WELCOME TO THE NEW RETAIL REALITY

Commerce Disrupted

MAY 2016, PREPARED BY

Fit for Commerce®
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It’s Almost 2020...

Where Are Our Flying Cars?

Not here yet, obviously. But soon? Flying cars aside, we are in the midst of a new retail reality, in which today’s shopper is in the driver’s seat! In this new reality, the lines between discovery and entertainment, between the physical and digital worlds blur - or even disappear completely.

Let’s go on a journey, exploring disruptive ideas that are moving commerce in new directions - sometimes driven by advances in technology, sometimes driven by customer demands. From the transformation of traditional sales channels to the rise of new technologies and on-demand, custom everything, we will look at the innovations retailers must embrace to get ahead of the curve.

See what the future might look like. Get inspired. And prepare for the road ahead.
There was a time, not so long ago, when the number one priority for retailers and brands was to build an ecommerce site - or risk being left in the dust. Building a digital business remains critical, but soon it may not be that important to sell via a branded site. Marketplaces are increasingly dominating the retail space, social networks are turning into modern day marketplaces, and the Internet of Things (IoT) revolution is transforming ordinary household items into sales channels.

Convenience is the name of the game. Well, at least 90% of the game. Customers demand seamless and convenient shopping experiences - and expect control over when, how and where they shop. As a result, the majority of retail innovations center around the concept of convenience. From mobile innovations and chatbots to Amazon Dash and Echo, the number one goal is to make it easier to research and buy. Soon shoppers will be able to make purchases without visiting a store or even lifting a finger. As transactional capabilities get integrated into everything that surrounds us, shopping becomes basically effortless and, in some cases, an integral part of entertainment and communications.

With new channels and devices overtaking traditional sales through retail stores and ecommerce, retailers will face fierce competition from everywhere, literally. Retailers will need to reassess how they reach and engage shoppers, augmenting or shifting their focus to new, disruptive sales channels.

Are we moving away from the “traditional” ecommerce model to one where new channels will diminish or even eliminate the need for a digital commerce site? In the future of retail, if you have a strong backend, do you really need a frontend too? Let’s explore some of the innovative technologies and strategies that retailers can leverage to reach, engage and sell to customers beyond traditional channels.
Modern-Day Marketplaces and Buy Anywhere

Once used by consumers to explore and share, social media sites with huge followings are turning into actual sales channels. While Facebook has been trying to concoct the magic recipe for social commerce for years now, Pinterest, Twitter and Wanelo have all added a buy button. Inspirational shopping sites such as Lyst.com and mobile app Spring have universal checkouts and Shopstyle.com will launch a universal cart later this year too. Snapchat is rumored to be working on transactional capabilities as well.

The concept of the buy button is to take advantage of the fact that people are already spending time and discovering products on social media sites as well as mobile apps, blogs and more. Buy buttons have the ability to turn moments of discovery into purchase opportunities and can potentially lead to more sales than if a consumer had to click to another site to make a purchase.

According to a recent study of social media users worldwide ages 16-64, few were interested in using buy buttons on social media. On Instagram, which is currently the go-to source for shoppers to seek inspiration only 14% percent of users indicated interest in using buy buttons, while Facebook only saw 9% of users interested in shopping directly from the platform.¹

Each social network has taken a somewhat different approach to buy buttons. Pinterest has introduced buyable pins from their mobile app, Twitter has expanded its “Buy Now” button, Instagram is testing “Shop Now” on ads driving to retailer’s websites, and YouTube allows retailers to promote products in videos. Third-party apps and tools such as LIKEtoKNOW.IT and Like2Buy, highly popular with fashion bloggers and influencers, are also driving social commerce by making Instagram photos shoppable.

By providing curated experiences (often integrating content and social media elements into the shopping experience), these modern-day marketplaces and Buy Buttons offer the opportunity to reach a highly engaged target audience where they already spend their digital time. We can expect to see more buy buttons invade social media channels and other content and entertainment sources online, in some cases eliminating the need to visit a retailer’s site, however, it will take some time for the real impact to take hold.

