

The Sustainability Playbook



How Retailers Can Develop an Action Plan That Influences Business Results



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Editorial

The world is constantly changing. Some changes are more predictable than others and relate to technological progress, changing consumer habits or the increasing importance of sustainable thinking on personal actions and business. Others come as an unforeseen event, such as natural and environmental disasters and epidemics, and have immediate and profound effects on people, behavior patterns in daily life, the social ecosystem and economy.

Sensitized by those events, consumers' demands for sustainable retail are changing, forcing each and every retailer to adapt very quickly to changing shopping habits.¹ Technologies and solutions that help consumers achieve a sustainable shopping experience are becoming more critical to success, and around the globe the use of self-service solutions like self-checkout and self-ordering kiosk solutions, as well as cashless payment solutions, has increased in the store environment.

To adapt to the changes in consumer behavior and consumer journeys, Diebold Nixdorf developed a sustainable program for retailers, called **Storevolution**.^{TM2} The program identified customer centricity, store digitization, high connectivity and "store as a service" as essential milestones for retailers that want to keep their stores relevant and competitive.

The Cornerstones of Storevolution



CUSTOMER CENTRICITY

How to reconcile the online and the offline worlds to create a consistent consumer experience.



STORE DIGITALIZATION

How to build and operate new journeys and touchpoints.



HIGH CONNECTIVITY

How to easily integrate new apps and touchpoints in an existing IT environment.



STORE AS A SERVICE

How to improve store operations and manage flexibility. How to operate consumer and staff journeys.

Storevolution provides retailers with the flexibility to respond to slight changes or even to global transformations through an IT environment that enables satisfying shopping experiences for consumers at the lowest possible TCO for the retailer. Thus, Storevolution is also an ideal tool to drive sustainability in retail and help store owners to improve their ecological footprint—an important quality for today's consumers.

The Call for Sustainable Action and Management is One of the Most Important Challenges of Our Time.

Since the United Nations Environment Programme (UNEP), the "voice of the environment" at the UN, was founded in 1972, it has become increasingly clear, especially in recent years, that the careful treatment of the environment and the sustainable use of resources are indispensable to ensure life on our planet for our children.

The UNEP attributes a central role to the retail sector as a distributor and employer in the implementation of its Sustainable Development Goals, which address "global challenges [...], including those related to poverty, inequality, climate change, environmental degradation, peace and justice."³ In addition to the moral obligation that the UNEP put on retailers, today's powerful consumers are also seeking more sustainability in retail, and they vote with their feet and their wallets.



Retail-Industry-related Sustainable Development Goals⁴

The Voice of the Sustainability-Conscious Consumer

In the global “Grocery Shopping Consumer Survey” conducted over 2019 and 2020 by The Nielsen Group and commissioned by Diebold Nixdorf, 64% of those responding were identified as environmentally-conscious. The vast majority are over 25 years old and live in an urban environment. They live in multi-person households, prefer to shop at least once a week in hyper- and supermarkets and are more responsive to innovative solutions in the store. They also have a medium to high household income, which makes them very appealing to retailers.



Environmentally-Conscious Consumers Appreciate New Technology Solutions

Environmentally minded consumers are more responsive to innovative technologies and solutions. They are **twice** as likely to appreciate new technology solutions like:

2x as likely to appreciate:⁵



Being able to digitally locate the next available store associate by smartphone or self-scanning device



Smartphone recognition when entering the store



Virtual reality technology



Being guided via a store map on their smartphone



Using biometric payment

Economics of Sustainability

Serving customers sustainably can actually help businesses drive positive change:



Customer Acquisition and Retention:

56% of shoppers say that **sustainability and ethical business practices matter more now** than they did a year ago.⁶



Cost Reduction:

49 of the 50 international leading retail companies **rely on energy-saving measures to protect the environment and save costs.**⁹



Staff Recruitment and Retention:

Almost **70%**⁷ of the employees surveyed said that they **prefer to stay at a company that operates sustainably** in the long term.



Increase in Customer Loyalty:

Sustainable products often cost more,¹⁰ but **lead to a stronger relationship with consumers** interested in sustainability.¹¹

Did You Know?

A 20% reduction in energy costs **has the same effect as** a 5% increase in sales.⁸



Sustainable Retail Ecosystem

Consumers and retail employees expect their preferred retailers to think and act sustainably without compromise. This is why the sustainability issue is not only relevant in isolated sub-processes, but should permeate the entire company.



