

CONSUMER AS DISRUPTER

MANAGING THE 'FIT-FOR-PURPOSE' RETAIL AND CONSUMER GOODS SUPPLY CHAIN

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Volatility has a face in the retail and consumer goods industry. It's not the face of disaster – of floods or fires. Rather, it is the face of the consumer. The anywhere, anytime, globally connected, geographically dispersed, always-in-the-channel consumer.

Rapidly changing and often unpredictable consumer buying behavior, enabled by the internet, mobile communications and growing spending power, has made volatility and complexity the norm rather than the exception in the retail and consumer goods industry. It has fragmented sales channels, escalated service demands, shortened product lifecycles, ratcheted up cost and margin pressures and created production challenges. Add changing demographics, rapid growth in emerging markets and the rise of the global middle class – and you have the definition of uncertainty.

But there's another wild card at work in the retail and consumer goods industry – the 'big-bang disrupter' syndrome.

Big-bang disrupters are quantum innovations (like Apple's iPhone or iPad) that "create or destroy entire product lines and whole markets overnight". Not the types of products usually thought of when talking about the mainstream/traditional retail and consumer goods



industry. Big-bang disrupters fundamentally change the status quo. They have the power to make what went before e.g. products, services – obsolete or irrelevant.

Nevertheless, the phenomenon of the big-bang disrupter is transforming the sector by proxy – in a cascading effect that is re-setting buyer expectations and behavior across the board. This phenomenon is playing out across all market channels: multi-hybrid, traditional and omni-channel.

These forces are driving tremendous change in the retail and consumer goods industry, particularly in the supply chain networks and operations. Supply chain execution must serve consumer behavior, providing appropriate and highly flexible responses to its demands.

Thus, retailers and consumer goods manufacturers are re-thinking their supply chains with an eye toward one thing: building out a portfolio of options, risk tolerances and capabilities to support cost-effective flexibility. They must create and manage a supply chain that is 'fit for purpose'2 in this environment, capable of serving multiple markets around the world. The supply chain must be resilient enough to withstand shocks, agile enough to respond quickly to sudden or unexpected change, flexible enough to customize products and efficient enough to protect margins.

Today's retail and consumer goods supply chains must operate as an interconnected web of trading partners – a web that includes manufacturers, retailers and their logistics service providers. The most successful retailers and manufacturers embrace four pillars of supply chain resilience: visibility, flexibility, collaboration and control. They work in concert with their supply chain partners to execute these key attributes.

Part 1: Current state and driving trends

To understand the evolution in the retail and consumer goods supply chains toward the interconnected operating model, let us first discuss key trends that are shaping the sector globally.

Trend #1: Big-bang disruption and the cascade effect

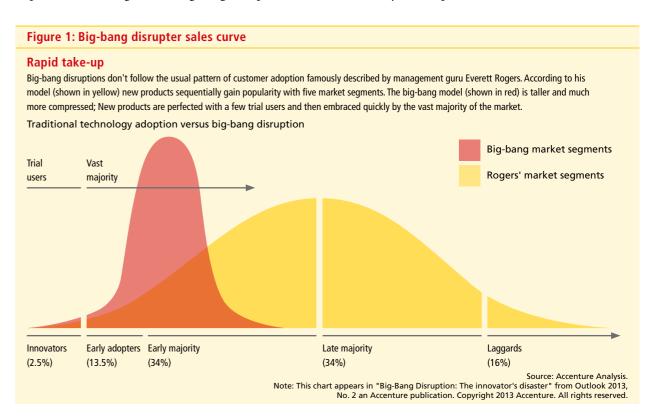
To say consumers have power today is an understatement.

This power derives from many factors, one of which is the phenomenon of the big-bang disrupter mentioned earlier.

"Big-bang disruption, once created, enters the mass market at ultra-high speed," explain Larry Downes and Paul Nunes, both with Accenture, in a recent Harvard Business Review article. "Instead of a slow, predictable process involving several discrete, sequential market segments... big-bang disrupters need to worry only about two main categories of users: trial users and everybody else. In this stage, the goal is selling to everyone else – and fast.

"The sudden success of big-bang disrupters is driven by easy access to market opinion, facts and comparison data. Rather than sellers broadcasting select information to potential customers," Downes and Nunes write, "consumers now pull information from other consumers on price, quality and customer service, whenever and wherever they are. That means ... takeoff is immediate and vertical."

