How should we recapture consumer demand in the post-lockdown period? Which stores should we reopen? Where should we invest in marketing?

Businesses make millions of decisions in response to these and many other questions every week. Cumulatively, their decisions will affect the shape of the rebound and help determine the winners and losers within it.

At BCG, we constantly encounter questions like the ones above as we advise our clients. Unfortunately, traditional time-series-based customer demand forecasting is impractical in this unprecedented environment. So instead, companies are turning to an array of high-frequency indicators that, taken together and integrated with their internal data, provide the latest pulse on where demand and supply are headed.

In this week’s snapshot, we look beyond consumer sentiment to other data sources, leading indicators, and models, and we explore how they, in combination with sentiment, can deliver powerful insights that are critical to creating advantage in the COVID-19 recovery and the new reality.

A Note on Our Approach: A Lighthouse to Navigate the New Reality

Our team of data scientists, engineers, and consultants has built an AI platform for decision support and scenario planning during COVID-19 called BCG Lighthouse—and we used it to develop the insights that appear in this article. By bringing together epidemiological models, consumer data (credit card spend, mobility, sentiment, and the like), micro- and macroeconomic indicators (such as unemployment claims, job listings, and government measures), information on health care system capacity, and digital leading indicators (web traffic, search, and social media trends), BCG Lighthouse gives companies a foundation for building simple, rapid decision-making dashboards to help them make tough choices. Although this platform does not obviate the need to build custom solutions
to deal with a company’s specific situation, it can dramatically shorten the time needed to design and build them. Most importantly, it enables leaders and teams to act quickly on data-driven analytical insights rather than relying on gut-based decisions in the face of tremendous uncertainty—or delaying decisions altogether.

The capability is most powerful when it incorporates data from a broad range of parameters. But trying to make sense of so many signals can be a disconcerting challenge for leaders who must rapidly make important decisions. In our experience, it is important to arm executives not only with the right customized dashboards but also with a go-to recovery index that captures a multiplicity of data in a single easy-to-understand number that they can compare across markets at a granular level. With this in mind, we have developed the Consumer Activity Index (CAI), which captures underlying trends in consumer mobility and spending data, along with economic indicators such as unemployment, in a single metric available by geography (down to the county or market level). Businesses can use this score to decide which markets to focus on when allocating inventory, re-opening stores, or investing scarce dollars in media and promotions.

At the same time, businesses need to consider underlying trends and build a de-averaged understanding of the data. On-the-ground trends differ widely across geographies. (See Exhibit 1.) Some states (such as New York and New Jersey) have seen recent levels of footfall traffic drop by close to two-thirds, while mobility in others (such as Alaska, Kansas, and Iowa) is close to what it was last year. Another important variable is the virus contagion rate—a measure of how many other people each COVID-19-infected person is likely to infect. In some states, this rate is twice as high as it is in others. Monitoring these types of real-time trends can enable companies to consider an appropriate range of scenarios regarding how consumer activity could evolve in specific geographies.

Insights from the Lighthouse

Working with the BCG Lighthouse platform, we have performed a number of deep dives in specific areas of the econo-

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**US**

**EXHIBIT 1 | Estimated Contagion Rates and Mobility Differ Widely Across the US**

Sources: Footfall numbers are based on Foursquare Factual data; estimated infection rate is calculated on the basis of local and state case reports; BCG analysis.

$R_0$ (basic reproduction number) is the number of new infections estimated to be generated from a single case of the virus. The COVID-19 situation is rapidly evolving, on a daily basis. This represents one scenario based on discrete data from one point in time. It is not intended as a prediction or forecast about duration of lockdown; peak of viral infections; efficacy of government or health care responses to the virus; or other health or societal impacts, and does not represent an “official BCG view.” It is also not does not constitute medical, legal or safety advice, and is not an endorsement or recommendation of a particular response.
my. In each case, these efforts have yielded illuminating insights. In this article, we will focus on inquiries into five such areas: grocery retailers, restaurants, travel, automotive, and fashion retailers.

**Grocery Retailers**

In our work with grocery retailers and consumer goods manufacturers, we have found that monitoring changes in credit card spending, stated intention to spend, and changes in web traffic and online search trends, when done in combination, can shed light on the leading indicators of demand. (See Exhibit 2.) Changes in web traffic and searches presage spending trends by a week or so, and sentiment signals can help researchers understand the extent to which these changes are likely extend beyond that period.