1 GlobalWebIndex Survey of Social Media Users, Nov 2015

No “Fuss” Shopping - Subscriptions, Automated Shopping and Dash

Today, we see more and more shopping models that do not require consumers to ever visit a store or an ecommerce site. Subscription-based models are quickly gaining popularity and are evolving into new product categories. This includes everything from general subscription services such as those offered by Amazon to specialized ones such as Dollar Shave Club where consumers can replenish household items by

Rumor has it that Snapchat plans to add commerce capabilities to its Discover channels. If they get it right, this could transform the social media app into a one-stop platform for consumers - much like the role that WeChat has in China. The app is positioning itself to become an all-inclusive content and commerce destination. Snapchat is all about content and discovery, a powerful combination that retailers and brands crave to be a part of. If Snapchat can successfully incorporate commerce, it will offer retailers a way to effectively expand their reach.

Obsessee is a new brand targeting women between the ages of 14-22 that will live only on distributed platforms: including Facebook, Instagram, Snapchat, Periscope, Tumblr. The content - fashion, culture, music and beauty - will be delivered by Gen Z editors. The decision to go social-only with Obsessee is a bet on a distributed, rather than owned-and-operated, future.
signing up to receive a regular delivery of chosen products without engaging directly with a retailer. Retailers such as Birchbox, Stitchfix and Barkbox have created their own niche subscription models that consumers are buying into and loving. Today it seems there is a curated box for any need and visits to US subscription box sites have grown by almost 3,000% over the past three years.²

In the next years, look for more subscription startups to emerge and expect to see more established retailers introduce similar concepts.

But perhaps the more interesting and innovative aspect of subscription-based purchasing is when retailers can use data to automate the process, completely eliminating the need for customers to actively participate in the shopping process. Amazon received a patent a few years ago for “anticipatory package shipping,” that would allow them to speculatively send goods to customers before they have actually ordered them.³

According to Amazon, between January and March 2016, Dash orders have grown by more than 75% and overall the buttons are used more than once a minute. Amazon says that most customers who have embraced Dash so far have multiple buttons.⁶ The buttons double as in-home advertisements for the brands, leading some to believe that the brands are subsidizing the cost.⁷

With the introduction of more brands, the buttons may be adopted by a larger set of consumers. However, the verdict is still out on Dash’s prospects of becoming a household staple.

Until true anticipatory shopping emerges, there’s always Amazon’s Dash button. When Amazon first released its Dash Button, it sounded a bit like an April Fool’s stunt, but turned out to be yet another move from the retail giant to make it easier to buy goods.

Amazon Dash Button is a WiFi-connected device that can reorder a consumer’s favorite product with the press of a button. Each Dash Button is paired with a product, which is selected during the set-up process. When consumers run low, they can simply press the Dash Button - ensuring that they never run out of their “essentials” again.⁴

At first only a handful of items were available via Dash Buttons and usage was lackluster, to say the least. Recently, Amazon more than tripled the number of items available, from 30 to over 100, and has cited impressive growth statistics.

According to a recent study of more than 4 million online shoppers, fewer than 50% of people who had bought a Dash Button before Amazon expanded the assortment had ever actually made an order using one.⁵ The research also revealed that the typical Dash buyer displays the characteristics of a technology “early adopter” - male and affluent.

### Table: US Monthly Visitors for Subscription Box Sites, Jan 2013 & Jan 2016

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Note: represents activity on the Hitwise platform, broader industry metrics may vary


2 The Rise of Subscription Box Shopping, March 2016

3 http://1.usa.gov/1SYhc50

4 Amazon.com

5 Slice Intelligence Research

6 http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=2152070

7 http://nyti.ms/1WMuqTZ
Brands are still evaluating the impact of the Dash Buttons on overall sales. But the immediate benefit is that by getting a Dash Button into the hands of a customer, the competition for that product is virtually eliminated (assuming customers use the button).

