

How to Win in a Digital World Where Technology Is Rewriting the Rules of Retail





The imperative for a single, intelligent, and digital core is essential to future growth. From crafting a personalized customer experience on the fly to helping business users make informed real-time decisions, retailers need to instantly connect historical and transactional data across the enterprise.

Achim Schneider Global Head of Retail Business Unit, SAP SE Dear Retail Customers and Partners,

Powered by the winds and guided by the stars, yesterday's mariners took to the high seas on uncertain journeys of discovery to the new world. While retailers today have the benefit of advanced technology, they are also setting on exciting journeys of discovery that are no less hazardous or adventurous.

Retailing today is changing at lightning speed coupled with an ever-tightening decision horizon, changing consumer expectations and an unrelenting flood of data. Retail's digital horizon is disrupting classic retail models. Traditional processes such as merchandising, supply chain, and store operations are triggered autonomously by novel and unexpected sources that are facilitated by artificial intelligence, machine learning, and voice and IoT sensors connected to a digital core. Consumer wearables, smart appliances and homes, driverless vehicles, drones, virtual reality headsets, and online games are becoming points of brand interactions – from demand to execution. What has served retailing well in years past has become a serious liability unable to guide the journey ahead.

- By 2020, 83% of mobile users globally will use their device to access the Internet¹
- By 2020, there will be 75 billion connected devices²
- By 2025, the Internet of Things (IoT) will have potential economic impact of \$4 trillion \$11 trillion a year, with impact in retail up to \$1.2 trillion³
- By 2025, augmented reality (AR) and virtual reality (VR) will represent up to \$182 billion market opportunity⁴

Senior executives at leading retailers around the globe consistently tell me that what had worked in the past is no longer working today; you can't fight your way through today's challenges by simply working harder. The work itself is changing and retailers are finding that they need to have the insight to act in the moment, in other words, to have a Run Live mind-set to tap existing and future opportunities of profitable growth.

In the following pages we share an informed and seasoned view to show you how you can take control of your digital destiny. We will explore the possibilities ahead as you reimagine everything from business models to retail processes to shopper engagement.

Delivering on changing expectations of today's consumer requires embarking on new courses of action, yet building on your existing investments and assets. We will dedicate attention to how you can set a winning course and gain traction along your own digital transformation journey.

We are looking forward to sailing these new seas of retail together.

Run Live. Run Simple.

Achim Schneider Global Head of Retail Business Unit, SAP SE

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THE DIGITAL ECONOMY -

The Big Picture: Digitally transformative technologies are already a reality and they are constantly improving. The key for retailers now is to use these technologies to reimagine their business or face disruption.

Technology trends change everything

Technology has become so interwoven with business strategies that the two cannot be separated anymore. This means technology trends are influencing retail business strategy much more than in the past.

Technologies such as "Internet of Things" and "virtual reality," and "augmented reality" are fundamentally redefining the way consumers live, work, and play with huge implications for retailers.

Others such as artificial intelligence (AI) and machine learning, blockchain, and in-memory computing provide new and exciting opportunities. While providing new opportunities, these technologies also open the playing field for digital natives such as Amazon and Alibaba that keep disrupting retail at an unrelenting pace. But the threat of disruption does not come only from digital natives. Whether it is Nordstrom buying Trunk Club or Neiman Marcus launching "snap-find-shop," many established retailers have significantly upped their digital game. Not surprisingly, "Executives see digital offerings from established competitors – not startups – as their biggest source of competitive pressure."⁵

Consumer-driven change

A digital storm is impacting every industry, but retail is in the eye of the storm. Consumers, in particular Millennials and Generation Z, expect a new type of experience: one that is individual, where commerce is seamless and where technology is invisible. For consumers, choices are limitless, information is at their fingertips, switching costs are low, and brand loyalty is fickle – and they want you to deliver on their expectations or someone else will.

As more and more consumers search, shop, and socialize online, having an omnichannel presence just earns retailers the right to compete. But that alone is a stretch for most retailers with archaic business processes and technology infrastructure. For those retailers that want to lead and not just survive, they have to go even further.

Define your digital destiny

Regardless of where you are on the digital maturity curve, retailers need to invest in the following key enablers of digital transformation:

- Invest in building digital IQ, capabilities, and skills across your organization.
- Transform your technology infrastructure with new digital capabilities. Simplify and consolidate your current landscape to free up cost. Deploy an integrated data and business process platform, ideally in the cloud, for faster adoption and scale.
- Incubate new business models alongside your current business model. Start with customer needs and experiences and build new models that leverage your core competencies.

Companies that have embraced digital and execute on their digital strategy are seeing real shareholder and stakeholder value. Value creation is significant, with +9% revenue creation, +26% impact to profitability, and +12% market valuation.⁶

Access more information on the latest technology trends here:





Digital strategies are disruptive and changing the rules of retail.

- **StitchFix** is pioneering a 100% recommendation, AI, and data-driven approach to create a unique shopping experience in consumers' homes⁷
- Warby Parker is not just an online retailer of eyewear; it is seamlessly blending digital and physical to disrupt an entire industry⁸
- Alibaba is not just the largest e-commerce company; it is also a financial services and technology company blurring industry lines.⁹
- **Under Armour** is not just selling shirts and shoes; it is connecting 140 million people on a digital health platform.¹⁰
- Adidas, Nike, and Asics are mass customizing their running shoes with 3D printed soles.¹¹
- Amazon is not just pushing the industry limits with same-day delivery, but are now coming up with a delivery system designed to safely get packages to customers in 30 minutes or less using drones.¹²

The road map to relevance is to proactively evolve before your competitors force you to – when it may be too late.

