Smart Self-Service

Enhancing the Customer Experience with Advanced Self-Service Technology

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Self-Service: Making Life Easier for Customers

Necessity is the mother of invention. Human aspiration and demand for new ways of operating in our modern world drive technological progress. And technology triggers behavior change, which spurs the need for new, more advanced technologies.[1] Innovation is a constant cycle.

Especially in customer-facing industries, we see many change cycles, often driven by the transfer of activities from supplier to customer. Essentially, clients want to be in the driver's seat and the rise of the individual[2] coupled with technological progress is transforming how we do things in many industries, retail included.

IKEA Serves Up an Appetizing Solution to Food Checkout

IKEA, one of the best-known home furniture brands in the world, was looking for ways to improve their restaurant services by becoming more efficient and convenient. Their iTray solution is a sophisticated "automatic food recognition system" that, combined with our self-checkout solution, helped reduce queues in their self-service restaurants in Italy.[3]

Shifting the Power Balance

As the saying goes, the customer is always right. And customers want more control in the retail sector. They demand faster, easier ways of making purchases. We can thank the Googles and Amazons of the world for conditioning customers to expect one-click, instant shipping results. They need their goods and services yesterday. Basically, the power balance between customer and retailer has shifted in favor of the *individual* customer, and that is steering the way new technologies are developed.[4] This explains the rise of self-scanning and self-checkout (SCO) technologies that make life easier for customers.

Customers want to be more in control of their shopping journeys, and they no longer accept restrictions and friction that slow down the buying process. Limited shopping hours, standing in line or waiting at home for deliveries are quickly becoming 'no go areas' for retailers. Customers want to be the master of their shopping experience, and they expect to be able to shop wherever, whenever and however they want.

Less Friction, More Satisfied Customers

Nielsen recently surveyed more than 15,000 consumers to better understand how technology impacts shopping behavior.[5] Nielsen identified similarities in why certain consumers prefer to use retail technologies, resulting in six distinct customer segments—each with its own set of motivators for using technology along the retail journey.

Source: Nielsen, Grocery Shopping Consumer Survey

The survey showed that for most segments, experiencing less friction is a key driver to adopting in-store technologies like self-scanning and self-checkout. In fact, several customer segments reported friction in their shopping trip to be the No. 1 frustration. Sometimes, too much friction caused consumers switch brands, if they thought they could shop more conveniently somewhere else. These consumers prefer to shop in store to 'touch, feel and smell a product before purchase,' yet waiting in line when they are only shopping for a few items was seen as rather disappointing.

Less friction leads to more satisfied customers. As a retailer, you can also embrace the "less is more" approach. Less friction leads to more revenues, increased staff efficiency and higher profit ratios.[6]

As mentioned, the way technology advances aligns with what customers expect—the experience they demand. This reality should drive you to raise the bar. The self-service concepts introduced a decade ago no longer fulfill the needs of today's shoppers. Consumers are ready to use the next generation of advanced self-service technologies that reduce friction. At the top of their shopping lists are shorter waiting times, less contact with staff, smoother checkout and an overall more convenient experience.

Let's explore what these advanced self-service technologies look like—and how they can help you transform your approach to customer service.

Advanced Self-Service Technologies

New technologies have been developed that lead to far better self-service experiences. These smart technologies can help reduce the number of interventions* that occur in self-service flows. Some have been designed for customer use, while others are helping store staff solve interventions more efficiently, minimizing friction for customers.

*An intervention requires *human support* to solve an interruption in an automated process. An example of an intervention is age verification: when someone wants to buy an alcoholic beverage via the self-service counter, store staff needs to manually approve the purchase. This results in an interruption of the self-checkout process.

Smart User Interface

The user interface (UI) is the starting point of all interactions between a customer and a self-service device. The problem is, this interface is often cumbersome for customers to use. Many UIs are outdated, lack an intuitive step-by-step flow and are slow to process transactions. At the end of the day, a poor UI leads to more staff interventions—which means time and money. Plus, transactions take longer to complete, which creates longer queues at checkout and stokes frustration. Poor UI also impacts staff efficiency as they need to intervene more often to help customers who got stuck in the self-service process.