**Best For?**

Amazon Dash is for CPG products that are frequently replenished, but not necessarily on a predictable schedule where a subscription might make more sense. The most popular button to date is for Tide. The other CPG brands in the top 10 button list are Cottonelle, Bounty, Glad, Gatorade, Mrs. Meyer’s, Gillette, Smartwater, Ziploc and Huggies.

**Get Smart**

Everything around us is getting smart: phones, TVs, kitchen appliances, home thermostats, cars. Even our dogs and our mattresses are getting smarter. The Internet of Things (IoT), the technologies that transform everyday objects into smart devices, could be worth as much as $1.7 trillion by 2020. These connected devices are changing consumer lives and reshaping entire industries, including, of course, retail. Retailers are experimenting with ways to use intelligent and connected devices to offer new and better customer experiences, discover new revenue streams and to streamline their own operations.

In a recent study, 54% of retailers worldwide said they believed the IoT will drastically change the way companies do business in the next three years. Retailers are already investing in the IoT, especially in the areas of supply chain monitoring, inventory management and smart systems within the store environment (we will explore this in more detail later).

The concept of the smart home has generated some amazing new products. While many have been designed by startups, big box retailers such as Lowes and Staples have also gotten in the game with their own lines of home automation and connected home products. Home Depot signed a partnership with Wink, while also promoting products such as the Nest thermostat and A/C, Rachio sprinklers, and products from other startups. Best Buy has an agreement with SmartHome Ventures that makes a home automation hub and software called Peq. Amazon has turned its Dash Buttons into a service that developers can plug into their apps, and the company is working with manufacturers of washing machines, pet food dispensers and other products to help design products to include capabilities for automatically ordering replenishments. Whirlpool recently announced a new smart washer and dryer that connects to Amazon’s Dash Replacement Service, enabling the washing machine to prompt users to order more detergent when it is running low.

In 2015, Target opened a new retail space in San Francisco called Open House. Open House is the retailer’s foray into selling smart home devices to mainstream consumers. Open House is designed as a home that showcases products from 50 vendors, including connected light bulbs, baby monitors, sprinklers, doorbells and more. With Open House, Target showcases and sells creative use cases of connected devices.

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8  http://www.idc.com/getdoc.jsp?containerId=prUS25658015


10  http://fortune.com/2016/01/04/whirlpool-amazon-washer-dryer/
and shows how consumers can bring their new devices together to make them work.

While the IoT may feel a bit like science fiction – and perhaps not seem necessary – it is on the path of inevitability. And it promises to have wide-ranging impact across many categories, from healthcare to retail. By adding intelligence and connectivity to the objects that consumers use every day, it is possible to gather enormous amounts of data. This can be leveraged to build better products, improve customer experiences, create targeted offers or provide new services such as automated replenishment of products based on consumption.

Although cost is currently a barrier to widespread adoption of smart devices,11 many consumers already own IoT devices. According to a recent survey, 43% of US internet users own a smart TV, 26% own cameras that connect to the internet.12 Moreover, wireless fitness trackers, internet-connected audio and stereo speakers and smart weight scales are increasingly making their way into US households.13

While adoption is still in its early stages, it will continue to rise as technology becomes less expensive and more reliable. It is only a matter of time before everything around us becomes connected. Retailers and brands should have IoT on their radar and be ready for science fiction to become reality.

11 eMarketer Nov 2015, Barriers to Purchasing IoT devices
12 ISACA Research, August 2015

Just Ask Alexa

When you first set up Amazon Echo, it becomes Alexa, the name of your virtual helper. Just say the word and Alexa will play your music, order you a pizza, get an Uber, and (not surprisingly) even place orders on Amazon.com for you.

