Introduction

Over the past several years, debates regarding the retail industry's future have progressed from fears that physical stores would become a thing of the past, to handwringing over the accelerated failures among highly leveraged brick-and-mortar stores, and ultimately to a balanced view. The bottom line is that while the physical store's role has changed, the store is not completely irrelevant. That said, the convenience of online shopping is driving double-digit growth in ecommerce sales, while stores have plateaued or experienced single-digit revenue growth. Given the availability of smartphones and the increasing penetration of internet technologies, consumers will continue to buy online. Yet despite store closures and retail bankruptcies, new stores are opening, primarily among discount, luxury, and digital-first companies. While online shopping is growing rapidly, brick-and-mortar stores still account for about 85% of total retail sales. Struggling retailers may be closing shop or switching formats, but agile contenders such as Starbucks, Sephora, and Walmart continue to open hundreds of new stores each year. Pure-play etailers such as Amazon and Alibaba are also entering physical stores. What seemed like a "retail apocalypse" is more likely a transformation phase of the global retail industry, driven by changing customer preferences and new technologies.

For future-minded retailers, the most important key to success is the customer experience that they provide across both the value chain and the purchase journey. Retailers that take the pulse of their customers and gauge their changing needs proactively will succeed in the digital era. Technology has a profound impact on customer behavior. With a shift in demography, millennials will constitute the largest segment of consumers — and they are driven by digital technology. Leveraging these technologies in the retail journey will create a distinct competitive advantage for retailers.
The Changing Customer Purchase Journey

The combination of cheaper and better smartphones with broader penetration and easy adaptation of internet technologies has significantly influenced the purchase process. Nearly 70% of buying intentions start with an online search, although 85% of sales take place at the stores. Nearly 60% of U.S. retail sales are influenced by digital tools. In a 2013 Accenture consulting survey of U.S. digital shoppers, 78% of respondents reported "webrooming," or researching online before heading to a store to make a purchase. However, some store trips eventually led to a digital purchase. The Accenture survey found that 72% of respondents "showroom," or buy digitally after seeing a product in a store.

In a typical customer purchase journey, several touch points in brick-and-mortar stores will influence shopping decisions. A person usually engages with a minimum of eight touch points during the purchase journey, and each touch point has a high influence on buying decisions. Modern customers expect a seamless omni-channel experience, one that is not restricted to the channel from which he/she is opting to buy.

In modern-day retailing, the consumer buying decision process has three key stages. The shopping journey starts with need generation, which is matched with contextualized ideas and images. This journey passes through the discovery stage with the "ease in discovery" experience. The final stage defines how close the seller is to the customer's fulfillment preferences. A mismatch of customer expectations with the retail experience will result in a loss of customer for the retailer.

In the future, customers will expect retailers to proactively engage with, recognize, and reward them. Meeting customers' expectations will be both the biggest challenge and the prime focus for successful retailers. Establishing personal connections with shoppers will be important to growth, and digital technologies will act as the medium to achieve that goal. "Mobile first" or "mobile only" will be a critical area for the future-ready retailer.

The rise of digital technologies such as cognitive computing, augmented reality and virtual reality (AR/VR), gamification, machine learning, and artificial intelligence (AI) has opened up a plethora of services to enable unique shopping experiences. These technologies are disrupting retail. Figure 1 shows some leading innovative retailers and the areas of digital disruption they have created to craft their winning strategies.

**FIGURE 1: SIGNS OF DIGITAL DISRUPTION ABOUND**

- **The "store" is redefined**
  - Nordstrom Local
  - Bodega
  - Hema Fresh (Alibaba)
  - 7Fresh (JD.com, Walmart)

- **OC fulfillment is required**
  - Amazon–Whole Foods
  - Instacart
  - Target–Shipt
  - Walmart
  - Kroger
  - Alibaba

- **Marketplaces speed global growth**
  - Alibaba—Auchan, Macy’s
  - Amazon–Kohl’s
  - Walmart
  - Zalando
  - Karstadt
  - Starbucks, Macy’s, Sephora

- **Store automation matures**
  - Tencent automated store
  - BingoBox
  - Amazon Go
  - Auchan Minute

- **AI-driven engagement**
  - Voice—Amazon Echo, Google Home
  - Contextualized engagement—Starbucks, Macy’s, Sephora

