



# Morning Consult and the **Decision Intelligence** Category

**The Critical Need for High-Frequency Survey  
Research Data In Modern Decision-Making**

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# Abstract



Making data-driven decisions is more important than ever in today's fast-changing world. But for many, the transition to becoming an organization that uses data to make decisions is aspirational.

The decision intelligence category is designed to solve that need: By pairing data with artificial intelligence, this fast-growing category is helping leaders make decisions in real time and at scale. While artificial intelligence is a significant factor in decision intelligence technology, the success of the category is null if it's not rooted in a strong foundation of quality data.

Morning Consult has invested in the decision intelligence category by building an infrastructure prioritizing the collection of high-quality, high-frequency survey research data, designed to offer the necessary context and foresight needed to deliver on the category's promise.

The following whitepaper examines that approach and how leaders can leverage decision intelligence technology to drive decision-making in critical moments.

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## INTRODUCTION

# The Foundation of Decision Intelligence

The need for high-frequency, quality data is more important than ever. Without it, making decisions with confidence is nearly impossible for leaders in volatile business climates. In turn, that lack of insight can lead to ineffective strategy, misguided counsel and the loss of millions of dollars.

Today, the decision intelligence category is designed to solve that need by pairing high-quality, high-frequency survey research data with artificial intelligence that leverages applied and predictive analytics.

The decision intelligence category is growing fast, and while a lot of attention has been focused on the potential of artificial intelligence, its power depends on the data to which it is applied. Without quality, real-time data, the power of AI and predictive analytics is moot.

Morning Consult's approach to decision intelligence technology has focused on building a quality infrastructure to collect high-frequency, first-party data. The input is just as important as the output, and quality, forward-looking survey data, paired with analytical applications, offers a distinct advantage for Morning Consult and its users.

While other data sets in the category may measure action as it happens (e.g., credit card transactions, website clicks, etc.), the value of survey research lies not just in reflecting past and current action, but in its capacity to provide foresight and context. High-frequency survey data achieves both. Decisions are undeniably better when informed with knowledge of what people think, why they think it and its influence on their actions.

For example, the value of forward-looking, high-frequency survey research became inestimable as the COVID-19 virus began to spread in the beginning of 2020, threatening the economy. Traditional measurements lacked the frequency and scale to reflect what consumers were doing, what they were going to do and what was driving their decisions.

As leaders scrambled for real-time signals of consumer reaction to the growing pandemic, Morning Consult's Index of Consumer Sentiment (ICS) emerged as

a reliable benchmark, reflecting interviews with more than 11,000 adults per day across 15 countries. Daily measurements at such a large scale enabled immediate identification of impacts and trends with the necessary context and foresight to help leaders navigate the unprecedented global event.

Calculated by gauging consumer perceptions of current and future personal finance and business conditions, the ICS began to drop precipitously at the end of February 2020 as news of the virus spread. A dramatic decline followed the World Health Organization’s declaration on March 11 that the coronavirus was a pandemic, and Morning Consult’s ICS was cited in the emergency March 15 joint meeting of the Federal Open Market Committee and the Board of Governors to sound the alarm on the future of consumer spending.<sup>1</sup> It would take the more traditional measurements at least two more weeks to reflect the same drop.<sup>2</sup>



Federal Reserve Chairman Jerome Powell underscored the significance of high-frequency data in a July 2020 press conference, telling reporters, “What we think of as sort of nonstandard, high-frequency data, that’s become a very important thing.”<sup>3</sup>

Robert Kaplan, president and CEO of the Federal Reserve Bank of Dallas, echoed Powell in December: “I’m looking at all the normal financial and economic data,

<sup>1</sup> “Minutes of the Federal Open Market Committee, March 15, 2020,” Board of Governors of the Federal Reserve System, last modified April 8, 2020, <https://www.federalreserve.gov/monetarypolicy/fomcminutes20200315.htm>.

<sup>2</sup> John Leer, Morning Consult, Economic Intelligence: Using Consumer Confidence to Track a Recession During the COVID-19 Pandemic, April 2020, <https://bit.ly/3q3zf0B>.

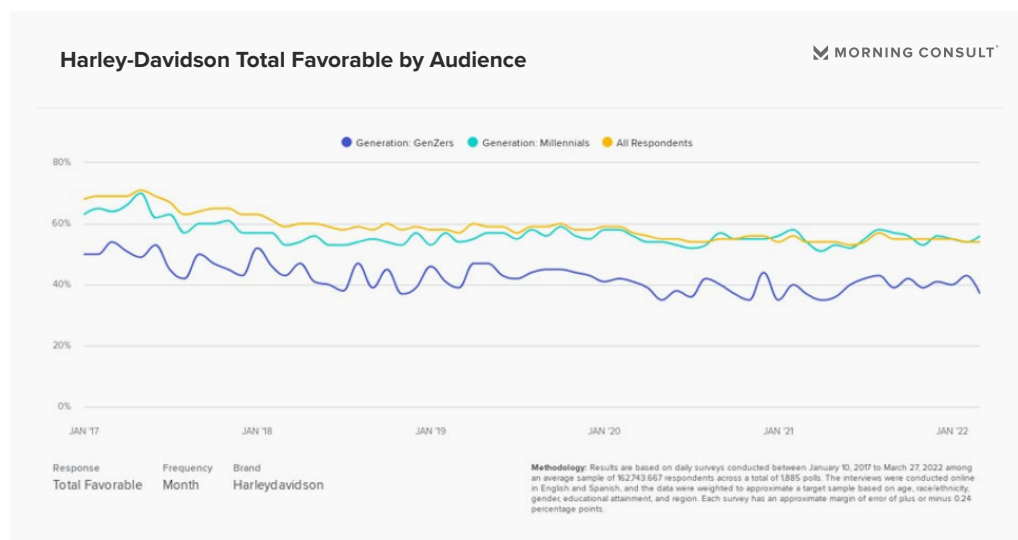
<sup>3</sup> Jerome H. Powell, Press Conference, July 26, 2020, <https://www.federalreserve.gov/mediacenter/files/FOMCpresconf20200729.pdf>.

but the concern about that in this crisis is that by the time you get the data, it's stale. So more than ever, we've gone to high frequency data."<sup>4</sup>

The drag of traditional data, stale and infrequent in nature, has plagued not only the public realm but corporate and financial sectors for years.

For example, in early 2019, American motorcycle manufacturer Harley-Davidson Inc. faced mounting scrutiny after its share price fell 19.3% in December 2018.<sup>5</sup> Headlines such as "Are Millennials Killing Harley-Davidson?"<sup>6</sup> and "Millennials may claim another victim: Harley-Davidson and the classic American motorcycle"<sup>7</sup> attributed the slump to changing consumer tastes, and its stock tumbled despite the manufacturer's previous efforts. Just a couple years prior, in 2016, Harley-Davidson had even told NPR that it planned to spend an additional \$70 million on marketing and product development that year to attract younger riders and more women.<sup>8</sup>

Had Harley-Davidson had access to high-quality daily data on its brand, the manufacturer could have realized sooner that its multimillion-dollar strategy wasn't resonating with Gen Zers and millennials and proactively pivoted its business strategy to adapt. In just a year and half (from May 2017 to December 2019), the brand's favorability rating among millennials had fallen 15 percentage points (from 70% to 55%) and 6 points among Gen Z adults (from 49% to 43%), according to Morning Consult Brand Intelligence.



<sup>4</sup> Kai Ryssdal and Maria Hollenhorst, "Dallas Fed president on the mood in the Fed's Zoom room," Marketplace, Dec.18, 2020, <https://www.marketplace.org/2020/12/18/dallas-fed-president-on-the-mood-in-the-feds-zoom-room>.

<sup>5</sup> Travis Hoiium, "Why Harley-Davidson Shares Crashed 19.3% in December," The Motley Fool, updated April 18, 2019, <https://www.fool.com/investing/2019/01/14/why-harley-davidson-shares-crashed-193-in-december.aspx>.

<sup>6</sup> Erin Corbett, "Are Millennials Killing Harley-Davidson? Younger Consumers Are Buying Motorcycles for Different Reasons," Fortune, Jan. 27, 2019, <https://fortune.com/2019/01/27/millennials-harley-davidson-motorcycles>.