The retailer is at the heart of a complex ecosystem that contains relationships with consumers and employees as well as various suppliers and service providers. This means that all participants in the retail ecosystem must contribute their share to a holistic sustainability solution.

Financial institutions provide merchants with financial resources and ensure the supply and disposal of cash. In cooperation with specialized service providers, solutions can be offered for cashless payment on the one hand and intelligent cash supply and disposal on the other hand, that ensure sustainability.

Certainly, the commercial real estate sector is probably not often directly perceived by consumers as a sustainability partner. However, the potential for energy savings through appropriately prepared buildings should still be of great importance for retailers.

Consumer goods manufacturers are more visible to the outside world. After all, they can do a great deal for the environment through sustainable business processes and by providing sustainable goods and assortments. This also includes using environmentally friendly packaging, if it is needed at all.

Avoiding waste and reducing energy consumption are perceived as synonyms for sustainability. The best sustainability successes are achieved in cooperation with brand manufacturers, service providers and IT solution suppliers.

The store associates, as the face of the brand, need awareness about sustainability, along with the necessary technical tools to be able to act accordingly. Here, IT manufacturers and suppliers of capital goods also need to equip their stores with suitable solutions and infrastructure.





Sustainability and IT for the Retail Store

Consumer behavior is constantly evolving. To keep them loyal, the retailer must do everything possible to meet their needs and their expectations for an outstanding consumer experience. The role of IT is to digitize store processes and to enable sustainable customer experiences in the store, at the shelf, at the checkout and beyond.

Omnichannel processes are the connection between the physical and the digital business of a retailer. By connecting different touchpoints and different channels in real time, for instance, product availability can be checked before shopping, thus avoiding unsatisfying store visits, or further product details can be researched in the store regarding production, origin or health compatibility.

Data analytics are an important tool to understand the needs and preferences of a target customer group interested in sustainability and to design assortments and store plans accordingly. They include, for instance, the optimization of store offerings through self-learning and predictive modeling, improving up- and cross-selling opportunities through the analysis of customer data, automated forecasting models for merchandise planning and more efficient personnel management through improved workforce planning.

IT services are essential for continual store operations. Dedicated service processes support sustainability by ensuring that possible IT failures are detected at an early stage and field service engineer visits and interventions are avoided. In particular, sustainable service processes include remote monitoring and remote support, predictive analytics and proactive maintenance. Retail software applications are proactively monitored and managed by dedicated application services, at the checkout or on mobile in-store devices. A service team monitors the performance of the respective application and ensures that the software is always up-to-date. This improves the availability of the applications, minimizes failure rates and increases the productivity of business processes in the retail store.

Reverse-Vending solutions are a cornerstone of sustainability in the retail environment. They are at the very beginning of the resource-saving recycling process, collecting bottles and cans and feeding them into a professional recycling system.

Electronic shelf labels improve the flexibility of item pricing and ensure price consistency in the store, from the ERP system to the checkout solution. They benefit the environment by saving electricity on energy supply as well as paper for printing and sticking of physical labels.

Payment solutions are at the end of every in-store purchase. The mix of different cash and non-cash payment methods must meet the needs of consumers. In addition to cashless payment solutions, intelligent cash management solutions also contribute to sustainability, as they can minimize carbon emissions by optimizing the number of trips made by security carriers.

Digital receipts are an innovative substitute to conventional paper-based receipts, which are created at the end of each purchase, and are often requested by retailers when returning or exchanging purchased items. Nevertheless, a conventional receipt is not always necessary¹² because, due to the low price of the article, it is not used for these purposes and is thrown away by many consumers soon after purchase. For digitally well-equipped consumers who need a receipt for various reasons, the digital receipt, which is transmitted electronically, is a convenient option. This reduces the unwanted printing of paper and purchasers of high-priced articles still receive a usable proof of purchase.

Self-service solutions, such as self-checkout and self-order kiosk solutions, are an ideal supplement to attended POS systems, as they offer the flexibility to react quickly to different consumer flows during the day. Self-checkout systems are ideal solutions for consumers that desire a fast, cashier-less experience. Self-order kiosks, on the other hand, offer consumers the opportunity to order and pay for items that are not in the store and get them delivered to their homes as part of an endless aisle concept. For the health protection of consumers and store associates, self-checkout systems and self-order kiosk systems show further strengths. They can be set up to maintain the required minimum distances between consumers, and the surfaces are easy to clean and disinfect.