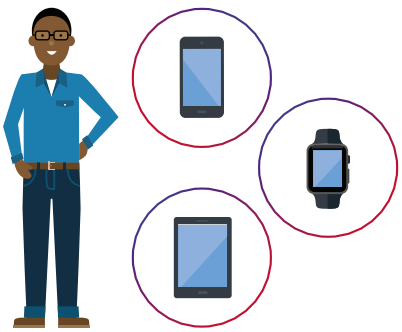
The good news is, advanced UI technology is readily available, and it puts more capabilities into customers' hands. Modern UIs allow people to interact with self-checkout devices by using gestures rather than keying in characters. Customers can simply swipe between screens or scroll between options shown on the screen using their hands. This mimics the graphical UI experience they already experience while searching the internet or swiping through apps on a smartphone. A visual UI makes interacting with a self-service device quick to learn and easy to do. Also, today's advanced UI technologies allow for smart configuration. So, as a retailer, you can complete this process yourself rather than paying a consultant to do it, while adapting the interface to accommodate your self-service workflows at any time. Today's UIs also offer plenty of options to adapt the look and feel to your brand, without restrictions in display size and resolution.

Smart Assistance

What makes the difference between a good and bad shopping experience? Think about how customers feel during self-checkout and what they ultimately want—simple, fast, done. To make this happen, you need proper intervention handling. Otherwise, customers can get tripped up in self-checkout waiting for staff to remove an obstruction—whatever it is—so they can complete the process. Research indicates that the average self-checkout time increases by 50% to 100% with each intervention.[7] Not only is time lost, customer loyalty is too.

Common causes of interventions that erode efficiency and consumer confidence include:

- Age-restricted items (no alcohol sales under a certain age)
- Quantity-restricted items (no more than X items per customer)
- Unexpected items in the bagging area (item barcode not recognized by the scanner)
- Unexpected increase or decrease of the scale (weight of item does not correspond with the item scanned)
- Mismatched items (wrong item is scanned)
- Other exceptions that require store staff to help



With smart mobile technologies, you can remotely resolve all of these interventions. This not only works faster, it eliminates most face-to-face interactions with customers. This is important because, for health and/or privacy reasons, some shoppers prefer minimal face-to-face interaction and want to use self-checkout. Smartphones, tablets or wearables can be used by a mobile attendant, who can resolve interventions remotely. As such, it allows the same attendant to help multiple customers at the same time. It also reduces shrinkage by instantly flagging issues, such as unexpected items in the bagging area, or a mismatch between items scanned and the total weight of items on the security scale.

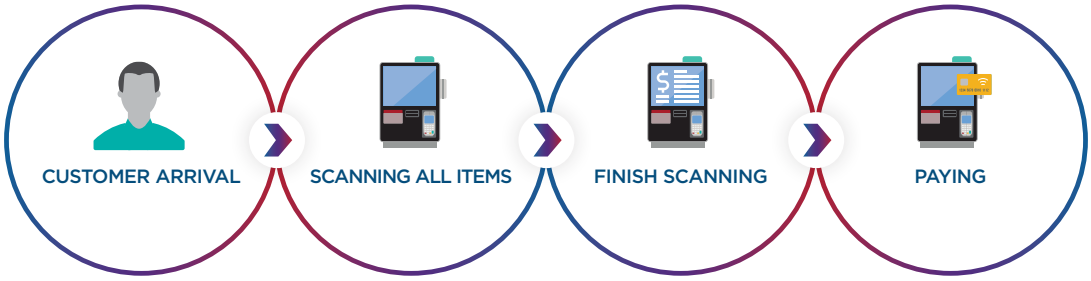
Smart Assistance for Tesco Customers

An example of a staff journey that improves the consumer journey is Tesco's "*Call a Colleague*" service. The European grocery retailer has deployed self-service kiosks across its Tesco Extra stores. These kiosks allow customers to call a staff member for help, for example, when they cannot find an item. After having called for help via the kiosk device, the shopper receives a service ticket and can watch the status on a TV screen until a staff member arrives.[8]