THE DIGITAL ECONOMY -

The Future: Priorities for retailers

Strategic priorities for retailers

In this situation, where the opportunity is huge, but at the same time has new market entrants threatening traditional retailers, it is essential to focus on the right strategic priorities to drive digitalization across the business. In working with leading retail companies across the globe, we see investments and energy around five strategic priorities:



1. Customer centricity

Putting the customers' point of view at the center of every decision is a key prerequisite for success in the digital age. This does not stop in the stores or call centers, but also applies to what assortments are built and pricing and promotions and overall experiences are offered.



2. Smart retail technology

Technology is redefining the boundaries of retail. New in-store technologies such as beacon and virtual or augmented reality allow retailers to reimagine personalization and customer service. Smart products and 3D printing creates new levels of customer connectivity and involvement. Built-in sensors can provide insights on usage patterns, health, and nutrition needs and can drive repurchase impulses.



3. Serving the "segment of one"

Differentiation and specificity in products stems from digital capabilities and value-added services that are bundled with the physical products. Using digital capabilities like self-awareness of technical health and operational status or business system connectivity helps industrial manufacturers differentiate.



4. Digital consumer supply chain

Connecting the end-to-end supply chain from suppliers down to consumers' homes offers new opportunities for automated replenishment, convenience options, retail without inventory, better demand supply matching, moving closer to consumption, and so on.



5. Monetization of new customer offers

Leverage detail customer insights and understanding of customer needs and preferences to identify new revenue-generating opportunities such as nonretail cross-sell options, subscription models, outcome-based pricing, commercialization of the shopper, and consumer insights.

Successfully embracing the opportunities from new technologies and consequently addressing these five strategic priorities will be the foundation for successful digitalization and staying ahead of the innovation curve.

REIMAGINING

But how do you achieve these strategic priorities? The starting point of the digital journey is the ability to reimagine your business together with customers. That means **reimagining your shopper engagement**, **your business processes**, **how your associates work**, **and your business models**.

REIMAGINING

THE DIGITAL ECONOMY OFFERS INFINITE NEW OPPORTUNITIES

In a connected world where every company is becoming a technology company, smarter products and services will refocus commerce on business outcome and blur industry lines. In order to remain successful and respond to changing consumer needs, retailers should reimagine their shopper engagement, retail processes, and work and business models.



REIMAGINE SHOPPER ENGAGEMENT

Use of digital in all aspects of the consumer shopping journey is forcing retailers to think of shopper engagement across all digital and physical touch point versus a single in-store transaction. Shopper engagement will go beyond equipping retail associates with the right tools and information to live up to heightened shopper expectations. Retailers are able to cover any customer interaction with flexible, easy, and extensible system architectures which are integrated from the IoT edges to the back-end business processes. With everything connected and responding in real time, retailers will create new levels of customer proximity and hyperloyalty that drives opportunities for incremental revenue.

Customer centricity

Predicting demand with **machine learning** in combination with loT technologies is already optimizing store businesses and relieving workforces. Advertisements are personalized based on camera detections and taking over clienteling tasks of employees. Systems can recognize and predict customer behavior and improve employee productivity by turning scheduled tasks into on-demand activities. Camera systems can detect perishables' fresh status before employees. Overall brick-and-mortar stores are seeing an automation of operational tasks leading to efficiency and sustainability for employee and customer experiences.

Compliance of all store-related activities such as planogram execution to influence customer navigation with in-store location-based offers, reordered mobile shopping lists, smart shopping cart, and smart mirror recommendations.

Social and digital feedback mechanisms are replacing traditional marketing surveys. Closed-loop processes incorporating real-time customer feedback, reviews, and quality ratings will directly influence sourcing, assortments, and pricing.

Product information management in an omnichannel process framework needs to be taken up a notch. Cloud- based product information networks are required to efficiently exchange and enrich product data and provide a platform to successfully develop categories by discovering new product trends.

Smart retail technology

Ensuring availability with **newly revived RFID technology** with serialization enables fashion retailers to provide a close to 100% on-floor availability. Misplacements and missing sizes and styles are localized within seconds and as the store inventory precision is set with the RFID inbound check, online reservations and store pickup fulfillment is secure. The usage of RFID for POS scanning and security tags reduces the checkout time, bringing more convenience for the consumer and setting the cashiers free for additional customer-servingtasks.

Connected store solutions as POS-related heat mapping in brick-and-mortar stores help retailers analyze and segment customer behavior in a new dimension. **Smart shelves** are enabling interaction monitoring, detect out-of-shelf situations and misplacements and thus raise possibilities to optimize assortments and personalize offers.

Digital households will create new methods of engagement as smart devices and broader channels of engagement are widely adopted by consumers. Retailers must expand their working definition of a customer in order to leverage digital insights and omnichannel interaction points. This new digital customer footprint will influence traditional marketing, merchandising, and supply chain processes.