Big-bang disruption is about a revolution in product cycles fueled by instant access to information and the complete shift of power to the consumer. And because consumers don't differentiate industries in their buying mindsets, what they learn to expect in one product sector, they soon expect in all sectors.



¹ Larry Downes and Paul F. Nunes, "Big-bang Disruption," Harvard Business Review. March 2013.

² Ernst & Young, New Consumer Products Companies Face Declining Margins www.ey.com.

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Thus, even traditional consumer goods companies must worry about the impact of this new market dynamic. And studies show that they are.

From a supply chain perspective, not dealing effectively with risk – particularly around customer volatility – carries a heavy price tag. A 2012 Deloitte Consulting study of 600 executives from manufacturing and retail companies³ found that the most costly outcome of supply chain risk was margin erosion (Figure 2).

Trend #2: The digitally empowered consumer

The age of the digital consumer has arrived and it is revolutionizing sales channels for consumer goods manufacturers and retailers alike. The digital consumer can shop anytime and anywhere, is willing to endorse or condemn a product in real time on social media and enjoys access to any number of shopping 'channels'.

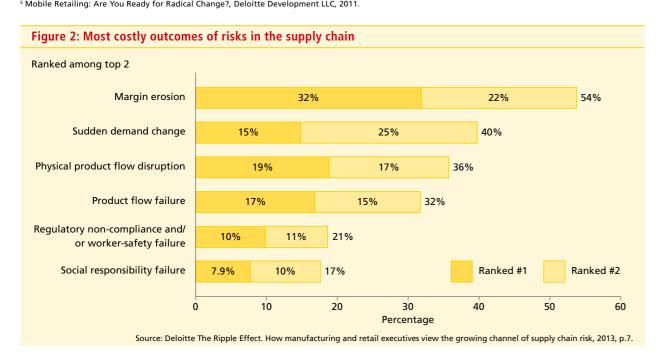
The geometric growth in mobile technology worldwide fuels this trend. By the end of 2012, there were 6.8 billion mobile subscriptions, according to the International Telecommunication Union. That's equivalent to 96% of the world population.

"Not only are consumers constantly in the channel, but they care nothing about borders. In China, for example, shopping overseas via the Internet is now so common that it has a nickname – hai tao, or 'ocean search'."

Globally, there are now more than one billion smartphones in the market. By 2016, smartphones used as a part of a shopping experience could influence between 17 to 21% of retail sales in the United States alone, representing between \$627 billion and \$752 billion.⁵

³ The Ripple Effect: How manufacturing and retail executives view the growing channel of supply chain risk.

⁴ PwC GMA report: 2013 Financial Performance Report: Growth Strategies: Unlocking the power of the consumer. Foreword. ⁵ Mobile Retailing: Are You Ready for Radical Change?, Deloitte Development LLC, 2011.



"In the new world of consumer decision making, the customer calls far more of the shots... Buyers no longer enter a marketing or sales channel but are continuously in the channel. In this world, the consequences for the provider of an irrelevant customer experience can be dire."

Not only are consumers constantly in the channel, but they care nothing about borders. In China, for example, shopping overseas via the internet is now so common that it has a nickname – *hai tao*, or 'ocean search'. According to the China E-commerce Research Center, the total value of cross-border transactions between Chinese consumers and American or European websites reached \$1.9 billion in 2010 and is expected to quadruple to \$7.6 billion in 2012.

This means channels continue to morph, which only serves to add more uncertainty and complexity to the retail/consumer business model. The online channel, for example, has now bifurcated to include both pure and hybrid solutions. In pure online, the consumer orders via the Internet and the product is delivered directly to the consumer's home. In hybrid online,

however, the consumer orders online but goes to a location to physically collect the goods. This pick-up location, to further complicate matters, can be anywhere – a storage locker in a train station, a truck in an employee parking lot, a drive-through facility.

Or the reverse may occur. A consumer shopping for items such as large appliances goes to a store to inspect different models, makes their choice and then goes home and shops the Internet for the lowest delivered price.

"Once retailers started to develop omni- or multichannel sales models, there was no right or wrong answer as to how they should organize their supply chains – i.e. their fulfillment centers – to serve them," observes Valentin Elistratov, Vice President, Business Development, International Supply Chain, DHL Global Forwarding. "Should retailers fulfill internet orders from the store? From a dedicated e-commerce warehouse? From a traditional warehouse? Or from a combination facility? There are all kinds of algorithms in how to organize the solution – there is no golden rule. This creates tremendous complexity in the supply chain."