Smart Control

As mentioned, the power balance between customers and retailers has shifted in favor of the customer. With customers in the driver's seat of the buying experience, they not only want to control the shopping trip, they also want to take charge of navigating a self-service device. Some hesitate to use touch devices because of the physical contact and health concerns. Therefore, low-touch has evolved into no-touch or touchless technology, and it's improving customer confidence.

With smart control technologies, entirely touchless self-service processes are made possible. For example, a proximity sensor can recognize a customer arriving at a self-service station and automatically shift from idle (or sleep) to active. Without touching the device, the customer scans items. The scanning process is completed as soon as the customer brings a payment card in front of the EFT device. In cases where contactless payment is enabled by the card provider, the customer can simply pay and leave the store without touching an SCO device.



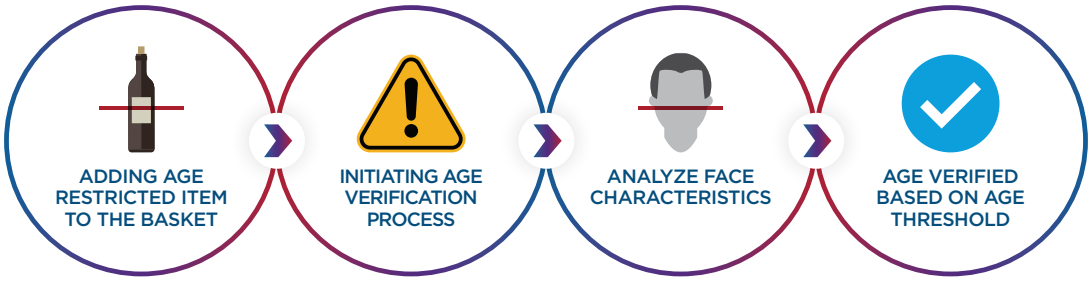
Another option for smart control is screen mirroring. This allows the shopper to operate the SCO device entirely with a smartphone. After scanning a barcode displayed on the SCO device, the smartphone screen mirrors the check-out screen. Then, the customer can operate the entire checkout and payment process with a smartphone. An additional benefit is that screen mirroring also allows customers with physical limitations (wheelchair, etc.) to have a more convenient checkout experience.

Smart Vision

Smart vision technologies can prevent many checkout interventions—friction that can cause customers to pull the plug on a purchase or decide to shop elsewhere. To reduce frictions like age verification or recognizing fresh produce, smart vision combines camera technology with artificial intelligence (AI) to recognize images. An added benefit of smart vision is reducing shrinkage.

Age Verification

Age verification interrupts self-checkout flows in approximately 25% of all cases.[8] This has a significant negative impact on throughput times and consumer flow in the self-checkout area. Age verifications typically take 2-3 minutes to clear, and during this time, the queue grows longer. When an attendant has to handle age verification manually, front-end capacity is reduced. Not to mention, consumers get frustrated and leave the overall checkout experience wondering if they should shop elsewhere.



As a solution, some retailers have begun using smart vision solutions with a camera mounted on or near the self-checkout device. By applying sophisticated algorithms based on AI, these smart vision solutions can recognize someone's age by matching facial characteristics to a database. Some algorithms can even successfully match faces that are partly covered by a scarf or a face mask. From there, you can configure the age acceptance level, and only negative matches (scoring below the age threshold) are automatically forwarded to a mobile attendant for assistance. This reduces the number of interventions by 80 to 90%.[9]

Fresh Produce Recognition

Smart vision technology also removes the barrier to checking out non-barcoded items like fresh fruit and vegetables. Sometimes, stores have dedicated scales with picklists in the fresh produce area, where consumers can place items on the scale. They then review the picklist to find the corresponding item, print a barcode sticker and attach the sticker to the item. The whole process is rather cumbersome and error-prone since consumers must go through multiple screens to search for an item based on a picture or a brief description. These picklists are non-standard and can vary from store to store. Plus, picklists frequently change because fresh items are added or removed from the store's selection, making it difficult for consumers to remember where their favorite fresh items are in the list.