Home Shopping Europe (HSE24) enables

real- time, 360-degree customer engagement with SAP [®] Audience Discovery and Targeting analytic application powered by SAP HANA[®] to influence buying behavior and reduce product return rates.¹³



ULTA Beauty has reimagined their customer engagement and omnichannel experience. With their Connected Beauty vision, powered by SAP, they can seamlessly manage real-time inventory across 20,000 products and serve customers with in-depth, digital, and personalized recommendations.¹⁴



REIMAGINE RETAIL PROCESSES

Digitally transformed consumers and suppliers will continue to demand efficient and satisfying shopping experiences that reach them in the places and on the devices where they want to transact. Retailers must be able to capitalize on insights, generate efficiencies through automation, and profitably adjust to dynamic market and customer preferences in order to differentiate and thrive. The following concepts align with and manifest the strategic imperative and provide numerous opportunities for efficiencies and competitive differentiation.

Serving the "segment of one"

Personalization is requested by the consumers. Retailers can make every customer individual if they apply interaction data from all channels and use predictive models to provide a unique shopping experience in any situation and location. Balanced with privacy claims, they can use the customers' digital identity records to tailor recommendations and offers, and add values to their needs on a by-name basis.

Personalized marketing with RFID intensifies the interaction with the customer by providing real-time information about products taken into the fitting room and enabling recommendations and interactions, such as requesting different styles and sizes, when in the fitting room.

Proactive and prescriptive fulfillment enable retailers to serve customers by predicting future demand and fulfillment before an order is placed. Subscription models of service will become the norm whereby carts are recommended with one-click delivery or automated fulfillment delivers products to a doorstep based on predictive insights and predefined preferences.

Flexible supply networks will enable **make-to-order assortments** and flexible fulfillment models that provide customers with more choices. Matching supply and demand based on customer preferences will reduce inventory shrink and spoilage. Tailoring assortments will improve margins and reduce markdowns on end-of-season merchandise.

Digital consumer supply chain

Digital supply chains require end-to-end tracking along the entire merchandise flow with fully serialized products for which every event will be recorded with ultimate precision regarding product code, location, and time. This provides maximum insight into supply chain status and progress, allows automation, and renders precise predictions and forecasts using embedded science and algorithms. In stores, this allows the ability to drive higher on-shelf availability and fast replenishment.

Demand-driven operations will leverage predictive analytics and machine learning to execute against digital signals to drive pricing, promotion, assortment, and ordering decisions in real time. Retail merchandisers will be able to capitalize on microtrends based on individual customers or group preferences by quickly synthesizing demand signals and executing in real time. As an example, think a digital flash sale as the norm.

Digitally engaged vendors will leverage digital sales and demand signals to outsource operations of retail supply chains. Vendor-managed inventory and direct delivery models will enable retailers to expand their assortments dynamically and execute fulfillment in more cost-effective ways.



"Efficient and integrated planning is very important for our business. We have seen what in-memory computing has done for others and can now say that SAP HANA really delivers."

Alexander Weiss, Process Manager for Perishables and Trade, Migros-Group (Switzerland).¹⁵



"Centralizing store retailing was the first step in using in-memory technology giving us the technology needed to support new processes and functions, such as unified demand forecasting. Complex forecasting methods can bring us immense benefits." Roman Melcher, Managing Director of Information Technology, dm-drogerie markt GmbH + Co. KG.¹⁶



For retailers to succeed in the digital culture, companies must reimagine how their employees work and engage with customers using new technology to understand customer needs and serve them better. With the workforce spanning multiple generations, retailers need to adapt to various recruiting methods like social media for attracting top talent, while helping employees to advance to new opportunities within the organization. Store associates using connected technology will adjust to a changing industry while adapting to how they individually grow and develop, but also how they engage their digitally advanced customers.

Customer centricity

Real-time digital shopper and consumer insights from all channels to the right device will allow retailers to direct store and call center activity towards responding to known and predicted shopper and consumer needs like never before. Store associates can leverage clienteling apps to maximize customer value, revenue, and share of wallet. Call center agents can use customer profiles to better cross-sell and improve customer profitability.

Improving customer interaction through gamification

is a great tool for millennials to engage and train in a more interactive manner. Using gamification to provide education on how various products work or games for a sales content or product knowledge learning help to engage employees in otherwise tedious tasks and make work fun.

Serving the segment of one

Store associates must adapt to a new levels of **individual engagement**. Using real-time data insight from social media intelligence, such as social listening and sentiment scores, will help retailers tailor the customer experiences down to the individual level and stand out above competitors.

💁 Smart retail technology

Technology advances such as smart mirrors and fitting rooms create new and different interactions for the workforce with shopper engagement, and can greatly impact sales. In addition, heat maps in stores can proactively position staff where they are needed or provide analytics to managers regarding product placement and sell through.



of employees say it is very important to work for a digitally enabled company or digital leader¹⁷ **Digitalize HR processes** to replace manual paperwork and increase employee productivity:

- Easy-to-use apps and self-service functions that expedite activities such as onboarding, leave requests, employee scheduling, and time and attendance tracking.
- Digital options for clocking in through cameras; biometrics, like optical or face recognition, simplify the process and provide a level of security.
- More efficient approvals through mobile alerts for missing punch data streamline processes.
- Automated scheduling and time calculation ensure compliance as well as happy, satisfied employees.
- Travel support processes ensure compliance and employees' safety.
- Empowering associates to swap shifts through mobile improves schedule collaboration.

As technology advances the role of the associate will adapt to this new world, having the best suited people who can provide the best shopper experience.

Talent management software utilizing digital processes for training, such as videos in short, easy-to-absorb content viewable from devices while on the selling floor. Employee recognition and feedback from customers or employees can easily and directly impact performance feedback of individuals through social media and apps.

