

Open Retailing

Why Openness is Essential for
a Successful Self-Service Strategy



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A Fundamental Choice for Openness

Consumer behavior is changing faster than most retailers can react. Existing store concepts are being turned upside-down. The pace of consumption has dramatically gone up, and the consumer experience is now more than ever a *holistic* one that can either start at home or on-the-go, and typically involves a mixture of online, mobile and offline (in-store) touchpoints and interactions.

The distinction between channels is disappearing, with online and offline (O2O) channels blending further. Connected experiences are the new norm, and consumers routinely check promotions and stock levels via their mobile apps while shopping in store. They are changing their behavior when it comes to checkout and payment as well, with a much higher adoption of self-service journeys.

To be on par with these changing consumer behaviors, retailers must act fast and stay extremely flexible.¹ Introducing new shopping concepts, supporting new types of consumer journeys, and offering new services and new technologies to enhance consumer journeys and reduce 'friction' are key. As a retailer, one must make a fundamental choice between whether to keep up with ever-changing consumer preferences—or not.

At Diebold Nixdorf, we believe this choice to keep up with consumer demands fundamentally implies a choice to be open: *open* in working with multiple vendors, *open* in the IT infrastructure, *open* in business processes. *Openness* will be the guiding principle on top of which retailers can introduce new services and new store concepts to consumers in the fastest possible way.

The Importance of Openness

Openness enables a smooth and permanent evolution of consumer journeys and IT landscape in order to cope with a future which is increasingly hard to predict.



Openness helps retailers avoid being locked in to specific solutions, specific vendors or a specific process. With regards to innovations, openness creates breadth and a wide array in identifying solutions to any problem. It also reduces switching barriers when implementing new technologies in the existing IT landscape. Without openness, retailers encounter technical incompatibilities, premature asset write-offs, complex migration processes and reluctant vendors—all of which result in lengthy and costly innovation projects.

Openness enables easier ecosystem changes so retailers can add new touchpoints quickly. It lets retailers distinguish between critical and non-critical processes— and, if necessary, scale down non-critical ones quickly. As such, openness is the key to navigating retail businesses through times of challenge and opportunity.

Openness is especially critical in the area of self-service. Self-service checkout is not yet fully mature as a market. Technologies are still evolving. It's an area showing a lot of innovation and where technologies from various vendors come together to create frictionless journeys. The ecosystem includes touchless payment terminals, image recognition, voice control, smart security scales, hand-held scanners, smartphone apps—just to name a few. It took less than 30 years to go from the first self-service checkout device in a supermarket to a completely 'cashier-less' store.^{2,3}

Who knows what the next 30 years will bring? To stay ahead of the game in self-service, one needs to be prepared to quickly test, combine and roll-out new technologies from various vendors to meet consumers' expectations.









The time for vendor 'monopolies' and rip-and-replace of existing implementations is over. Instead, technology vendors should adopt an *Open Retailing strategy*, which embodies the ability to leverage a retailer's best-of-breed ecosystem to manage business processes efficiently while augmenting the consumer experience.

Diebold Nixdorf's Open Retailing strategy is based on a flexible platform approach that combines open-API software and a modular hardware setup with a flexible services portfolio. This allows retailers to upgrade their IT infrastructure gradually, step-by-step, and *at their own pace*. Being open to interface with 3rd party technologies, it also avoids vendor lock-ins and premature replacements of hardware components. In other words: while consumer journeys and store concepts keep on changing over time, Diebold Nixdorf provides retailers with maximum flexibility to adapt their technology infrastructure to yet unknown changes in consumer behavior. As such, an Open Retailing strategy helps retailers accelerate time-to-market for new implementations while lowering total cost of ownership (TCO).




