

## Think Like Amazon

How to Transform Brick-and-Mortar Retail Using Augmented Reality and Mobile Image Recognition







Samuel Mueller CEO/Co-founder, Scandit

Do you know who your top competitor for in-store customers is? If you answered "Amazon.com," you are probably correct. According to recent data, retailers are closing stores at a record pace.

However, consumers haven't stopped shopping. According to the US Department of Commerce, e-commerce sales grew 15% during Q1 2017. Bloomberg estimates Amazon accounted for 53% of that growth.

E-commerce isn't only booming in the US, either. Chinese online retail giant Alibaba reported 56% year-overyear revenue growth during its fiscal first quarter 2018 in August 2017. Also, German e-commerce platform Zalando reported a 20% increase in year-over-year revenue in its quarter ending August 2017.

Increasingly, major e-commerce players are expanding into the physical channel. Amazon recently purchased organic grocer Whole Foods, and is going even further by opening brick-and-mortar bookstores that offer a digitally integrated 'Store of the Future' shopping experience. Fortunately, an answer exists for brick-and-mortar retailers who want to effectively compete with Amazon. **It is thinking like Amazon.** 

This means innovatively developing solutions and processes that blend the digital and physical shopping experience in a way that boosts customer satisfaction and loyalty, while also streamlining operations and reducing costs. Innovations in computer vision, machine learning and augmented reality frameworks from Scandit can turn a typical physical store environment into a connected hub of seamless retailing for employees and customers alike.

This point-of-view paper explains how to think like Amazon and create the store of the future now. It offers insight into how Scandit's mobile data capture innovations are uniquely positioned to truly blend the digital and physical shopping experiences and add value across the retail ecosystem.

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Scandit provides enterprise-grade performance at lower total cost of ownership than bulky, more expensive dedicated scanners. By mobilizing key workflows and deploying in-store mobile devices, we've significantly improved the productivity and the value of our employees.

David Levitt CIO Omni-Channel, Party City



## Thinking like amazon

Thinking like Amazon means placing yourself in the position of the modern consumer. Today's customers experience the world as a blended physicaldigital environment. The ubiquity of smartphones has created a lifestyle where shoppers navigate the 'real' world with a constant stream of virtual information and feedback. Brick-and-mortar retailers need to adapt their stores to this new consumer paradigm, or risk obsolescence.

By offering smart device-based mobile apps that incorporate advanced data capture and AR technology solutions, brick-and-mortar retailers can create an omnichannel store environment capable of competing with Amazon and other e-commerce retailers. Customers can point their smartphone camera at a variety of items on the shelf and seamlessly interact with all products in the viewfinder, using mobile barcode scanning and/or object recognition.

This digitally enhanced interaction with the physical store environment provides customers with at-a-glance access to product content information and availability, personalized deals, and other useful content. Retailers can also offer their customers instant mobile selfcheckout, eliminating the need to wait in checkout lines.

Allowing the recognition of multiple objects at once with a single scan and then overlaying a continuous stream of realtime augmented reality (AR) information further expands the seamless customer experiences. AR overlays digital content into the "real-world" view of a shopper's smart device screen.

So, rather than simply displaying a physical tag listing a product's social media rating, a retailer could let a customer scan a barcode and pull up a live AR feed of online commentary and reviews. Or shoppers can scan a whole shelf and identify items of interest, then focus in on individual products for specific details such as ingredients, color and size. By going beyond traditional sequential scanning of multiple codes and creating a "

Using the Scandit Barcode Scanner, shoppers are able to quickly and accurately scan barcodes on the first try no matter what mobile device they use. This simplifies the process and ensures customer satisfaction remains high.

#### **Alex Walker**

Director of Communications, Ibotta

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continuous stream of scan information, retailers can add new value to the traditional barcode scanning experience. Rather than scanning a single item and then viewing the results on a separate screen, customers and associates can instead seamlessly interact with the products around them. In this manner, the act of scanning becomes virtually imperceivable. Instead, the smart device unlocks static data contained in objects and turns it into actionable information, creating a truly seamless blend of physical and digital channels.



# The Store of the Future – Today

Physical stores are not going away. However, to keep them open, retailers will need to re-imagine the brick-and-mortar shopping experience. Amazon is already piloting new store models that streamline and digitize traditional shopping activities, putting the customer firmly in control. Fortunately, next-generation mobile data capture technology offers brick-and-mortar retailers an affordable and easily deployable platform to support their evolution to the 'Store of the Future'.

Which barcode scanning app features are consumers using, planning to use, or would use if offered on their smart devices while shopping?



50% Read customer reviews 49% Search for sales 44% Self-checkout

SOURCE: 2018 Scandit Retail Consumer Survey

Although most customers still value the experience of visiting a physical store, the brick-and-mortar and digital channels are already starting to blend. Amazon has taken a leading role in developing stores that bring together physical and digital experiences for the convenience and satisfaction of the customer. For example, the retailer operates a growing chain of Amazon Books brick-andmortar bookstores across the US.