50% productivitygain

Brooks Brothers refashions human resources with SAP SuccessFactors. Store managers are free from the frustration of manual processes; 50% increase in employee data efficiency; 15 paper-based processes eliminated; 10% hike in productivity by reducing admin time on hiring and onboarding for new associates.

Justin Watras, Director of Talent Management and Organizational Effectiveness, Brooks Brothers ¹³



Reimagining business models was once something only for innovative startups; today however, the largest global retailers must learn to do this or face the risk of disruption. In a digital world where hyperpersonalized products are becoming the new normal and instant gratification is expected, retailers must rethink what they do and how they do it. Emerging retail business models fundamentally rethink the use of technology in creating and capturing new sources of value.

S Monetization of new customer offers

Leading retailers are moving beyond selling products to delivering on measurable consumer outcomes. Companies benefit from revenue diversification and customers benefit from more choices tailored to their individual lifestyles.

- Subscription services determine with increasing accuracy what a customer wants and when – and then deliver the right product or experience at the right time and place. Whether for items needing regular replenishment such as groceries (e.g., graze.com) for fashion items, where a customer wants to look trendy but doesn't have time to shop (e.g., Nordstrom Trunk Club,), or for hassle-free home-cooked dinner in a box (HelloFresh.com), retail innovators are thinking relationships, not transactions.
- Whether renting an evening gown at "Rent the Runway," or exchanging household items with neighbors at neighborhoods.net, consumers are increasingly comfortable renting and sharing to meet a need, instead of buying new. Retailers need a plan to compete against or participate in the sharing economy.

Building new digital businesses

Retailers are sitting on a treasure trove of customer and business data increasingly enriched from a plethora of external sources. Successful retailers are adept at interpreting and using this information in real time for traditional retail business. More successful ones are creating and monetizing a large captive community of users and customers by building new services and opening access to marketers.

Creating digital communities where customers willingly engage and share their experiences not only builds brand affinity but also allows collection of more real-time data. With a real-time pulse of customers' biometrics, fitness routines, and athletic needs, there are numerous possibilities to monetize the platform and data. For example, doctors can provide a better real-time service and insurance companies can optimize premiums and costs based upon such information. An app that collects data and delivers additional value to athletes and community members allows companies to create revenue opportunities with premium versions and advertising.

Digitizing products and services

Innovators are disrupting the retail value chain by rethinking how an "infinite" catalog of products can be delivered faster and at a lower cost with little or no inventory. Ubiquitous connectivity is increasingly connecting buyers and sellers in new ways.

- Business brokerage models like Alibaba and eBay are enabling commerce with no physical inventory. Many retailers, including Walmart and Barnes and Noble, allow third parties to sell products alongside their owninventory.
- Marketplaces such as Etsy and Fiverr are "democratizing" the world of commerce, giving everyone an opportunity to market their products and services and profiting from facilitating the exchange.
- Retailers can digitalize products and carry less inventory by 3D printing less frequently purchased items "on demand." They can hyperpersonalize the experience by letting customers design and print items at home, thereby creating higher levels of customer involvement and open new opportunities of monetization.

These are just a few examples of how digital is disrupting retail business models. They are not exclusive and quite often retailers will deploy more than one model to add new revenue streams. Digital innovations are data driven and will require a modern IT architecture and new skillsets and capabilities. A business model discussion needs to be at the core of every retail CEO and board agenda.



Under Armour's fitness app platform and its 140 million registered users make UA the world's largest tracker of fitness information.¹⁹



A major grocer leveraged SAP Hybris[®] solutions to expand from a traditional, singlecountry grocer to a fashion retailer across 23 countries.

SAP DIGITAL TRANSFORMATION FRAMEWORK

A SIMPLE AND PROVEN APPROACH TO VALUE CREATION THROUGH DIGITALIZATION

Every retailer needs a simple approach to build a pragmatic and executable vision of its digital strategy

SAP DIGITAL TRANSFORMATION FRAMEWORK

Every company needs to think about the five pillars of a digital strategy

SAP understands the current technology trends and we also understand that ever-changing requirements are big challenges for retail businesses. The reimagining process helps crystallize the future retail business model.

As a result, we have built a structured framework to think through how to develop and execute on your retail digital business strategy: the retail digital business framework that incorporates the ideas of bimodal IT and pace layering.

With this framework, the entire value chain will be digitalized, including the core, which serves as the platform for innovation and business process optimization but needs to remain relatively stable for the systems of engagement that must be dynamic in order to meet the evolving needs of consumers.

The SAP Digital Transformation Framework methodology consists of these five cornerstones and is pictured below.

- 1. Customer experience across all consumer touch points
- 2. Business network collaboration across all spend categories (merchandise, services, and travel and entertainment)
- **3.** Digital core with key retail and business processes (merchandise planning, supply chain, manufacturing, finance, and soon)
- 4. Workforce engagement, including store associates and seasonal staff
- **5. IoT consumer supply chain** to drive real-timecustomer connectivity and enable new business opportunities



Retailers must digitalize to grow margins and profits and reduce costs by simplifying their operations. But the real value will lie in how to best serve the consumer through end-to-end digitalization. Retailers need to build a platform for innovation and business process optimization, connecting the workforce, the Internet of Things, the supply network, and the customers.