Much More Than Just Connecting Two Devices







Hardware Elements

-  Printer
-  Loyalty Card
-  Mobile
-  Camera
-  Scanners
-  Security Scale
-  EFT
-  Cash



Software Elements

-  UX/UI
-  Database
-  POS Software

Service/People Elements

-  Staff Interventions
-  Device Management
-  Maintenance
-  Real-time Monitoring

Future

-  Facial Recognition
-  Future Innovations

Rapidly Changing Consumer Behavior Demands Openness

We live in a consumer-centric world, in which consumers determine the rules of engagement. A survey commissioned by Diebold Nixdorf and carried out by Nielsen⁴ shows a steep increase in consumers preferring **smaller basket sizes** and **higher shopping frequencies** supported by **fast, convenient and 'low-touch' in-store services**. According to the survey, 48% of Gen Z and Millennial shoppers do their main shopping several times per week, compared to 38% of Gen X and Baby Boomers.

The separation between channels is disappearing, with online and offline (O2O) blending further. Connected experiences are the new norm, and consumers routinely check promotions and stock levels via apps on their smartphones while shopping in store. Consumers are changing their behavior when it comes to checkout and payment as well, with higher adoption of self-service journeys.⁵ This perfectly fits with consumers' desire to be more in control of their shopping journey.

Waiting in a queue is the number one frustration for shoppers according to the Nielsen survey, and self-scanning items in order to leave the store faster would solve a lot of the frustrations shoppers experience.

Self-service speeds up the checkout process, reduces queues, increases loyalty and improves overall consumer experience. It's therefore no surprise to see self-service concepts quickly gaining ground across the industry. And as a result, the role of store staff is changing, too, from a traditional cashier to a service employee helping consumers carry out their shopping journeys.

Top 5 Frustrations Grocery Shoppers Experienced



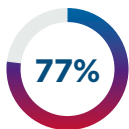
Source: Nielsen, Grocery Shopping Consumer Survey, December 2019, Online Survey, n=15,004. Commissioned by Diebold Nixdorf. Online Survey carried out across 15 countries including USA, Canada, Mexico, Brazil, France, Spain, Italy, Germany, Sweden, China, Singapore, Malaysia, Thailand, Australia. We asked: Thinking back over the last 12 months, did you have experiences that annoyed you while shopping a brick and mortar store? Base: All respondents, top 5 responses. How interested would you be in the following services to get such problems solved? Base: Respondents with an annoying experience, Responses: Very interested / Already doing this today

Leverage the Ecosystem with Open Retailing

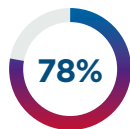
Fact: One in five shoppers experience frustration because they are not able to find a store associate. According to Nielsen,⁴ 73% of the shoppers interviewed are very interested in—or already use—some sort of solution to call a staff member directly to the shelf where they need help.

In order to meet the requirements of their clientele, retailers need to support and implement solutions that put the consumer in control. When asked about annoying shopping experiences like waiting in queue or finding an item out-of-stock, 77% of the shoppers indicated they would prefer to self-scan their items, and 78% would like to be able to check item availability online before even going to the store.⁴

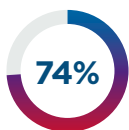
Consumers Want to Stay in Control



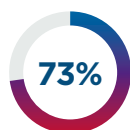
Scan my items myself to be able to leave the store more quickly



Being able to check availability online before I go to the store



Get notifications when my preferred items are back in stock



Call an assistant to come directly to the shelf where I need help

To keep costs to a minimum and free staff to help shoppers in more meaningful ways, self-service journeys should be based on *Open Retailing*. This is a strategy centered around openness and modularity, with a shared set of open interfaces based on a modular architecture. Open Retailing is our commitment to retailers that they will be able to integrate 3rd party solutions whenever it makes sense to optimize consumer and staff journeys.

A platform approach is essential for retailers to ensure consistency across their software, hardware and services implementations. With Open API software, a modular hardware setup and a flexible services portfolio, retailers have the right platforms in place to upgrade their IT infrastructure at their own pace. As consumer and staff journeys change over time, these platforms allow them to follow an adaptive approach based on best-of-breed rather than rip-and-replace.