As described by numerous expert observers, the stores operate as an extension of the Amazon e-commerce site.

Customers use smart devices to scan product tags with the Amazon app. This opens up a seamless experience where customers can have full access to the Amazon site as they shop. By scanning a shelf tag barcode with the Amazon smartphone app, shoppers can instantly pull up a book's Amazon page and easily execute a digital purchase for home or in-store delivery. They can also scan a QR code to perform an expedited checkout with a store associate using their Amazon account.

Digital and physical experiences are further merged by shelf tags that display product star ratings from the Amazon site and quotes from online customer reviews. In this way, Amazon maintains the personalization and 'endless aisle' inventory access of e-commerce while also obtaining the immediacy of the brick-and-mortar experience.

Another example of Amazon's emergence as a viable player in brick-and-mortar retail is Amazon Go, which currently operates as a prototype grocery store for the company's employees in Seattle, Washington. Amazon Go digitally automates the shopping experience even more than Amazon Books. Customers download a mobile app and then scan a 2D barcode on their phones as they enter the store.

Using a proprietary combination of scales, pressure sensors, RFID tags and readers, as well as computer vision and artificial intelligence technologies, Amazon enables Go shoppers to select and pay for purchases without checking out or even interacting with a human associate. "

The retail ecosystem is already built around the barcode as the primary source of product information. By using ubiquitously available smart devices and affordable software, retailers can turn barcodes into a seamless customer experience foundation with minimal overhead.



By basing their 'Store of the Future' efforts on mobile barcode scanning, retailers add new value to an established asset. The retail ecosystem is already built around the barcode as the primary source of product information. By using ubiquitously available smart devices and affordable software, retailers can turn barcodes into a seamless customer experience foundation with minimal overhead. In contrast, RFID requires significant investment in tags and readers, while image and object recognition offer much lower accuracy and performance levels. Mobile barcode scanning lets retailers deliver:

- Instant access to product data, personalized deals, stock levels, and item location.
- Identical product pricing, promotion and availability across all channels.
- Buy online, pickup in store (BOPIS).
- Overnight or same-day home delivery of out-of-stock items.
- Omnichannel clienteling services from store associates.
- The option to complete an entire in-store shopping trip, including checkout, without any human interaction.

## Transforming Your Retail Ecosystem

Create value across the entire retail ecosystem in consumer-facing interactions, in-store experience, and back-of-the-house/supply chain.

Brick-and-mortar retailers will have to streamline and digitize processes in customer-facing, in-store, and back-of-thehouse areas of the enterprise. Fortunately, smart devices equipped with next-generation mobile barcode scanning solutions are an affordable, easy-to-use platform for supporting your 'Think Like Amazon' efforts. Here are a few use cases for applying the latest advances in mobile data capture to workflows in each of these three key areas.

#### **Consumer-facing Interactions**

Mobile data capture places control of the shopping experience in the hands of the customer. Consumers who are used to calling the shots when researching, browsing and purchasing products online can enjoy the same personalized, streamlined environment across all channels of interaction.

#### **In Store**

Mobile data capture allows store associates to interact directly with data on both customers and products. Whether delivering personalized deals and recommendations at the point of customer contact or instantly checking product availability, associates are empowered with information as never before.



Many of today's retail supply chains are simply not set up to handle the demand for speed and convenience in a cost-effective way, and are already creaking under the strain of the new multi-channel world.

#### **McKinsey**

'Operations as a competitive advantage in retail: The future of retail supply chains'

#### **Back of the House**

The promise of seamless retail cannot be realized by customers and store associates without a strong supporting infrastructure. By applying next-generation mobile data capture solutions to back-of-the-house processes, retailers ensure products are immediately trackable and available to suit the demands of omnichannel shoppers.



## **Consumer Facing**

Next-generation mobile capture solutions place your customers in direct contact with the products and information they need, turning your brick-and-mortar store into a connected hub of seamless retailing.



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Passabene is a self-scanning app for Coop's physical stores. The average basket size for Coop customers is 30 Swiss Francs (\$31). Passabene customers average about 100 Swiss Francs (\$102). Our most loyal and best customers are using Passabene.

August Harder CIO, Coop Switzerland

### **Use Cases**



### Help customers locate the right products fast

A customer seeking a specific product, such as a food item with lactose-free ingredients, can scan an entire shelf of goods and then use augmented reality feedback to have all lactose-free products instantly highlighted in green on their smartphone screen display.



#### Eliminate long checkout lines

Instantly execute purchases with mobile barcode scans, improving both customer satisfaction and turnover. Self-checkout also gives customers the option to have complete control of every step of the entire shopping process.



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## Create shopping lists more conveniently

Empower customers to instantly add items to shopping lists and gift registries with the scan of a product barcode. Retailers can deliver this capability via mobile app or website.

## In Store

Next-generation mobile data capture solutions enable store associates to provide the kind of immediate, seamless services today's customers expect. The advent of AR scanning functionality greatly increases the amount of data associates can obtain and act upon in a real-time store setting.