As the example of consumer behavior in the retail grocery segment shows, looking at overall sales trends is not sufficient. After a massive spike, overall grocery sales in many markets have reverted to levels seen earlier in the year. (See Exhibit 3.) Underlying that trend, however, is the fact that consumers have significantly cut back on the number of trips they make, likely to avoid frequent interactions with others due to COVID-19, but have increased the total transaction size for each trip. For grocers, this change in consumer behavior has profound implications for assortment decisions, and it raises new challenges for the marketers of impulse add-on items.

De-averaging trends is an important analytical step—in the retail grocery business and in other consumer-focused industry segments as well.

**Restaurants**

Following an initial period of sharply declining sales across the US restaurant industry, as a result of lockdowns, declines now appear to be leveling off. Nevertheless, we see significant variation in performance across the industry: quick-service (that is, fast-food) restaurants are performing better than average, and casual-dining restaurants are performing worse than average—no surprise, given that dine-in has been shut down. (See Exhibit 4.) In terms of specific cuisines, pizza chains are enjoying

---

**US – GROCERY DEEP DIVE**

**EXHIBIT 2 | Data for Real Spending, Forward-Looking Sentiment, and Web Searches Trend Closely but Are Most Valuable When Assessed Together**

<table>
<thead>
<tr>
<th>Date (week ending)</th>
<th>Online grocery</th>
<th>Real change in spending</th>
<th>Real change in web traffic</th>
<th>Consumers expecting to increase spending during the next month</th>
<th>Survey respondents (%)</th>
<th>TIME FRAME</th>
<th>KEY USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 29</td>
<td>59</td>
<td>154</td>
<td>84</td>
<td>13</td>
<td>50</td>
<td>Historical</td>
<td>Refine predictive models and analyses</td>
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<tr>
<td>Feb 5</td>
<td>108</td>
<td>40</td>
<td>20</td>
<td></td>
<td>60</td>
<td>Immediate term</td>
<td>Prepare for immediate changes in demand</td>
</tr>
<tr>
<td>Feb 12</td>
<td>119</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td>Short term</td>
<td>Identify changes most likely to carry into the near future</td>
</tr>
<tr>
<td>Feb 19</td>
<td>121</td>
<td></td>
<td></td>
<td></td>
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</tr>
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<td>Feb 26</td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Sources: SimilarWeb (www.similarweb.com); Earnest Research, May 6, 2020; BCG COVID-19 Consumer Sentiment Survey, April 24–27, 2020 (N = 2,783 US), unweighted, representative within ±3% of census demographics; BCG analysis.

Note: Spending data is based on consumer credit card/debit card/checking account activity from a panel of US consumers from Earnest Research (tracked responses exclude cash/other).

Survey question text: “In the next month, how do you expect your online spend for the following types of products to change, relative to your spend in-store (Packaged food, Fresh food)”
US – GROCERY DEEP DIVE

EXHIBIT 3 | The Grocery Sales Spike from Initial Panic Buying Was Temporary, but Some Changes in Consumer Shopping Behaviors Have Persisted

Sources: Earnest Research, May 6, 2020; BCG COVID-19 Consumer Sentiment Survey, April 24–27, 2020 (N = 2,783 US), unweighted, representative within ±3% of census demographics; BCG analysis.

Note: Spending data is based on consumer credit card/debit card/checking account activity from a panel of US consumers from Earnest Research (tracked responses exclude cash/other).

134% is the net percentage of respondents who are likely to increase grocery shopping trips “to stock up” (calculated as the difference between the percentage who are likely to increase and the percentage who are likely to decrease); 23% is the average percentage of respondents who said they are somewhat or a lot less likely to grocery-shop for any reason other than “to stock up” (calculated as the difference between the percentage likely to decrease and the percentage likely to increase). Survey question text: “How have your grocery shopping habits changed for each of the following types of trips?”

US – RESTAURANT DEEP DIVE

EXHIBIT 4 | COVID-19’s Impact on Sales in the Restaurant Industry Is Variable

Sources: BCG Gamma; Earnest Research, May 6, 2020; BCG analysis.

Note: Indices are the weighted average year-over-year change in sales of restaurants with available data in each category (weighted by 2018 systemwide sales). Large/small chains are defined as restaurants with over/under $1 billion in systemwide sales during 2018, according to Technomic. Casual-dining restaurants (for example, Olive Garden and Outback) N = 18; fast casual restaurants (for example, Chipotle and Panera Bread) N = 15; quick-service restaurants (for example, McDonalds and Subway) N = 24; third-party aggregators (for example, DoorDash, Uber Eats, Grubhub, and Seamless) N = 8. Data based on consumer credit card/debit card/checking account activity from Earnest Research (tracked responses exclude cash/other).

1Large chains include restaurants such as McDonald’s, Chipotle, and Applebee’s.

