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Consumer Packaged Goods and Manufacturing and Supply Chain Practices

Ensuring high service levels to meet high consumer-demand volatility

The pandemic continues to shift consumer demand as CPG companies scramble to adjust. Six best practices can enhance the supply chain now while positioning companies for long-term success.

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Since the onset of the pandemic, US consumer packaged goods (CPG) companies have endured whiplash when it comes to consumer demand. Sweeping reductions in SKUs produced and supplied, prolonged decreases in product variety on the shelf, and the dramatic shift to e-commerce channels are calling into question whether consumer demand patterns will ever return to prepandemic levels. Even companies that had built resilient supply chains have experienced stockouts and bottlenecks; complex product portfolios have exacerbated these challenges. Meanwhile, overtaxed supply-chain teams have been waging a valiant battle to manage manufacturing capacity and logistics amid persistent labor uncertainty. The coming months appear set to bring more of the same.

So how can CPG companies adapt to predict demand and respond more effectively? Leading organizations have implemented six best practices to mitigate supply-demand uncertainty during the pandemic, keep operations humming, and meet customer demand: manage employee safety, embrace machine learning in demand forecasting, adopt proactive customer management, optimize SKU portfolio complexity, expand supply options to mitigate risk, and increase productivity in manufacturing and distribution. Each individual best practice can make an impact. But since a supply chain's many variables affect overall performance, companies that implement all six will see the greatest improvement.

Shifting consumer behaviors

Fluctuations in consumer demand have been an ever-present result of the pandemic and continue to reinforce challenges that CPG companies face. The first wave and resulting lockdown in the United States were accompanied by huge demand spikes for certain goods. The subsequent wave has been characterized by a phased reopening followed by partial-closing orders across the country. In some states, individual counties have faced stricter orders because of spikes in positive cases. The demand

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for specific product categories can differ by region, COVID-19-induced timing, and buyer behavior.

Our research identified four archetypes of consumer product categories based on their purchasing behavior.[1] Since the demand spike in March, a number of categories, particularly household cleaners, packaged meals, and packaged produce, have seen sustained increases. On the other end of the demand spectrum, the temporary demand-decrease archetype (for goods such as personal-care products) has seen a return to more normal demand levels after an initial drop. Our research suggests volatility will continue with uncertainty on timing and buyer demand, competitiveness, and shopping behavior.

The pandemic also altered how consumers prefer to purchase goods, with a significant shift to e-commerce. Consumers indicated that they expect to make a larger share of their purchases through online channels after the pandemic (exhibit). While every category will see an increase, some goods will see a substantial jump. For example, online purchases of nonfood child products and consumer electronics are set to grow by 14 and 12 percentage points, respectively. The pandemic will have the largest impact on categories such as groceries and snack foods, which shoppers have not traditionally bought through e-commerce channels. These purchasing behaviors are likely to endure long after the pandemic, with consumers planning to shift a large portion of their purchases online.

As in so many industries, the pandemic has forced CPG companies to acknowledge the shortcomings of their traditional planning and processes in the face of such rapid change. This research illustrates the enormous complexity organizations face. Ensuring that supply chains have the flexibility to anticipate and respond to fluctuations on a micro level will require organizations to embrace new approaches.

Six best practices in supply-chain response

Leading CPG organizations have been able to adapt and enhance their supply-chain capabilities and strategies across six areas. Since the pandemic has essentially changed nice-to-have capabilities into table stakes, all of these best practices embrace a two-speed approach: they can help companies manage short-term fluctuations while laying the foundation for more effective supply-chain operations in the long term.

Manage employee safety

One common source of supply-chain disruption that CPG companies can influence is the risk of outbreaks among employees. Companies have seen absenteeism rates of 30 to 50 percent in some plants during the pandemic's peaks. Leaders have implemented a range of preemptive measures to mitigate this risk.

Organizations can establish new distancing measures such as introducing physical barriers and signaling to prevent transmission, instituting pod structures, banning nonessential gatherings (for example, in common areas), and securing a sufficient supply of personal protective equipment. Ancillary support, such as providing physically distanced transport for employees, can help to prevent infection outside of work. Organizations around the world have deployed symptom testing (such as thermo-testing), introduced contact tracing for all employees in response to positive tests, and implemented standard procedures to enable rapid reactions when cases are identified. The incorporation of regional epidemiological forecasting can inform planning decisions and suggest preemptive safety actions if infection rates are increasing in the general population.