<sup>7</sup> Robert Ferris, "Millennials may claim another victim: Harley-Davidson and the classic American motorcycle," CNBC, updated Jan. 29, 2019, <https://www.cnbc.com/2019/01/25/actually-young-people-really-could-kill-harley-davidson.html>.

<sup>8</sup> Chuck Quirnbach, "Harley-Davidson Rebrands Itself To Reach Millennial Generation," NPR News, May 21, 2016, <https://www.npr.org/2016/05/21/478962860/harley-davidson-rebrands-itself-to-reach-millennial-generation>.

# Morning Consult's Origins

If technology in the decision intelligence category is designed to pair data with AI, then that data must reflect both quality and frequency. Data that does not capture the accelerated pace at which the world is changing nullifies the applied AI. It's why high-quality, high-frequency survey research data is foundational to Morning Consult's decision intelligence technology and at the core of the company's origin.

In 2013, as the Affordable Care Act dominated headlines, it was an open question whether young and uninsured Americans would sign up for the health care exchanges. We knew this question could be answered with a larger scale of online interviews reflecting the target audience in question. One September morning, we published a 2,000-person online survey demonstrating the interest from young and uninsured Americans in signing up for the health care exchanges. Hours later, the Obama administration led its White House press briefing with the data. It was clear proof that modern leaders had been starved for real-time, high-quality intelligence.

The next year, Morning Consult was founded to improve how leaders make decisions every day.

Nearly a decade later, modern leaders are no longer starved for real-time, high-quality intelligence due to accessibility — but rather by their own choice. Morning Consult collects first-party data on what people think through a proprietary, automated process that runs in real time. The company surveys over 30,000 people around the world every day. To date, more than 35 million interviews have been collected on demographic and psychographic data, brand perceptions, economic confidence and political attitudes. The company's proprietary sample and survey validation technology monitors sample quality, validates respondents and automatically optimizes in real time.

Morning Consult's exclusive, high-frequency survey research data represents 75% of the world's population through technology automation, including millions of unique data points every day that are mined for insights through applied AI and predictive analytics.



Modern leaders are no longer starved for real-time, high-quality intelligence by accessibility — only by their own choice.



This combination of proprietary datasets and a growing investment in predictive modeling, machine learning and natural language processing optimizes decision-making across functions for leaders to compete in today's rapidly changing marketplace.

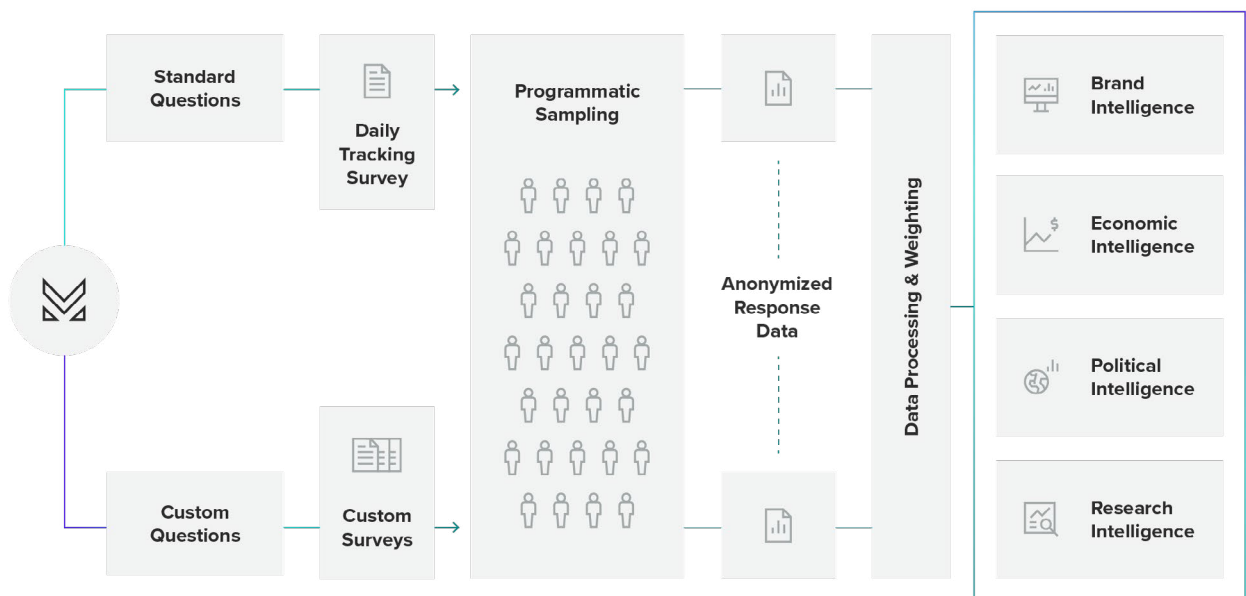
In the following sections, we will address Morning Consult's decision intelligence technology at a high level, and explain why we believe quality first-party, high-frequency data is not just a component of the decision intelligence category — it is fundamental to its existence.



# Collecting Quality First-Party Data

Quality survey research data is critical to powering decision intelligence technology. Without understanding the quality of data, any decisions made from the technology can be called into question.

To ensure accuracy and consistency, Morning Consult collects first-party data on what people think through a proprietary, automated process that runs in real time. Morning Consult's data collection approach is intentional, comprehensive and consistently updated to reflect the current climate.

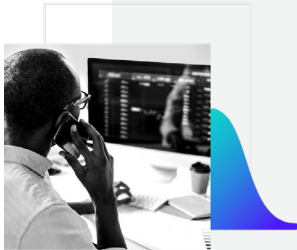


Morning Consult leverages several survey panel providers to conduct its interviews. Those panels are vetted and selected through a rigorous process, including examining European Society for Opinion and Marketing Research documents detailing a uniform set of questions for survey panel providers on topics such as sample sources and recruitment, respondent profiling data, respondent privacy and data security, data quality and validation, and

survey incentives. Without controls and processes, data can be noisy and uncharacteristic of the audience it purports to represent. Whether in its collection, weighting or stratification, there is ample opportunity to introduce human error.

Exhaustive quality checks are implemented in Morning Consult surveys, including studies of average survey completion times and variable pairs found to have high correlations (e.g., party identification and political ideology, education and income, country headed in the right direction and leader approval, voting and political party, and consumer confidence variables).

Data cleaning is conducted in real time (independently of sample size) and quality assurance measures — including bot checks, timing tests, “red herring” answer options and straightlining checks — automatically remove unwanted respondents. Morning Consult uses several layers of deduplication and entity resolution to ensure unique respondents across panels and exchanges.



Morning Consult’s data collection approach is intentional, comprehensive and consistently updated to reflect the current climate.

Morning Consult also incorporates termination logic and heuristics to remove respondents who are suspected of fraudulent behavior.

In historically challenging markets like China, where public opinion research is limited, there are additional in-survey quality checks and sampling quotas to further ensure high-quality responses. The sampling process uses a vetted list of panel providers assessed for quality. For example, Morning Consult’s diverse set of panel providers affords access to respondents across all regions of China, and the sample is weighted to balance by geographic region.

# Stratification, Weighting and Benchmarking

Morning Consult uses a stratified sampling procedure to conduct its daily national surveys. In general, stratified sampling provides day-to-day stability in the gender, age and language composition of its sample and reduces variance when applying weights in post-processing.

Morning Consult then applies weights using iterative post-stratification once survey data has been collected.

In the United States, weighting is conducted using age, race, sex, educational attainment and census region. These variables are used across the survey research industry because there is high-quality census data available for each, they change gradually across the entire population, they are straightforward to measure on survey questionnaires and each variable has some influence on attitudes about politics or brands.