EPOS solutions are more than just simple checkout solutions. EPOS solutions are flexibly customizable and extendable to the retailer's requirements by using hardware and software standards, the ability to connect a wide range of peripherals, network capabilities, free programmability and connection to related enterprise solutions. This makes them sustainable and secures checkout investments in the long term.

Environmentally-Conscious Consumers Use Technology to Plan Shopping Trips⁵



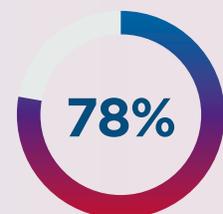
Create a shopping list for their grocery shopping beforehand using a smart phone (at least sometimes)



Check availability of items in stock online before they go shopping (or would be very interested to do so)*



Consult the retailer's website before they go shopping (at least sometimes)



Have at least one grocery retailer app installed on their smartphone**

*Environmentally conscious shoppers that reported an annoying experience, N = 7,674

**Excludes "did not respond"

Sustainability at the Checkout

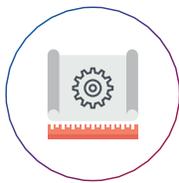
Sustainability plays a key role when it comes to investing in new POS solutions. The preservation of our natural resources and the use of state-of-the-art technologies does not necessarily represent a contradiction. So, what makes a checkout solution sustainable?

To answer this question appropriately you have to look at all phases of the product lifecycle—from product planning, development, production, logistics, operation, service and maintenance to the return and recycling of the POS. Make sure that environmentally-friendly components are used and pay attention to energy efficiency and longevity of the product. The guiding principle at all times should be: reuse before disposal.

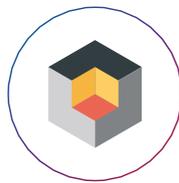
The product characteristics that generate a sustainable value proposition are: design, modularity, serviceability and TCO (Total Cost of Ownership).

The impact that these features can have in regard to sustainability can be best demonstrated on the latest POS models from Diebold Nixdorf, one of the largest POS manufacturers in the world and the market leader in Europe.

Characteristics of a Sustainable POS



DESIGN



MODULARITY



SERVICEABILITY



TCO



DN Series™ BEETLE – Simply Sustainable

The new BEETLE A1050 and A1150 are the first models from Diebold Nixdorf's new DN Series BEETLE product portfolio. The difference between the two models is the size and format of the display. The BEETLE A1050 has a 15" display, whereas the A1150 has a 15.6" wide display. These modular, all-in-one, touch POS terminals with a sealed and fanless system design set a new bar for the industry in regards to sustainability.



Powered peripheral interfaces



Digital manuals



Power-saving processors



Halogen-free housing



>90% reusable/
recyclable materials



Intelligent power management



Recyclable packaging



Remote maintenance



Long product lifecycles



Solvent-free lacquers



Energy-efficient
power supplies



Energy-efficient flash memory



Availability Counts

To achieve the retailer's business objectives, operational sustainability is important and the system availability of the POS plays a key role here. The POS system design is crucial to achieve a high level of availability.

The BEETLE A1050 and A1150 models are designed and manufactured specifically for use in harsh, demanding retail environments and combine industrial-grade reliability with the elegance of a state-of-the-art product design:

- Fanless system with no moving parts increases reliability and system availability
- Dust-proof, sealed housing protects the system's interior from dirt and debris collection
- Robust, splash-proof system design fulfills IP54 specifications
- Up to two solid state disk (SSD) storage devices guarantees fast and dependable access to data

Modularity Promotes Sustainability

The flexibility, functionality and upgradability of these modular products make them highly conducive to sustainability. By creating products that can be modified to fit new environments and meet changing needs, manufacturers help reduce the throwaway culture. Therefore, modularity benefits not only retailers and manufacturers, but also the environment by reducing landfill waste and conserving electricity. DN Series BEETLE is based on a new modular and scalable design

concept consisting of various building blocks—CPU units, touch display panels, adaptable peripherals and I/O hubs—that can be flexibly mixed and matched to create a large portfolio of different POS models, as well as POS touch displays. This new concept offers unimaginable upgrade capabilities and protects existing investments for years to come, since the individual components can be reused and combined with new ones.



Pilot Experience

One of the first pilot customers of the BEETLE A1150, a large French retailer, immediately recognized the sustainability benefits of this new modular system concept. Like many retailers they are constantly faced with the same recurring problem: new operating systems, new POS applications or new requirements in general, which force them to invest in new POS solutions. In the past, their all-in-one systems required a replacement of the whole system, even though, in most cases, they only needed a more powerful, more modern processor.

