Whitepaper

Digitize store stock to boost e-commerce without overstocking

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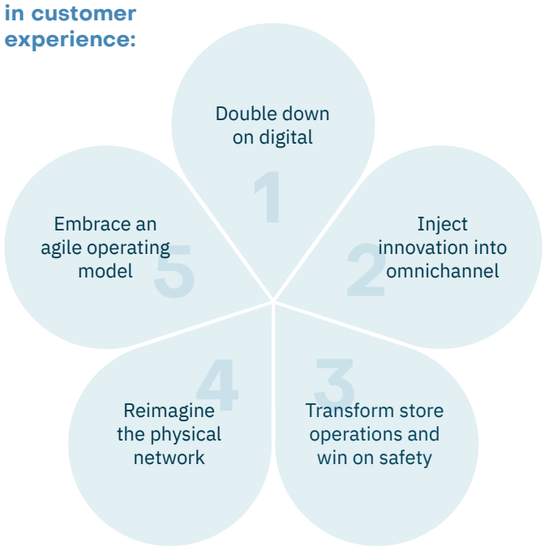
In today's shopping reality, the lines between physical and digital commerce are fading.

For the last years, and accelerated during the COVID19-related lock-down periods, there has been an ongoing adoption of omnichannel concepts. With the adoption of hyperlocal fulfillment services, such as ship-from-store, and a distribution approach of utilizing stores as so-called "mini-DCs" organizational silos are becoming connected. Because of this, digitizing store inventories with the objective to increase online sellable stock (digital availability) is the new driver for successful shopping experiences and happy customers.

The rise **of omnichannel**

In recent years, there has been an emergence of new commerce channels, concepts, and services. Thanks to broadly available technologies, such as hyper connectivity, cloud computing, and mobile applications, retailers can create seamless shopping experiences across all their channels. This phenomenon is known as omnichannel. According to McKinsey & Company, omnichannel retailing has accelerated after the COVID19 pandemic, and retailers are adapting to the "next normal" in retail. Based on recent studies (Holly Briedis et al., McKinsey, 2020), successful omnichannel initiatives are designed around five guiding principles:

McKinsey recommends five key actions for **navigating the "next normal" in customer experience:**



Stores as **mini-DCs**

In a world where shoppers are reducing their visits to physical stores, e-commerce and automation are rising. Future-oriented retailers start to transform their stores to 'mini-DCs,' small and local fulfillment hubs that make sure orders are fulfilled wherever they are coming from. This model allows retailers to continue to make sales, while consumers can benefit from reduced shipping times.

> Worldwide, retailers usually only have only one chance to convince consumers of themselves. After all, 71 percent of customers never return to the store or their website after a bad experience. The integration of digital services can, in turn, increase consumer loyalty.
> - Adyen Retail Report[1]

[1] *https://www.adyen.com/knowledge-hub/reports/retail-report-new-beginnings-ug*

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Shock to **loyalty**

In parallel, consumer sentiment and shopping behavior continue to reflect the uncertainty of the COVID19 impact (Charm et al., 2020). When looking into the shock to loyalty and the shift to value and essentials, product availability is an important parameter to make sure customers stay loyal. However, merchandise availability can be challenging for clothing retailers due to seasonal impacts, color-size complexities, and inaccuracies within their stock files. This leads to our next definition, the 'phygital' dilemma.

The '**phygital dilemma**'