⁶ ACCENTURE. Corporate Agility: Six ways to make volatility your friend. By Walt Shill, John F. Engel, David Mann and Olaf Schatteman. 2012, No. 3 issue of Outlook Marketing: Extraordinary relevance. By Glen A. Hartman, Baiju Shah and Robert E. Wollan, p.14.



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And with the advent of quick response (QR) codes, consumers can not only explore and research products, but can comparison-shop for the best price-service option. Amazon is in the vanguard of this capability. It introduced the PriceCheck mobile app in 2011, enabling shoppers to scan the barcode of a product in a store and immediately see Amazon's price for the product – and purchase it. The app caused quite a stir in the retail sector and gave Amazon access to something of incomparable value – competitor price information on a massive scale.⁷

As result of this digital revolution, it has never been easier for a customer to walk away from an established retail or company relationship.

Flawless service, therefore, is an imperative. Figuring out how to execute in a 'perfect order' framework in all of these channels - at an affordable cost - is top priority for retailers and manufacturers. Both face a 'clear and present danger' if they fail to build supply chains that can support this constellation of needs and opportunities.8



Trend #3: Rise of the global middle class

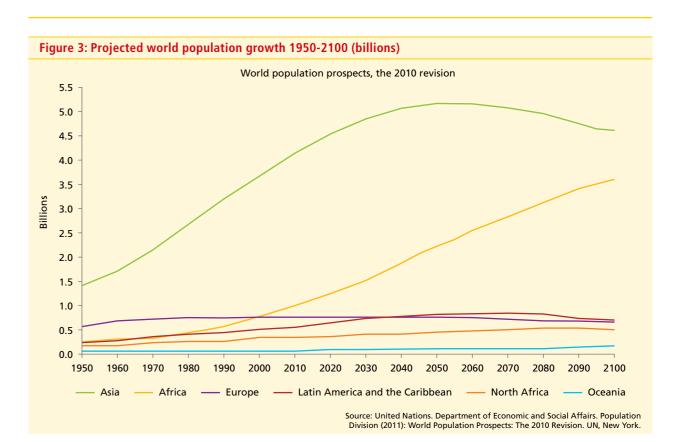
In 2011, the world's population reached seven billion. By 2050, according to demographers at the United Nations Population Division, there will be 9.6 billion people on earth. Population growth will largely occur in developing countries, as birthrates in Europe, North America and parts of Asia head toward parity with death rates.

People are migrating as well – choosing to live in urban centers where density offers greater economic opportunities. In 2009, the number of people living in urban areas surpassed the number living in rural areas for the first time. By 2050, the global level of urbanization is expected to reach 67%.9 Today there are 21 cities with more than 10 million inhabitants, most of them in developing countries.

"Income levels in emerging markets increased 96 percent from 2000 to 2010 and are expected to grow 45% from 2010 to 2016."

As total population grows, so too does the size of the global middle class. The World Bank predicts that by 2030, more than one billion people in the developing world will belong to the middle class, more than twice the number fitting that description in 2005. Income levels in emerging markets increased 96% from 2000 to 2010 and are expected to grow 45% from 2010 to 2016, driving a wave of consumerism for all types of goods, from basics to luxury items.

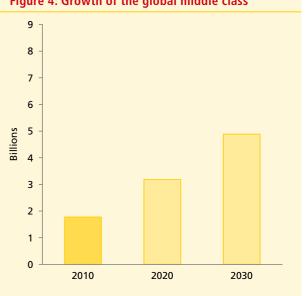
Finally, the center of gravity for this burgeoning middle class is shifting from North America and Europe to Asia-Pacific.



Reacting to these demographic shifts, retail and consumer goods companies are adopting a globally local supply chain strategy - balancing marketplace demands for localization of offerings with the need for operating efficiency. In other words, they are seeking to package, distribute and sell products in ways that meet local tastes and expectations while managing production and inventory with standardized processes and systems.10

"People are migrating as well - choosing to live in urban centers where density offers greater economic opportunities."

Figure 4: Growth of the global middle class



Source: KPMG International (2012). Based on the data published in: OECD Development Centre (2010). Working Paper No. 285: The Emerging Middle Class Developing Countries © OECD, p.27.

Amazon, "Is That Deal Really a Deal? Use the Price Check by Amazon App to Make Sure" BusinessWire, December 6, 2011.

⁸ Harrington et al, X-SCM: The New Science of X-treme Supply Chain Management, The European Business Review. November-December 2010 p.22. ⁹ World Urbanization Prospects, the 2011 Revision, United Nations, Departr of Economic and Social Affairs, Population Division, March, 2012.