SAP PORTFOLIO WITH SAP S/4 HANA AND SAP LEONARDO

SAP has innovated its portfolio to provide both for a stable digital core as well as flexible line-of-business (LoB) extensions.

In the digital economy, simplification and business innovation matter more than ever. To do this effectively, it's important to cover the end-to-end digital transformation journey, ranging from planning a digital innovation road map and implementation plan with proven best practices to the ability to run all deployment options and ultimately optimize for continuous innovation with a focus on outcomes.





Digital core: Core solution capabilities delivered as part of SAP S/4HANA Enterprise Management Digital Core: Solution capabilities that are also part of SAP S/4HANA Enterprise Management, but added/purchased as needed. Extensions: Cloud-based (LoB) solution extensions that are fully integrated with SAP S/4HANA Enterprise Management, but added/purchased as needed. Leonardo: Solution capabilities that are powered by a Leonardo technology and included in the Leonardo suite and how to add/purchase is not shown on this diagram.

Learn more about SAP solutions today and discover planned innovations by accessing SAP's road map for chemicals here:



They pursue five key initiatives that require	ey initiatives that require that require that recognize that the ongoing disruption to the classic retail model is driven by ever-changing consumer growth opportunities.					
new business capabilities along the value chain.	Marketing and Merchandising	Procurement and Private Label	Supply Chain	Omnichannel Customer Experience	Human Resources	Finance
Customer centricity	 Identify unique customers across all channels Use sophisticated algorithms to segment customers Enable real-time customer loyalty and incentive programs across all channels Render contextualized digital content for mobile and empowered sales teams and consumers 	 Address immediate consumer needs with responsive procurement and manufacturing networks Use consumer feedback and social insights when deciding on product design and manufacturing Track and trace product orders down to the individual level 	 Process orders and offer delivery options based on customer priorities Establish highly agile and responsive supply chain networks Track and trace products and batches for end-to- end supply-chain transparency 	 Establish a consistent flow of digital information across devices and customer touch points Personalize clienteling in stores Give real-time access to stock availability and product information to store associates and customers 	 Attract and retain top sales and marketing talent Allow associates to interact effectively with customers before, during, and after purchases Facilitate social collaboration among teams Meet service levels and drive revenue with appropriate staffing levels 	 Simulate and analyze scenarios to fully evaluate business choices and their financial implications Gain a 360-degree view of customer financial data and profitability
Service to the segment of one	 Deliver a fully scalable, real-time, and 360- degree customer interaction repository Contextualize and personalize marketing campaigns and offers in real time Individualize merchandise and assortment planning 	 Direct vertical integration of individual consumer wishes into the private label Set up private label production to cater to a lot size of one Create a flexible supplier network for instant order fulfillment across geographies 	 Optimize asset utilization and accelerate setup times of single-unit pick, pack, and ship processes Track and trace individual shipments Fulfill orders instantly across geographies through a flexible transportation network 	 Gain 360-degree insight into the customer life cycle Individualize product and offer recommendations Deliver seamless, omnichannel customer service and a consistent brand experience 	 Education staff to provide personalized shopping experiences Onboard and train employees quickly and seamlessly Identify and forecast skills gaps and address them 	 Analyze profitability by considering different views such as merchandise categories, customers, profit centers, and stores Provide personalized payment options for seamless use across all sales channels
Digital consumer supply chain	 Integrate stores through digitalization Apply social listening to forecast sale precisely Provide e-commerce channels with real-time information on stock on hand 	 Lower lead times through social listening Drive smart supply chain tracking for accurate planning and in-time delivery Personalize product creation 	 Operate a consumer-triggered, digitally enabled supply chain Support consumer-determined fulfillment strategies including click and reserve, click and collect, click and shipping Establish procurement for 3D printed products 	 Allow in-store replenishment with smart shelves Control store and floor inventory with sensors Enable the store to digitally trigger fulfillment for models such as buy online, pickup in-store and buy online, and return in store Blend digital and brick-and-mortar store processes 	 Empower employees to make decisions in real time Procure and optimize contingent labor and services and service delivery across regions 	 Optimize working capital across multiple channels, and extend endless aisle portfolios Mitigate financial risks associated with highly flexible supply chains
Smart retail	 Interact and market to customers precisely through real-time customer identification, localization, or segment recognition with smart devices Optimize marketing and assortment strategies with store heat maps 	 Increase service levels and reduce on-hand stock with digitally transparent supply networks Record product use with smart products equipped with sensors 	 Integrate robotics, sensors, and augmented reality solutions in warehouse processes Personalize product and shipment tracking Enable order distribution with drones 	 Transform the store into a connected space Provide smart fitting rooms Facilitate a pickup-and-go experience in stores with a fully automated point of exit Establish connectivity to customer lifestyles through smart devices such as wearables 	 Enable mobile learning in easily consumable training packages Provide easy-to-use mobile apps for schedule changes, request time off, and clock in and out Provide guided support through smart devices Fine-tune staffing levels with heat maps 	 Use smart devices for user identification and individual credit check Improve customer services in receivables management with machine learning
Monetization of new customer offers	 Charge vendors for targeted campaigns with real-time detection of customer segments Gain customer insights for cross-offers such as travel, hospitality, and financial services Create more reactive and consumer-driven offers that are personalized 	 Sell with no physical stock with business networks and brokerage models Engage suppliers digitally and use consumer insights to predict demand and adjust production Innovate pay-per-use models for smart products 	 Enable lot size of one production with immediacy driving upstream supply and customer delivery Foster cross-company collaboration to cover complex fulfillment, transport, and storage needs Enable logistics and inventory processes that support the sharing economy 	 Sustain a digital connection to customers with real-time, precise interactions Support subscription models, automated repurchase, and replenishment Provide predictive services Deliver digital value-added services 	 Procure and optimize contingent labor and services and service delivery across regions 	 Enable subscription-based business models Involve customers and different partners in multisided business models Set up the finance function as a enabler for business transformation and external growth
Typical business benefits*	Return on marketing investment: +5–10 pp Campaign effectiveness: 30%	Cost of merchandise: -10%–15% DPO on merchandise spend: -2–5 days Procurement function cost: -15%–20%z	On-shelf availability : +20%–25% Inventory turnover: +10%–12% Total logistics cost: -10%–12%	Conversion rates: +5–10 pp Increased customer revenue and profitability Improved customer loyalty	Employee productivity: +10% Revenue per associate: +15%	Days to close annual books: -40–50 days Budgeting and forecasting cost: -25%-50% Audit cost: -20%-40%
hits reserved	jobs Internet of Things	Machine	e Learning	Analytics	S Blockchain	Big Data
Digital Innovatio	n SAP Cloud Platform	Analytics Services	UX Services M	Nobile Services	Security Services C	ollaboration Services
filiate comp	Marketing and Merchandising	Procurement and Private Label	Supply Chain Global track and trace Vehicle insights	Omnichannel Customer Predictive maintenance and service Asset intelligence network	Human Resources Resume matching Job matching	Finance Invoice matching
Extensions	Merchandise planning Assortment planning Promotion management SAP Hybris (1) Marketing	Supplier collaboration Business network SAP Ariba	Connected goods Forecasting and replenishment Allocation management Extended warehouse management Transportation management	SAP Hybris (*) • Commerce solution • Commerce, assisted service module • Sales cloud portfolio • Omnichannel point-of-sale by GK	Core human resources and payroll Talent management Time and attendance management Human capital analytics Workforce forecasting and scheduling by workforce software SAP SuccessFactors CONCUR	Business planning and consolidation Digital boardroom Governance, risk, and compliance Shared service framework
© 2017 SAP	Master data governance Exchange media		 Supply chain for extended warehouse management Advanced available-to-promise 			Financial planning and analysis Corporate close Treasury and receivable management Enhanced invoice management and accounts payable
Digital Core	Master data management Assortment management Promotion management Retail price & markdown management	Supplier information and master data Operational contract management Merchandise buying Private label development SAP® Customer A	 S/4 HANA Retail for merchandise manageme Merchandise allocation execution Distribution curve Basic warehouse management Inventory management and valuation ctivity Repository 	nt – retail end-to-end • Sales order management • Billing and invoicing • Store merchandise and inventory management • Store connectivity	Time recording Employee central solution connectivity	Financial Accounting Entity Closing Cost management and profitability analysis