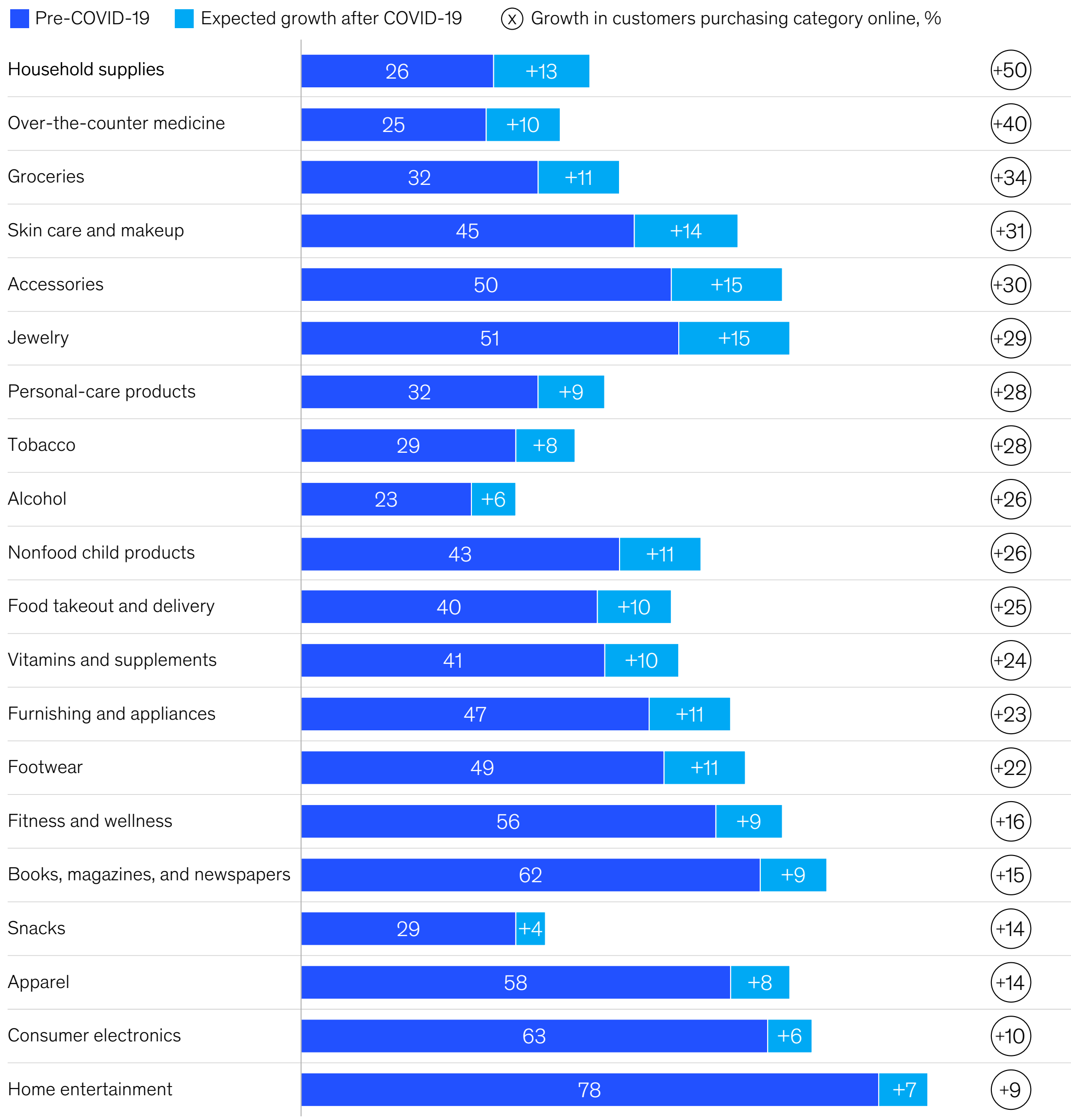
Physical safety is just one component; companies have supported the mental health and well-being of employees. Measures that have proved effective to

[1] Camilo Becdach, Brandon Brown, Ford Halbardier, Brian Henstorf, and Ryan Murphy, “Rapidly forecasting demand and adapting commercial plans in a pandemic,” April 21, 2020, McKinsey.com.