¹⁰ Managing volatility through smart inventory planning. IBM Corporation 2012. p.4.

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Part 2: Building the consumer-adaptive supply chain

In the context of these trends, manufacturers and retailers are looking to build consumer adaptive supply chains. Dynamic has become as critical as efficient.¹¹

Certain best practices are characteristic of the adaptive retail and consumer goods supply chain. These include:

- Flexible networks
- Segmented supply chains
- Tailored sourcing
- Postponement
- Shared networks
- Accelerated inventory

Flexible networks. Network and operational agility are key differentiators of best practice retail and consumer goods supply chains. "In this sector, resiliency is all about being asset light, but having access to fully qualified contingent scale and capacity on an on-call

basis," observes Tom Kimball, SVP, Global Consumer Sector, DHL Supply Chain. Supply chains must be able to expand and contract at will, based on market conditions.

In high growth markets, for instance, companies need their supply chain capacity to be able to grow 20 to 30% a year upon market entry. On the flip side, as in some European countries, they need to be able to get out of supply chain capacity rapidly – to reduce the number of facilities and consolidate their network footprint for cost reduction. This means being asset- and resource-light and contracting for supply chain capacity.

Manufacturers continue to optimize and standardize their manufacturing footprint. They may run fewer facilities around the world producing more regional/ global products. One plant, for example, may serve all of Europe. Facilities are more standardized in terms of

11 ACCENTURE. Corporate Agility: Six ways to make volatility your friend. By Walt Shill, John F. Engel, David Mann and Olaf Schatteman. 2012, No. 3 issue of Outlook. Operations: Why "dynamic" is as crucial as "efficient" By Gary R. Godfrey and Mark H. Pearson.



processes; at the same time, they are designed to be more agile in terms of production capability.

However, as they drive up optimization, they also drive up risk – by being more reliant on those remaining plants. This increases the need for supply chain visibility – for an early warning system capable of providing a mission control center vigilant to all product and information flows in the pipeline. It also increases the need for agile execution – core capabilities plus on-call capacity provided by global 3PLs and other partners.

Segmented supply chains. Supply chain segmentation tailors the supply chain to the customer segment. Under this model, customers associated with different channels and products are served through different supply chain processes, policies and operational modes. The goal is to find the best supply chain processes and policies to serve each customer and each product at a given point in time while also maximizing service and profitability.

Segmentation can also help address another significant challenge and cost for the retail and consumer goods industry – that of simultaneously providing high levels of responsiveness and efficiency. The responsiveness portion of this equation is often measured in terms of the perfect order – i.e. delivering the correct product, to the correct place, at the correct time, in the correct condition and packaging, in the correct quantity, with the correct documentation, to the correct customer. And of course, doing so profitably.

Segmentation can help companies achieve this goal. "In order to maximize sales and profits, some products within a portfolio could be served through an efficient supply chain while others are served through a responsive supply chain. While designing a supply chain to be responsive or efficient, it is important to ensure that all the supply chain drivers are aligned to deliver the overall objective of responsiveness or efficiency and avoid any conflict. For example, if we want to establish an efficient supply chain for a product group with a global factory, then the transport mode should be Sea and FCL delivery and not Air" as B.Sundarrajan, Logistics Director, Unilever China explains. (See Figure 5 below).

Figure 5: Interaction between drivers of global supply chain

	Network	Facilities	Inventory	F/cast & Replenish	Transport
Efficiency	Global Sourcing, DC Delivery	Product based Factories, Central DCs	Pooling and centralized inventory	Centralized forecasting, Push process	FTLs FCLs
	Regional sourcing	Regional factories, DCs	Centralized safety inventory pool, Local cycle inventory		LTLs LCLs Cross docks
Responsiveness	Local Sourcing Factory / store Delivery		Market based Factories, Local DCs	Pull Process, Local forecasting	Air shipments parcel loads in a Global SC
				Source	e: Unilever, July 2013.

Based on the overall efficiency versus responsiveness trade off, companies choose the right approach and execution partners for each key driver – i.e. supply chain network, facilities, inventory, forecasting and replenishment and transportation. So rather than look at discrete products and build supply chains for product lines, this approach looks at commonalities along the efficiency and responsiveness spectrum. It then groups supply chain activities and products handled along the lines of these commonalities and develops the optimal solution to get the desired result.



