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??Peter Schultz



The [\\$760 billion grocery industry](#) is in the crosshairs of massive transformation with a fickle and wily shopper at the center. Covid-19 showed the industry just how quickly consumer preferences can change – in terms of what shoppers want to buy and how they want to buy (in-store, at the curbside, from their homes and on the go). The [2021 GroceryShop event](#) in Las Vegas provided an exciting forum for the industry to share just how rapidly transformation is occurring, and how the industry is responding. One of the biggest takeaways for me: the growing importance of the digital shelf fueled by artificial intelligence.

Why the Digital Shelf Matters

The digital shelf refers loosely to a product display – both in-store and online – that is connected to a retailer's entire operations and supply chain through real-time data. With a digital shelf, a business knows its precise inventory levels at every store at all times. A physical grocery store such as Amazon GO combines sensors to give Amazon constantly updated intelligence on all its [digital](#)

[shelves](#), which makes it possible for Amazon to customize inventory levels based on regional demand and also to respond to sudden surges or decreases in product demand. [On a larger scale, Walmart is building this capability, too.](#)

The concept of the digital shelf has existed for a few years, but the pandemic has made it more urgent and timely. That's because the [rapid and unpredictable changes in consumer demand](#) and a surge in [online/offline commerce](#) emerging from the pandemic has removed any margin of error for grocers managing inventory levels. Consider this scenario:

- A customer of a grocery retailer is placing an online order for pick-up at curbside nearby. The customer wants to add three 12-packs of Diet Coke to their shopping cart. The store's website says four 12-packs are in stock. The customer places the order, assuming that the 12-packs will be available for pick-up.
- But in fact, there are no longer any Diet Cokes left because another customer shopping in that particular store just filled their cart with all four 12-packs while they plan for a family gathering. They've not yet reached the check-out line. The store – lacking digital shelf technology – doesn't know that the shelf is empty.
- As a result, the store is operating with poor visibility resulting in a disappointed customer when they arrive for pick-up.

In the above scenario, a digital shelf would make it possible for the store to know immediately that a popular product was no longer available. The store could immediately restock the product and maintain an accurate inventory level for all customers. In addition, store associates could sense and respond faster to restock shelves for shoppers browsing in the aisles.

The importance of the digital shelf surfaced time and again throughout GroceryShop. For instance, Google discussed how technologies ranging from voice to contact-free check-out gives a grocery store retailer more tools to monitor and respond to constantly changing inventory levels. With augmented reality-equipped Google Glass eyewear, store associates can literally see product movement in real time far more effectively than they could scanning aisles with the naked eye.

In addition, digital shelf data updated in real time gives retailers insight into how the entire customer journey is evolving. For example, real-time digital shelf data, synthesized with data such as online search behavior (on Google and on a retailer's website) might help a retailer better align supply with demand in a predictive way. Google's Carrie Tharp, who is vice president of retail and consumer, Google Cloud, laid out his vision in a compelling way. You can read more about how Google intends to deliver on the vision with cloud-based technology [here](#).

GroceryShop underlined why it's more important than ever to have the right product on the right shelf at the right time. The consumer has no patience as to why they cannot what they want on their own terms. Most people shop in stores, of course, but shopping in the store now means different things to different shoppers. So long as the pandemic is with us, a large swath of shoppers want to quickly buy what they want while maintaining a physical distance from other shoppers. In addition, all shoppers who have adopted digital – and the adoption was accelerated by five years during the pandemic – has ushered in an era of increased expectations. Consumers don't care about the global supply chain crisis. They expect their product to be on the shelf, period. And "on the shelf" means whether they're buying it for delivery, in-store, or curbside. Thanks to digital, they can easily switch to a competitor if you don't have what they want.

An Intelligent and Adaptive Digital Fabric

Retailers don't need to throw away old ways of working to improve how they use digital shelves. By adopting an intelligent and adaptive digital fabric, they can become more responsive to customers, make their supply chains smarter, and reimagine retailing – all without needing to overhaul their existing information technology infrastructure. An intelligent and adaptive digital fabric is a real-time, AI-based reporting system that connects all aspects of the supply chain to the store and online, which is what Google was talking about at GroceryShop.

To get started, we suggest grocery retailers first assess what your pain point is. Are you trying to reduce customer churn? Reduce returns? Improve the quality of curbside pick-up? Then develop an agile plan to develop an intelligent and adaptive digital fabric. We strongly suggest a crawl-walk-run approach that breaks down development into smaller test-and-learn stages. Most retailers are too complex to go from zero to 100. There are too many stores to manage and too many employees to train. It's better to break down a change like this into manageable chunks.

We discuss the adaptive and intelligent digital fabric in [this blog post](#). [Contact us](#) to learn how we can help you get there.

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