Accenture Technology Vision for Retail
Changes in Store

High performance. Delivered.
Retailers are facing unprecedented challenges as a result of industry dynamics and technology evolution. Although worldwide retail sales have shown more than 4 percent compound annual growth rate (CAGR) in the past five years, the Internet has introduced a torrent of new competitors that are innovating to provide differentiated customer offers. Supply has outpaced demand resulting in rampant pricing wars. Profitability is under severe pressure compelling retailers to seek new ways to increase sales and lower costs. Customers’ expectations have also shifted dramatically as they increasingly use digital technology in their daily lives.

Retailers have to rethink their business model and decide how to transform into digital businesses, while addressing their sales and costs challenges. It is within this context that the Accenture Technology Vision for Retail examines the technologies that will have an impact on retailers over the next three to five years. These trends align with the five macro trends in the Accenture Technology Vision—Digital Business Era: Stretch Your Boundaries.

Retailers that understand these trends and make the right technology investments can become digital leaders—retailers that place customers at the center of every experience, focus on selling results, leverage digital platforms, embed software intelligence into the business and embrace a collaborative human–machine workforce.

Best of all, these leading retailers would be positioned to reach their digital destiny and deliver seamless retail.
Retail Technology Vision

INTERNET OF ME

- Products just for me: product personalization
- Products delivered to me: channel personalization

OUTCOME ECONOMY

- Joined up store: providing a seamless experience in store
- Joined up home: increasing purchases in the home
- Joined up solutions: integrating products and services

PLATFORM (R)EVOLUTION

- Moving from platform users to platform providers
- Facilitating access to data and systems
- Improving the speed and resilience of digital platforms

INTELLIGENT ENTERPRISE

- Making personalization unique to each shopper
- Improving pricing and promotions

WORKFORCE REIMAGINED

- Shifting the retailer/customer boundary
- Helping improve staff efficiency
- Automating the supply chain
Combining customers’ preferences, habits and context to deliver personalized experiences is just the beginning. As the Internet of Things converges the digital and physical worlds, it will create new channels to reach deeper into people’s lives—and eventually result in an interconnected environment in which businesses build products and services specifically for the individual. Retailers can start adopting this Internet of Me trend into their businesses through personalization strategies for both products and delivery channels.
Products just for me: product personalization

Customers are increasingly demanding products that are personalized to their tastes—from tailored music recommendations, to made-to-order knitwear or family photos screened onto marshmallows. According to Accenture research, 40 percent of retailers agree that a personalized customer experience is their top priority with nearly two-thirds (61 percent) saying that personalization technologies present them with a positive return on investment.

Originally, manufacturers controlled the product personalization realm as they expanded into direct-to-consumer offerings. Brick-and-mortar and online retailers with manufacturing capabilities followed with their own versions of customization. For example, fashion retailer Michael Kors is offering customers the opportunity in stores around the world to create a distinctive handbag from a choice of crocodile finishes, monogram colors, linings and hardware.

As these examples show, product personalization can range from high-volume personalization, in which the product variance tends to be smaller and based on a set number of options, to low-volume personalization, with greater variance to the point of being a completely customized product.

The possibilities are also expanding rapidly with 3D printing, enabling retailers to move product manufacturing closer to the market, including directly into the store. New York City-based Normal is 3D printing custom fit earbuds in its retail space using just a photograph taken through its mobile app. Customers can choose the color of the earbuds, as well as laser engrave a carrying case. Amazon opened an online 3D printing store for customers to print and design products from third-party sellers, and recently patented its idea to mount 3D printers onto delivery trucks to reduce delivery times and warehouse space requirements.
Products delivered to me: channel personalization

Retailers with physical stores now have greater visibility into stock through digital supply chains. This makes it possible to offer more personal choices in fulfillment to improve the overall customer experience. Customers can be presented with a range of options such as pick up in store, home or car delivery, or retrieval from another location.

