some of its customers. We had access to their self-reported personality profiles and information on every transaction they had made over the previous six months. As expected, we found that spending was clustered by personality dimension. Extroverts, for example, were more likely to spend money in restaurants and bars, while introverts were more likely to buy home appliances and books. Conscientious people invested their money in savings and children's clothes, while their more disorganized counterparts spent it on takeout and mobile phones. Not only that, but customers whose spending patterns were more aligned with those typical of their personality profiles reported more satisfaction with their lives.

Personality types predict people's preferences for marketing messages and communication styles too. Conscientious individuals, for example, love numbers and details, while less conscientious people might be more easily swayed by compelling stories. While you might impress open-minded people with eye-catching visuals and flowery language, you'd probably be better off sticking to conservative graphics and basic, respectful language with more-conventional individuals.

The large-scale application of psychological targeting was made possible by the explosion in cheap and accessible consumer data. Consider that in just one minute, Amazon customers spend $283,000, Facebook receives 44 million views, YouTube streams 694,000 hours of video content, Instagram users share 65,000 photos, and Venmo facilitates transactions worth $304,000, according to Domo.com. While many businesses were quick to find ways to use such data to predict

consumer behavior and preferences ("People who bought product X also bought product Y"), their ability to truly *understand* consumers' needs and motivations remained rather limited. For example, they didn't understand *why* customers who bought product X also bought product Y, or what might motivate them to buy product Z.

Psychological targeting promises to change that by allowing companies to translate behavioral data into personality profiles for individual customers. What might that look like in practice? One of my first industry partners was Hilton Hotels & Resorts, which wanted to use psychological targeting to create richer and more-personalized customer journeys. Working as paid consultants, my research team designed an application that allowed users to connect their Facebook profiles to one of our predictive algorithms and receive a personality-based traveler profile with customized vacation recommendations. For instance, if our algorithm suggested that a customer was introverted, that person would get a "soloist" profile with recommendations for quiet and relaxing destinations. If the algorithm indicated that someone was neurotic, we'd offer an "all-inclusive" traveler package with recommendations for worry-free vacations with nothing left to chance. The campaign, which reached 60,000 users in three months, was a success. Hilton won an award for the most innovative travel marketing campaign from the Chartered Institute of Marketing, and higher click-through and social-engagement rates meant a higher return on investment and brand visibility for the company.

In his project Mass, Carson Davis Brown creates unauthorized product installations at big-box stores to trigger shoppers to reconsider their relationship to the environment.

In another study we teamed up with a beauty retailer to optimize its Facebook ad campaigns and increase purchases in its online store. Though Facebook doesn't allow marketers to target personality traits

directly, its interest-based targeting option lets them do so indirectly. If liking manga is linked to introversion, then targeting people who follow manga on Facebook effectively enables you to target introverts (and perhaps a few misunderstood extroverts). We decided to tailor messages to women's psychological needs and motivations. One set of ads spoke to extroverts' craving for stimulation, excitement, and attention, and another set played into introverts' desire for quiet, high-quality "me time." The extroverted ads were colorful, featuring women in highly social settings (say, in the middle of the dance floor) and alluding to their need to be seen ("Dance like no one's watching, but they totally are"). The introverted ads were subtle, showing a single woman in a peaceful context (using a cosmetic face mask to relax) and hinting at her reserved nature in the copy ("Beauty doesn't have to shout"). The ads that were customized by personality were 50% more effective at attracting purchases and generating revenue than those that were not.

How to Get It Right

Over the years my team and I have tried many variations of psychological targeting, experiencing both successes and failures and learning from both. Here's our advice for launching a psychological targeting program.

Ask, Do we really need psychological targeting? It's possible you'd be better off using other approaches. If you simply want to predict what a customer is going to buy, for instance, you don't need to know his or her psychological profile. In fact, incorporating it into your predictions could reduce their accuracy by adding noise in two areas: the translation of digital footprints into psychological insights (no model is perfect), and the translation of those insights into purchase intentions. If you take the simpler approach of trying to link past behavior to future

preferences (people who buy X also buy Y), there's only one place to make mistakes.