Open APIs

Essential for Open Retailing is having Open APIs, or Application Programming Interfaces. The API defines the kinds of calls or requests that can be made from one piece of software to another, how to construct them, the data formats that should be used, and so on.⁶ It provides mechanisms to extend existing functionality in various ways. At Diebold Nixdorf, we believe it should not matter who created the software—or the API. All that matters is to have standardized and accepted ways to exchange information using a platform approach to avoid lock-ins and to promote re-use of existing and proven self-service solutions.

DN Solution in Action

An international discounter wanted to implement self-service solutions for their shoppers, yet also wanted to stick to their own Linux-based POS environment to save an investment already made. With Diebold Nixdorf's solutions based on open APIs it was no issue at all to run the self-service solution on top of the Linux build maintained by the retailer's own IT department.

Source: Nielsen, Grocery Shopping Consumer Survey, December 2019, Online Survey, n=15,004. Commissioned by Diebold Nixdorf. Online Survey carried out across 15 countries including USA, Canada, Mexico, Brazil, France, Spain, Italy, Germany, Sweden, China, Singapore, Malaysia, Thailand, Australia. We asked: Thinking back over the last 12 months, did you have experiences that annoyed you while shopping a brick and mortar store? Base: All respondents, top 5 responses. How interested would you be in the following services to get such problems solved? Base: Respondents with an annoying experience, Responses: Very interested / Already doing this today

Independent Software Modules

Ideally, one would deploy a “single core” software solution that can be used for all self-service scenarios, strictly separating POS business logic and UI logic from the self-service functions. This approach allows retailers to deploy a self-service solution based on a technology-independent strategy. It enables them to leverage their current POS deployment and continue to use their operating system of choice. With its flexible setup, it also lets retailers adapt journeys through configuration rather than programming, and allows easy configuration of UIs that reflect their own brand identity.

Modularity in software architecture gives a retail organization more choice and flexibility in technology purchases. It immediately makes clear whether a solution vendor is only paying lip service to Open Retailing or not. Does a retailer receive an ‘all-or-nothing’ solution proposal, or do they get the chance to choose from various modules with varying degrees of completeness?