The modularity of the DN Series BEETLE now allows them to replace either the display panel or the processor unit of the old all-in-one system, depending on their specific requirements. They can, for example, reuse the old display panel together with the latest Intel processor technology or combine it with a display controller and continue to use it as a touch display in existing POS configurations. This modularity promotes sustainability by reducing the amount of electronic scrap substantially and protecting their previous investments.



Highly Energy-Efficient Intel® Processor Technology

Reducing operating costs is crucial to achieve an optimization of TCO, and energy efficiency represents a large amount of greenhouse gas reduction potential; it's one of the keys to a sustainable future. Therefore, the BEETLE A Series models have various energy-saving features and functions implemented. The modular motherboard is encased in a sealed housing that can be plugged into the back side of the touch panel and is based on high-performance, energy-saving mobile processor technology from Intel. The CPU with the motherboard can be easily replaced or upgraded which is something never before offered in an all-in-one system design. The embedded chipsets and processors offered ensure long product lifecycles of at least 12 years (sales and support).

“Intel mobile processors, combined with the integration knowledge of system manufacturers and integrators such as Diebold Nixdorf, **enable a wide range of energy savings for retailers,**” says Alec Gefrides, Intel’s GM Retail, Banking, Hospitality, and Education Products and Technologies. “From passive features which **enable best-in-class energy efficiency,** to active features such as Intel’s vPro with Active Management Technology which **empower retailers to remotely power on and off their in-store systems as needed,** DN and Intel have a long history of working together to create products that help **reduce operating costs and optimize TCO for retailers.**”

Energy-Saving Power Supply Combined with Intelligent Power Management

The external power supply of the DN Series BEETLE models complies with EPS 2.0 and meets the Efficiency Level VI (>=88% efficiency) rating. This is good for the environment and reduces operating costs to a minimum. The systems are equipped with a selection of standard and retail-specific, non-powered and powered interfaces for the connection of external peripheral devices.

Powered interfaces can be used to power peripheral devices directly from the energy-saving power supply of the system. This reduces the overall power consumption of the configuration considerably and reduces the total number of power supplies, which, as a result, increases the system availability and reduces cable complexity.

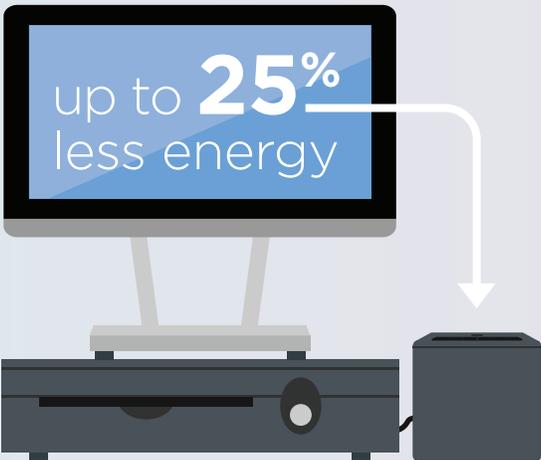
EPS 2.0 is the Energy Star® version 2.0 specification for external power supplies. The efficiency level is an international marking protocol that defines the average energy efficiency of a power supply. Since 2004, six efficiency levels have been defined.

EPS 2.0 Energy Efficiency Levels	
Level VI*	> = 88%
Level V	> = 87%
Level IV	> = 85%
Level III	> = 84%
Level II	> = 82%
Level I	does not meet the criteria

*DN Series BEETLE

Advanced power management functions put the systems to sleep when not in use to further reduce operating costs.

Did You Know?



A POS printer connected to a powered interface of the system consumes up to 25% less energy than the same printer running off a separate power supply.



Best-in-Class Manageability and Serviceability

Sustainability relies on a reduction in emissions, some of which come from cars when local service is necessary. Remote monitoring and system administration help reduce these emissions substantially. The BEETLE platform has borne the “Ready for Management” label for many years and the new DN Series BEETLE models are no exception. The desktop management agent BEETLEINFO supports remote asset management and remote monitoring and enables proactive fault recognition. The modular product design allows easy upgradability as well as a simple exchange of the motherboard or the display panel without tools.