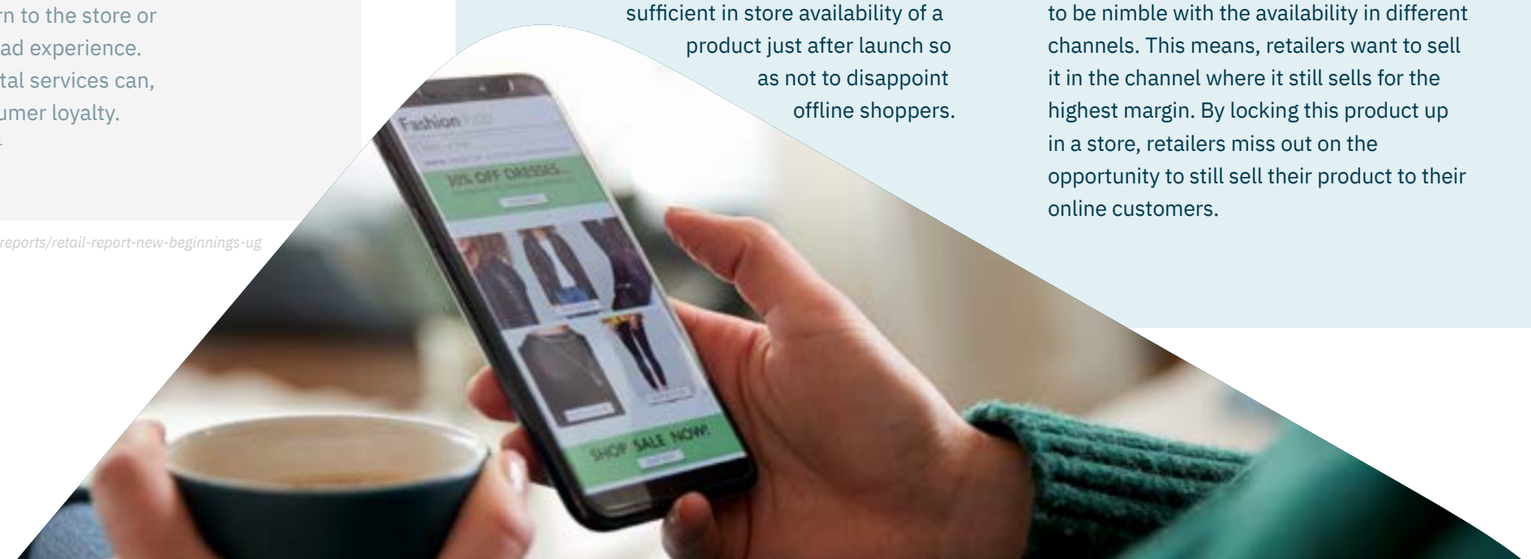
In the attempt to unify shopping experiences, retailers are presented with a dilemma: On the one hand it is necessary to provide a choice of available products to their customers, but at the same time they know that stock files are outdated and error prone. As a consequence, retailers are working around their stock inaccuracies with so-called "safety thresholds". These safety thresholds limit the range of available products, since they exclude items that are physically in the store, but digitally not available.

Safety thresholds – The good, the bad and the ugly

There are many reasons to apply so-called safety thresholds before activating store inventory for online channels. In essence, these thresholds are there to protect the inventory (or better, the "sellability"). In itself, this is not a bad thing at all. For example, when a retailer wants to ensure sufficient in store availability of a product just after launch so as not to disappoint offline shoppers.

However, in reality, thresholds are also applied to ensure "sellability" when dealing with high stock inaccuracies, which is a remedy that does not tackle the problem at its source.

Especially, towards the end of a sales period for a certain product, it is essential to be nimble with the availability in different channels. This means, retailers want to sell it in the channel where it still sells for the highest margin. By locking this product up in a store, retailers miss out on the opportunity to still sell their product to their online customers.



About **digital availability**

Digital Availability, describes the product range that is available for sale in digital channels. Digital channels include web shops, shopping apps, or online marketplaces. To go into more detail, the characteristics of digital availability are different for the various identified omnichannel-concepts. Therefore, one can distinguish the following variations of digital availability:

Local digital availability (LDA)

→ Considers one specific store

For omnichannel services like Click & Collect (Buy Online, Pick-up in Store / BOPIS) or Last Mile Delivery (LMD) it is crucial to know in which specific store the items are available.

In the example of LMD, a carrier will go to the nearest store to pick-up and deliver the item. For BOPIS the consumer will go to a specific store to pick up the ordered or reserved item. Therefore, a theoretical maximum Digital Availability for these concepts exists for all items available in one specific store.

If retailers are operating with a safety threshold of 1 for this concept, the digital availability will exclude all products (on color/size level) with only 1 item in stock. The local digital availability for this store is thus the amount of SKU's available relative to the total amount of items in the store.