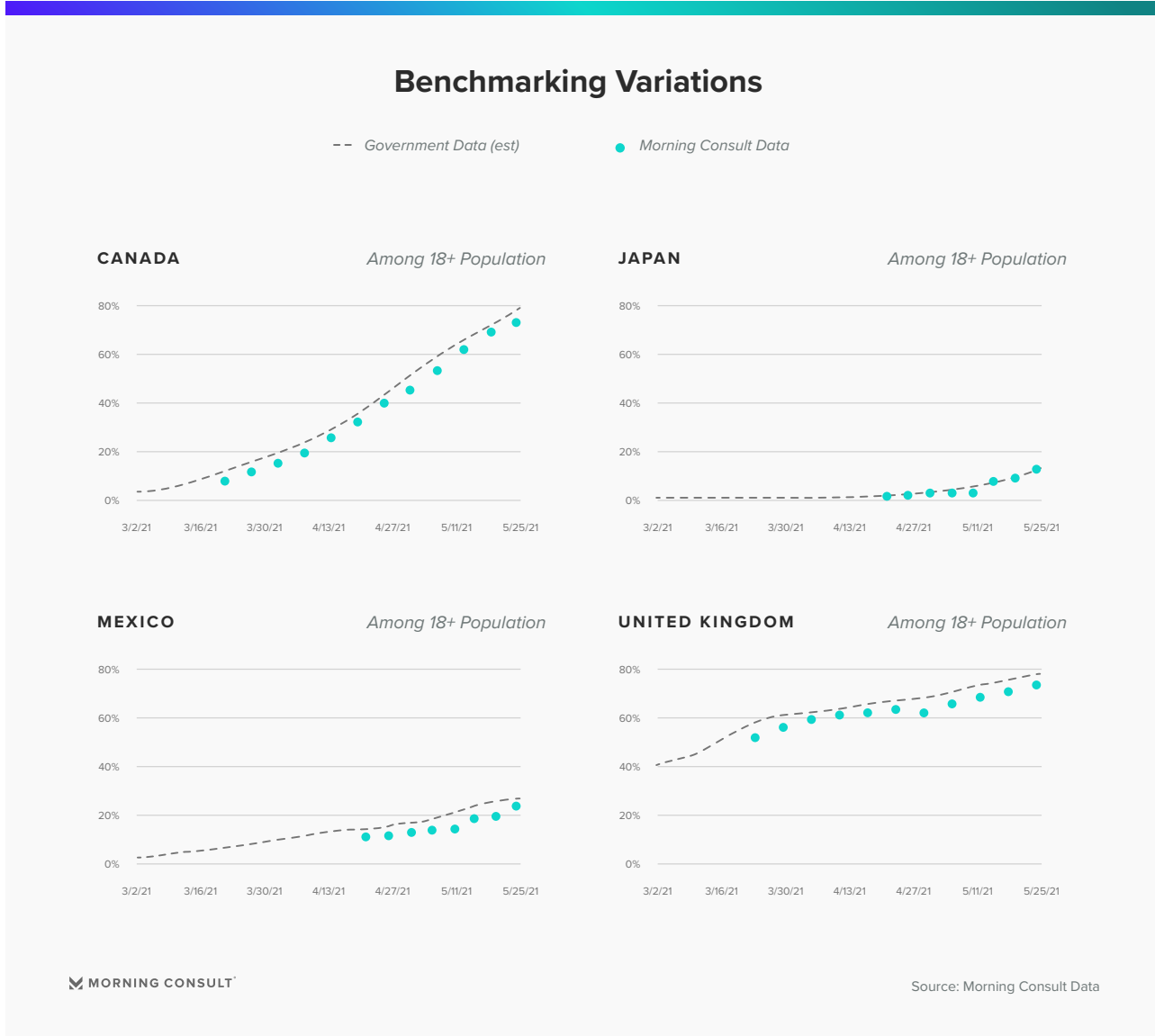
Internationally, Morning Consult's approach relies more on the latest government-provided, official population census data within each country, rather than using information from nongovernmental organizations or third parties, even if their data is more recent. This methodological choice can minimize the risk of having data and weights based on faulty assumptions or subjective weighting decisions made by other NGOs or third parties which are not disclosed publicly.

Demographic measures consist of a rotating set of benchmark and validation questions which are used to regularly inform revisions and updates to the survey methodology. Morning Consult's data science team conducts ad hoc, in-depth benchmarking on select consumer behaviors and trends to inform the data collection from the sampling stage (where Morning Consult stratifies on combinations of age, gender, education and languages spoken), to the weighting stage, where the data is adjusted on several additional dimensions.

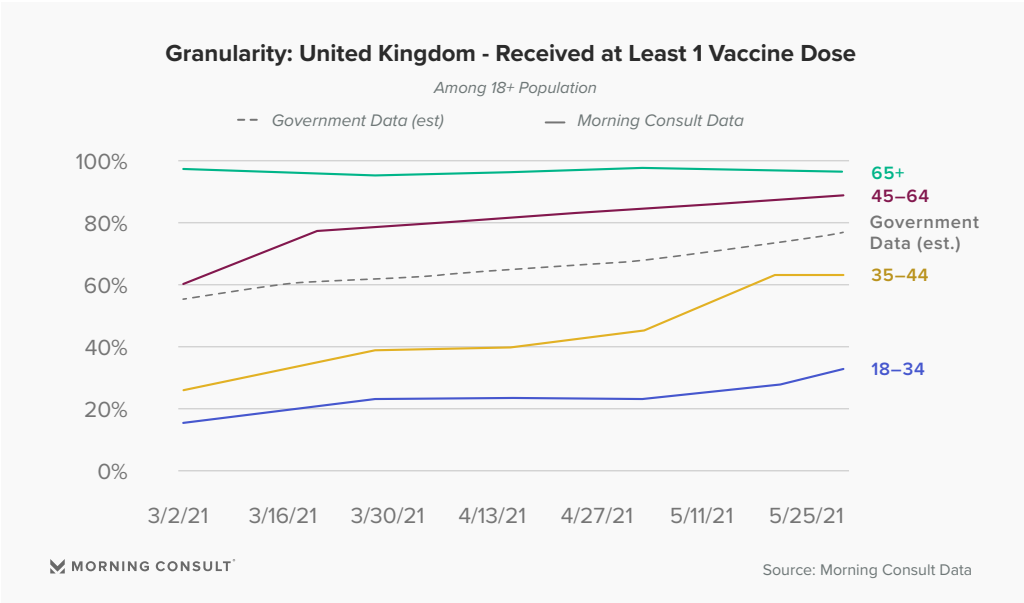
Committed to the highest quality, Morning Consult constantly benchmarks its data. For example, the company's self-reported vaccine data among the adult population was compared to government-provided benchmarks in a variety of markets. These benchmarks were derived from the "Our World in Data" data set<sup>9</sup>, which compiles various country-level statistics, and is re-published on the

<sup>9</sup> Hannah Ritchie, Edouard Mathieu, Lucas Rod s-Guirao, Cameron Appel, Charlie Giattino, Esteban Ortiz-Ospina, Joe Hasell, Bobbie Macdonald, Diana Beltekian and Max Roser, "Coronavirus Pandemic (COVID-19)," 2020, <https://ourworldindata.org/coronavirus>.

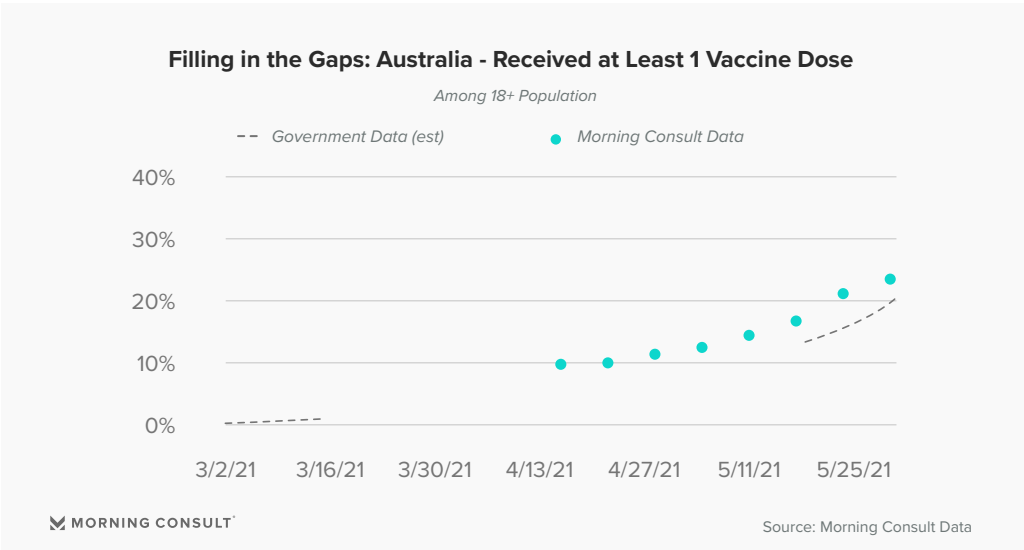
Centers for Disease Control and Prevention website. These benchmarks were then adjusted using population estimates to forecast the number of adults in each country who have received at least one dose of the vaccine. The chart below demonstrates the keen accuracy with which Morning Consult’s high-frequency data mirrored government-provided benchmarks.