DN Series BEETLE: A Sustainable Value Proposition

The new DN Series BEETLE from Diebold Nixdorf combines the benefits of design, modularity, serviceability and optimized TCO. The new portfolio of POS products takes DN's development philosophy of offering the latest cutting-edge technology, improving the energy balance of the systems, sparing resources and cutting the retailer's operational costs, to the next level.



Sustainability at Diebold Nixdorf

Diebold Nixdorf is an ecologically-minded company

We have demonstrated for years that sustainable growth, cost efficiency and environmental protection are indeed compatible. A green perspective has always been firmly enshrined in the company's philosophy. We look at the issue of environmental protection across all phases of the product lifecycle—from product planning, development, production, logistics, service and maintenance to the return and recycling of our products. As early as the planning stage, we make sure that environmentally-friendly components are used and pay attention to energy efficiency. The guiding principle at all times is: reuse before disposal.

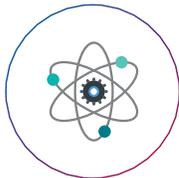
Sustainability as a corporate philosophy

Technological progress—whether that means more powerful processors, graphical user interfaces, or new peripherals such as flat-panel touchscreens and self-service cash components—enables sophisticated POS applications that meet the desire for enhanced customer service. We see our challenge as fulfilling the desire for better performance in an environmentally compatible fashion while keeping users' operating costs low. Energy efficiency, availability and effective service concepts have the greatest influence on achieving sustainability. These factors cover all aspects of the product, including the development and the production.

Protecting the environment is an integral part of company policy for Diebold Nixdorf. Several years ago, the company introduced an environmental management system that has been regularly audited in accordance with the DIN EN ISO 14001 standard by the German Management System Certification Society (DQS).

Diebold Nixdorf's commitment to global responsibility

Wherever we operate around the world, our employees are committed to doing the right thing. We recognize that as a global company, we have an obligation to act sustainably, with transparency, and to do business in a responsible way. Our sustainability program is comprised of three pillars, each of which forms a vital component of our global operational structure and culture:



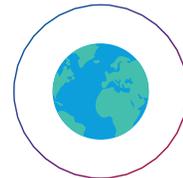
SUSTAINABLE SUPPLY CHAIN & OPERATIONS

We continually assess our operations, processes and global supply chain to determine the environmental impact and implement improvements, from greenhouse gas (GHG) emission controls to product lifecycle assessments (LCAs).



ENVIRONMENT, HEALTH & SAFETY

EHS responsibility is a team effort, delivered collectively through the management activities of our workforce around the globe. We focus particularly on energy efficiency, employee health and safety, and an increased awareness on responsible resource consumption.



GLOBAL CITIZENSHIP

We take social responsibility in the local communities in which we operate very seriously. Each year, our employees in more than 100 countries give back to their communities and support countless nonprofit organizations.

Sources

- ¹ McKinsey & Company: Adapting to the next normal in retail: The customer experience imperative, May 2020
- ² https://go.snapapp.com/Retail_Storevolution
- ³ <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- ⁴ <https://www.unenvironment.org/explore-topics/resource-efficiency/what-we-do/sustainable-lifestyles/retail>
- ⁵ Nielsen International Grocery Shopper Survey commissioned by Diebold Nixdorf, Q4 2019. Online survey conducted in December 2019, n = 15,004
Countries included: Germany, UK, France, Italy, Spain, Sweden, US, Canada, China, Singapore, Australia, Brazil, Mexico, Malaysia, Thailand.
Environmentally conscious shoppers were defined as: Shoppers that agree / strongly agree to the statement "I consider myself as environmentally conscious", N = 9,616
Statements in this document do not necessarily reflect the opinion of Nielsen.
- ⁶ Salesforce Research: CONNECTED SHOPPERS REPORT, 3rd Edition, 2019
- ⁷ <https://www.fastcompany.com/90306556/most-millennials-would-take-a-pay-cut-to-work-at-a-sustainable-company>
- ⁸ <https://qz.com/1248272/a-20-cut-in-energy-costs-could-represent-a-5-increase-in-sales/>
- ⁹ Global Powers of Retailing 2020; Diebold Nixdorf research
- ¹⁰ <http://clarifygreen.com/eco-friendly-products-cost-more/>
- ¹¹ According to The Nielsen Group, Grocery shopping consumer survey, 2020, commissioned by Diebold Nixdorf environmental conscious consumers rate quality over price as more important 60% more often than other consumers.
- ¹² Exception: Countries with fiscal legislation



Diebold Nixdorf