According to some, the next big device, following the smartphone, might just be the Echo, a screenless, voice-controlled household device built by Amazon. Some experts foresee that the Echo could very well become Amazon’s next $1 billion business. At first glance, the Echo does not look overly impressive and comes off more gimmicky than valuable. But users of the Echo consistently report that the longer they use it, the more it sneaks into their routines and the more useful it becomes. Following the success of the Echo, Amazon introduced two new devices with slightly different uses: Amazon Tap – a portable version of the original Echo, and Echo Dot – a smaller, hockey puck-sized version that includes a built-in connector to hook into a speaker. Users can place several Dot’s around the house that will then act as voice-command centers for each room that they are placed in. Naturally you can only order Dots through your Echo!
Alexa performs many of the tasks consumers usually conduct on their mobile devices, but Alexa lives in the same space as its users – they do not have to pull out a phone or speak into a microphone.

The usefulness of Alexa, however, relies on integrations with third-party products and services. Amazon has therefore cleverly turned the Echo into the center of a new ecosystem where developers flock to create voice-controlled apps for the device, or “skills”, as Amazon calls them. Fitbit is the latest company to develop a new skill for Alexa – users can now ask Alexa for fitness stats.

The Echo naturally ties into Amazon.com. Alexa can maintain a shopping list and make orders directly through Amazon.com. Since Alexa has access to user’s Amazon Prime accounts, she has access to transaction histories, making repeat purchases extremely easy. For new items, Alexa will describe the item and the cost and ask if the user would like to order. When a user says yes, the order is immediately placed and paid for.

Currently, users can only place orders through Amazon, but the platform is relatively open, allowing other retailers and brands to build their own “skills” that will enable interaction with their stores via Alexa.

Manufacturers of smart home devices such as Nest are also making their products compatible with the Echo – making it the central device to control connected lights, thermostats and so on. Furthermore, similar to Amazon Dash, hardware manufacturers can also add Alexa’s “brain” into their own devices.

The utility of the Echo has the potential to dramatically change the way we make purchases. As Alexa and other Alexa-like devices start to enter our homes, shopping for everyday household items will become effortless and increasingly embedded into our daily routines.

Chatbot – Your New Best Friend?

For any kid (and some adults), meeting a favorite TV character would be a dream come true. Second best? Chatting with that character on a messaging app. Now Muppets fans everywhere can chat with Miss Piggy live via Facebook Messenger (but she doesn’t like when you ask her about Kermit). Of course it is not really Miss Piggy, but rather Artificial Intelligence (AI) pretending to be her. Miss Piggy has come alive in the form of a “chatbot,” or automated messaging software that tries to talk to users the way a real person would.

Software that attempts to mimic human interactions has been around since the 1960s when MIT professor Joseph Weizenbaum created a bot called Eliza. Later, desktop messaging clients like AOL Instant Messenger allowed users to ask for weather forecasts. Chatbots went dormant as messaging transitioned away from desktops to mobile devices. But they are seeing resurgence in 2016 because improvements in machine learning and cloud computing are making AI much more credible.

Chat and text are becoming the preferred methods of communication among consumers, especially younger generations, for whom the interaction with chatbots feels natural. Mobile messaging apps are growing so fast that they are overshadowing social networking as a favorite smartphone activity with younger consumers. The youngest tech generation is more active in Instagram, Snapchat, Kik, Vine and Facebook Messenger than it is on “traditional” social networking sites.

49% of smartphone owners between the ages of 18 to 29 use messaging apps such as WhatsApp, Kik or iMessage.14 Older generations use mobile messaging as well, with 37% of smartphone owners age 30-49 and 24% of those ages 50 and older using mobile messaging apps.15

Marketers are increasingly looking to messaging apps and

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14 Pew Research Report published in August 2015
15 2015ibid
chatbots to expand their reach and engage with consumers where they spend their time. Retailers can take a cue from China’s leading messenger app, WeChat. WeChat users already use the app to do everything from booking medical appointments to shopping for clothes. Some of that activity happens through text messaging, while other experiences look more like mobile sites within the WeChat app.