Total digital availability (TDA)

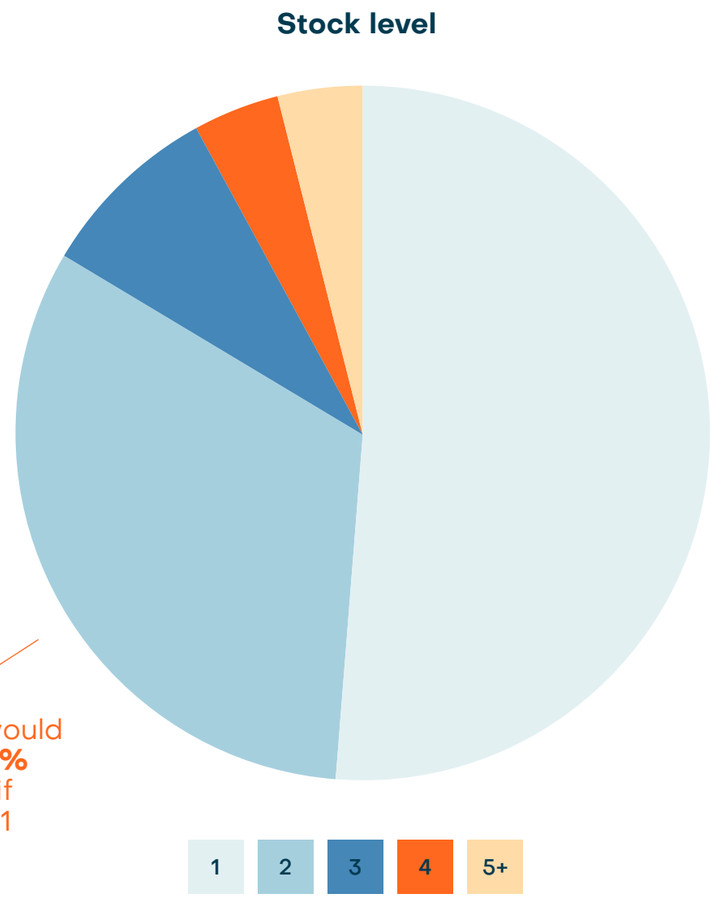
→ Considers the entire store and DC network

Other omni-concepts, like Ship-from-Store, consider the inventory from the entire store network. If an item is not available in the fulfillment center (DC) or when it is economically beneficial to fulfill the order from a store due to its location, the order will be fulfilled from a store where this product is available.

In this scenario, knowing whether the item is available in a specific store is less relevant than knowing if the item is available at all. Therefore, the total digital availability (TDA) is the availability of an item across the entire store network. The theoretical maximum TDA is, therefore, the total amount of SKU's that is available in the fulfillment centers and in the stores. In this concept, safety thresholds are also introduced to ensure that an item is available in the store and that the order can be fulfilled. By reducing the safety threshold, the TDA can be enhanced.

Extend the **digitally available product range**

More and more retailers are implementing Order Management Systems (OMS) to leverage their store inventory and – thus – to extend their online sellable product range. Typically, stores carry a huge product range that is represented in low volumes to optimize space and visual merchandising in the store. Consequently, with a low stock depth, the 'limiting effect' of safety thresholds on the Digital Availability of store stock is high. Studies carried out by Nedap Retail's data analytics team found that the average store only carries one item for over fifty percent of their SKUs. Applying a safety threshold of one - for the sellable stock in the OMS - excludes over fifty percent of the retailers' product-size range – a true 'phygital dilemma.'