Argos redesigned its distribution network to leverage larger stores as “mini distribution centers,” enabling it to both offer a greater range of products to smaller stores for collection the same day, and extending customers’ choice of delivery and collection option. Audi and DHL have teamed up to allow delivery of parcels to customers’ car trunks. Audi’s keyless entry system provides the delivery driver access to the car’s trunk with a temporary authorization code for a set period of time. Doddle offers a “commute and collect” model for customers to retrieve their online shopping purchases from the convenience of a nearby train station or car park. Fulfilled by Sears is a complete fulfillment service available to retailers who sell through the Sears.com marketplace. They sell and Sears picks, packs and ships everywhere.
Next steps

Product and delivery personalization has moved from experimental to mainstream across the retail spectrum, providing numerous opportunities to help increase sales and improve customer satisfaction. Retailers ready to stretch their boundaries should:

• Define which role to play in providing personalized products for customers, whether that means investing in manufacturing or partnering with other companies to deliver personalized products.

• Use customer and social networking data and analytics in conjunction with recommendation engines to extend range of product offerings.

• Tap into internal or outsourced 3D printing capability to expand personalization product offerings and move production closer to market.

• Invest in inventory planning and control, forecasting and stock/warehouse management capabilities to enable personalized fulfillment channels.

• Decide whether to build more advanced fulfillment capabilities, or to business partner with other industry players or logistics specialists.

• Build innovation capabilities through technology labs or innovation hubs for rapid product R&D, testing and launch.
Connecting data from smart appliances, wearables and other Internet of Things devices to digital systems helps businesses to understand how customers actually use products and services. It also provides metrics for how customers define success, which is the genesis of delivering the results they want. To take advantage of this Outcome Economy trend, retailers can begin using devices to facilitate a more seamless retail experience in the store, across the home, and into the lifestyle through integrated products and services.
Gartner research shows that 89 percent of companies believe that customer experience will be their primary basis for competition by 2016, versus 36 percent four years ago. Not surprisingly, retailers are working to help improve the seamless retail experience across channels, including in-store devices to enhance shoppers’ experience while they browse. For instance, Marks & Spencer installed touch screen kiosks to allow customers to move more freely between in-store and online shopping channels.

Near-field communication technology is powering several of these new experiences. Macy’s and Apple are using in-store beacons to provide personalized offers directly to customers through their mobile devices. House of Fraser inserted beacons into mannequins for a proximity marketing campaign. When shoppers download an app and browse at the store, they receive information about the clothes on display. And GE Lighting and Qualcomm’s Atheros subsidiary built an in-store shopper tracking system that pinpoints a customer’s location. Retailers can send contextual messages to customers’ smartphones about nearby items and provide suggestions for similar items online.

The move from storefronts to online and mobile channels has made it easier for customers to research, purchase and return products. Now devices that connect directly to retailers are appearing in homes, allowing customers to make orders across a range of products.

Apple TV embedded point of sale services into the device, enabling customers to browse and buy associated products while watching TV or listening to music. In another example, customers with Internet-connected HP printers can enroll in the HP Instant Ink service, which automatically reorders printer cartridges when the ink runs low. And the Amazon Dash Button, a WiFi-enabled device designed to be placed near the point of product use, allows customers to quickly reorder certain branded products—such as putting the button on a washing machine to purchase laundry soap. Amazon currently offers approximately 300 products via the Dash Button.
Joined up solutions: integrating products and services

Up to two-thirds of consumers are expected to purchase a connected home device within the next five years. Utility companies, hardware manufacturers and large retailers are all vying for the home hub market, with companies such as Apple making bets with HomeKit and Amazon with Echo.

Home hubs connect a range of smart devices to a central hub and then to the Internet. As such, the hubs present opportunities for retailers to engage with customers after they leave the store. For example, Home Depot is working with manufacturers to ensure all of the connected home products it sells are compatible with the Wink hardware hub. The hub enables smartphones and other devices to connect with and program Wink-compatible products. One such brand is Poppy, which is integrated not only with Wink but also with Amazon Dash. Poppy’s products include a coffee machine that automatically reorders coffee beans and a pet food dispenser that resupplies pet food. These services help lock consumers into a buying routine for particular products.