Exhibit

More people expect to make a portion of their purchases online post-COVID-19 than before the pandemic.

Consumers' use of online channel before and expected use after COVID-19,[1]
% of respondents purchasing online[2]



~20–40%
growth in consumers who purchase online for most categories[3]

[1] Questions asked: "Before the coronavirus (COVID-19) situation started, what proportion of your purchases in this category were online versus from a physical store or in person?" and "Once the coronavirus (COVID-19) situation has subsided, tell us what proportion of your purchases in this category you think will be online versus from a physical store or in person?"
[2] Includes respondents who chose "some online," "most online," and "all online." Respondents who indicated that they had not bought the category online and do not intend to do so in the next two weeks were classified as not purchasing online.
[3] Expected growth after COVID-19 compared to pre-COVID-19 slightly lower than previous waves due to respondents reporting higher online activity in pre-COVID-19 situation.

Source: McKinsey COVID-19 US Consumer Pulse Survey, conducted September 18–24, 2020, n = 1,026, sampled and weighted to the US general population aged 18 or older date include establishing new escalation channels to leadership, offering support programs for employees experiencing hardship (for example, support for single parents), and providing on-site health and mental counseling. In many industry segments, workers have been logging longer hours to keep pace with demand. Leading CPG companies have proactively counseled employees in an effort to protect against burnout and improve retention. Organizations that have faced workforce shortages have called back retirees and have even trained managers to run lines.

Embrace machine learning in demand forecasting

The pace at which consumer demand has evolved during the pandemic has highlighted the limitations of existing supply-chain strategies. CPG companies have explored ways to become more accurate in their forecasting, which has allowed them to assume a more proactive posture.

To gauge consumer demand more accurately, organizations can adopt demand-sensing and machine-learning forecasting. Leaders have used new external data sets such as point-of-sale data, retailer stock-outs, weather projections, and cell phone location data to predict true demand by customer and channel. Since the start of the pandemic, companies that have implemented machine learning to handle demand forecasting have achieved 90 percent accuracy with a three-month lag compared with around 60 percent accuracy for manual forecasting methods.

Machine learning models recognize these patterns much faster than humans can. With the resurgence of cases and new lockdowns, these models are gathering critical data points weekly that can be used to predict the future. By contrast, companies that are lagging behind are ignoring forecast-accuracy metrics and deleting insights from peak COVID-19 months—a huge, missed opportunity to advance their demand-planning skill sets. The uncertainty on when the pandemic will abate as well as the potential for other pandemics or extended disruptions to surface make these skill sets a priority.

To augment demand-forecasting insights, companies should establish and maintain direct communication with customer category managers. These conversations can identify patterns, such as which customers are still using automated reordering and which are bypassing this channel. With this information, CPG companies can allocate production volume more effectively. Leaders have developed allocation logic by channel, customer, and location to balance the true need of customers while taking into account calculated risk (for example, if any specific retailer is threatening to delist) at the SKU level by location on a weekly basis. These projections also consider logistics parameters such as ensuring full truck loads.

Adopt proactive customer management

Companies have taken a larger role in shaping demand through more proactive customer management. For example, they have tightened the planning cycle from monthly to weekly intervals and involved senior leadership for faster decision making on product allocation and substitutions. To supplement standard operating procedures, organizations might consider establishing a supply-chain control tower to enable better visibility and decision making.

With this more rapid, hands-on approach, companies can engage commercial teams to steer customers toward available products with more capacity prior to finalizing orders. The added transparency can also support demand analysis at the SKU level and for individual customers rather than in aggregate. They can also proactively balance the bullwhip effect of surging consumer demand with enhanced point-of-sale visibility—for example, keeping a close eye on shelves through technology or third-party vendors. While this visibility was always an important element in meeting demand, it has taken on added importance during the pandemic.

In addition, leaders have adapted their ordering policies to meet overall sales, rationalized SKUs, limited case and layer picks, instituted minimumorder quantities, and offered customer incentives to ensure full-truckload shipping, pallet-picking, and, where possible, direct-from-plant shipments. For any orders that do not meet the new criteria, companies have also negotiated differentiated commercial–lead time agreements. By identifying bottlenecks and underutilized manufacturing capacity, leaders have been able to rebalance lines as product mix and demand levels change.