Companies such as Facebook and Google are racing to get ahead in the chatbot game. Facebook is developing an all-purpose digital assistant for its Messenger app called M that can handle everything from booking flights to scoring concert tickets. At the same time, the social network is turning Messenger into a platform for a lot of other services. Messenger users can, for instance, use Messenger to request a ride from Uber without having to open the Uber app. At the annual F8 developer conference, Facebook announced that it is opening up Messenger so that any company can create a chatbot capable of interacting with consumers through the chat program. Facebook is kicking off the project with partners like Spring, 1-800-Flowers, a weather and travel app called Poncho and news partners like CNN. Facebook is also testing advertising on chatbots as a potential source of revenue.\(^\text{16}\)

In an effort to catch up with more popular mobile messaging apps, Google is also building a new mobile-messaging service that taps into artificial intelligence.\(^\text{17}\) With users discovering information via social networks rather than search queries, this new service can potentially help Google recapture some of the search activity that is the cornerstone of the business.

Other platforms are further along in their chatbot experiments. Kik, the messaging app targeted to teens and tweens, allows users to chat with up to 100 different bots. Kik reports that 16 million of their 240 million users have had at least one conversation with a bot. Blynkstyle, a Kik chatbot, helps users pick fashion outfits and is a good example of what bots can do on Kik.\(^\text{18}\) The Blynk bot itself narrows down the kind of fashion a user is into using visual Q&A; it then helps them browse catalogs, and offers other kinds of entertainment – all hosted inside the Kik app. Users can get app- and web-like experiences without leaving Kik.

Sephora is also debuting on Kik in an effort to connect with younger consumers and drive one-to-one experiences on mobile. Users will be able to purchase directly within the

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\(^\text{16}\) http://techcrunch.com/2016/04/12/agents-on-messenger/
\(^\text{17}\) http://www.wsj.com/articles/google-plans-new-smarter-messaging-app-1450816899
Kik app while messaging with a Sephora chatbot about the product, review, recommendations and tips. The experience simulates a conversation with a store associate.19

More than 80 advertisers have already worked with Kik over the past year to launch chatbots on its network users and the company has launched its own bot store.20

Chatbots are well poised to quickly gain momentum with brands because they are fairly easy to build and can be leveraged across a range of platforms. Perhaps the biggest driver is that it is becoming increasingly hard for brands, and especially retailers, to win in a crowded mobile app ecosystem. It is getting more challenging to get users to download branded apps and consumers are not spending as much time on apps as many expected.

As AI technologies mature, brands and retailers will be able to launch marketing bots that integrate seamlessly with messaging apps to offer services. These will include looking up order information, getting more product information and even making orders and paying without leaving the messaging app, thereby reducing friction in the customer’s shopping journey. Chat is already a priority for approximately 1/3 of US retailers and brands who are actively testing or plan to implement some form of chatcommerce within the next 12 months.21

While the technology continues to mature, it is still unclear whether US consumers – who have been slow at adopting other technologies such as social commerce – are ready to embrace bots the way the Chinese have. Nevertheless, companies are betting on bots. Whether or not more people adopt bots all hinges upon their perceived value. Bots need to be able to figure out what the user wants or needs and correctly fulfill that need.

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20 http://digiday.com/brands/how-brands-use-chatbots/
21 FitForCommerce Retail Executive Survey, Jan 2016
The traditional distribution ecosystem where retailers stock inventory in warehouses and ship to stores or send directly to consumers may very well be nearing its final days. Retailers are looking at ways to cut costs, streamline operations and put processes in place that better serve today’s customers through advanced technologies.

In the future, retailers may leverage a combination of AI to predict supply and demand, lean methods to manufacture products, and drop shipping and 3D printing technologies to eliminate the need for traditional warehouses.