Integrated products also offer retailers a pathway to sell value-added services, such as home lighting, heating and security. Eighty-six percent of retailers surveyed by Accenture agreed that hardware at the edge (like hub devices or connected cars) will help create a shift to selling outcomes. Lowe’s is leading the charge with Iris, a home management service to adjust lights, control temperature, arm the security system and more. The retailer is selling starter kits and accessories designed to deliver results to customers such as safety or comfort.

As for embedded connectivity in cars, Visa and Pizza Hut are working together to test mobile and online purchases of a meal while driving. Beacon technology alerts the Pizza Hut store that the driver has arrived to pick up the order. The technology could be extended to other types of purchases, including gas and drive-through retail.
Next steps

Leveraging connected devices to smooth the retail experience in the store, across the home and through integrated solutions will boost sales, increase loyalty and provide valuable insights into what customers truly want. Retailers ready to stretch their boundaries should:

• Understand the limitations of existing legacy store infrastructure (i.e., point of sale terminals) and invest in emerging technologies to enhance in-store offerings (i.e., beacons, push promotions, contextual messages).

• Recognize the opportunities emerging from the Internet of Things and develop strategies to help increase purchases in the home and through integrated products and services.

• Build capabilities to help create new channels to customers, and collaborate with new industry business partners to develop services.

• Analyze data gathered from devices to better understand customers’ operating context and use the insights to make decisions that directly impact customer outcomes.
On the heels of Internet and technology pioneers, non-technology industry enterprises are evolving their products and services into digital industry platforms, which businesses can use to rapidly develop industry-specific applications. To start participating in the Platform (R)evolution trend, retailers must strive to become platform providers, facilitate data flow and system access to select business partners, and reinforce both core and digital platforms to partake in a larger ecosystem.
Moving from platform users to platform providers

Retailers are sitting on a goldmine of assets: physical infrastructure in the form of stores or a supply chain network; troves of customer and product data; cross-industry affiliations with other companies. Assembling these assets into a digital industry platform creates new opportunities for revenue and delivering value-added services. More than three-quarters (78 percent) of the retailers questioned in our survey agree or strongly agree that industry boundaries will dramatically blur as platforms reshape industries into interconnected ecosystems.²²

Fulfillment by Amazon is one example of many. For a fee, retailers can piggy back on the platform provider’s warehouses, delivery network and customer service. Similarly Uber is turning its on-demand taxi service into a platform with the launch of a grocery delivery service in the US called UberEATS.²³
Facilitating access to data and systems

Opportunities are springing up for retailers to develop new digital relationships with customers and suppliers; 56 percent of retailers surveyed say they will engage with new digital partners within their industry during the next two years for digital initiatives, while 42 percent of retailers will look outside their industry for digital partners.24

To leverage its locations and photo-processing capabilities, Walgreens opened up its data to Hallmark Cards and launched the QuickPrints photo-processing application programming interface (API). The drug retailer expanded the API to include new digital business partners and eventually any developer looking to integrate online photo services into an app. Walgreens subsequently expanded its platform business into a larger ecosystem with its Pharmacy API program. Customers who engage with Walgreens in the store, online and using their mobile phones spend six times more than the store-only customers.25

In another compelling example of partnership, Tesco is researching ways to leverage Oculus Rift wearables in a virtual shopping experience. The project is designed to help retailers understand customer behavior, plan shelf space and store layout, and eventually enable shoppers to choose virtual products from virtual shelves to be delivered to the doorstep.26

Improving the speed and resilience of digital platforms

Retailers face losing millions of dollars in sales if platforms go down. Think back to what happened on Black Friday 2014 when even the websites of the biggest online retailers struggled to cope with demand. Although many retailers install queueing systems to limit the impact of high customer traffic, these systems sometimes stop customers from purchasing goods. To avoid these lapses, retailers must review and re-architect critical platforms for increased resilience and scalability, potentially by using the cloud. For example, London Drugs replaced its legacy software platform with a scalable and secure commerce cloud infrastructure with state-of-the-art data centers and industry-leading performance and uptime.27
Next steps