HOW DOES IT ALL COME TOGETHER? CONNECTED FOOTWEAR EXAMPLE

While the five digital business pillars deliver significant value as standalone capabilities, the ultimate goal is to connect them to design the next-generation, end-to-end business processes. Consumer experience will not stop at the store or channel experience. Supply chain and services have to be aligned with the customer experience strategy to deliver as promised. Wearable technology, sensors, and the Internet of Things will drive new levels of customer proximity and opportunities to build immersive experiences that match their lifestyles and create lifelong loyalty.

This scenario also shows how the key strategic priorities – serving the segment of one, the digital consumer supply chain and smart retail technology – come together to drive a differentiated offering.



Serving the segment of one



Digital consumer supply chain



DIGITAL BUSINESS SCENARIO: CONNECTED FOOTWEAR



Here is a sports retailer who is running live and running simple. They specialize in wearable technology for golfers and have a line of smart insoles designed to help their customers improve their games.

The customer, Mia, is a regular golfer. By tracking the number of steps between shots, we can see how far she hits the ball each time and can see when a drive falls way below her normal level.

- 1. The sensors in her shoes show that they are coming to the end of their useful life.
- 2. The back-end system predicts optimal reorder point and determines product recommendations based on Mia's history, peer group trends, etc.
- 3. An individual promotion is issued at the time where it adds value and catches Mia's attention.
- 4. Mia, who now definitely needs new shoes, accepts the promotion and is ready to order online.
- 5. She receives additional smart offers based on her profile and the weather forecast in her area.
- 6. She pays and schedules store pickup.
- 7. The retailer sources any required additional parts from the supplier network.
- 8. The supplier fulfills the order and delivers for store pickup without holding inventory along the way.
- 9. Mia picks up the order in the store at the scheduled time.
- 10. Store staff is prepared and makes additional value-added offers.
- 11. A store employee completes the transaction and registers new shoes to initiate tracking again.

With an integrated end-to-end scenario like this, you are able to create an immersive shopping experience for your customers – one that earns lifetime loyalty and also delivers significant efficiencies and new business opportunities to the retailer.