Consistency

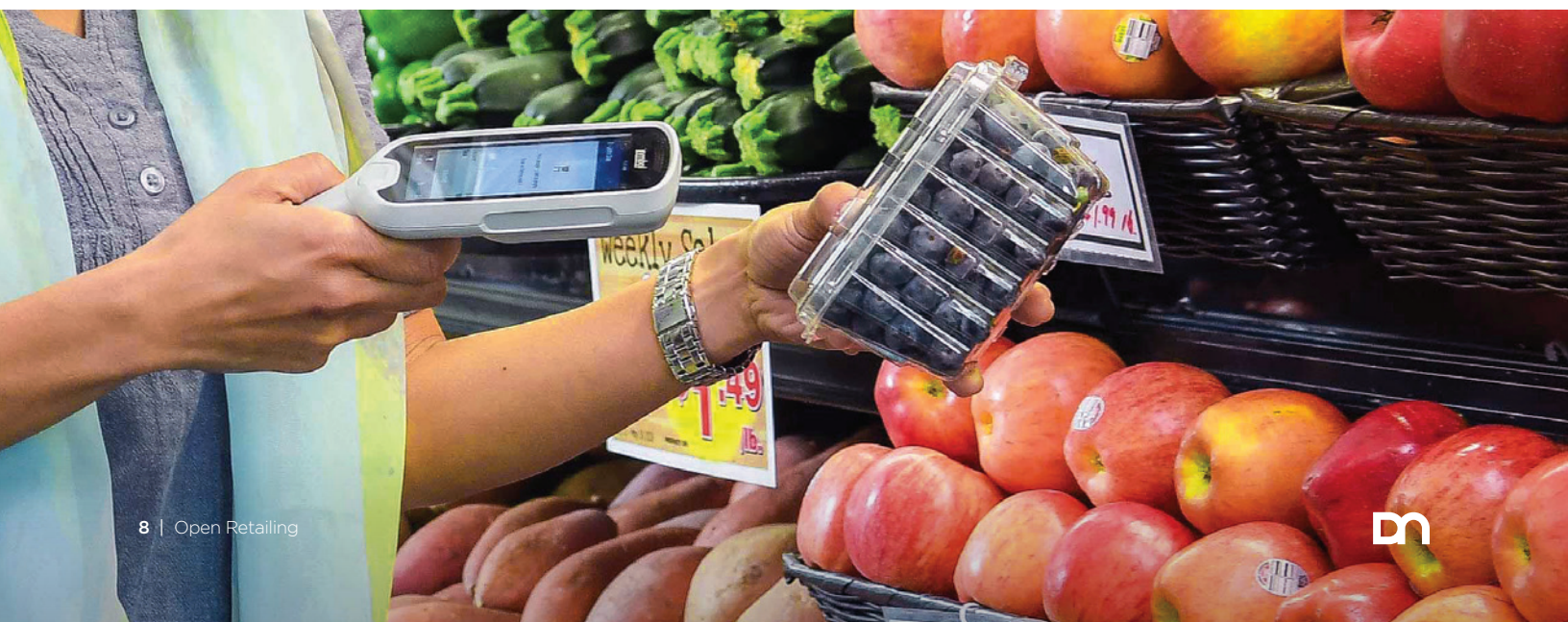
Open Retailing and a platform approach let a retailer introduce new self-service journeys into their stores independent of hardware devices, process workflows or software already deployed. It should not matter whether a shopper uses a kiosk, a mobile hand-scanner or a self-checkout device to purchase their items—the processes should be similar and intuitive to ensure a consistent consumer experience. The same goes for store staff: with Open Retailing in mind, adding self-service should not result in costly training sessions. The same POS software can still be used, the same back office workflow processes can still be applied, and if needed, self-service lanes can temporarily be changed into staffed lanes with the touch of a button. This leads to maximum flexibility and better TCO thanks to leveraging the same solutions already deployed.

DN Solution in Action

A UK-based retailer introduced self-service checkout to ensure speedier consumer transactions with shorter queues and higher consumer satisfaction. It also freed up store staff for shopper-centric activities, such as shelf replenishment and assisted selling. To optimize the self-service process, the retailer wanted to reduce the number of times assistance was required during self-checkout, e.g. when weighed items were bought. To accomplish that, the retailer improved the user experience step by step, via the graphical user interface (GUI). Having a self-service solution based on an open GUI, changes were made 100% via configuration, and required no coding nor re-compilation of source code in any way. This allowed the retailer’s IT staff to handle the entire project by themselves, not only saving time and consultancy fees, but also increasing flexibility and responsiveness by making incremental changes in the GUI which could be deployed fast and tested immediately with real shoppers.

DN Solution in Action

One of the best examples of an Open Retailing approach can be found at a large grocer who deployed Diebold Nixdorf’s self-checkout hardware in various European countries. The POS software was provided by a 3rd party. Using Diebold Nixdorf’s Open API framework, the 3rd party POS provider built an adapter to handle all self-service transactions without duplicating any of the POS business logic. In fact, the Open API infrastructure is so well-constructed, that this grocery retailer could extend the use of the adapter to other self-service equipment (hand-held scanners) provided by Diebold Nixdorf as well, without changing a single line of software code!



Storevolution™ and Openness

These examples showcase the strength of Storevolution, both an approach and program developed to support retailers managing the process of continuous change in their industry. Built around four guiding principles—consumer centricity, store digitalization, high connectivity and Store as a Service—Storevolution effectively helps retailers across different verticals implement innovation roadmaps in a controlled and open way. It is a change philosophy that supports retailers in designing, enabling and operating frictionless consumer and staff journeys.⁵

Storevolution is not meant as a way to predict the future, but rather as a method of helping retailers to be more responsive to changes yet unknown while leveraging today's investments. That is why high connectivity and openness are so important, since these allow retailers to be more 'adaptive' and ready to adopt future innovations, whatever these may be. Based on a platform approach with a set of open APIs for faster and easier integration, as well as smart consulting and migration services to help retailers with their multivendor strategies around the globe, it minimizes integration efforts and simplifies change management.