Source: IDC, 2018
A focus on minimizing friction in the customer shopping journey is the common element at the basis of all the digital initiatives implemented by leading retailers. Today's customers want frictionless shopping experiences with round-the-clock availability of commerce. They love "showrooming," in which the immersive customer experience eliminates the boundaries of physical and digital retail. Innovative retail giants such as Amazon and Alibaba are coming up with futuristic stores, delivering a seamless shopping experience — whether cashierless "Amazon Go" stores or mobile-first Hema supermarkets. BingoBox, a China-based convenience retailer, reports that it leverages RFID and computer vision technologies to operate cashierless stores and needs only one employee to manage every group of 50 stores. For other retailers considering these digital operational models, the ratio will depend on volume, product categories, and other operational constraints.

However, don't expect wide-scale replacement of current big-box store models with cashierless operations. Instead, imagine the continued introduction of various models of digitally managed convenience operations to retail stores. In big stores, the model may be a top 200 convenience item area within the store, complemented with other digital-physical converged capabilities. These may include buy online/pick up in store counters, third-party order pickers for outside services such as Instacart, and fully automated pick, pack, and ship operations in physical stores. Virtual shelves, carts, and AI-enabled digital wallets are converging with physical operations, minimizing friction at all shopping touch points. This trend is accelerating globally.

Retailers are digitizing their customer experience; they are also leveraging innovative digital technologies in other areas. For example, robots are beginning to handle automated order pickups and store audits as well as guiding customers to the required aisle. AI-enabled chatbots are significantly improving first-call resolution and helping customers close sales transactions faster. AR/VR technologies are being used for DIY tasks or immersive experiences for products and services.

Successful retailers will likely leverage digital technologies to provide seamless omni-channel services — a convergence of in-store and virtual customer experiences that enables personalized and contextualized connections with their customers. Notions of transparency, gamification, hospitality, and community will be embedded in these connections to enrich the shopping journey.
Rising Digital Technologies Adoption by Retailers

IDC groups digital technologies into three categories — transformational, incremental, and opportunistic — as shown in Figure 2.

**FIGURE 2: WORLDWIDE DIGITAL STORE TECHNOLOGIES, 2016**

Incremental technologies have the highest adoption rates among retailers, with rapid investment in technologies such as mobile point of sale (mPOS), social media sharing, digital payment systems, and consumer mobile apps.

Transformational technologies, including robotics, 3D printing, consumer Internet of Things (IoT), wearables, and multidimensional digital signage, are at an earlier stage of investment. Retailers are investing in mPOS, in-store WiFi, customer analytics, and contextualized engagement.

Opportunistic technologies generally have moderate adoption rates based on a retailer's business needs and investment strategy. AR/VR/mixed reality solutions, AI-enabled personal assistance, and 3D printing are at early stage of adoption. Self-checkouts, in-store kiosks, and connected vending machines are being adopted at a moderate rate.

The adoption rates of these technologies also depend on the retail segment:

- **Apparel, footwear, and department stores.** For specialty retail, the use of AR/VR/mixed reality solutions is a major focus area apart from in-store mobility solutions. Retailers are also investing in the following solutions as they elevate the customer experience and prepare for the store of the future: virtual mirrors, smart dressing rooms, visual search and recommendation, AI-enabled digital fashion advisors, conversational commerce, and social integration through mobility devices. These digital solutions should be available across channels for a unified shopping experience.
» **Grocery stores.** For grocers, key technology investments improve the delivery or appeal of fresh or differentiated products and will include complete product information such as shelf life or freshness index, self-checkout kiosks, personalized digital coupons, click and collect, in-store mobile cart, and digital payment solutions. Digital loyalty management solutions will focus on maintaining relationships as well as on discounts and additional services. Expect to see a shift toward digital-physical converged models in grocery with meal prep/kits, flexible delivery, and self-checkout high on the list of new capabilities.

» **Hardline stores.** These retailers want to make shopping easier, more convenient, and more valuable for the consumer. Expect investments in digital sales tools for associates, marketing tools, customer mobile applications, AR/VR/mixed reality solutions, endless aisle, AI-enabled chatbots for apparel and accessories, and DIY and technical concierge services. Quick delivery and digital payment solutions are critical for these retailers to succeed.