**Artificial Intelligence Calls the Shots**

Today, most retailers rely on limited data to predict what products to order and when, when to discount products and when to replenish inventory. The wrong predictions can have a devastating impact on the bottom line. To circumvent the loss of income due to mark-downs, waste and popular items selling out faster than expected, retailers are turning to AI data to help make more precise forecasts. By analyzing big data, artificial intelligence can provide insights into how to align product inventory to match demand and even how to display products to optimize sales.

AI can process big data more efficiently than people are able to and can recognize speech, images, text and patterns of online behavior. AI applications can crawl ecommerce sites to see which products are selling, analyze customer data to learn which colors or materials customers are buying in a specific country, city, or zip code and gather insights from social media to identify trends. These technologies can literally process millions of data elements in mere seconds.
- obviously not something that would be possible to do manually or even using less sophisticated technologies.

Because the data analysis can help retailers and brands identify styles that are likely to become mainstream, it enables them to more efficiently and precisely forecast inventory needs. Retailers typically combine an analysis of competitors’ pricing and product assortment with customer and market data to make more informed strategic decisions ultimately leading to stronger inventory management. As such, AI prevents retailers and brands from making critical business decisions in the dark.

AI is also accelerating the value that inventory optimization can bring to retailers and consumer packaged goods manufacturers struggling to make it in the omnichannel commerce arena. The leading vendors of AI solutions for retail forecasting have already integrated machine learning and algorithms as part of their offerings to help flag inventory problems and quickly propose solutions to optimize operations.

Expect to see more and more vendors integrate AI into their solutions and a growing number of retailers leverage AI across both inventory planning as well as production optimization. This will help retailers and brands optimize their warehousing capacities.

“Home-Made” Takes on a New Meaning

At some point in the distant future, we might be able to simply order a 3D sweater blueprint to “print” the sweater from our home. Manufacturers might be able to significantly reduce inventory and their warehousing footprints by leveraging 3D printing or knitting to “print” products on demand as orders come in. While the technology is certainly moving in that direction, we are not there yet.

3D printing, or “additive manufacturing” as it is also called, is a method of production whereby machines directed by computer-assisted design (CAD) software build three-dimensional objects layer by layer until the entire object is finished. 3D knitting takes a digital design and turns it into a soft good such as a piece of clothing. Basically, you download a pattern from the internet and size it digitally to fit the person it is intended for. The machine then uses yarn to “knit” the item. 3D production methods are used to build a variety of items, from children’s toys and jewelry to parts for toasters and washing machines. They have even been used for manufacturing highly controversial items, such as the functional guns profiled in the New York Times.1

The advantages of 3D printing or knitting are the immediacy of creating an item from scratch and the ability to customize products. For consumers, the possible future of 3D manufacturing could mean being able to create what they want when they want it. For retailers, it could mean the ability to essentially offer vast product assortments with less inventory or replenishment concerns or offer made-to-order customized products.

3D printing technologies are developing rapidly and prices continue to drop but mainstream adoption is still far off. 3D printing has made inroads with certain industries such as orthopedics and prosthetics and some experts believe that within 7 to 10 years, 3D printing will become more than just a cool technology. While some believe it has the potential to truly disrupt manufacturing and retail, others do not believe that the technology will ever reach the sophistication needed

1 http://www.nytimes.com/2014/08/14/fashion/the-rise-of-3-d-printed-guns.html?_r=0
to manufacture at scale. That said, 3D printing and knitting could revolutionize certain aspects of retail such as customization or on-demand manufacturing of high-value, simple products such as jewelry.

If 3D printing and knitting ever become as mainstream as microwaves are today (who would have imagined that you could cook food in mere seconds 50 years ago?) retailers might be looking at a future where they will be selling 3D designs instead of physical products. No need to close shop just yet though. Due to substantial hardware prices and far-from-perfect technology, 3D printing and knitting are still in their infancy.