Becoming platform providers, establishing connections with business partners, and reinforcing core and digital platforms would open up entirely new revenue streams and deepen customer relationships. Retailers ready to stretch their boundaries should:

- Evaluate current assets: physical (stores, supply chain), data (customer, product, providers) and relationships with other industry players.
- Leverage selected assets into new service offerings and ultimately become platform providers.
- Build new APIs, and leverage available APIs, to facilitate data and system access to business partners.
- Increase data usage to help drive further efficiencies whether in-store, back-office or operations.
- Utilize field-tested technologies (cloud, multi-tier architecture) to provide scalable, resilient platforms able to cope with high demand.
Software intelligence technologies that process data and trigger automatic action can help companies leverage big data. Intelligent Enterprises that make pervasive use of data to help drive business decisions about customers, products, competitors and markets would be able to improve operational efficiency, accelerate innovation and serve customers more effectively. Retailers can start making progress through hyperpersonalization as well as digital pricing and promotions strategies.
Making personalization unique to each shopper

Customer segmentation is no longer enough. Retailers must derive deeper customer insight to refine the customer experience and retailer offers. To achieve this aim and embed intelligence into their systems, nearly half (45 percent) of retailers surveyed are using rule-based algorithms, with 38 percent using predictive analytics and 35 percent using intelligent agents.

Case in point, Monsoon Accessorize is using multichannel data sources from in-store and online customers to deliver unique personalized offers via emailed receipts.28 UK department store John Lewis is partnering with an omnichannel personalization company to customize product recommendations for each individual shopper and to grow sales.29

To attract and retain digital customers, retailers must go even further to develop a loop of continuous, relevant connections with customers before, during and after purchases. Accenture has developed the concept of “customer genome,” which is built using a combination of traditional, alternative data and derived data. Retailers can use customer genomes to create highly personalized offers, promotions and experiences. (For more information, see our point of view, “Generating Deep Insights from the Customer Genome.”)
Improving pricing and promotions

Many retailers manage their price strategies without adequately factoring in nonmonetary costs and other elements of value, such as selection, promotions, availability and quality of experience. A more effective pricing model includes input from other functions within the enterprise and is combined with predictive analytics and social media. Accenture client experience shows retailers that adopt a cross-functional and actionable "price+value" strategy can improve near-term earnings by as much as 4 percent.

Walmart Media Exchange is taking this approach using data collated from store sales, social-media platforms and third parties to supplement data from its Savings Catcher loyalty program. From the data, Walmart plans to create customer segments, and eventually individual customer profiles, to make better offers, as well as to improve targeted marketing.30
Next steps

Pursuing hyperpersonalization strategies and innovative pricing and promotion models would build customer loyalty, help increase cart size and reduce costs. Retailers ready to stretch their boundaries should:

• Understand more about the data already available (including type, quality and ownership within the organization) and identify immediate opportunities.

• Use advanced multichannel analytics spanning customers’ traditional, social, behavioral and contextual data to stay connected through a continuous purchase experience, and to enhance online, mobile and in-store interactions.

• Apply predictive analytics and value-based pricing strategies to define dynamic pricing models.

• Build effective real-time forecasting, decision and execution capabilities through technologies like automation, augmentation and cognitive computing.
People and machines working together have the potential to help achieve better results than either could separately. To build and manage a blended workforce, companies must define which combinations of intelligent technology and training can improve human–machine efforts in their work environment. Retailers can begin adopting the Workforce Reimagined trend by facilitating customer self-service, using devices to augment staff productivity, and automating the supply chain with robots and other technologies.
Shifting the retailer/customer boundary

Retailers are leveraging technology to blur the boundaries between store staff and customers. Online and mobile channels make it easier to access information and choose self-service options. Social media forums (often hosted or sponsored by retailers) provide a spot for customers to engage with each other on service-related issues.