However, there are two situations in which a psychological understanding of people is invaluable. The first is when a company sells to new customers. In that situation it essentially has no information about the customers. It can't rely on past behavior to predict future preferences. We call this the "cold-start problem." The beauty of psychological traits is that they're independent of the context they're assessed in. It doesn't matter if a company predicts a customer's extroversion level from Facebook or Twitter posts, credit-card spending patterns, purchase history, or GPS records. Putting aside measurement errors, the customer's personality assessment, from which purchasing preferences can be inferred, should always be roughly the same. An online retailer, for example, could ask new customers to log in with Facebook, use their likes and statuses to predict which ones are extroverts, and recommend products that appeal to extroverts to them. Over time, as it collects more and more purchasing data, it could phase out the personality insights and shift toward purely behavioral predictions.

The second scenario is the design of personalized marketing materials. After all, marketing is as much about *how* we communicate the value of a product as it is about the product itself. The more marketers can understand *why* someone might be interested in a particular product, the better they can tailor their creative content to those interests. Imagine you're selling flowers. Understanding whether someone might be interested in buying a bouquet as a surprise gift for someone else (a sign of agreeableness), to feel more calm and relaxed at home (introversion and neuroticism), or to add an aesthetically pleasing touch

to an office space (openness) allows you to customize your messaging appropriately.

Create a holistic customer experience. It's true that digital technology allows you to collect more consumer data than ever before. But it's also true that personalizing the customer experience is often far easier in person. A deft frontline employee can be given all sorts of discretion when it comes to meeting customer needs. Consider the hotel concierge who overhears a guest raving about a local bakery and then surprises that person with a box of pastries in her room. Most people are reasonably good at inferring the psychological traits of people they barely know and at integrating those insights into their interactions with them.

Both online personalization and offline personalization are valuable, but they often feel disconnected. Take department stores. These retailers collect behavioral customer data in order to make recommendations and send out personalized offers. Once you step into one of their locations, a retail associate will try to read your personality and mood and serve you accordingly. But the two touchpoints aren't integrated: The associate and the email marketers never talk to each other.

Psychological targeting could join the two worlds. By providing consumer insights that can be understood by both algorithms and humans, it offers a consistent "concierge service" across all channels. Regardless of whether you connect with a customer through your online store or a staff member, the customer can always be treated the same way. A department store's algorithm, for example, could figure out if a customer is extroverted or neurotic and adjust both recommendations and the content of promotional emails in response. It could also pass on that knowledge to the brick-and-mortar staff to improve the same

customer's in-person experience (advising, "Don't make small talk with this customer; she's an introvert" or "Don't overwhelm the customer with options, and remind him of the return policy; he is neurotic").

Eventually, technology may even be able to decipher consumers' needs and automatically create experiences to suit them. Over time a computer experimenting with thousands of ad variants or in-store experiences might well develop a higher level of "human intuition" than any real person could. AI is already astonishingly advanced. Consider the ad copy produced by GPT-3, an OpenAI algorithm, when I recently asked it to write an iPhone ad that appeals to an extrovert: "Looking for a phone that will keep you connected to your friends and always entertained? Look no further than the iPhone! With its built-in social media apps and endless games and streaming options, you'll never be bored again."

Help your customers discover new offerings. Customers often face exploitation versus exploration trade-offs in their purchasing decisions. Should they go with the option that they know and love ("exploitation") or choose something unknown that promises to be even more amazing ("exploration")? Same haircut or new look? Favorite rooftop bar or new speakeasy? Tried-and-true seaside vacation or new adventure?

Personalized marketing is typically focused on helping consumers exploit, serving up more of the things they already know and love. If you've searched online for a Sony Alpha DSLR camera, predictive algorithms will try to sell you not only that camera but also all the related equipment and accessories. This approach can help customers find what they need in the vast sea of internet content. And often all consumers want is to find what they're looking for in a convenient way.