5%

sales increase from real-time promotions and predictive analytics

3%

sales increase from cross-sell opportunities based on a single view of the customer

5%-10%

sales increase from cross-sell opportunities based on a single view of the customer

Source: SAP and customer benchmarking

Watch a video illustrating the scenario here:



HOW TO START

THE JOURNEY TO DIGITAL RETAIL BEGINS WITH A CAPABILITY ANALYSIS THAT RESULTS IN A TRANSFORMATION AGENDA

TRANSFORMING FROM YOUR CURRENT STATE TO DIGITAL

The keys to success

In the digital economy, simplification and business innovation matter more than ever. Todo this effectively, it's important to cover the end-to-end digital transformation journey, ranging from planning a digital innovation road map and implementation plan with proven best practices to the ability to run all deployment options and ultimately optimize for continuous innovation with a focus on outcomes.



And to move forward with speed and agility, it helps to focus on live digital data, instead of Big Data, and combine solution know-how and industry-specific process expertise with data analytics so that the right digital reference architecture is defined and delivered. In that context, we believe that a model company approach is very relevant to enable you to transition from your current state to digital. Model companies represent the ideal form of standardization for a specific line of business or industry.

They are built on existing SAP solutions using best-practice content, rapid prototyping solution packages, and additional content from customer projects. They provide a comprehensive baseline for rapid, customer-specific prototypes, cloud demos, and quick-start implementations. Model Company Approach



SAP DIGITAL BUSINESS SERVICES

Enabling your success in digital transformation

SAP has a broad range of services to cover the end-to-end digital transformation journey, ranging from advising on a digital innovation road map and implementation plan with proven best practices to the ability to run all deployment options and ultimately optimize for continuous innovation. We provide both choice and value within our service offerings, allowing you to tailor the proper approach based on your specific company expectations and industry requirements.

- 25,000 professionals in 70 countries
- · Serving customers in 130 countries
- Outcomes delivered as one team in one contract
- Projects connected in real time to global network of support functions through SAP Mission Control Center
- SAP MaxAttention and SAP ActiveEmbedded services to safeguard investment
- Consistent experience on premise, cloud, or hybrid
- · Standardized adoption of processes and tools
- Streamlined onboarding and ramp-up of stakeholders

From proposing a comprehensive digitalization proposal to realizing and running it, SAP delivers on the digital transformation promise to its customers, on time, on budget, and on value.

SAP value delivery relies on unique differentiating assets:



SAP Digital Business Services deliver digital innovation with simplification and accelerated implementation, which is key to adoption and value realization. Continuous improvement is supported through ongoing assessment of real-life data insights and joint governance with customers.

SAP value delivery focuses on the following deliverables:

Digital Business Foundation



- Digital business model
- Flexible, scalable enterprise architecture
- Platform for the digital future
- People and culture transformation
 Digital Retail

Business Insights



- Digital boardroom
- Predictive customer insights
- Value realization dashboard
- Agile decision making and execution support

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Continuous Improvement



- Joint value governance
- Sustainable engagement model
- Innovation without disruption
- Simplification

SAP COMPREHENSIVE ECOSYSTEM

Orchestrating the world to deliver faster value

Our comprehensive retail ecosystem offers integration into:

- A wide range of business services (merchandising, POS, supply chain, analytics, omnichannel, and soon)
- Open architecture: choice of hardware and software
- Complementary and innovative third-party solutions
- Reach partners to serve your business of any size anywhere in the world
- Forum for influence and knowledge
- Large skill sets

Our partner ecosystem includes, among others:



BUSINESS NETWORK

- 1.9 million suppliers
- 200 major travel partners (air, hotel, car)
- 50K service and contingent labor providers



• 370+ channel partners focused on retail

IMPLEMENTATION SERVICES

- 1500+partners
- 920+ service partners delivering industry-specific solutions leveraging the SAP platform (SAP HANA, SAP Customer Activity Repository, and SAP Cloud Platform)

PLATFORM AND INFRASTRUCTURE

- 100+ cloud partners
- 1,000+ platform partners

INFLUENCE FORUMS AND EDUCATION

- 30+ user groups across all regions
- 40+ industry councils
- SAP community >24 million unique visitors per year
- 1,800 SAP University Alliances

INNOVATION

- 20 retail-focused OEM partners to extend SAP for Retail solutions
- 30+ startups dedicated to SAP HANA in retail
- 85+ ISV and application development partners

WHY SAP?

SAP ENABLES DIGITAL RETAIL WITH THE DIGITAL CORE, BUSINESS NETWORKS, AND LEADING RETAIL APPS RUNNING ON A COMMON REAL-TIME RETAIL PLATFORM

It took years of innovation, strategic investment, and the forging of new strategic relationships to build the end-toend digital business platform.

SAP IS COMMITTED TO INNOVATION

Vision Help the world run better and improve people's lives

Mission Help retailers in the fast-moving, global marketplace to better innovate, compete, and stay relevant. To do this, we will provide retail solutions that improve the delivery of consistent, contextual, and relevant retail experiences.

Strategy Become the cloud company powered by SAP HANA



MASTERING INTEGRATION AND UNLOCKING BIG DATA

Walmart is committed to **selling products that sustain people and the environment** and is coinnovating with SAP on tools and methodologies for supplier sustainability. By 2017, it will buy 70% of the goods sold at Walmart and Sam's Club in the United States from suppliers that use the sustainability index.²⁰

PREVENTING CHILD LABOR

Working together with colleagues from SAP's acquired company Ariba, **Made in a Free World** is hoping to help companies **uncover the risk for slavery in their supply chains** and take steps to mitigate it.²¹

management

RESOURCES

Outlined below is external research that was used as supporting material for this white paper.

