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Charmin toilet paper at a Procter & Gamble plant in Green Bay. Even P&G desk workers are taking on factory shifts to keep up with demand.
Courtesy of Procter &Gamble

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From Thrivent Asset Management

Major companies are now absorbing the reality that something as mundane as toilet paper represents a uniquely complex supply-chain challenge. Paradoxically, the great strides the CPG industry has made in efficiency in recent years—especially the near-global adoption of "just in time" manufacturing and distribution—have now clogged the pipes that get TP to customers. And toilet paper is merely one of the essential items, from disinfectant wipes to baking yeast, teaching business a hard lesson about weaknesses of modern manufacturing and logistics. "The fact that we've been working so hard to try to make sure our systems run as efficiently as they possibly can has necessarily meant that we didn't have weeks and weeks of supplies sitting around," says Leslie Sarasin, CEO of FMI, a trade group that represents the grocery industry.

Big purchases from those groceries have snowballed—by orders of magnitude—at manufacturers like Procter & Gamble, maker of Charmin, and Kimberly-Clark. That means that even as production has increased, back orders are likely to last well into the summer. Persistently bare shelves, meanwhile, perpetuate the perception that there is a true

Read the article

The Case of the Missing Toilet Paper

How the Coronavirus Exposed US Supply Chain Flaws

Jen Wieczner • Fortune © 2020

Coronavirus Pandemic
Manufacturing / Supply Chains

Take-Aways

- Manufacturing facilities and supply chains designed for optimum efficiency are vulnerable to major disruptions like the coronavirus pandemic.
- Toilet paper comes from eucalyptus trees.
- Changing a supply chain's structure on short notice is costly and difficult.
- Companies are adopting a variety of strategies to manage the disruption of supply chains caused by surging demand and unusual circumstances.

Recommendation

Usually just-in-time manufacturing facilities and on-demand supply chains do a good job of getting you what you want, when you want it, but they aren't designed for a crisis. As *Fortune* magazine writer Jen Wieczner explains, the COVID-related United States' run on toilet paper provides an object lesson about the challenges that extraordinary times pose to the delivery of ordinary products. Learn why this link in the supply chain broke and what manufacturers and retailers are doing to restore rolls to your restroom.

Summary

Manufacturing facilities and supply chains designed for optimum efficiency are vulnerable to major disruptions like the coronavirus pandemic.

The United States' panic about toilet paper at the onset of the COVID-19 pandemic reveals the weaknesses of just-in-time manufacturing and supply lines and how they falter in the face of an unanticipated surge in demand. A system designed for maximum efficiency under the normal conditions of a steady load collapses under an unexpected onslaught.

In the first weeks of the coronavirus pandemic, people across the country encountered bare shelves at grocery stores, sold-out messages online and lengthy back orders at neighborhood markets and virtual department stores. Those shortages made customers even more likely to buy in bulk and hoard, thus perpetuating the supply problems.

> *"The fact that we've been working so hard to try to make sure our systems run as efficiently as they possibly can has necessarily meant that we didn't have weeks and weeks of supplies sitting around." (Leslie Sarasin, CEO of FMI, a grocery industry trade group)*

Ordinarily, toilet paper is an inexpensive commodity that everyone buys in predictable amounts. The industry's profit margins are narrow, and warehousing large quantities of product would add excessive costs. The result: Pandemic shoppers quickly depleted a supply chain that had no more than two to three weeks of inventory in the pipeline.

Toilet paper comes from eucalyptus trees.

Brazilian eucalyptus trees are the primary source of toilet paper. The cool weather of the northern hemisphere means eucalyptus trees grow too slowly for profitable harvesting. In Brazil, however, they grow "faster than corn," and take only six or seven years to reach 100 feet in height. The eucalyptus' fast growth is the foundation of the low cost of toilet paper.

Given toilet paper manufacturing's thin margins, companies seek whatever savings they can find. The pandemic drove the demand for "virgin pulp" to new levels and brought an accompanying increase in its per-ton price, which went up to $500, a $30 increase. But retailers are in a bind because consumers would revolt at any price increase in a daily staple like toilet paper. Those limitations make paper-goods manufacturing both margin- and price-conscious in the best of times.

Because toilet paper takes up a lot of shelf space and because demand for it has generally been predictable and unchanging, sellers long ago embraced just-in-time manufacturing. In response to the pandemic, P&G, for example, initially increased production of Crest toothpaste and Olay moisturizer, but not toilet paper. To illustrate the cost restrictions of making more toilet paper, building a new assembly line to produce Tide detergent would cost $10 million; sufficient machines to boost toilet paper production would run close to $300 million.

Changing a supply chain's structure on short notice is costly and difficult.

Manufacturing paper goods such as toilet paper is expensive and complicated. With machines running at 99.8% of capacity (usually they run closer to 92%) due to coronavirus-related demand, overall industry production topped out at only 8% more than usual in March 2020 because manufacturers reached their current capacity limits.

> *"This pandemic has revealed the limits of lean supply-chain management." (Pete Guarraia, Bain's head of global supply-chain practice)*

Online retailers such as Amazon, which base their entire consumer-facing model on just-in-time delivery, face serious challenges. Products like toilet paper don't offer much, if any, profit for the retailer even at pandemic-scale buying volume. Even worse, Amazon may lose the goodwill of customers if they experience long delays – or increased prices – for "essential" products. Amazon prioritized shipping staple goods during the pandemic, and it's losing business on other products with greater profit margins.

Companies are adopting a variety of strategies to manage the disruption of supply chains caused by surging demand and unusual circumstances.

Amazon decided to serve subscription orders first. With the pandemic, Costco stopped selling toilet paper online, preferring to keep its warehouse-style stores well-stocked. And in those locations, restrictions limit customers to only one jumbo pack of toilet paper per visit.

Manufacturers are adjusting the product mix in their production lines, expecting that more demand will come from customers working from home rather than corporate purchases for offices. For example, Kimberly-Clark is making more six-packs of Cottonelle "mega rolls" and fewer 12-packs, and cutting the number of its product packaging offerings by half. Reduction in product varieties means less downtime for assembly lines. The company expects that many of its SKUs will never return, even after the pandemic recedes.

> *"You can build supply chains that are 100% resilient to all shocks...but the analogy I use is you can build a car where if you have an accident you would never be hurt, but you would never want to drive that car." (Pete Guarraia)*

The leadership at P&G anticipates that the company will need to bring on new supply sources quickly and find ways to mine business data to anticipate future disruptions. It is reorganizing its supply chain to accommodate a less predictable, faster-changing future environment. While accommodating social distancing requirements, P&G learned that distributing a greater number of workers across more shifts improves efficiency. The company reassigned some office workers to the factory floor to keep up with demand.

Meanwhile, retail giant Walmart is hiring up to 200,000 new workers to make sure that its stores remain fully stocked. Rather than warehousing and staging products in its own supply centers, Walmart is asking suppliers to deliver goods directly to its customer-facing stores to reduce shipping delays.

About the Author

Jen Wieczner is a senior writer covering finance and business at *Fortune* magazine and a founding editor of *The Ledger*, which explores the intersection of money and technology.

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