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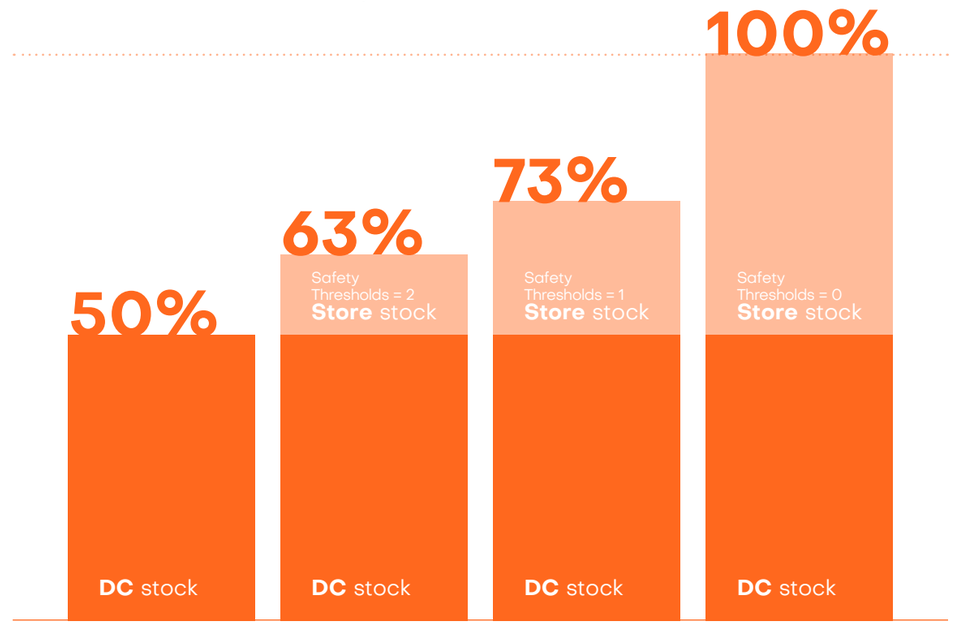
Further research, including the inventory in distribution centers, yielded similar results. On average, lowering the safety threshold by one, increased the digital availability by ten percentage points (e.g., from 63% to 73%). The effect of lowering the safety threshold is clear, but to increase the Digital Availability it is essential to trust stock files and inventory data. This is only achievable with a real-time tracking of products which creates full item-level visibility.



The increase of digital merchandise availability by consolidating DC and store inventory and lowering safety thresholds.