- 1. "Global mobile trends,"GSMA Intelligence, 2016. https://www.gsmaintelligence.com/researc h/?file=357f1541c77358e61787fac35259dc9 2&download
- "Morgan Stanley: 75 Billion Devices Will Be Connected To The Internet Of Things By 2020," Business Insider, October, 2013. http://www.businessinsider.com/75-billion -devices-will-be-connected-to-the-internet-by -2020-2013-10 (Soundbite is from Morgan Stanley)
- "Unlocking the potential of the Internet of Things", McKinsey Global Institute, 2015 http://www.mckinsey.com/business -functions/digital-mckinsey/our-insights/the -internet-of-things-the-value-of-digitizing-the -physical-world
- 4. "Virtual & Augmented Reality. Understanding the race for the next computing platform," The Goldman Sachs Group, Inc., 2013. http://www.goldmansachs.com/our-thinking /pages/technology-driving-innovation-folder /virtual-and-augmented-reality/report.pdf
- 5. "A decade to mass extinction event in S&P 500" CNBC, June 4, 2014, http://www.cnbc.com/2014/06/04/15-years -to-extinction-sp-500-companies.html
- "The Digital Advantage: how digital leaders outperform their peers in every industry," CapGemini and MIT Sloan, 2013. https://www.capgemini.com/resource-file -access/resource/pdf/The_Digital _AdvantageHow_Digital_Leaders_Outperform _their_Peers_in_Every_Industry.pdf
- 7. How One Clothing Company Blends AI and Human Expertise," HBR, November 2016. https://hbr.org/2016/11/how-one-clothing -company-blends-ai-and-human-expertise
- "Framing the In-Store Vision Online: What Warby Parker Can Teach Digital Merchants (Part 2)," Forbes, July 2015. http://www.forbes.com/sites/bryanpear son/2015/07/07/framing-the-in-store -vision-online-what-warby-parker-can -teach-digital-merchants-part-2 /#2788c2c73815

- "From Virtual Reality to Personalized Experiences: Alibaba Is Bringing Us the Future of Retail this Singles Day," forbes.com, 2016. http://www.forbes.com/sites/helenwang /2016/11/06/how-alibaba-will-use-the -worlds-biggest-shopping-day-to -transform-retail/#6a2d29bb7b43
- "Under Armour's connected fitness apps now have 140 million users," MobiHealthNews, July, 2015.Source: http://mobihealthnews.com/45618/under -armours-connected-fitness-apps-now -have-140-million-users
- 11. "Who's Winning the 3D-Printed Shoe Race?" Andrew Zaleski, Forbes.com, Dec 15, 2015. Source: http://fortune.com/2015/12/15 /3d-printed-shoe-race
- 12. "A delivery system from Amazon designed to safely get packages to customers in 30 minutes or less using unmanned aerial vehicles, also called drones. Prime Air has great potential to enhance the services we already provide to millions of customers by providing rapid parcel delivery that will also increase the overall safety and efficiency of the transportation system." https://www.amazon.com/Amazon-Prime -Air/b?ie=UTF8&node=8037720011
- 13. "HSE24: Cutting Lead Time for Campaigns from Weeks to Hours with SAP® Hybris® Marketing and SAP HANA®." https://dam.sap.com/mac/preview/a /46/kv0FyD7R510flv70vSvtNCRvr1mv 5p51vmp177RjlF0I0710mm/43938_BT S_HANA_43938_enUS.htm
- 14. "Reimagined Customer Engagement Makes Connected Beauty a Reality." http://sap-espresso.com /viewStory/601
- 15. "Hear how Migros is providing their customers the products, information, and personalized shopping experiences they want with retail and omni-channel commerce solutions from SAP. These SAP solutions also help Migros simplify their business with a detailed understanding of their customers' needs and the ability to serve them individually and seamlessly across all channels." https://dam.sap.com/mac /download/a.htm?c=46&k=v7FFam S0vTmFD1h7NNNFFfCFuml5k9SffC A1Ri5F1vCiw5NDfj

 dm: Optimizing the Customer Experience with Real-Time Sales and Inventory Data

https://dam.sap.com/mac/download /a.htm?c=46&k=017SgDf07DR1FS6RFDf N1Df70lkRNBFmf0p0vFDC0FNFHCmFD3

- 17. SAP Center for Business Insight 2015 calculation based on the Boston Consulting Group, "The Rise of Robotics." www.bcgperspectives.com/content /articles/business_unit_strategy_innovati on_rise_of_robotics
- Brooks Brothers refashions human resources with SuccessFactors and IBM, sees 50 percent productivity gain. https://dam.sap.com/mac/preview/a/4 6/CN0Ij01R04RNNkr10DDW705RTfCCC 51fmIGvI0F6S7Nf1i7mI9/brooks%20brot hers%20case%20study.htm
- "New Technologies Transforming the Finance Function," HBR, 2015. https://hbr.org/resources/pdfs/comm /sap/Report_SAP_new_technologies_ transforming_the_finance_function.pdf
- 20. "Walmart Announces New Commitments to Drive Sustainability Deeper into the Company's Global Supply Chain." http://corporate.walmart.com/_news _/news-archive/2012/10/25/walmart -announces-new-commitments-to-drive -sustainability-deeper-into-the-companys -global-supply-chain
- 21. Ariba and Made in a Free World Mitigate Slavery in the Supply Chain. http://news.sap.com/ariba-made-in -a-free-world-mitigating-slavery-in-the -supply-chain

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