

CONSUMER PACKAGED GOODS

Supply chains' future is circular: report

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Traceability and visibility are key components to successful, sustainable supply chains. Image credit: GS1 US

By NORA HOWE

Businesses are accelerating technology implementations to mitigate supply chain disruptions brought on by the COVID-19 pandemic, but sustainability cannot be overlooked.

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COVID-19 significantly aggravated supply chain vulnerabilities that resulting from linear, hyper-optimized operational models. According to a new [whitepaper from not-for-profit information standards organization GS1 US](#), new circularity standards will be critical in helping bridge the gap between physical products and their digital identities.

"Circularity has been historically underrepresented in supply chain discussions but has now become of high interest to many leading organizations because of conscientious consumers," said Melanie Nuce, innovation expert and senior vice president at [GS1 US](#), Keenesburg, Colorado. "As the economy emerges from the effects of the pandemic, we see an even greater need to create more scalable, interoperable and resilient supply networks."

Supply chain insights

The report provides insights into how companies can mitigate risk in four areas: materials and resource scarcity; lack of visibility and traceability; product counterfeits; and compromised worker and consumer safety.

GS1 US identifies two major problems when it comes to product and resource scarcity. The first is that companies rely on suppliers from single regions or locations, and the second is that offshore production has created a drastic divide between manufacturing abroad and manufacturing closer to the point-of-sale.

A lack of visibility and traceability throughout a supply chain creates confusion, impairs a company's fulfillment capabilities and makes it vulnerable to exploitation. According to GS1, this can lead to an inability to capture the right demand signals to reveal shifts in demand, an inability to respond to demand shifts due to resource shortages and an inability to redistribute goods where they are needed.

While many companies recognize the importance of visibility, only 44 percent actually have solutions that allow them to monitor their entire supply chain.



Circularity is key for the resilience of future supply chains. Image credit: GS1 US

GS1 US suggests that including a persistent identity on products would allow inventory managers to address fluctuating demand signals to get critical supplies where they are needed in real time.

The combination of resource scarcity and lack of traceability has led to the proliferation of counterfeit products, especially with the high demand of essential health products. For instance, ecommerce giant Amazon banned more than a million fraudulent protective products, while China confiscated 31 million knockoff face masks.

Verified by GS1 aims to combat counterfeits by ensuring the authenticity of every product that has a unique global trade item number (GTIN).

"Counterfeit is a problem costing the entire retail industry trillions of dollars every year, and luxury goods are often most at risk for counterfeit due to their high value and high demand from consumers," Ms. Nuce said. "With the explosion of ecommerce and the proliferation of [secondhand] commerce has come a massive opportunity for counterfeiters to infiltrate platforms and scam consumers into believing they are buying legitimate products.

"Supply chain partners that support the luxury market must collaborate closely to accurately identify authentic products, which enables more efficient tracing of the product to its source."

The pandemic has significantly threatened public health, as essential employees fear for their safety at work and consumers worry about contamination in their purchases. According to the **Economic Policy Institute**, 55 million essential workers across 12 industries are suffering from the consequences of not having adequate protective equipment and supplies.

To address these four challenges and future-proof the supply chain, GS1 US suggests three solutions: demand forecasting; digital twins; transparency and ethical sourcing.

Addressing the issues

According to the report, there has been a spike in demand for different products in specific regions, while a large surplus of those products has built up in other regions. Through the enhancement of real-time supply chain visibility, scarcity of essential products could be mitigated.



Tracing the source of organic cotton to the farm and through its journey across the supply chain will enhance Kering's sustainability credentials with end-consumers. Image credit: Kering

To prevent the growth of counterfeits, it is critical for products to be tracked throughout the supply chain and life cycle. Digital twins, which replicate physical identity in digital visualizations, show the journey of physical products,

making it easier to detect counterfeits or recall products needing to be withdrawn.

In 2019, U.S. fashion marketer Ralph Lauren Corp. introduced its use of Digital Product Identities to track merchandise across the supply chain to track orders and inventory. A unique QR code appears on the label of each Ralph Lauren product ([see story](#)).

With limited awareness contributing to unsafe or dangerous working conditions, transparency and traceability are powerful tools for locating trouble spots in existing supply chains, according to GS1 US.

Kering has partnered with Albini Group, Supima and Oritain to develop a more sustainable business model through 100 percent traceable organic cotton. With the help of forensic science and statistical analysis, the aim is to tackle traceability of plant- and animal-based raw material, which is a challenge for fashion's complicated global supply chains ([see story](#)).

As the main four problem areas continue to affect the supply chain, future supply chain resilience will depend on circularity and standards coming together to transform vulnerabilities into opportunities.

According to GS1 US, circularity enables products, assets and infrastructure to be made more productive as they are kept in use longer, and supply streams will ultimately benefit from the remanufacturing of new and existing resources.

"Brands need to be transparent to stay relevant," Ms. Nuce said. "As consumers, we are experiencing a time of constant economic, social and technological shifts which affect the way we shop.

"With these forces at play, consumer trust now has to be earned," she said. "Brands need to demonstrate that they align with a consumer's values and offer transparency to ensure that they are not hiding anything that would cost them the consumer's loyalty."