2Medium-size and smaller chains include restaurants such as Shake Shack, Moe’s Southwest Grill, and Bahama Breeze.
growth of 13%, while sales at family-style restaurants and cafés are down 55% to 75%.

Third-party delivery aggregators, such as DoorDash, Uber Eats, Grubhub, and Seamless, have substantially exceeded their baseline growth, as many restaurants now rely on them to reach customers at home. Going forward, restaurants must secure their top line with rapid changes in their menu offerings and must innovate new channel and service options to meet changing customer needs.

Many companies were already advancing their digital agendas, and the quick shift to lockdown during the recent crisis has highlighted the importance of moving quickly—particularly in the restaurant industry. We conducted a regression across 35 large restaurant chains and 23 factors to understand what was driving differences in recent performance across brands. Digital transaction penetration was the most important predictor of stronger performance during the crisis—and was nearly twice as important as the COVID-19 exposure variable. (See Exhibit 5.) Companies that accelerated their digital and off-premises agenda before the crisis are being rewarded. It is increasingly important for restaurants to accelerate their digital demand generation and encourage customers to develop sticky habits during the crisis that will benefit them in the subsequent recovery.

Consumer sentiment data indicates that restaurants oriented toward younger audiences are likely to recover more speedily, given that Gen-Zers are the cohort least concerned about catching the virus at a restaurant, and given that a substantial majority (74%) of them believe that they will revert to their normal spending levels at restaurants once the virus is under control. (See Exhibit 6.)

Travel

The travel sector is currently enduring dark days because of COVID-19. In terms of overall weekly sales based on credit card spending (which reflects future bookings), the results for airlines, cruise lines, and hotels look quite similar, with total sales plummeting 80% to 90% across all three. In reality, however, each industry is feeling different effects. For example, hotels experie
enced a bigger decline in number of unique customers —down to just 15% of what it was in 2019—than did cruise lines, which retained 27% of their 2019 baseline. However, hotels actually saw a year-over-year increase in average transaction size to 140%, while cruises suffered a decline to 67% of last year’s average transaction size. In combination, these factors’ impact on total sales looks similar despite the disparity in their underlying drivers. (See Exhibit 7.)

The path toward recovery will probably also look a bit different for each of these sectors. For example, the trend line for hotels suggests that they may be able to rely more on transaction size, at least initially, while cruises may be starting to see a recovery in unique customers. (See Exhibit 8.)

The automotive sector, too, has experienced an overall decline in sales, but the size of that decline differs significantly from one subsector to another. (See Exhibit 9.) For example, we see car rentals and rideshare suffering year-over-year declines of more than 80%, likely because of consumers’ concern about catching the virus from these sources; in our April 24–27 survey, 32% of consumers reported having such concerns about rideshare.¹ We see automotive services (defined as independent automotive parts and services providers) and expected spending on automobiles declining, too, probably owing both to immediate constraints (such as fewer people leaving their homes and venturing out on the road during lockdowns) and to longer-term financial concerns (more than three-quarters of US consumers believe that a recession is coming). Car manufacturers and dealers could use this as an opportunity to win consumers back to automotive ownership—especially in younger and urban demographics, where rideshare has captured influence consumers’ ultimate decisions about leisure travel.

Automotive

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¹ Source: BCG COVID-19 Consumer Sentiment Survey, April 24–27, 2020 (N = 2,783 US), unweighted, representative within ±3% of census demographics.

Note: Survey question text: “You mentioned you would be concerned about going to a restaurant. What part of the experience concerns you?” and “If the coronavirus were to be under control in 3 months, what do you think your spending eating out at restaurants would be like at that point?”
US – TRAVEL DEEP DIVE

EXHIBIT 7 | Travel Sales Plummeted Overall as a Result of COVID-19, but the Underlying Drivers Vary by Category

Year-over-year travel sales are down by 80% to 90% across the board…
Sales indexed to prior year (2019 value = 100)

...But the data shows opposing transaction size trends in hotels vs. cruise lines
April 29, 2020 data indexed to 2019 (2019 value = 100)

<table>
<thead>
<tr>
<th>Category</th>
<th>Unique customers</th>
<th>Transactions per customer</th>
<th>Average transaction size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels</td>
<td>15</td>
<td>91</td>
<td>140</td>
</tr>
<tr>
<td>Cruise</td>
<td>27</td>
<td>95</td>
<td>67</td>
</tr>
<tr>
<td>Air</td>
<td>14</td>
<td>92</td>
<td>85</td>
</tr>
</tbody>
</table>

Sources: Earnest Research, May 6, 2020; BCG analysis.
Note: Spending data is based on consumer credit card/debit card/checking account activity from a panel of US consumers from Earnest Research (tracked responses exclude cash/other). Unique customers in the data sample were 28,677 for airlines, 1,890 for cruise lines, and 28,478 for hotels on January 29, 2020, and 4,505 for airlines, 555 for cruise lines, and 5,573 for hotels on April 29, 2020.