Certain technologies are being adopted widely across segments. These technologies include mobile commerce, loyalty management, simplified digital payments, personalized 360-degree customer care using AI-enabled chatbots, and digital signage and beacons for sending marketing and sales offers. Retailers are using these technologies to create unique shopping experiences for customers and to distinguish themselves from the competition.

**Benefits**

Digital commerce is causing ripple effects on physical retailing. Improving customer attraction, engagement, conversion, and retention is a key hurdle that physical retailers must clear to survive. Retailers must better integrate the digital commerce and physical retail experiences to drive growth among millennials and centennials as well as any other shopper starved for time and seeking convenience, value, and differentiated experiences. Retailers are digitally transforming with an omni-channel focus, converging the physical and digital worlds to deliver personalized and seamless experiences, and eliminating the boundaries of location, time, and delivery method.

Following are a few points from IDC’s 2017 *Retail Innovation Survey* results:

» 36% of retailers expect growth of 5–9% in their customer experience metrics by investing in innovative technologies/programs, and 19% believe they will see an increase of 10% or more.

» 47% of retailers assume 5–9% growth in conversion rates; 21% estimate growth of 10% or more.

» 32% of retailers believe that store traffic will grow by 10% or more because of investment in digital technologies.

» 33% of retailers expect promo and loyalty effectiveness to grow by 5–9%.

» Among retailers that have an innovation strategy, 48% expect more than 10% revenue growth, twice their normal rate.
Recent use cases illustrate where retailers have embraced technologies to deliver once-futuristic shopping experiences:

» AI-enabled facial recognition technologies help brick-and-mortar retailers provide their customers with a frictionless omni-channel experience, delivering personalized and contextualized recommendations based on interest and purchase history. Retailers collect accurate customer insights (in aggregate) including recency, frequency, buying behavior, and store browsing patterns. Other data collected includes deep demographic information such as footfall, age, ethnicity, gender, and past purchase history from multiple channels to create more appropriate personalized and targeted promotions.

» Beacons for personalized promotions and offers and location-specific services are now offered.

» Implementing cashierless or zero queue checkouts provides the ultimate in seamless experiences for customers. The opening of the Amazon Go store demonstrates how computer vision and sensors can enable a completely new checkout experience. This concept will be tested by many retailers now and refined and reimagined by segment and brand. Cashierless checkout has been held as the apex solution for simplified frictionless shopping.

» Robotic shopping assistants help retailers enhance in-store operations and customer experience by providing greeter services, information, and recommendation and feedback services. Lowe's has developed OSHbot, a customer service robot that speaks multiple languages and helps shoppers find items. It also provides interactive feedback to help customers make quick decisions and adds fun to the shopping journey, which in turn builds better customer engagement and brand loyalty.

» AR/VR technology helps bridge physical and digital retail. It may be a tool that employees use to help a customer or that a consumer uses for self-service, discovery, training, support, or purchase. AR/VR is useful in engaging with customers and in acquiring new customers. This technology is becoming commonplace in home and garden, furniture, and other related retail segments.

» Near-field communication (NFC)/digital payments are a way to speed checkout and eliminate the hassle involved in handling cash. They also reduce cash theft, improve POS reconciliation time, reduce cash insurance, and improve safekeeping.

» Product reviews and social media integration through mobile apps provide customers with access to product information and trusted advice, both of which enable quicker purchase decisions and a reduction in return rates. Additionally, customer feedback enables retailers to address product, process, people, and technology issues.

» Digital in-store location assistance supports a customer’s desire to easily and quickly locate products and services within the store. In some cases, retailers enable a feature for consumers to plan their shopping path with access to shopping lists and in-store location maps. Retailers learn how to improve product placement by observing and analyzing data about traffic and dwell patterns.

» Click and collect is well established among mature retailers; those that have not invested yet are certainly doing so now to thrive in the future. With this technology, customers can request delivery of their purchases at a time and place of their choosing or pick up deliveries at their choice of location without any added delivery costs.