A key difference between Morning Consult’s intelligence and that of official government data was the ability to closely examine vaccination rates across age groups and demographics. In the United Kingdom, for example, Morning Consult accurately determined vaccination rates starting in March 2021 for adults ages 18-34, 35-44, 45-64 and 65+.



In June 2021, Morning Consult’s data also supplemented gaps in official government data for missing time periods, including when Australia temporarily stopped reporting “people vaccinated” and switched to “doses administered.”<sup>10</sup>



<sup>10</sup> Cait Kelly, “Embarrassing”: Morrison government slammed over COVID-19 vaccine rollout data transparency,” The New Daily, May 19, 2021, <https://thenewdaily.com.au/news/coronavirus/2021/05/19/fully-vaccinated-australia-covid>.

# High-Frequency Survey Research Data Solutions

The benefit of a higher frequency in survey research is rooted in the ability to understand changes in real time and to produce large-scale data collections, which facilitate an examination of specific demographics as well as access to identifiable trends.

## The Largest Daily Tracking Survey

One of Morning Consult's most powerful advantages in the decision intelligence category is its global daily tracking survey, which interviews 17,000 people daily in more than 40 countries. This comprehensive survey powers the company's decision intelligence solutions and is relied upon by top leaders to deliver the foresight needed across business, economics and geopolitics.

The company's daily tracking survey interviews thousands of people every day on brands, economic conditions and geopolitical risk in every major and emerging market in the Americas (Argentina, Brazil, Canada, Chile, Colombia, México, Perú and the United States), Europe (Austria, Belgium, Czech Republic, France, Germany, Ireland, Italy, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, Romania, Russia and the United Kingdom), the Middle East (Egypt, Israel, Saudi Arabia, Pakistan, Turkey and the United Arab Emirates), Africa (Nigeria and South Africa) and the Asia-Pacific region (Australia, Bangladesh, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Thailand and Vietnam).

## Comprehensive Demographics & Psychographics

Morning Consult's daily tracking survey covers several demographic categories and audience profiles, including:

- **Basic demographics** (e.g., age, gender, education, ethnicity/race, religion, home language, citizenship, urban/suburban/rural, generation, gender identity, sexual orientation, gender by age, gender by education)
- **Lifestyle** (e.g., vehicle ownership, landline usage, cell phone usage, health status, health insurance status, news consumption, pet ownership, active athlete)
- **Political** (e.g., party identification, political ideology, voter registration, vote history, president/country leader approval, right direction/wrong track)

- **Employment** (e.g., employment status, industry, functional role, company size, seniority level, union membership)
- **Profiles** (e.g., consumer elites, financial elites, technology elites, media elites, policy elites, political elites, millennial elites by gender)
- **Household** (e.g., household size, marital status, kids in household, age/ gender of children, military household, home ownership)
- **Geographic** (e.g., state, regional, congressional district, metropolitan statistical area)
- **Financial** (e.g. income, investments)
- **Media Usage** (e.g., reading The New York Times, using Facebook, etc.)
- **Psychographic** (See below for more)
- **Miscellaneous** (e.g., had COVID-19, COVID-19 vaccination hesitancy, COVID-19 vaccination status, COVID-19 post-vaccination activities)

As noted above, psychographics are also included in Morning Consult’s demographic categories to offer a powerful and unique value to customer segmentation, analysis or point of view on brand, category or KPI data. These psychographic attributes span 10 categories:

- Consumer attitudes and habits
- Decision drivers and motivations
- Attitude, mindset and personality
- Concerns and stressors
- Environmental consciousness
- Identity, values and beliefs
- Preferences, priorities and tendencies
- Relationships and social engagement
- Innovation and technology attitudes
- Athletic habits

Psychographics offer a better understanding of receptivity to marketing and messaging than primary descriptors like demographics alone and are more enduring than behaviors. They complement the “who” of demographics and the “what” of behavioral data with critical and highly actionable insight on the “why.”

Individuals in the same demographic group don’t necessarily fall into the same psychographic group, so this profiling extension offers the opportunity for more targeted messaging, stronger communication, and most importantly, a better understanding of the audience when making key decisions. For example, by layering psychographic depths to economic sentiment for U.S. consumers, Morning Consult can forecast consumers’ propensity to spend depending on whether they consider themselves an optimist or pessimist.



The scale and high frequency of Morning Consult’s data collection, paired with this comprehensive approach to demographics, powers the company’s ability to examine and target niche audiences (e.g., millennial fathers, Gen Z shoppers or women ages 40 years and older who watch CNN weekly) of credible sample sizes.

For example, in conducting 40,000 weekly survey interviews in the United States on the [vaccine rollout](#), Morning Consult has been able to showcase granular insights such as vaccination opposition by industry, media consumption, education and more.

## High-Frequency Brand Data

*“How does my competitor fare in consumer trust compared to my brand?”*

*“Will our brand’s awareness increase when we release that new advertisement?”*

*“How will purchasing considerations change across alcohol companies over the next quarter?”*

Leaders use Morning Consult Brand Intelligence, the company’s high-frequency brand data, to monitor and forecast consumer behavior. Morning Consult collects daily consumer attitudes on key brand and product indicators for more than 4,000 brands in over 40 markets, including favorability and awareness, purchasing consideration, trust, value, net promoter score, community impact, buzz and recall, and employer brand.

### Use cases for MCBI include:

- Brand benchmarking to track brand perception and performance in real time with interactive data visualizations and customizable, automated reports sent straight to your inbox.
- Developing robust audience profiles for insight into key customer profiles with demographic and attitudinal distinctions.
- Gaining an advantage with insight into your competitor’s perception for strategic decisions about sales and partnerships.
- Identifying the most effective channels to reach key consumer groups across a variety of media.
- Discovering key insights to bring products to market by testing different feature sets with target audiences and determining the best pricing models.
- Tracking key issues to analyze their impact on your brand and industry over time.
- Managing crises by immediately evaluating the magnitude of a crisis on your brand and measuring the effectiveness of your response.

Users can overlay associated social media, news and economic data on the high-frequency brand data to offer a more complete landscape and guide more strategic decisions. MCBI integrates streaming data from the Twitter API, scanning the full universe of tweets to showcase metadata for any mentions of a given brand's name or tweets on the brand's official Twitter account(s). The platform also integrates more than 80,000 unique news sources – including regional, national, and international publishers as well as industry publications – through a streaming news API. These opportunities and functionalities empower users to better understand how issues are driving changes in sentiment every day.

## High-Frequency Economic Data

*“What impacts have supply chain disruptions had on consumers who are purchasing a car or house?”*

*“What percentage of part-time workers want full-time work?”*

*“How is inflation impacting consumers' pocketbooks?”*

Traditional economic indicators like the U.S. Department of Labor's monthly jobs report or the University of Michigan's Surveys of Consumers lag in frequency and scale, and sometimes use outdated modes of data collection, including telephone, fax or mail.

In contrast, Morning Consult Economic Intelligence, the company's high-frequency economic data, tracks key economic indicators like labor, spending and inflation across the world, reaching subpopulations and geographies not available elsewhere with a monthly sample size representing more than 300,000 respondents.

One extension of MCEI is its global consumer confidence data set: Consumer confidence remains a leading indicator of consumer spending, and the company offers the most robust data set on consumer confidence available today. Morning Consult conducts more than 17,000 daily interviews with adults in the world's largest economies to constantly gauge sentiment on the economy, businesses and consumers' likelihood to spend.

