

How to Create a More Ethical and Sustainable Supply Chain

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Consumers are more conscientious about their purchases than ever before. They expect organizations to meet a certain set of ethical standards, and supply chains aren't exempt from scrutiny.

To meet these expectations, companies must enact significant changes that ensure environmental stewardship, decreased damage, and sustainable sourcing, manufacturing and product distribution.

A McKinsey report on sustainability shows the direct impact that supply chain operations have on the environment as they try to compete with a growing consumer base. More than 90 percent of the damage caused to the environment by consumer packaged goods (CPG) producers — including 80 percent of greenhouse gas emissions — comes from the supply chain. Nearly 2 billion people are expected to become global consumers by 2025, a 75-percent increase over 2010. CPG companies will need to cut greenhouse gas emissions by more than 90 percent by 2050 in order to meet climate change agreements. Unfortunately, fewer than 20 percent of supply chain managers say they have the necessary visibility into sustainability practices in the supply chain to make this happen.

As consumer demand increases, generating a greater need for products, ingredients and raw materials, global supply chains become more complex. While the manufacturing world gives the appearance of being “flat,” that is very far from the truth. Supply chains span countries and continents, across multiple suppliers, each with its own quality and sustainability standards. That translates directly into increased environmental impacts. In addition to greenhouse gas emissions, they include water scarcity, issues related to land use, toxic waste, water pollution, deforestation, air quality and energy use.

Why is the introduction of more ethical and sustainable supply chains a good practice for any business? Because it improves regulatory compliance, enhances business branding and reputation, reduces waste and overhead, and leads to responsible environmental sourcing.

To accomplish the goal of an ethical and sustainable supply chain, as well as the ability to track and trace shipments to any location, companies will need to enable the right technology. Specific actions to be taken include:

Reduce waste by simplifying supply chain processes. Supply chains can be improved through major changes, but it's more common to see results through small, iterative improvements. Good analytics and reporting combine with machine learning to

continually improve processes throughout the supply chain. Every change that reduces waste, speeds up delivery or enhances quality makes an incremental improvement to sustainability.

Ensure ethical sourcing and introduce transparency. Supply chain managers need visibility into how suppliers extract or produce raw materials to ensure they're following sustainability standards. Blockchain technology is a useful way to capture and verify supplier sourcing practices. Internet of things (IoT) devices can monitor and report on working conditions and environmental factors. Marketplaces can also bring transparency to a company's suppliers. The more interconnected they become, the more visible they are to those that access them.

Minimize overproduction through efficient supply and demand planning. Misalignment between supply and demand results in too much or too little production of raw materials, manufacturing of goods and distribution of products. This creates rework and waste. Artificial intelligence, machine learning and predictive analytics can forecast likely demand and ensure more efficient supply and manufacturing processes.

Decrease fossil fuel consumption by optimizing routes. Until logistics moves to electric and other more sustainable vehicle options, route optimization is one of the best ways to reduce the environmental impact of transportation and distribution. A.I. can work with GPS devices to optimize international, national and local shipping routes. Advanced analytics can even update routes in real time, to take account of congestion and other issues.

Fully utilize containers and transportation to consolidate shipments. An empty container is a wasted container. Predictive analytics forecast where and when goods will arrive, allowing for the consolidation of shipments from multiple suppliers to multiple final destinations. This makes the most efficient use of assets (e.g., containers and trailers) and transportation, reducing the total amount of greenhouse gases generated per unit of cargo.

Monitor for existing environmental risks. Many supply chains are already impacted by climate change and other environmental factors. Issues such as wildfires in the western U.S., rising sea levels, water scarcity and lower agricultural yields have a profound impact on the efficiency, quality and speed of the supply chain. Supply chain technology helps to predict these risks, and allows supply chain managers to mitigate their impact and put contingency plans in place.

Minimizing the environmental impact of supply chains will continue to be a focus for companies, as consumers become more aware of how goods are sourced, manufactured and distributed. A forward-looking supply chain strategy, combined with the right technological solutions, will help organizations build more sustainable, responsible and ethical supply chains. And that's good for everyone.

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