Optimize SKU portfolio complexity

Developing and implementing the right solutions to deal with uncertain demand requires a cross-functional perspective to ensure supply-chain priorities are aligned with commercial concerns. The benefits of such collaboration are best demonstrated in product-portfolio simplification. Leaders have beaten the market by making bold portfolio decisions, such as reducing SKU complexity by 80 to 90 percent by, for example, eliminating small pack sizes or limiting flavor or color variations. In addition to commercial considerations, portfolio-optimization decisions have taken into account changeover reduction, availability of raw materials, potential to repurpose other lines toward priority SKUs, contract-manufacturing and packing capacity, and logistics efficiencies. Some CPG companies have developed alternative formulations for material-constrained products in an effort to meet demand. More recently, organizations have been reintroducing items to their portfolio, but the overall complexity of portfolios is still well below prepandemic levels.

Companies have seen anywhere from five to ten percentage points of improvement in overall equipment effectiveness as a result and were able to meet the demand surge successfully. Organizations can then collaborate intensively with customers and internal stakeholders if or when the curtailed SKUs are added back to the product portfolio.

Expand supply options to mitigate risks

Even with the best practices in place, CPG companies are expected to face higher demand volatility for the foreseeable future. Relying on forecasting improvements alone is not sufficient; the supply side of the house must become much more agile. Steps to manage risk could include implementing supplier operational health tracking (segmented by span of alternatives and infection risk at country of origin) and use these insights to inform decisions on safety stock targets. Suppliers with exposure to hard-hit sectors should be identified to mitigate risk. To eliminate single sourcing, companies can monitor and mitigate tier-two and -three supply risk assessments.

To secure additional capacity, CPG companies can increase their share of contract manufacturing capacity and expand their base, including extending their search to nontraditional contract manufacturers (such as industrial laundry producers for the hospitality industry). Companies can increase their flexibility by expediting the approval process for onboarding contract manufacturers and critical raw-material providers. When standard raw and pack is unavailable, companies can expand their supplier base to include alternative parts or formulations approved and ready to manufacture, targeted dual sourcing from different regions, investments in alternative capacity, and increasing safety stocks on critical raw materials with long lead times.

Proactively assessing risk across multiple tiers of the supply chain can guide these mitigating actions and target opportunities for improvement in supplier management. The shifting landscape will require more active and collaborative supplier management over the longer term. Leaders should drill down for additional information, such as supplier inventory levels for critical ingredients, and implement real-time visibility for critical supplies. To verify the ability of suppliers to withstand the pandemic, companies can implement supplier-liquidity risk assessments and streamline the process for approving payment-term exceptions. Some companies have shifted their procurement infrastructure from category experts to procurement “athletes”—that is, assigning the very best minds to work on problem areas.

Increase productivity in manufacturing and distribution

CPG companies can take action to safeguard their available capacity and avoid decisions that could limit production. To maximize manufacturing output, they can postpone nonessential projects and line trials that interfere with routine production runs and also outsource slow production processes. They can also maximize production of top-selling SKUs by repurposing manufacturing sites, and stopping any nonurgent innovation, line trials, and R&D projects that take up manufacturing capacity.

Another strategy is to invest in small capital projects that can increase manufacturing output. These investments can be more surgical in nature while still having an outsize impact on production. Companies have identified bottlenecks in their manufacturing lines and make upgrades to increase output. For example, if a filling line can manage 100 units a minute but the packaging line can only do half that amount, a solution that enhances packaging can effectively double output. Similarly, long-overdue maintenance work can also increase the productivity of existing lines. Companies that made these targeted investments improved overall equipment effectiveness by five to ten percentage points as a result.

Executives must also ensure their distribution networks are ready to efficiently handle the new demand profile. Actions such as expanding warehouse capacity where available, setting up new temporary nodes (for example, using vacant retail sites as distribution centers), and lining up new carriers have helped secure the necessary capacity. Warehouse automation is also being accelerated to limit the reliance on concentrated labor pools and provide increased physical distancing in warehouses.

Demand variability during the pandemic has forced US consumer goods companies to consistently monitor trends and seek to adjust their supply chains quickly. Leaders have implemented a range of actions that gave them greater flexibility and increased output. Since it is likely demand and supply volatility will be the next normal for an extended period of time, all consumer goods companies could benefit by embracing these six best practices.

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