The consumer confidence dataset is based upon five questions (current condition of personal finances, 12-month expectations of personal finances, 12-month expectations of business conditions, five-year expectations of business conditions and current buying conditions). Morning Consult then uses those five questions to calculate three indices: Index of Consumer Sentiment, Index of Consumer Expectations and Index of Current Conditions. All three indexes rely on the net scores of the five individual questions. This structure offers data based both on individual components as well as the constructed

indexes. The data is scalable to represent countries around the world, states and even cities. Morning Consult offers daily consumer confidence emails with standard MCEI indexes and select demographics.

Morning Consult's consumer confidence data set filled the void left by traditional measurements during the COVID-19 pandemic, when the lack of real-time consumer spending data was never more apparent. For example, in 2021, retail sales for December 2020 were released on Jan. 15, and personal consumption expenditures for December were released on Jan. 29. The month-plus lag left businesses and economists with no easy way to grasp the current strength of consumer spending as the country navigated the next phase of the pandemic.

Morning Consult's daily consumer confidence filled this gap, as its Current Buying Conditions Index among high-income consumers (respondents from households earning \$100,000 or more annually) became the strongest high-frequency indicator of consumer spending, showing a strong positive correlation with real personal consumption expenditure (.96) and real retail sales (.90).<sup>11</sup> Against the backdrop of the pandemic and stimulus support for households, the more robust slate of economic indicators informing the high-income CBC Index anticipated an increase by the end of March to a value of 110 (on a scale of 0-200), driving consumer spending and retail sales higher by 1% to 2% over the next two months — then-critical intelligence for business leaders.

Morning Consult's high-frequency MCEI data also features **additional key economics indicators**, including:

- **Global employment** (e.g. unemployment rate, employment-to-population ratio, labor force participation, willingness of employed adults to leave jobs),
- **Pay or income** (e.g. lost pay, pay expectations)
- **The U.S. labor market** (e.g. employment expectations, productivity relative to pre-pandemic, willingness of unemployed to change industries/locations to find work, desire to work more hours and why, etc.),
- **U.S. household finances** (e.g. sources and amounts of income, expenses and spend categories, frequency of visiting and using grocery stores, restaurants, bars, online alcohol delivery, online grocery delivery),
- **Outstanding debts and monthly debt repayments** (e.g. adequacy of income relative to expenses)
- **Inflation expectations** (e.g. the percent by which their incomes would have to increase or decrease to make up increases or decreases in prices).

<sup>11</sup> John Leer, "To See What's Next For Consumer Spending, Take a Closer Look at High-Income Consumers' Confidence," Morning Consult, Feb. 4, 2021, <https://morningconsult.com/2021/02/04/consumer-confidence-spending-pandemic>.

These high-frequency economic datasets have been adopted by central banks around the world: Morning Consult's daily consumer confidence dataset is used by Germany's Bundesbank as an indicator for its [Weekly Activity Index](#) and by the Federal Reserve Bank of Chicago for its [Chicago Fed Advance Retail Trade Summary](#) index. Morning Consult and the Federal Reserve Bank of Cleveland also proposed a new, indirect way of measuring consumer inflation expectations,<sup>12</sup> launching an [Indirect Consumer Inflation Expectations Index](#) to reflect weekly inflation expectation data of approximately 20,000 U.S. adults every week — an effort dubbed a “rare reliable cross-country gauge of public inflation expectations” by The Economist.<sup>13</sup>

## High-Frequency Geopolitical Data

*“Did China view Russia more negatively after its state media reported on the country's atrocities in Ukraine?”*

*“Do U.S. voters support White House outreach to dictators to achieve lower gas prices?”*

*“If consumers in major global markets want a greener climate, do they expect companies to pay for it?”*

The factors in decision-making are infinite, and one of the most critical factors is understanding the current political and regulatory climate. Morning Consult Political Intelligence consists of high-frequency geopolitical risk data sets that enable leaders to assess political risk, prepare for shifting political issues and legislative priorities, and navigate the broader landscape.

Internationally, Morning Consult collects thousands of interviews around the world every day on key geopolitical risk indicators, including, but not limited to: leader approval, the direction of the country (right track/wrong track), the state of the national economy, impressions of other countries, food security, environmental concerns, equality of opportunities by gender and race, intergenerational economic and social mobility, fairness and corruption, corporate responsibility and taxation, intellectual property, involvement in global affairs, employee labor protections, minimum wage, market competition and threats to the country.

<sup>12</sup> Ina Hajdini, Edward S. Knotek II, Mathieu Pedemonte, Robert Rich, John Leer, and Raphael Schoenle, “Indirect Consumer Inflation Expectations,” Economic Commentary, March 1, 2022, <https://www.clevelandfed.org/en/newsroom-and-events/publications/economic-commentary/2022-economic-commentaries/ec-202203-indirect-consumer-inflation-expectations.aspx>.

<sup>13</sup> Even outside America, inflation is starting to look entrenched,” The Economist, May 14, 2022, <https://www.economist.com/finance-and-economics/even-outside-america-inflation-is-starting-to-look-entrenched/21809225>.



# Analytical Applications

The frequency and scale of these proprietary data sets lend themselves to analyzing, modeling and forecasting what people think and how they will act when combined with artificial intelligence applications, including predictive modeling, time-series forecasting, machine learning and NLP.

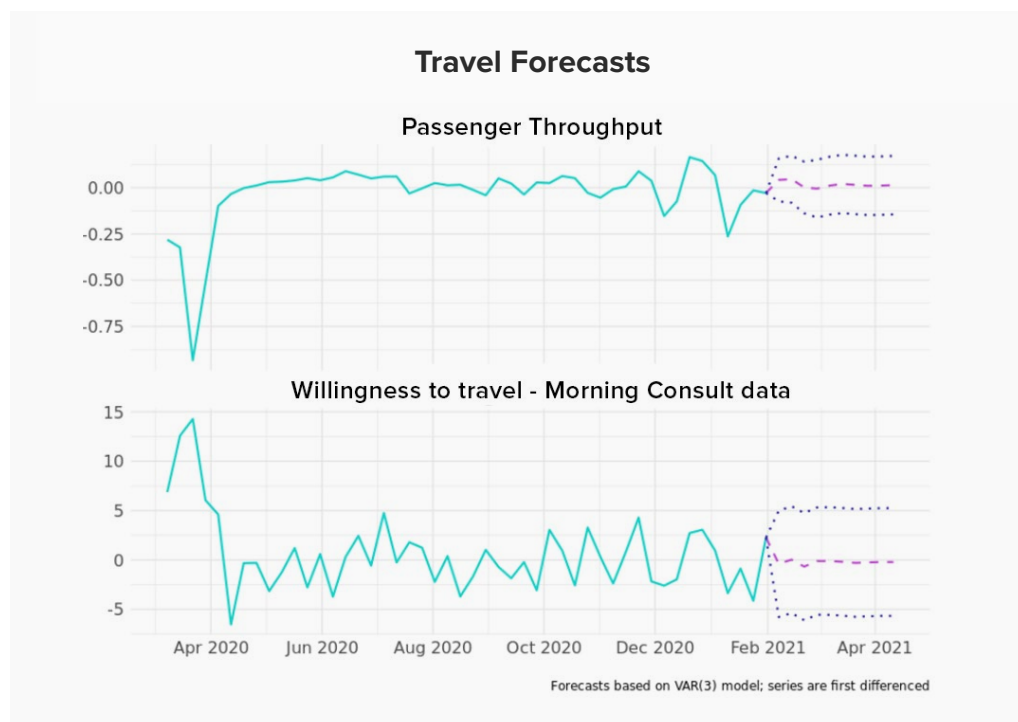
As a technology-first company, Morning Consult invests in data science-specific tools and analytic approaches, empowering its in-house engineers, data scientists and product experts to create applications and functionalities for its decision intelligence technology.

One of the hallmarks of the engine by which public opinion data is collected at Morning Consult is the ability to establish trend lines for opinions and attitudes over time. Whether in the context of MCBI — a veritable arsenal of brand-specific reputational metrics, consumer confidence indicators, and public opinion around political figures — or in the form of more niche, client-specific custom tracking surveys, there is tremendous capacity for measuring how public opinion evolves over time and meaningfully predicting movements in other time series, including real-world outcomes such as sales, consumer spending and purchasing behavior.