Until we get to the point of mass adoption, retailers and manufacturers are tinkering with 3D production mostly as a way to differentiate themselves. Argos has launched 3D jewelry, Sam’s Club has added 3D printers to 300 stores and Amazon is seeking a patent for 3D printer trucks. Manufacturers such as Under Armour are experimenting with the technology to prepare themselves for a possible future that includes 3D printing as a critical element of the manufacturing process.

Retailers can also use 3D printing to differentiate in-store experiences by offering the technology as a service. Target, Staples, Auchan and Amazon are examples of retailers that are already testing the waters.

• In the UK, shoppers at Asda stores can get a 12-second 3D body scan that is then used to create printed miniature figurines of themselves. Mostly a marketing gimmick, it does show that the retailer is invested in new innovative technologies.

• In 2015, Mattel announced that it is creating a new immersive experience where kids can design and print their own toys.

• Amazon offers designs from third-party vendors on their site. The products are produced by 3D printing and can be customized by size, color, material or with personal text and images.

• Staples offers in-store 3D printing services for customers who do not have a 3D printer at home.

In addition, online 3D printing companies, such as Shapeways, provide 3D printing services as well as a marketplace where designers can sell the 3D objects they have created – from jewelry to home décor items and various gadgets.

Shipping and delivery companies are also taking notice as the potential of customers printing products could significantly impact the number of items being shipped. UPS already offers 3D printing services from some of its locations. Today, the service centers around prototypes and smaller designs, but it could be extended as the technology matures.

It is highly unlikely that there will come a time when we can 3D print just about anything. We might be able to print materials, but a smartphone for example consists of more than just the hardware casing. It is hard to imagine that there will ever be a time when consumers can print every component of a product. Instead, what we could see are retail outlets that include areas within their stores to set up customization hubs. Within these hubs customers would be able to customize virtually any object they want and have it printed while they are shopping or customize online and have the 3D printed product sent to their homes.

Of course, no one can predict the future with absolute certainty. While 3D printing technology is just starting to make its way beyond basic prototyping, one can only estimate what will happen in the next 5, 10 or 20 years. The only thing we can
say for certain is that 3D printing should not be overlooked. With the pace at which technology is moving, mainstream applications could become reality sooner than expected and manufacturers and retailers alike should keep abreast of advancements in the space in order to be prepared.

Reimagine Inventory Management and Distribution

The ability to fulfill and ship web orders from brick-and-mortar retail locations has become an increasingly popular tactic as retailers rush to cater to today’s omnichannel customer. Promising faster and more affordable shipping to the customer, reduced markdowns and improved inventory management, ship-from-store capabilities have triggered retailers to reevaluate their overall inventory and distribution strategies.

A ship-from-store strategy can help retailers increase inventory turnover and maintain lower inventory levels. In addition, retailers can avoid investing in additional distribution centers by leveraging existing retail stores and turning them into distribution centers.

By combining the allocation of retail space for inventory, smarter predictive tools based on AI and just-in-time or made-to-order manufacturing, some retailers are even exploring the possibility of eliminating their warehouses altogether.
Imagine walking into a store – let’s use a supermarket for this example. As you enter the store, the grocery list that your smart refrigerator and kitchen shelves helped you prepare in advance pops up on your phone and directs you to the nearest item. In addition, as you approach a location with an item on your list, the shelf lights up. If you accidentally pass the item, your phone alerts you. As you browse and interact with different items in the store, a nearby monitor or your phone displays additional information, recipes and tips. If you get inspired, you can add the recipe to your grocery list and continue shopping. As you add or remove items from your cart, the cart dynamically keeps tally of your purchases. When you are done shopping, you simply leave the store and your payment is automatically transacted from your stored payment method as you walk out the door.

This scenario is not that far into the future. In fact, we are already seeing elements of similar shopping experiences emerge in retail stores today. But this is only the tip of the iceberg. As brick-and-mortar retailers continue to embrace digital commerce, they realize that the physical store offers something that is harder to accomplish in ecommerce – the other Es important to shoppers: Emotions and Experiences. Read on as we explore more about each of those.