Tailored Sourcing. Another practice being embraced by retail and consumer goods companies is tailored sourcing. This practice, a sub-component of supply chain segmentation, is based on elements such as certainty of demand, product category and product lifecycle. It is designed to support the change to the globally local network strategy discussed earlier. Under tailored sourcing, decisions would develop as follows:

Based on certainty of demand

- Low cost efficient sourcing to service predictable portion of demand
- Flexible high cost source to service uncertain portion of demand

Based on product category

- High volume products with certain demand from low-cost source
- Low volume products with uncertain demand from flexible source

Based on product life cycle

- Well established products produced from low-cost efficient source
- New products with uncertain demand from flexible source

A low-cost, efficient source can be an outsourced or offshore facility. A flexible, higher cost source can be a local source closer to market or point of consumption.

In both scenarios, companies frequently turn to 3PLs to provide the high-capability logistics support required to manage the transportation and logistics services needed to execute tailored sourcing. By providing a 'control tower' view across the extended chain, 3PLs support visibility of goods in the pipeline, in the demand and production cycle and in the delivery network.

Postponement. To create supply chain flexibility while reducing complexity, companies are utilizing more outsourced postponement in their supply chains. Postponement delays final product differentiation until closer to the point of sale. While not a new concept, postponement today helps companies quickly ramp up in fast-growing markets while at the same time optimizing their production plants.

One area of particular growth in postponement is the use of customized/contract packaging services. In this approach, the manufacturer uses a logistics service provider to customize packaging and display configurations for direct store delivery. "We use consolidation warehouses located close to the end market to handle these tasks," says Tom Kimball, SVP, Global Consumer Sector, DHL Supply Chain. "Goods flow in one side of the facility, are custom packaged and then move out the other side in a cross-docking type of flow. The idea is to keep things moving – transform it on the go, so to speak. This marries velocity with final customization."

"This consolidation center model will only grow in usage, given the growth of mega-cities mentioned earlier."

By tailoring product closer to consumer demand, this approach can significantly reduce overall inventory levels and obsolescence – savings that far outweigh any incremental postponement activity costs. Further, outsourcing such activities to a 3PL spreads the cost across multiple 3PL customers.

Shared networks. A growing number of manufacturers realize that, while delivery to the retailer is important, it is not the essential basis of their competitive model. Manufacturers compete on product and marketing. Thus, more and more are opting for a shared network delivery approach, outsourced to a 3PL.

BENEFITS OF USING AN LLP

What are the potential benefits of partnering with a global lead logistics provider (LLP) with deep expertise in the consumer goods industry?

- 1 Agile, adaptive supply chain execution
- **2** Supply chain event mitigation and contingency solutions
- 3 In-country and global supply chain expertise and relationships
- 4 End-to-end supply chain visibility
- 5 Established continuous improvement cost management
- 6 Consistent, reliable, cost-effective transportation and delivery
- 7 Demonstrated supply chain best practices
- 8 Supply chain risk assessment and management

"In this kind of shared network situation, we consolidate deliveries from multiple manufacturers and make one mixed-load delivery to the retailer's DC – instead of 50 trucks from 50 manufacturers," explains Paul Eden Smith, Senior VP Sector and Products Europe, DHL Supply Chain. "Consumer goods manufacturers realize that they can capitalize on shared synergies in supply chain execution – without compromising their brand."

This consolidation center model will only grow in usage, given the growth of mega-cities mentioned earlier. Urban logistics must become more efficient and this shared logistics network model is an appropriate option. In the future, it will likely become unaffordable – and probably prohibitive – for high numbers of redundant delivery networks to serve the mega-cities. The pressure on infrastructure will simply overwhelm the system.

The shared logistics services model also is better for the environment. It reduces the number of trucks on the road and ensures that those vehicles still travelling are fully loaded.



Accelerated inventory. Finally, one way to build responsiveness – without piling up inventory – is to accelerate inventory velocity. Logistics approaches such as a distribution center (DC) bypass solution do just that. Using this approach, product does not move from the factory to warehouse stock, but instead flows directly from manufacturer to a consolidation point operated by a 3PL. The goods are cross-docked and then delivered to the market/retailer. DC bypass programs not only increase speed to market, but strip out cost. They do so by eliminating the time and additional handling inherent with goods being stored for a time in a traditional warehouse.

Prospering in disruption

Disruption and rapid change are facts of life in the retail and consumer goods industry. Technology has fractured retail channels and empowered consumers; the expanding middle class is driving up consumption for everything; and big-bang disrupters come at the market from anywhere at any time, with wildly unpredictable results. The power of the consumer is all encompassing.