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VDC's research indicates that interactions with knowledgeable sales associates directly translate to positive customer engagement. Equipping retail associates with mobile devices represents a critical investment for retailers driving innovation around in-store operations.

#### **VDC Research**

*"Reengineer, Restructure, and Revamp Retail with Mobile Data Capture Technology", December 2017* 

### **Use Cases**



#### Perform price verification

Associates can use smart devices to simultaneously scan product barcodes and the numbers on product prices, and then verify the price is correct with a highlighted AR display.



#### Keep track of stock

Associates no longer have to check stock levels one item at a time. Using multiscan and AR capability, employees can scan an entire shelf or rack of items and view back room stock levels via an AR graphical display.



#### Locate desired items

Associates can easily search and find desired products before impatient shoppers look for them elsewhere. By leveraging next-gen mobile data capture capabilities such as scanning multiple barcodes at once and generating AR graphics, associates can identify the correct item from a large assortment.

## **Back of the House**

Leveraging next generation mobile data capture solutions in the back of the house, retailers can create the foundation needed to support seamless customer-facing interactions and in-store activities. Opening access to the data contained within product barcodes via mobile scanning allows retailers to connect items directly to the customers and associates looking for them.



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In order to optimize costs and realize the full benefits of omnichannel services, retailers must undertake transformations of their logistics, inventory, and store systems and operation.

#### **BI Intelligence**

The Omnichannel Fulfillment Report: How retailers can overcome challenges to fend off Amazon's threat'

### **Use Cases**



### Maintain accurate inventory records

Accurately capture inventory levels of entire shelves, racks, crates or pallets with a single scan. Eliminate hours of labor in recording stock levels for entire stores or warehouses.



## Avoid missed, late and damaged deliveries

Quickly scan items to obtain or update the status of a shipment or delivery. Authenticate incoming shipments and instantly report damaged or missing items.



## Pick orders faster and more accurately

Wearable devices such as smart glasses let employees pick items with a glance. Multiscanning and AR capabilities allow associates to identify correct products with visual scans, leaving hands free for picking and packing orders.



## Why Scandit?

Scandit is the leading next-generation mobile data capture solutions provider, specializing in barcode, text and image scanning using mobile image recognition technology enhanced by machine learning and augmented reality. Scandit innovations bridge physical and digital environments through a powerful mobile data capture technology and offer businesses a transformative, software-based solution for real-time enterprise insight and connectivity.

#### Benefits of using Scandit technology:



Total cost of ownership (TCO) up to five times lower than dedicated scanners over the device lifecycle.



Cloud services enable flexible, efficient processing, management and analysis of captured data.



Deployable on a wide range of mobile devices, such as smartphones, tablets, smart glasses and other wearables, drones and autonomous robots.



Powerful engine combining data capture technologies including barcode scanning, text recognition, and form capture.



Integrates into virtually any IT environment through solutions including native software development kit (SDK), Keyboard Wedge for enterprise platforms such as SAP and Oracle, and SDK for the Web for scanning directly from e-commerce platforms.



Using smartphones for barcode scanning offers a much lower cost than using a dedicated hardware platform from a third-party vendor.

**Sven Poppelmann** *CTO, Farmdrop* 

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### **Leading Retailers Trust Scandit**



## Scandit Recommends

Amazon has launched a new chapter in the retail market, causing disruption by entering the brick-and-mortar space and accelerating the convergence of digital and physical retailing. The company is making this happen by creating a seamless customer environment that drives loyalty, such as its linking of the in-store Amazon Books shopping experience to customers' digital Amazon accounts.

Amazon is supporting these endeavors by investing in technology across the enterprise which creates necessary efficiencies in their supply chain and merchandising systems while also cutting costs.

Therefore, Scandit recommends that brick-and-mortar retailers seeking to meet or even exceed the omnichannel customer experience now offered by Amazon evaluate their mobile data capture technology to look for opportunities to:



### **Get to Know Scandit**

Scandit's data capture engine supports a full range of technologies that enable retailers to think like Amazon and transform every aspect of the retail enterprise. Learn more about Scandit products, capabilities and expertise below:



### About Scandit

At Scandit, we are helping business users and consumers to augment the physical world with relevant digital information in real time through barcodes, images and other visual identifiers captured with smart devices such as smartphones, wearables, drones, and robots.

With our next-generation mobile data capture platform built on proprietary computer vision, machine learning and augmented reality, we enable businesses to unlock previously unavailable levels of insights into enterprise processes and workflows, resulting in more efficient decisions, more effective employees, lower cost and more satisfied customers and clients.

Don't just take our word for it. Many of the world's most innovative and successful companies are already reaping the benefits of Scandit's next-generation mobile data capture platform. Our clients include Ahold, dm, Coop, Macys, Louis Vuitton, DHL, Cardinal Health, NASA and Verizon Wireless.

For more information visit www.scandit.com

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