This entire process can be automated using 3D cameras and deep-learning algorithms. It sounds complex, but the result is simple for customers. They simply put their fresh produce item on a scale-with-camera. Smart vision technology recognizes the item and presents the customer with the proper name of the item. After customer approval, the fresh produce item is added to the transaction in a single click. This simplifies the checkout process for the customer while reducing staff interventions to help customers with incorrectly labeled fresh items. This approach to item recognition also contributes to improved stock accuracy.

Award-winning Application of Smart Vision Technology

Smart vision technology is also applicable in areas other than fresh produce. A great example can be found at furniture retailer IKEA, which uses camera-equipped self-checkout solutions. A camera mounted on top of the SCO detects any scan errors and notifies the customer to rescan and correct the shopping basket if necessary. IKEA has deployed this automatic item recognition technology, called iCheck, at stores in France. It is an example of how smart vision technology based on AI can improve the customer experience by eliminating frictions and reducing queues. Integrated with Diebold Nixdorf's DN Series™ EASY self-checkout solution, iCheck was awarded the "Retail Technology Award Europe 2021" in the category of Best AI & Robotics Application.10

Shrinkage Reduction

3D cameras mounted on SCO devices for age verification or item recognition purposes also can be used to prevent shrinkage. In most cases, this will encompass non-malicious shrink, where smart vision technology helps a customer add the correct fresh produce item to a shopping cart. The same vision technology can be combined with security scales to alert attendants of a mismatch so they can remotely check what is happening using a smart device or wearable. For preventing theft in general, the mere presence of a smart camera attached to the ceiling and monitoring the self-checkout area can deter fraudulent activity.

The Future Is Here

While some of these technologies might seem far-fetched, customers are already demanding a touchless, seamless, smart and efficient experience. Self-service retail is evolving quickly, and customers are more willing than ever to adopt technologies that make the buying experience easier for them. An important indicator of this trend is the level of customer willingness to use advanced self-service technologies. A recent study shows that in just 10 months' time, from December 2019 to October 2020, the number of customers interested in using dedicated self-service stores increased by 21%. And, 23% of respondents said that facial recognition used for "no touch" checkout and payments processes is an attractive option.

The future is here today. Smart retail technologies are in demand, and by implementing technologies that ease the self-checkout experience, you can position your brand as one that's relevant, connected to your customers' preferences and interested in delivering what they need, when they need it!

Storevolution and Advanced Self-Service Technology

As customers keep evolving, so too must retailers. To remain competitive and survive in an ever-changing and diversified customer market, you need to become leaner, more agile, and innovate your value chain by adopting new technologies. Continuous change and adaptability should be core elements of your business philosophy, underpinned by solutions that facilitate those initiatives in the most flexible and controlled way. We bring that vision to life through Storevolution,™ Diebold Nixdorf's comprehensive approach to future-focused retailing. Based on four design principles, customer centricity, store digitalization, high connectivity and store-as-a-service, Storevolution offers all the necessary tools, data and processes to design, enable and operate relevant customer and staff journeys on a daily basis.

Advanced self-service technology fully aligns with this philosophy. It puts the customer first by eliminating frictions in customer journeys and enhancing customer experiences. Following a modular and connected approach based on open APIs, you can gradually introduce advanced self-service technologies and digital add-ons in your stores in a scalable and low-cost way. This gives you maximum flexibility to adapt to new market trends and customer journeys in a controlled way and at your own pace.

Learn more about how your organization can benefit from advanced self-service solutions and from the Storevolution approach at:

DieboldNixdorf.com/Storevolution

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