To prosper in this environment of light-speed change, market disruption and wide-ranging complexity, retailers and manufacturers must create and manage supply chains that are 'fit for purpose'. This means being able to serve markets around the world with a supply chain that is resilient enough to withstand shocks, agile enough to respond quickly to sudden or unexpected change, flexible enough to customize products and efficient enough to protect margins.

The most successful retail and consumer goods supply chains hard-wire the four pillars of resilience into the DNA – i.e., visibility, flexibility, collaboration and control – of their supply chains. And they rely on their supply chain partners as key players in executing this strategy.

FRONT LINE PERSPECTIVES 1

Two retailers share their observations about the challenges they tackle daily in their supply chains.

Office Depot: Managing the channel challenge

"From a logistics perspective," commented Brent
Beabout, Senior Vice President of supply chain for Office
Depot, a major US big box retailer, "my biggest concern
is how you make a true omni-channel supply chain,
along the path of using the same inventory for web,
B2B and retail stores — using the same buildings, trucks
and inventory to do last mile and store delivery. This is a
huge challenge and getting it right has the potential to
drive huge costs out of our network."

"As you move toward omni-channel, everything has to be completely integrated," Beabout said in a recent briefing in Washington, DC. "We used to have different supply chains, warehouses and so on for different channels. The big challenge is — and it's a big IT question — how do you set up your systems to harmonize your SKUs so I can pick, pack and ship to a store, or to a customer's doorstep from the same inventory."

Office Depot is making changes to its supply chain. "We are putting in a lot more satellite warehouses, many of which are simply cross dock operations," the SVP notes. "They're operated by 3PLs and their purpose is to keep product moving."

"We co-mingle channels on the same truck – so we have all three channels on the same 3PL truck in a dedicated fleet," Beabout continues. We control scheduling very tightly to meet our delivery requirements and we can load co-mingled trucks full to reduce empty miles. We do co-mingled last mile deliveries as well. And we're not just co-mingling with our own goods; we're co-mingling with big players like Amazon and even with our competitors. It is absolutely crucial to drive waste out of the system."

Office Depot also is adjusting the size of its stores in certain markets and regions. "If we go to a smaller store format," the SVP explains, "that drives system inventory levels down and reduces waste and obsolescence. But logistically it's a lot more difficult. You can no longer take a 53 foot trailer to the store's back door because there is no back door. So the small format store behaves much more like a big consumer than a store." This means sequencing smaller, more frequent deliveries with greater assortment.





¹² Ernst & Young, New Consumer products companies face declining margins www.ey.com.

FRONT LINE PERSPECTIVES 2

Two retailers share their observations about the challenges they tackle daily in their supply chains.

European hypermarket: The freshness challenge

"When we talk about growth," begins Leandre Boulez the supply chain and Quality Director for Auchan, a major European hypermarket retailer, "it means new markets so that means expanding the supply chain. We are mainly a food seller and while the food supply chain can be global for a few products, it mainly carries local product specific to market tastes. Customers in France, Spain or Italy have different tastes and preferences. So our food supply chains to stores are very short, which means when my store footprint expands into new markets I have to build a new supply chain operation from scratch."

This is not the case with other retail goods, such as clothing. "With clothing," Boulez notes, "you can have a European network and if you start a new country, you can serve it through your existing supply chain. In food you cannot. Generally you have to create a whole new supply chain. This means you need the right facilities/

warehouses with the right logistics in place to serve the markets - in stores and online/e-commerce."

Serving both the store and online customer segments and expanding into new markets requires a supply chain network with maximum flexibility. "This is why in the past 15 years, we have opted to rent rather than own our warehouses – because we can change rapidly," the supply chain director explains. "It's the same reason I use third party logistics providers. I generally don't operate the logistics myself. I want the flexibility of a 3PL that knows our business."

"Flexibility and efficiency equal resilience," Boulez concludes. "In my experience, you gain both more easily when you collaborate closely with 3PLs, treating them as partners. So we work together to improve – to ensure business efficiency and continuity."





About the author

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At the Robert H. Smith School of Business, University of Maryland, Lisa is Associate Director of the Supply Chain Management Center and Faculty Lecturer on Supply Chain Management. She also is President of the lharrington group LLC, a firm providing strategic consulting services across global supply chain strategy, operations and best practice.

Lisa's articles have appeared in Fortune, Industry Week, The Economist, Inbound Logistics, The European Business Review and many other publications.

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