Carson Davis Brown

But focusing exclusively on exploitation can be limiting. Customers will sometimes prefer recommendations for products that are outside their comfort zone and allow them to try something new. Psychological targeting lets companies offer them. Instead of taking the search for the Sony Alpha DSLR camera as a direct targeting input, for example, an algorithm might interpret it as a sign of openness to experience and suggest a range of novel products that are still relevant. Instead of a set of spare batteries or a tripod, how about acrylic paint or a book on philosophy?

Put ethics front and center. The bankruptcy of Cambridge Analytica —which took a "Trojan horse" approach, accessing the Facebook profiles of millions of unwitting users through their friends' accounts and building psychological profiles without their knowledge—is a cautionary tale for companies that might engage in psychological

targeting without consent. But using it ethically is not just the right thing to do and a way to avoid backlash. With changing regulatory landscapes and major players such as Apple restricting access to third-party data, it might soon also be the most promising business model and the only way to get at consumer data.

> **The goal should not be for your personalization efforts to go unnoticed—but rather for them to be recognized and appreciated by customers.**

As scientists, my colleagues and I are expected to follow basic ethical principles in our research. The same principles should be foundational for corporate practitioners too.

Respect for people: Protect and uphold the autonomy of consumers and treat them with courtesy.

Beneficence: Abide by the philosophy of "Do no harm" while maximizing the benefits to consumers and society and minimizing the risks to all.

Justice: Follow reasonable and nonexploitative procedures that are administered fairly (for instance, that ensure all customers benefit equally).

These principles are broad enough to allow companies to adapt them to their own day-to-day business dealings. Now let's look at how they can be translated into guidelines for action, using our project with Hilton as an example.

Keep your consumers in the loop. Hilton involved its customers at every step of the way. They were told—in plain language—exactly what data would be gathered from their Facebook profiles (for example, their likes) and, more important, how it would be used. Hilton also told them what predictions it would make based on that data and assured them that no data would ever be passed on to third parties. This kind of transparency should be standard practice. Taking it a step further, companies could also give their customers the chance to interact with and revise their personality profiles. Why? First, it creates trust that will promote engagement and long-term loyalty. But equally important, predictions are never perfect. When you turn the profiling process into a two-way conversation, you can have customers correct your mistakes—an easy way to boost the quality of your insights. Taken to the extreme, this could mean replacing the automated gathering of details on psychological traits with engaging questionnaires. Instead of making educated guesses, why not ask consumers how they like to think of themselves? Or maybe who they'd like to become with the help of your products and services? This approach typically isn't possible with potential customers, but it certainly can work with existing ones.

Make personalization a key part of your value proposition. If you ask people for their data, give them back as much value and insight as possible. The goal of the Hilton traveler app was to generate more customer engagement and thus more profits. But the product offered customers suggestions for genuinely more enjoyable and appealing stays, as well as interesting insights into their travel preferences. The goal should not be for your personalization efforts to go unnoticed—but rather for them to be recognized and appreciated by customers. This will be much easier to achieve if you abandon opt-out processes and switch to opt-in mechanisms that make privacy the default and require you to spell out the benefits consumers will get by sharing their data with you.

Collect only essential data. Think of data as radioactive. Gather as little as needed and hold it only as long as needed. Hilton agreed from the very beginning that it would receive only the personality profiles of users and not the raw data that was extracted from Facebook with their consent. That data was handled by an application my lab had designed and was deleted immediately after it was no longer needed. Today many new technologies (for example, one called federated learning) can help a company get the insights it needs without collecting the actual data that produces them.

Do a gut check. Before we launched the Hilton traveler app, we held numerous focus groups with existing customers to gauge their reaction to it. But even if you can't organize such groups, you can still ask yourself how you'd feel if your loved ones (your kids, partner, or closest friends) used the product or service you're designing and shared their personal data to get it. If that thought makes you uncomfortable, something is off, and you should go back to the drawing board. Or you could take Warren Buffett's front-page test: If your hometown paper were to write about your use of psychological targeting on its front page tomorrow, and your family, friends, and neighbors read the story, how would you react?