# Predictive Modeling and Forecasting

Morning Consult’s predictive modeling and time series forecasting leverages the company’s proprietary brand, economic and political intelligence to benchmark results to real-world outcomes.

One clear example includes substantiating a leading relationship between Morning Consult’s comfort tracking data (specifically willingness to travel) and publicly available passenger throughput data reported by the Transportation Security Administration. Time-series techniques commonly used in economics and finance allowed Morning Consult to establish that its data series on how comfortable people were with travel corresponded with actual airport passenger throughput about two weeks later. Morning Consult’s data was therefore a leading indicator, meaning that knowing today’s values powered insight into what would happen weeks later.



This is just one illustration of how Morning Consult leverages its high-frequency survey research data to anticipate “real world” consumer behavior, surfaced through a framework which developed an empirical link between those perceptions and actual passenger throughput on airlines.

While the underlying models and relationships are not perfect oracles for the future, they serve as tools to help inform forecasts as part of a broader suite of decision intelligence analysis.

## Small Area Inference

Another form of advanced modeling – multilevel regression and poststratification (MRP) – is a method to produce subnational estimates from national-level surveys. For example, regular surveys conducted for the United States as a whole do not provide reliable estimates at the state level, especially for smaller states. To solve this, MRP combines different statistical techniques to generate reliable subnational results from data collected through national surveys.

First, a multilevel regression model estimates the response patterns of different demographic groups across subnational geographies for a survey question of interest. In this framework, smaller geographies and demographic groups with fewer respondents can “borrow” information from larger groups through partial pooling. Additional geographic-level information can also be incorporated as predictors to account for other geographic-level effects. This model is usually estimated by hierarchical Bayesian estimation.

Second, the post-stratification step weights the model outputs proportional to the demographic share within each geography to generate subnational level estimates for the survey question.

Combining these two approaches allows for subnational outcomes to be estimated by modeling the group-level relationships, incorporating geographic-level information and projecting the results to match subnational demographics.

## Impact Evaluation

One predictive modeling application uses impact evaluation to quantitatively determine the impact of an advertising campaign, a new product launch or brand repositioning, a reputational crisis, etc. This approach leverages counterfactuals: Morning Consult measures the difference between what *did* happen as a result of some event or intervention (again, think advertising campaigns, major shifts in brand positioning, reputational crises, etc.) against what *should* have happened had that event or intervention not occurred.

This application includes a synthetic control, a series approximating how our impacted series behaves in the absence of that event or intervention and composed of other series that were not impacted by the event or intervention we’re trying to measure. MCBI, featuring thousands of candidate control series across different industries and geographies, is uniquely positioned for this utility.

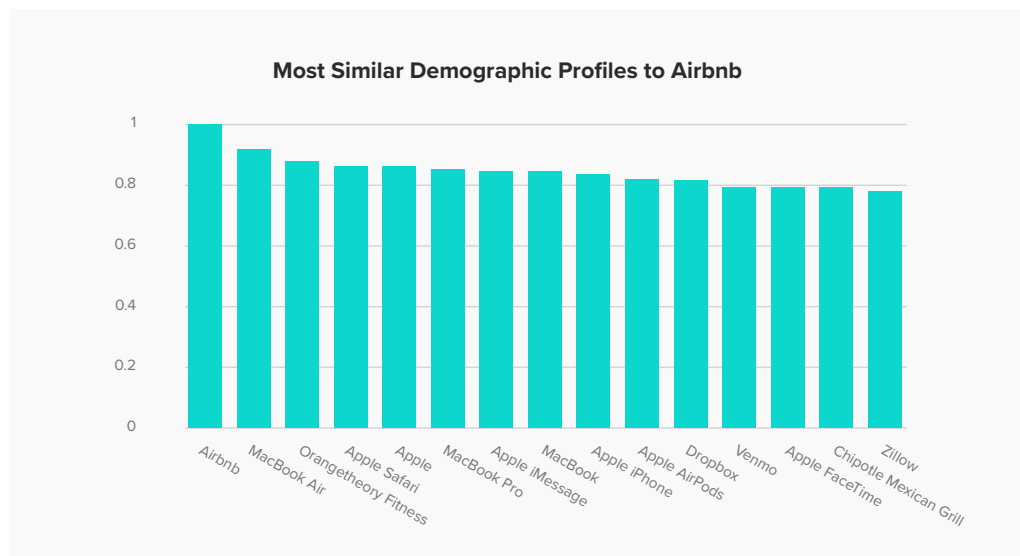


# Machine Learning

Morning Consult also develops and creates machine learning models to mine insights from the company's first-party and third-party data sets.

The company's entity-profiling tool, for instance, offers predictive insight into demographic and attitudinal similarities across audiences. The tool models affinity between characteristics of survey respondents and the entities that are the objects of the survey questions. This reveals entities (such as brands, political figures or media sources) with similar groups of supporters.

For example, the technology can determine what demographics tend to have a high affinity for Airbnb Inc., then showcase other brands (or politicians, or media usage channels, or arbitrary other entities) for which that same set of demographics also has high affinity. The results can then be leveraged powerfully to help assess promising new partnerships and advertising campaigns, as well as for strategic planning and establishing competitive brand sets.



As mentioned earlier, MCBI measures consumer perception and metrics of thousands of brands every single day across hundreds of demographics. An event-detection tool monitors entities for all brands and metrics across key demographics, categorizes events and trends (both positive and negative) and can forecast perception changes (e.g., how long a metric may be volatile relative to trend, change in overall metric value, etc.). As professionals examine metric movement compared to competitors or whether a product release impacts a brand, this machine-learning method isolates periods of change to answer deeper questions about brand health implication.

# Natural Language Processing

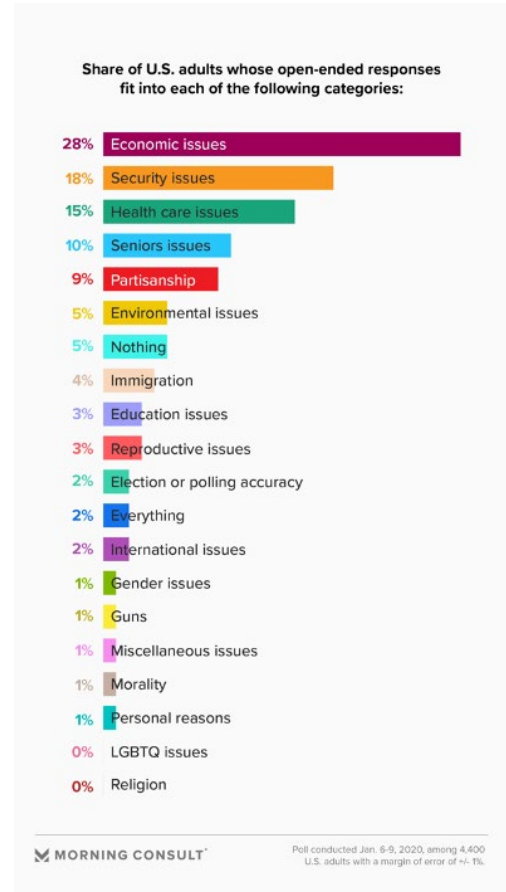
Morning Consult uses natural language processing (NLP) for a variety of applications, including the identification of themes and qualitative insights from open-ended survey responses.

Traditionally, open-ended survey responses are hand-coded, which is a labor-intensive, error-prone and costly process that is highly subject to who is “coding.” To solve this problem, Morning Consult developed a proprietary language processor to analyze and derive richer insights and more compelling narratives from large sets of open-ended data faster and more accurately. This processor efficiently scours qualitative sentiments, attitudes and perceptions in an exploratory way to surface key readable and actionable themes.

Morning Consult maps authentic drivers and associations by using artificial neural networks trained on massive quantities of text data to programmatically enhance the understanding of each response within the respective language. The company’s proprietary tools quantify rich but difficult-to-work-with qualitative data, offering an extraction of insights with more scale and precision than possible using traditional research methods alone. Responses are clustered into distinct, coherent themes via unsupervised machine-learning modeling, while dimensionality reduction algorithms are used to render the responses as clusters of thematic responses on an interactive, web-based visual.

