How Mobility-Based Smart Technology Can Optimize Retail Supply Chains

March 2014

Consumer shopping has changed permanently. The bounds of what a customer can buy are no longer defined by place or time. The “store” is always open, and there are seemingly infinite choices about where and how to shop. As the path to purchase becomes more unpredictable, retailers need to deliver interactive and consistent experiences at all touch points. Satisfying consumer needs requires levels of omni-channel visibility, collaboration, and responsiveness that can be achieved only by unlocking the real-time information retrieval and supply chain execution processes that become possible with mobile devices. Supply chain efficiency and effectiveness are ultimately experienced by customers as finding what they want, getting it the way they want, and having seamless return flexibility. Fortunately, technologies are capturing real-time data from employees, partners, suppliers, and customers via mobility-dependent smart devices such as phones, sensors, and chips. This data, in turn, can be used to enable smarter real-time business decisions. These smart systems are expected to grow from 3.5 billion units in 2013 to more than 5 billion units by 2017, according to IDC research (see Worldwide Intelligent Systems 2013–2017 Forecast: The Rise of Intelligent Systems).

The following questions were posed by AT&T to Leslie Hand, research director for IDC Retail Insights.

Q. How have omni-channel environments changed supply chain technology needs?

A. The omni-channel customer weighs brand, value, availability, and fulfillment scenarios in purchase decisions. Retailers that effectively share accurate and relevant information at the right time and efficiently execute the processes required to fulfill customer needs are winning the hearts and minds of consumers. Immediacy is the new retail world order. Satisfying the need for immediate answers and gratification is imperative. Customers want to find, buy, and receive goods anywhere, anytime. In this context, mobility enables unprecedented access to product, order, and shipping information. Combined with sensors, it enables unprecedented inventory accuracy and process efficiency.

Q. What are some of the key trends driving new technology advances in retail supply chains?

A. The retail customer relationship hinges on consistently good commerce and fulfillment experiences. When retailers execute well in these areas, they gain trust and loyalty from their customers. But when things go awry, customers will switch loyalties quickly and may not return. Companies are moving ahead to address these goals. IDC research in 2013 showed that 24% of retailers surveyed listed smart technologies, such as M2M, sensors, and RFID, as one of their top IT initiatives.
Some of the drivers of advances in retail supply chain technology are as follows:

- **Process simplicity and speed.** Retail supply chains frequently extend to trading partners and stores. Customers don't care where the product is as long as they can get it when they want it. Real-time logistics scheduling and execution are increasingly important, particularly because of same-day and next-day shipping processes.

- **Timely and accurate inventory reporting and management.** There is a premium on inventory accuracy, as reporting wrong inventory is an obvious indicator of unreliability. This builds customer distrust, which in turn erodes loyalty.

- **Efficiency and effectiveness.** Retail productivity improvements are one of the outcomes of smart technology implementations that include M2M processes and a variety of sensors.

Q. **What kinds of benefits can mobility-based smart technologies provide to retail supply chains?**

A. There is a long list of benefits associated with mobility-based smart technologies in the supply chain, but collectively they provide ubiquitous access to information, collaboration across internal and external organizations, and unprecedented opportunities for real-time responsiveness to react to changing conditions. For example:

- Visibility concerning location or movement of goods and assets, to traffic and shipment demand routing, and shared information and alerts with highly usable mobile apps to expedite responsiveness

- Synchronized real-time pick, pack, and ship processes supporting customer same-day and next-day shipping routing and visibility

- Increased responsiveness to manage orders from anywhere and unplanned shipments and "last mile" responsiveness

Mobile devices are instruments in a beautifully orchestrated symphony because of their ability to capture data via 1D, 2D, and NFC capabilities. But they are also conductors of the symphony because they provide visibility to inventory, status, and tasks that enable processes to be carried out efficiently. Productivity soars and service levels improve when information is in the hands of the operator, who can then execute on keeping goods and assets moving through the supply chain.

Q. **What are some of the key considerations in implementing mobility-based retail supply chain solutions and approaches?**

A. Companies considering implementing mobile-based retail supply chain solutions must consider the truly transformational nature of mobility. As such, people, process, and technology aspects will need to be addressed and incorporated into plans. Retailers should approach transformation efforts and one-off business process change opportunities with a "mobile first" attitude. They should strive to answer the question "Why not mobile?"

The road map to a mobile enterprise must always start with building the foundation for mobility first — the communications and network infrastructure. It is quite likely that individual projects and transformational efforts will be budgeted separately, but in both cases, companies should make sure they incorporate customer value and employee productivity in ROI calculations. Also, they should make allowances to build in redundancy for mission-critical capabilities and choose vendors and service providers at the forefront of these technologies.
Q. What attributes should retailers look for in choosing a mobility service provider?

A. A vast number of well-established and start-up businesses are vying for some portion of hardware, software, and services aspects of mobile implementations, whether large or small. The most important thing companies can do is select their business partners carefully. With respect to mobility, some of the qualifications that should be reviewed are:

- **Resource availability and alignment.** For example, global companies need global resources.
- **Retail expertise.** Does the organization have a long list of long-term retail clients and success stories?
- **Innovative and enterprise ready.** Many large and small organizations are innovative. Being small does not immediately translate to sustainable innovation.
- **End-to-end connectivity and network services.** What are the performance metrics by which the provider will be held accountable?
- **Scalability.** Look for proven scalability, not simply promises.
- **Expertise with WiFi, M2M platforms, security, and cloud.** Think beyond immediate needs and evaluate whether the provider can support your enterprise as it “mobilizes.”

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ABOUT THIS ANALYST

As research director for IDC Retail Insights, Leslie Hand provides fact-based research and analysis for IDC Retail Insights Supply Chain, Merchandising, and Demand Management service. She also provides thought leadership on sustainability, IT for green, and RFID. In her 25+ years in retail information technology, she has guided strategy, development, and implementation efforts in supply chain, demand planning, merchandising, point-of-sale (POS), integration, and retail back-office applications in a variety of retail segments including grocery, drug store, and specialty.

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