DN Solution in Action

A large, multinational retailer wanted to implement new checkout hardware to offer consumers more choice and flexibility, accommodating innovative self-service journeys including click & collect, select & pay (using kiosks in the restaurant areas inside the stores) and hybrid checkout stations that could be either used as a self-service or manned checkout point. In addition, they also wanted to offer consumers the opportunity to purchase seasonal products in temporary "pop-up" corners in the store using mobile POS stations. The entire IT ecosystem consists of several hardware checkout lines from various vendors, a separate loyalty & promotion system, a meal voucher system, handheld-scanning technology and various cash and mobile payment devices. This complex and diverse ecosystem will be managed end-to-end by Diebold Nixdorf's software solution based on an Open Retailing approach. Being 100% hardware-agnostic and with an open API infrastructure, it enables the retailer to leverage existing and future hardware and software solutions into one integrated solution that fosters frictionless consumer journeys.



On the Road to Self-Service

We at Diebold Nixdorf strongly believe in Storevolution and Open Retailing, no matter the retail vertical one is in! Only when solution providers have truly built openness into their solutions, retailers can implement a flexible and adaptable self-service strategy at an accelerated pace. Openness ensures shorter time to market and enables a smooth and permanent evolution of consumer journeys and IT landscape in order to cope with a future which is increasingly hard to predict.

DN Solution in Action

A global retailer wanted to extend the opening hours for its convenience stores. In order to support daily opening hours from 8am to 10pm including Sundays, the retailer was looking for self-service solutions to facilitate the extension while optimizing staff allocation. A prerequisite was to leave the existing POS software infrastructure intact. That is why Diebold Nixdorf was selected to deploy its self-service devices together with its Open API software solution to ensure that all self-service transactions were correctly

handled and stored via the existing POS system without duplicating any business logic. The result was a smooth, cost-effective and easy-to-maintain deployment of self-service equipment across all convenience stores, and today, one-third of all transactions are being handled via self-service devices.

Throughout this paper, we've given many examples of retailers who adopted Open Retailing as their strategy to implement self-service solutions in their stores. We understand that every retailer is unique and every situation has its own challenges. Yet, we are confident that with our Open Retailing strategy and platform approach, we can help create superb consumer experiences in a short time frame using a best-of-breed approach. Based on Storevolution and openness, retailers will be ready to offer the best self-service checkout mix for frictionless consumer journeys of today and tomorrow!

[Learn more at DieboldNixdorf.com/SelfService.](https://www.dieboldnixdorf.com/SelfService)



Sources

¹ Forrester, 2020 Predictions: On the Precipice of Far-Reaching Change

² <https://www.qikserve.com/self-service-tech-a-history/>

³ https://en.wikipedia.org/wiki/Amazon_Go

⁴ Nielsen, Grocery Shopping Consumer Survey, December 2019, Online Survey, n=15,004. Commissioned by Diebold Nixdorf. Countries included: Germany, UK, France, Italy, Spain, Sweden, US, Canada, China, Singapore, Australia, Brazil, Mexico, Malaysia, Thailand. Statements in this document do not necessarily reflect the opinion of Nielsen.

⁵ In our whitepaper on Storevolution, we've taken a deep-dive on the importance of the consumer journey and presented a consumer-centric program and approach based on four guidelines, to help better manage today's complexities in the retail industry. See: <https://www.dieboldnixdorf.com/en-us/retail/solutions/storevolution>

⁶ https://en.wikipedia.org/wiki/Application_programming_interface