For example, ahead of the 2020 presidential election, Morning Consult provided 4,400 U.S. adults with an unlimited blank space and a simple prompt: “Specifically, what is the one main issue you are concerned about when casting your vote for the 2020 presidential election?”<sup>14</sup> The exercise leveraged the company’s NLP technology that, after being trained, modeled the ability to “understand” the semantic and syntactic meaning of words, and was able to account for most misspellings (recognizing “Medicade” as “Medicaid,” for example).

<sup>14</sup> Joanna Piacenza, “What Is the 2020 Election About? We Gave 4,400 People a Blank Space to Tell Us,” Morning Consult, Feb. 4, 2020, <https://morningconsult.com/2020/02/04/what-is-the-2020-election-about-we-gave-4400-people-a-blank-space-to-tell-us>.



The survey, which aimed to eliminate potential bias that can emerge from guided prompts by simply allowing respondents to write what was on their mind, found that the lion's share of people across the country cited the economy as their main issue for 2020. Stan Veuger, a resident scholar in American Enterprise Institute's economics department, said the experiment suggested "there's more discontent with the economy than the macro numbers would let on," a nod to the economic issues leading election discourse and fueling an incumbent advantage.

# Decision Intelligence Actualized

Whether the need is corporate, financial or public, Morning Consult's decision intelligence technology is proprietary in nature and relied upon by modern global leaders. The company's client base represents more than half of the Fortune 500, including 4 of the top 5 technology companies, 4 of the top 5 pharmaceutical companies, 6 of the top 10 food & beverage companies and 10 of the top 15 financial services companies, as well as top central banks.

Marketing and insights leaders turn to the company's intelligence to monitor their brand health, identify the most effective channels to reach key consumer groups and compare their brand performance against competitors. Communications leaders message test their campaigns, track their company's reputation among unique customer markets and monitor the impact of crises. Public affairs leaders better measure top policy issues affecting voters and track changing dynamics across the country to assess the regulatory environment. Finance and business leaders access their customers' buying power and spending patterns.

Morning Consult's intelligence has the power to unite brands and geopolitics over an extended period of time: In 2020, Nike Inc. published a statement expressing concern about reports of forced labor among Uyghur Muslims in Xinjiang, the region of China where much of the world's cotton gets picked and produced. Other retail giants, including fellow athletic brand Adidas AG and fast-fashion company H&M Hennes & Mauritz AB, also issued statements, but it was not until the following year that their statements drove action.

In March 2021, the United States and other Western countries imposed sanctions on China for the allegations in March. For Nike and other retailers, the backlash from Beijing was swift and strong, with Nike primarily front and center in the headlines. Within days, Chinese social media circulated (and blasted) the statements. Celebrities cut ties with the company, and the country's state media called for a boycott of multiple retailers.

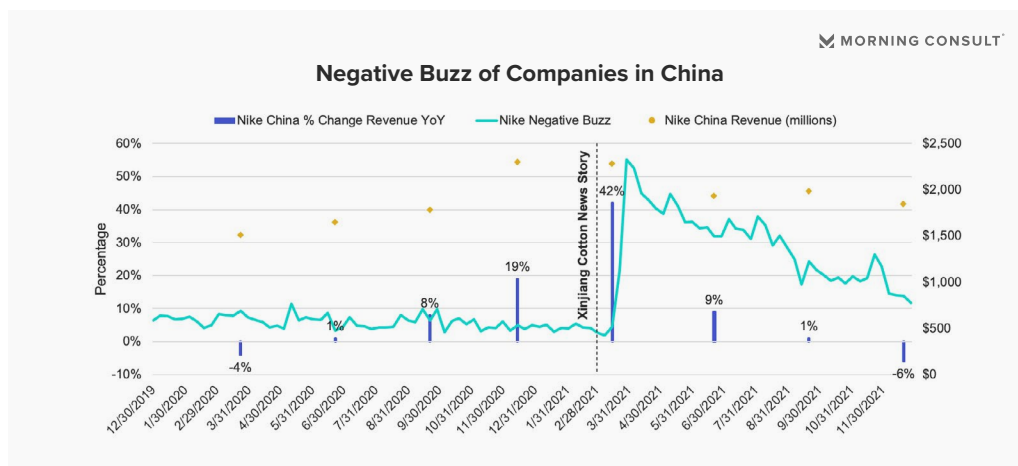
How the propaganda would affect Chinese revenues, however, wasn't immediately clear to investors — especially after Nike's double-digit growth (25%) in spring 2021, before the boycotts. The company had insisted any decreased revenue growth was due to supply chain disruption. Yet Morning

Consult’s economic indicators had suggested a different story: The drop in revenue was actually the result of a decrease in demand caused by the geopolitical moment.

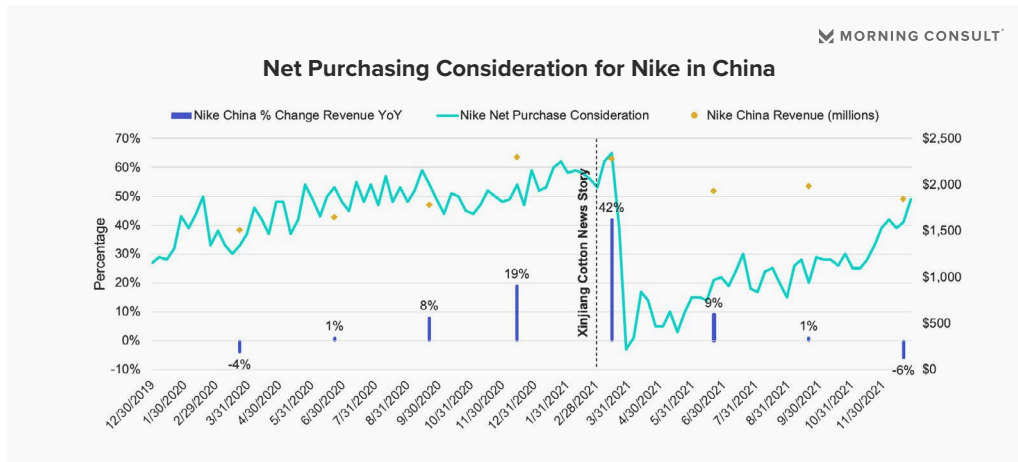
Nike and Adidas saw enormous jumps in negative news awareness following the Xinjiang cotton news story, with nearly 50% of the Chinese population saying they were aware of negative stories.



Declines in Chinese revenue and a year-over-year revenue change for Nike followed the massive increase in negative buzz in the wake of the Xinjiang cotton news story.

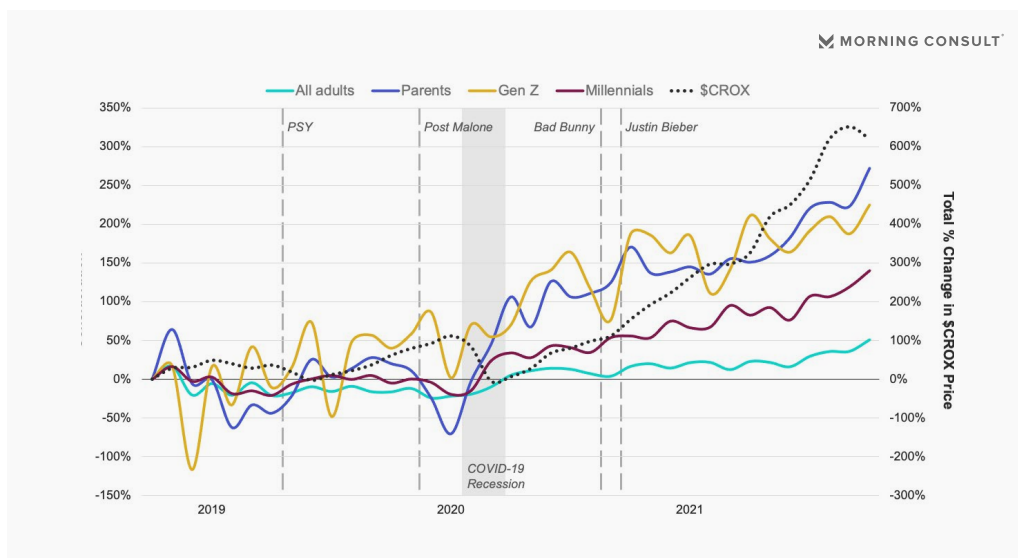


Morning Consult’s high-frequency survey research on Nike identified decreases in purchasing consideration in China well before the drop in Nike’s Chinese sales growth was publicly reported. If investors had seen these insights ahead of Q4 2021 earnings — when Nike reported 6% growth year over year — it would have offered them an edge in understanding how geopolitics affects their brand positioning, especially in usually opaque consumer data markets like China.