Don't focus solely on selling. Our research team has demonstrated that psychological targeting can do more than help sell consumer products—it can be a powerful "nudging" tool to help people improve their lives. For example, in partnership with SaverLife—a U.S. nonprofit organization that has created a platform to help low-income people develop long-term saving habits—we identified each user's most salient OCEAN personality trait and then tailored the messages we sent users about a challenge (such as "Save $100 over the course of four weeks"). Those with caring personalities (that is, high agreeableness) received

messages such as “Save to build a better future for your loved ones!” Competitive personalities (low agreeableness) were given prompts such as “Every penny saved puts you one step ahead of the game!” In the control condition, which used SaverLife’s best-performing messaging to date, 7.4% of users managed to hit their goal. In the psychologically tailored condition, that number rose to 11.5%, a 55% increase.

Firms could even pair profit-generating and socially responsible endeavors. For instance, Hilton could use psychological profiles to nudge consumers to reduce water use or participate in local activities designed to boost ecotourism. Or a consumer-goods company could launch psychologically targeted campaigns to get people to recycle its packaging.

What is common to all these guidelines is that they don’t stop at asking, What is legal? Instead they ask, What is ethical? What is the right thing to do? You might not always be able to live up to your high standards, but if you don’t set them high in the first place, you certainly won’t.

...

When I first began studying psychological targeting, a decade ago, the only way to implement it was to do all the data wrangling and analysis yourself. You had to collect a data set combining digital footprints with

self-reported personality scores, train and validate your own predictive models, and—in most cases—conduct your own research into how to talk to customers of a certain personality profile most effectively. Today you don't have to do any of that. More and more services will do it all for you—or at least a substantial part of it. For most companies, partnering with an external vendor will make sense. But it's important to be a savvy buyer—to understand what psychological targeting offers beyond traditional marketing tools, what it can and cannot do and, above all, how to use it ethically in a way that doesn't alienate your customers.

Read more on **Marketing** or related topics **Analytics and data science**, **Psychology**, **Consumer behavior**, **Business ethics**, **Behavioral science** and **Marketing industry**

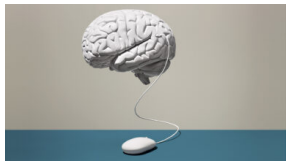
A version of this article appeared in the March–April 2023 issue of *Harvard Business Review*.

SM

Sandra Matz is the David W. Zalaznick Associate Professor of Business at Columbia Business School. As a computational social scientist, she studies human behavior and preferences using a combination of big data analytics and traditional experimental methods.

Recommended For You

The Hybrid Start-Up



Neurotech at Work

Case Study: Should a Dollar Store Raise Prices to Keep Up with Inflation?

AUDIO
Does It Pay to Be a Whistleblower?

Harvard Business Review

Subscribe for the latest from HBR

Explore HBR

- The Latest
- Most Popular
- All Topics
- Magazine Archive
- The Big Idea
- Reading Lists
- Case Selections
- Video
- Podcasts
- Webinars
- Data & Visuals
- My Library
- Newsletters
- HBR Press
- HBR Ascend

HBR Store

- Article Reprints
- Books
- Cases
- Collections
- Magazine Issues
- HBR Guide Series
- HBR 20-Minute Managers
- HBR Emotional Intelligence Series
- HBR Must Reads
- Tools

About HBR

- Contact Us
- Advertise with Us
- Information for Booksellers/Retailers
- Masthead
- Global Editions
- Media Inquiries
- Guidelines for Authors
- HBR Analytic Services
- Copyright Permissions

Manage My Account

- My Library
- Topic Feeds
- Orders
- Account Settings
- Email Preferences
- Account FAQ
- Help Center
- Contact Customer Service

Follow HBR

- Facebook
- Twitter
- LinkedIn
- Instagram
- Your Newsreader

Harvard Business Publishing