In summary, digital technologies and digital transformation efforts are elevating the customer shopping experience by eliminating the boundaries between digital and physical retail experiences.
**Trends**

The shift in the consumer experience is evident worldwide, and at its center are technologies that enable experiences previously imagined only in science fiction. With frictionless checkout experiences a reality and AI-enabled contextualized and personalized interactions at the core of 360-degree customer relationships, we can envision a future in which products will be interactive and capable of announcing their presence, reordering needs, and remaining shelf life while providing a fully traceable life cycle. Future interactions with store associates will change drastically because an associate will already know a customer's purchase patterns before the customer asks a question. AI-enabled computer vision (facial recognition technologies), IoT, and digitally enabled associates will better serve the customer by being better connected.

Increasingly, stores will act as fulfillment centers for rapid deliveries, social media integration, and conversional commerce. AR/VR/mixed reality, AI-based facial recognition, natural language processing, digital bots, virtual mirrors, smart dressing rooms, endless aisle, and 3D printing are just a few of the digital technologies likely to become future components of the retail business. New technologies, services, and integrated consumer experiences will also emerge that are central to the "store of the future" experience.

Retailers will need to adapt as these technologies — existing, emerging, and new — redefine retail and become necessary components for future success.

**Considering Tech Mahindra**

Tech Mahindra's Retail and Consumer Goods Center of Excellence (RCG CoE) recognizes the new experiential world of retail and consumer goods. The RCG CoE leverages deep domain experience across the retail and consumer goods value chain in delivering industry best practices, business transformation strategies and road maps, technology solutions, and niche implementation approaches. The center also leverages its pool of techno-functional experts and its partner ecosystem to provide innovative and differentiated solutions and approaches.

Tech Mahindra's RCG CoE provides solutions that utilize the latest technologies and an integrated approach to help businesses transform conveniently, connect with existing customers, and acquire new customers, improving conversions by creating state-of-the-art shopping experiences. The RCG CoE works closely with The BIO Agency and Pininfarina, subsidiary companies of Tech Mahindra that offer digital and design experiences, respectively.

Tech Mahindra has a solutions portfolio focused on transforming front-end retailing as well as back-office operations across the retail value chain to enable efficiencies and frictionless shopping experiences. Niche digital solutions for retailers make use of technologies such as mobile, AR/VR, IoT, beacons, AI-enabled bots, smart robots, and natural language processing (NLP)–based systems. Leveraging all these solutions, the company has designed a unique solution framework called "Store of the Future," which uses digital solutions to transform every touch point of the customer shopping journey to make it engaging and frictionless.

The RCG CoE helps organizations reimagine the retail and consumer goods industry with digital strategy road maps and integrated solutions to achieve competitive differentiation in line with organizational goals and objectives.

**Challenges**

Tech Mahindra is one of many competitors vying for the same retail business. This is the most significant challenge that the company, like so many others, must overcome to win business. Retailers often have a go-to strategic consulting partner and a primary outsourcing partner.
That said, retailers also like to force competitive innovation and bidding, so they often require that project requests for proposal (RFPs) have at least three bids, particularly if they are large projects.

For RFP responses to companies with which Tech Mahindra doesn’t already have a relationship, the company will have to listen well and deliver real value from an innovation, timeline, and/or price perspective. Quite often this requires some level of overdelivery, meaning Tech Mahindra would have to exceed expectations.

**Conclusion**

Customer preferences and expectations are constantly changing, so retailers’ methods of engagement must change accordingly. Brick-and-mortar stores are evolving from a place to sell to an experience center where customers connect and engage with the brand while receiving unique hospitality and services, thereby building brand loyalty that extends the lifetime value of that customer.

With the rise of a new digitally enabled generation, future-ready retailers need to revolutionize their approach to connect with their customers. They need to transform their organization to adapt to consumer needs, which likely requires the store of the future to be the center of an ecosystem supported by partners and infused with the latest digital technologies.

To prepare for the future, retailers must create best experiences by utilizing shopper and competitive data as well as digital technologies to connect with their customers. Digital technologies such as AI, NLP, mobility, bots, IoT, sensors, integrated social commerce, cybersecurity, cloud, and predictive analytics are becoming an integral part of the successful retail ecosystem. Leading IT service providers will play an important role in creating strategic digital transformation plans and in providing end-to-end solution offerings, platforms, and customer experience–centric applications that will transform today’s retail stores into the stores of the future.