US – TRAVEL DEEP DIVE

EXHIBIT 8 | Unique Customers and Transactions per Customer Declined Similarly Across Travel Categories, but Transaction Size Changes Varied Widely

<table>
<thead>
<tr>
<th>Category</th>
<th>Unique customers</th>
<th>Transactions per customer</th>
<th>Average transaction size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels</td>
<td>85</td>
<td>85</td>
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</tr>
<tr>
<td>Cruise</td>
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<td>Air</td>
<td>85</td>
<td>92</td>
<td>92</td>
</tr>
</tbody>
</table>

Sources: Earnest Research, May 6, 2020; BCG analysis.
Note: Spending data is based on consumer credit card/debit card/checking account activity from a panel of US consumers from Earnest Research (tracked responses exclude cash/other). Unique customers in the data sample were 28,677 for airlines, 1,890 for cruise lines, and 28,478 for hotels on January 29, 2020, and 4,505 for airlines, 555 for cruise lines, and 5,573 for hotels on April 29, 2020.
significant share of transportation dollars. On the other hand, rideshare providers will need to adopt measures to address consumers’ concerns about virus transmission—such as requiring all riders and drivers to wear masks, as Lyft and Uber now do in some markets, including the US—and hope that these suffice to win back share.²

### Fashion Retailers

The crisis has also heavily hit apparel and department stores. The precise impact varies significantly by category, however, with sales of essential accessories such as glasses down less than 10% in April, thanks to healthy online sales, while sales of luxury items such as handbags and jewelry are down by two-thirds or more. (See Exhibit 10.) Despite the severe overall declines, the new shape of consumption offers opportunities for brands in categories such as athleisure to find and serve pockets of demand among consumers who are spending significantly more time at home.

### What Trends Will Prove to Be Long-Lasting?

It is instructive to map long-term category trends against short-term COVID-19 impacts. (See Exhibit 11.) The current crisis has accelerated trends that were already underway, such as the rise of Amazon and of organic foods and the decline of department stores. Before the crisis, the biggest barrier to increased penetration in online grocery shopping was consumer diffidence about giving it a try: consumers who shopped for groceries online once were highly likely to do so again. Because the pandemic has forced a large portion of the population to take the plunge in ordering groceries online for the first time, it has enabled the segment to skip years ahead in the pending channel mix shift.

But COVID-19 has interrupted and hampered other trends, such as the ongoing shift toward rideshare. Some of these shifts will prove to be temporary blips while others may have lasting effects. For example, if
**US**

**EXHIBIT 11 | The Pandemic Has Exacerbated Some Pre-COVID-19 Trends and Moderated Others**

<table>
<thead>
<tr>
<th>Short-term COVID-19 Impact</th>
<th>Retail electronics</th>
<th>Mass retail</th>
<th>Tobacco</th>
<th>Apparel and accessories</th>
<th>Restaurants</th>
<th>Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid acceleration</td>
<td>Mass retail</td>
<td>Tobacco</td>
<td>Apparel and accessories</td>
<td>Restaurants</td>
<td>Travel</td>
<td></td>
</tr>
<tr>
<td>Moderate impact</td>
<td>Mass retail</td>
<td>Tobacco</td>
<td>Apparel and accessories</td>
<td>Restaurants</td>
<td>Travel</td>
<td></td>
</tr>
<tr>
<td>Rapid deceleration</td>
<td>Mass retail</td>
<td>Tobacco</td>
<td>Apparel and accessories</td>
<td>Restaurants</td>
<td>Travel</td>
<td></td>
</tr>
</tbody>
</table>

Source: BCG Gamma and BCG Henderson Institute analysis.

Note: Based on credit card and IRI data from the US for March 2020 vs. compound annual growth rate from January 2016 to January 2020 in same categories.
consumers’ fear of catching the virus through rideshare fades as the spread of new cases of the virus diminishes, the majority of consumers are likely to resume rideshare, but a portion may in the meantime become accustomed to driving their own cars and may find the experience more satisfying for some or all trips. In still other areas, tectonic shifts in consumer habits may be underway. Faced with mandated gym closures, consumers have found ways to engage with their trainers in community workouts on YouTube and through online yoga classes. Some of them have invested in home gyms or tried new sports such as running for the first time, and some of these behaviors may prove sticky.