Morning Consult’s purchasing consideration metric was also leveraged within the past few years when the Crocs Inc. brand took off, with celebrities from Bad Bunny to PSY to Drew Barrymore partnering with the foam clog company. All this explosive growth begged the question: Is it sustainable? To find out, Morning Consult plotted the percent change in CROX’s stock price against its own Net Purchasing Consideration data. Then, the data was split into generation groups, noting when major celebrity collaborations were released.

Past performance suggests rising purchasing consideration is a good signal that stock price might continue to grow. For business leaders and shareholders, this kind of predictive data can be critical.



High-frequency data is also crucial for sounding the alarm on critical events as they happen.

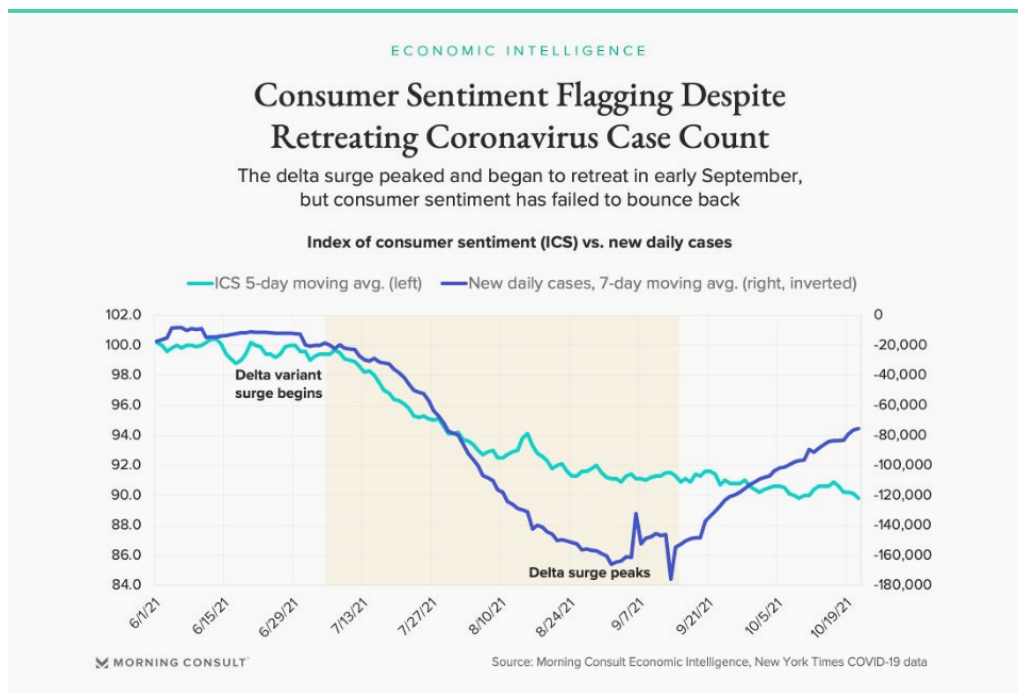
As noted earlier, traditional indicators, unlike Morning Consult's survey research data collection, continue to fall behind in frequency and scale. For instance, the company's data identified potential warning signs for a decline in the U.S. gross domestic product five weeks ahead of the U.S. Commerce Department's confirmation in Q3 2021.

Historically, consumer sentiment had improved when COVID case rates declined. When sentiment improves, spending usually increases, causing the GDP to rise. As expected, consumer sentiment declined from July to September 2021, presumably due to the delta variant wave, indicating potentially disappointing spending levels.

So when case counts started falling in September 2021, more traditional, lesser-frequency measurements naturally suggested consumer sentiment would rise in response.

However, Morning Consult's Index of Consumer Sentiment, reflecting tens of thousands of consumer interviews, posted declines into September, even as case rates improved. Morning Consult's data indicated supply chain disruptions and elevated inflation expectations were the likely factors depressing sentiment, meaning that the delta variant was no longer the dominant driver.<sup>15</sup>

On Oct. 28, 2021, the Bureau of Economic Analysis reported a decline in GDP — confirming what Morning Consult had detected weeks before.



<sup>15</sup> Kayla Bruun, "Consumer Sentiment Sinks Despite Progress Against Delta Variant." Morning Consult, October 28, 2021, <https://morningconsult.com/2021/10/28/sentiment-sinks-despite-progress-against-delta/>.



The above examples are just three of countless that illustrate the distinct nature of Morning Consult's leadership in the decision intelligence category for the global corporate, financial and public sectors.

**Other examples include** (but are not limited to):

- **A major ride-hailing company** used Morning Consult's NLP capabilities in an open-ended analysis to understand consumer concerns related to self-driving vehicles.
- **A multinational food industry company** needed foresight into how the pandemic would affect consumer demand and how it could attract and retain factory workers to meet that demand. The company leveraged Morning Consult to track labor trends among its core employee segments, monitor consumer sentiment to forecast demand and track supply chain issues to maximize profits and efficiency.
- **A global fintech company** sought to understand small-business owners' views on their current and future financial conditions during the pandemic as it worked to partner with online payment services. The company established an ongoing index with Morning Consult to track small businesses' shifts to digital commerce and investments in technology upgrades.
- **A top video communications technology company** tracked feedback from U.S. federal, state and local government employees who use audio and video communication platforms in a work setting at least once a month to better understand government sector adoption.
- **A leading social media company** surveyed Gen Zers to inform its in-app educational awareness resources as part of its response to the fentanyl crisis.
- **A multinational technology corporation** surveyed professionals in 15 markets who have significant insight or input into their company's IT decision-making to better understand the deployment of artificial intelligence in business.
- **A global consumer electronics company** and its creative agency worked with Morning Consult to design a custom campaign effectiveness program to track the company's campaigns throughout the year and around the globe. This effort built benchmarks for success for individual campaigns and helped refine message strategy on subsequent campaigns to improve effectiveness.

As illustrated above, the decision intelligence category can empower organizations to make data-driven decisions — but high-quality, high-frequency survey research data must be the foundation of that practice. Only then does it have the power to transform your team, your organization, and ultimately, your industry.

# Acknowledgements

Morning Consult's approach to its decision intelligence technology is pioneered by its hard-working team members across the country and around the world.

Morning Consult contributors to this paper include Alex Dulin, co-founder and chief technology officer; Max Courtney, chief commercial officer; Tyler Sinclair, chief research officer; Libby Isenstein, chief product officer; Zach Koerber, chief strategy officer; Meredith Yang, senior vice president of strategy; Jack Walter, senior vice president of engineering; Adam Petrihos, vice president of data science; Sam Goodgame, vice president of product; Steffen Weiss, Ph.D., associate vice president of research science; Eileen Connor, senior director of strategy; Alexander Podkul, Ph.D., director of research science; John Leer, chief economist; Morgan Halvorsen, senior standards editor; Jeff Cartwright, chief growth officer; and Olivia Petersen, vice president of communications.

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Michael Ramlet is the co-founder and CEO of Morning Consult, a global decision intelligence company changing how modern leaders make smarter, faster, better decisions. Ramlet co-founded Morning Consult in 2014 and has since bootstrapped the company from \$30,000 in angel capital to a more than \$1 billion valuation, achieving “unicorn” status for the company in less than seven years.

Before co-founding Morning Consult, Michael was a principal at Purple Strategies. He earned his bachelor’s degree in business strategy and public policy from the University of Minnesota’s Carlson School of Management, where he has also served as an adjunct lecturer. Michael currently sits on the Carlson School’s Board of Advisors.

## Kyle Dropp, Ph.D.

Kyle Dropp, Ph.D., is the co-founder and president of Morning Consult. As a prominent scholar in survey research and data science, his 2015 landmark theory on “shy Trump voters” became a fundamental concept of 2016 election discourse.

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