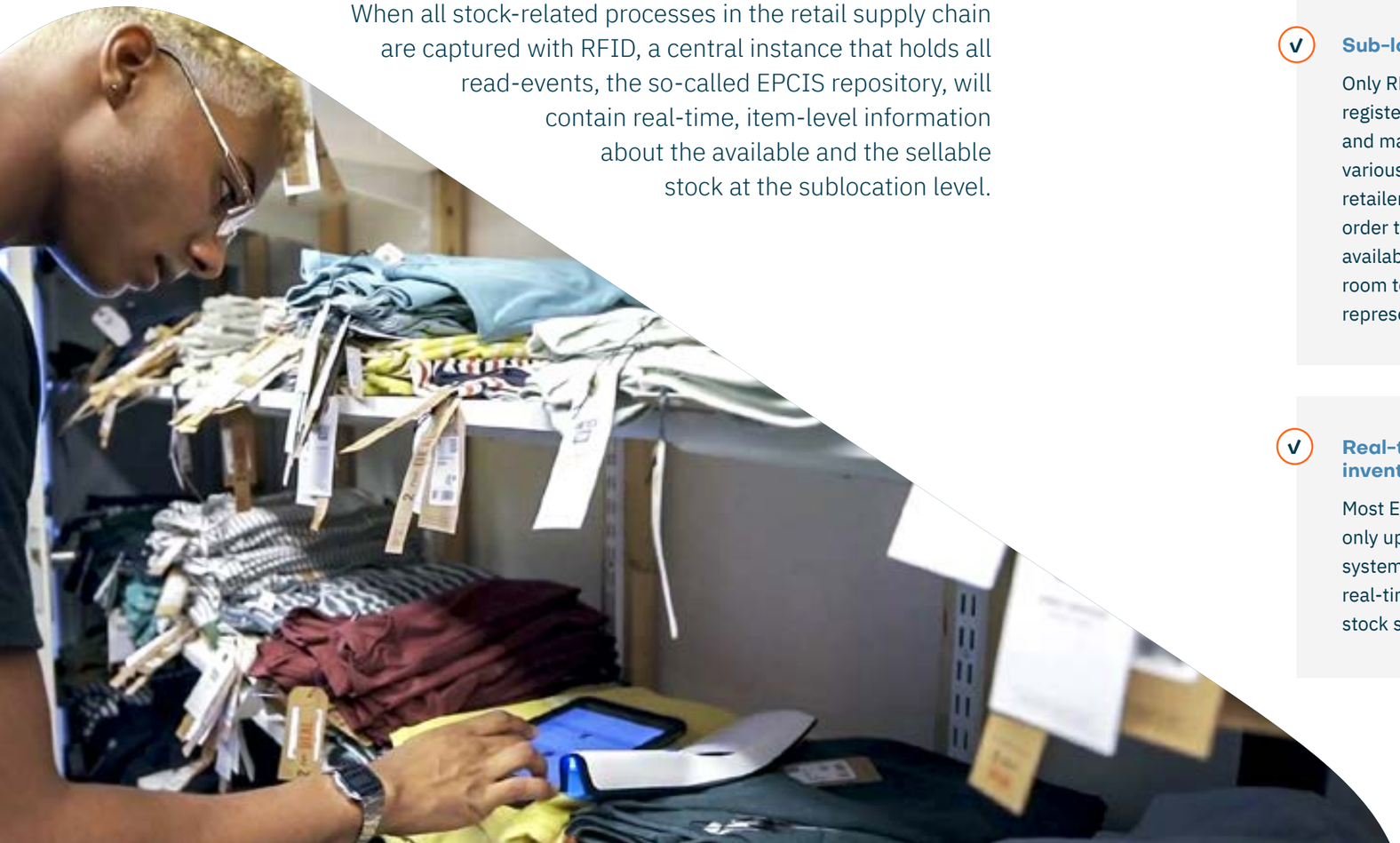
A **unified stock** pool

By bringing store stock online, retailers can increase their sales potential. Promoting the store's stock in an online marketplace is creating a lot of additional sales opportunities. Instead of locking stock up in a store, where it might only end up collecting dust, products can be made available to be sold online. In the end, looking at all storage locations as a unified stock pool enhances the competitive edge of a dense store network that is both physically close to the customer and digitally accessible for omnichannel initiatives.

Knowing each individual item **with RFID**

To successfully increase digital availability, it is essential to know exactly where products are at the unique item level. RFID is the perfect technology to easily and seamlessly register products and consequently assign a specific status and location. As a result, the use of this technology ensures a high stock accuracy and creates an end-to-end stock visibility.

When all stock-related processes in the retail supply chain are captured with RFID, a central instance that holds all read-events, the so-called EPCIS repository, will contain real-time, item-level information about the available and the sellable stock at the sublocation level.



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Retailers can then realize the following **benefits with RFID versus traditional backend systems:**

Unique-item-level management (EPC-level)

An item-level status management enables the tracking and tracing of each individual product. This makes it possible to, for example, see if specific products in a store are (online) sellable.

Sub-location view

Only RFID can associate the registered items with its location and manage the stock among various sub-locations. Thus, retailers can route an online order to a store where the item is available (and sellable) in the stock room to keep an optimal sales floor representation.

Real-time inventory view

Most ERP- or POS-systems are only updated once a day. An RFID system, however, provides a true real-time perspective on the actual stock situation.

EPCIS is connecting the silos

An EPCIS repository connects the various silos of stock-keeping systems along the supply chain, such as WMS, SCM, ERP, or POS and unlocks a unified stock pool for any sales channel.

Interoperability

It is possible to exchange EPCIS data among brands and retailers to activate a Vendor Managed Inventory (VMI).

Technical benefits

The RFID technology combines four technical benefits which make it an easy to use tool for a fast, efficient, and seamless product identification:

- Bulk reading: RFID can scan multiple labels at the same time
- Distance reading: RFID can scan labels several feet away
- No optical contact: RFID can scan through materials such as carton, wood, or plastics
- Data capacity: the RFID chip holds a higher data capacity than traditional barcodes and thus enables the application of serialized product data.

Questions?
We have the answers.

Every industry has its own unique challenges and opportunities. Nedap Retail creates unique solutions, geared to your industry, to help you take full advantage of social, mobile, cloud, and analytics as you transform your business.

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