Looking Ahead
As we look toward recovery, we think it is imperative that clients take the time now to develop a lighthouse of demand indicators to inform their scenario modeling and business decisions—one that leverages high-frequency data and future predictors rather than following the prior practice of focusing on historical results as the best predictor of the future. Historical results will not be sufficient in such a disrupted world, and one where advanced, data-science techniques are available. Moreover, during major crises—especially ones of extended duration, as opposed to single-event shocks—consumer behaviors and needs may change in the short or longer term. Whether the changes in demand reflect newfound drivers of choice (for example, sanitation and hygiene emerging as critical decision criteria and potential differentiators), meaningful pivots in lifestyles and habits (for example, potlucks at home replacing Friday night dinners out), or major shifts in supply (depending on what businesses survive this challenging time), both the size and the shape of demand are likely to look quite different throughout the recovery and beyond. Only by continuously monitoring a wide variety of high-frequency indicators to bring insights to light and by rapidly adjusting their decisions on the basis of what they learn will companies be able to successfully navigate the new reality.

Our next Snapshot will look at current and potentially persistent consumer sentiment and spending shifts in the travel and tourism sector, including airlines, hotels, cruise lines, and gaming—arguably the sector that COVID-19 has most negatively affected.

Notes
1. The source of the percentages noted in this paragraph is BCG US Consumer Sentiment Survey April 24–27, 2020, N = 2,783.

About BCG Lighthouse
BCG Lighthouse is an AI platform that enables rapid decision-making on the basis of short-term sensing of high-frequency indicators and medium-term scenario planning. It integrates real-time consumer and market-level data with BCG’s proprietary models and company-specific internal data. Data and models include Consumer Activity Index (CAI), epidemiological models, online and mobile behavior (web traffic, search, social media trends, and footfall) and consumer data (for example, sentiment, credit card spending, and unemployment data). Data sources are available for 180 countries.

About the Research
BCG’s COVID-19 Consumer Sentiment Snapshot series is based on data drawn from an online survey of consumers that is conducted every one to two weeks across multiple countries worldwide. Each Snapshot highlights a selection of insights from a comprehensive ongoing study that BCG provides to clients. The survey is produced by the authors, who are members of BCG’s Center for Customer Insight (CCI), in partnership with coding and sampling provider Dynata, the world’s largest first-party data and insights platform. The goal of the research is to provide our clients and businesses around the world with periodic barometer readings of COVID-19-related consumer sentiment and actual and anticipated consumer
behavior and spending to inform critical crisis triage activities, as well as rebound planning and decision making. The research does not prompt consumers about the virus when asking many of the key questions, including questions about spending changes in the next six months, in order to avoid biasing the results. A team composed of BCG consultants and experts from CCI completes the survey analytics.

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About BCG’s Center for Consumer Insight (CCI)
The Boston Consulting Group’s Center for Customer Insight (CCI) applies a unique, integrated approach that combines quantitative and qualitative consumer research with a deep understanding of business strategy and competitive dynamics. The center works closely with BCG’s various practices to translate its
insights into actionable strategies that lead to tangible economic impact for our clients. In the course of its work, the center has amassed a rich set of proprietary data on consumers from around the world, in both emerging and developed markets. The CCI is sponsored by BCG’s Marketing, Sales & Pricing and Global Advantage practices. For more information, please visit Center for Customer Insight (https://www.bcg.com/capabilities/marketing-sales/center-customer-insight).

About BCG
Boston Consulting Group partners with leaders in business and society to tackle their most important challenges and capture their greatest opportunities. BCG was the pioneer in business strategy when it was founded in 1963. Today, we help clients with total transformation—inspiring complex change, enabling organizations to grow, building competitive advantage, and driving bottom-line impact.

To succeed, organizations must blend digital and human capabilities. Our diverse, global teams bring deep industry and functional expertise and a range of perspectives to spark change. BCG delivers solutions through leading-edge management consulting along with technology and design, corporate and digital ventures—and business purpose. We work in a uniquely collaborative model across the firm and throughout all levels of the client organization, generating results that allow our clients to thrive.

About Dynata
Dynata is the world’s largest first-party data and insights platform. With a reach that encompasses 62 million consumers and business professionals globally, and an extensive library of individual profile attributes collected through surveys, Dynata is the cornerstone for precise, trustworthy quality data. The company has built innovative data services and solutions around its robust first-party data offering to bring the voice of the customer to the entire marketing continuum—from strategy, innovation, and branding to advertising, measurement, and optimization. Dynata serves nearly 6,000 market research, media and advertising agencies, publishers, consulting and investment firms, and corporate customers in North America, South America, Europe, and Asia-Pacific. Learn more at www.dynata.com.

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