In store, self-service checkouts have gotten more sophisticated in grocery stores and moved into other retail sub-segments, such as home improvement, fashion and electronics. Tesco, for example, is trialing a high-speed checkout solution that automatically scans products placed on conveyor belts. The system can process up to three customers at a time.31

Retailers are also leveraging mobile devices and store-specific apps to help customers locate stock and obtain product information. Safeway’s just for U service helps grocery shoppers create and sort their list by store aisles. In addition, some mobile apps provide functionality to scan items and complete payment. Scandit significantly increased customer satisfaction by introducing self-service express checkout with in-app scanner and payment options.32 Wagamama, a UK-based Asian food restaurant, offers a similar payment method with MasterPass.
Helping improve staff efficiency

Technology is also being used to make store staff more customer-facing and efficient. Retailers are deploying tablets to support a range of in-store activities, such as facilitating store operations (space planning, reporting), increasing employee efficiency or helping improve the customer purchase experience.

Carphone Warehouse uses a tablet-based recommendation engine application called Pin Point to simplify the process of buying a phone. Sales associates help customers answer a few questions and Pin Point recommends the right choice of tariffs, checks coverage across networks, and confirms the package is a good match for a customer's data usage.

Wearables (smart glasses, wrist-worn displays and other connected devices intended to be worn on the body) are another productivity booster. Tesco distribution center workers wear armbands that track the goods they are gathering. The band also assigns tasks to the wearer, forecasts task completion time, and quantifies precise movements among the facility’s shelving and loading bays. A small display verifies the correct fulfillment of an order.

Wearable devices can also be used in staff training, with surveyed retailers citing augmentation technology (delivered through smart glasses) as the top method they expect to use within the next three years, followed by virtual world methods and adaptive learning solutions (intelligent software to personalize training based on individual needs).

Automating the supply chain

Internet retailers have invested heavily in warehouse operations technology, including automation and robotics. A notable example comes from Amazon’s distribution centers in which Kiva robots pick and pack orders.

Now other large retailers are aiming for faster, more agile and flexible supply chains. Marks & Spencer recently unveiled a modern, fully automated distribution center that can process one million products per day. Ocado, which offers an online grocery ordering and delivery service to consumers through a vast fulfillment and logistics network, has applied to patent a version of robotic fulfillment technology for its warehouses.

Automation reaches into industrial retailing as well. CribMaster markets an industrial vending machine—a device that stores inventory and tools, combined with software that automates the process to authenticate employees, dispense items and track usage.

Forays into driverless cars by Google and drones by Amazon Prime and Alibaba are still largely in the R&D or pilot phases, but will most likely play a major role in future retail distribution and fulfillment strategies.
Next steps

Digital technologies, smart machines and agile supply chains hold great promise for improving the customer experience, helping increase employee productivity and cutting costs. Retailers ready to stretch their boundaries should:

- **Invest in informational and transactional in-store customer facing, self-service technologies integrated with back-end fulfillment processes and systems to increase labor productivity and customer experience.**

- **Empower store associates by providing actionable information on customer, product and in-store operations in real time.**

- **Consolidate and combine front- and back-end technologies like inventory management, mobile point of sale, in-store analytics, scheduling, and collaboration on handheld devices.**
The digital destiny will finally be a reality

Retailers that embrace these five IT trends and accelerate digital technology adoption would be able to stretch to deliver a seamless retail experience.
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1 Knyttan web site, https://knyttan.com

2 Boomf web site, https://boomf.com

3 Accenture Technology Vision Survey. This year, Accenture conducted the first Technology Vision survey, which included polling more than 230 business and technology executives from the retail industry in order to understand key technology challenges as well as priority investments.


7 Accenture, Retail Applications of the Future, 2014.


9 Doddle web site, https://www.doddle.it/?v=2

10 Sears Commerce Services web site, https://www.searscommerceservices.com/fulfilled-by-sears


19 Accenture Technology Vision Survey


22 Accenture Technology Vision Survey


24 Accenture Technology Vision Survey


35 Accenture Technology Vision Survey


About Accenture

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