The Death of Brick-and-Mortar?

Despite lots of talk about the death of the retail store and fears that digital threatens to overtake brick-and-mortar, retailers
worldwide plan to open more stores in 2016. But even though some retailers aim to grow their base of stores, they are still concerned about the cost of real estate, unclear economic prospects, changes in consumer behavior and competition from both new market players and digital retailing. So what gives? We will see continued growth in digital commerce in the coming years and greater dependence on digital devices, but the brick-and-mortar store is not going away. Instead, rather than scaling back the physical presence, smart retailers are doubling down and taking advantage of the new technologies that make it possible to blend the best of both digital and physical worlds.

We may not be looking at the death of the retail store, but the expectations of the connected shoppers and the behaviors of younger generations are driving a transformation of the traditional brick-and-mortar store. Instead of being focused on product and sales, the store of the future will focus on delivering valuable in-store experiences to compete with the convenience of digital commerce. In a world of 24/7 conveniences, instead of fighting for customer share of wallet, the retail store will be fighting for customer “share of time”.

Digital commerce has held an advantage over brick-and-mortar retail in terms of the ability to capture data and insights into customer preferences and to refine tactics based on the insights gleaned. This is quickly changing. New in-store technologies are enabling brick-and-mortar stores to capture data that goes well beyond transactional behavior and 64% of retailers are already upgrading or planning to upgrade their in-store tracking capabilities in the next 12-24 months.

Beacons already enable retailers to track information such as which products customers spend most time around. In the future, more intelligent devices in stores will be able to determine the demographic information of customers as they walk by. This information can be used to optimize merchandising in store. But besides capturing the information, beacons can be used to push relevant information on those products to the consumer’s mobile device. Technologies such as computer vision, video analytics and face detection further enable retailers to count crowds, analyze traffic patterns and track the time that customers spend in stores. Some technologies can even detect what items shoppers put in their shopping carts or bags.

Other platforms leverage emotion-tracking technology to help retailers obtain more accurate and real-time insights into shoppers’ interactions with products, salespeople and the store overall. These platforms leverage technology that can track facial emotions such as joy, surprise, sadness, anger, fear, disgust and contempt. By analyzing a shopper’s emotional reaction to items and people, retailers can optimize merchandise, customer service and the overarching shopping experiences.

In-Store Omniscience

Retailers of the future will know when a loyal or online customer enters their store, will have information on their purchase history and will be able to track their movements within the store to personalize the experience. And vice versa: in-store activity will be saved and leveraged to personalize the digital experience.

1 http://bit.ly/1VM1gFK

2 RIS News & Gartner 26th Annual Retail Technology Study
As brick-and-mortar retailers adopt these new in-store intelligence technologies, they will be able to understand their customers on a deeper, more granular level than ever before. With this new data in hand, they can adjust their merchandising layout, improve pricing strategies, adjust promotional messaging, control inventory and even monitor staffing needs.

**Everyone’s a Precog**

Remember that scene from The Minority Report movie where shoppers are identified with optical sensors and bombarded with personalized advertisements as they walk through the mall? This may strike most people as creepy and invasive, but it is only a matter of time before this extreme in-store personalization becomes the norm.

Personalization has been a major focus in ecommerce for the past few years, with advanced data and personalization technologies enabling retailers to create highly relevant and targeted experiences for the individual shopper. With the ability to capture massive amounts of data online, retailers engaged in ecommerce have had a leg up in crafting personalized experiences. However, as seen in the previous section, new data analytics are making it possible for retailers to start digitally personalizing the in-store experience as well.

Numerous retailers are already leveraging beacon technology to deliver more personalized experiences and enable targeted customer interactions in the store. The current implementations of beacons are still pretty simple and limited by the fact that consumers have to opt in and activate Bluetooth on their devices, not to mention concerns about how to provide usefulness without invading shopper privacy. In the near future, we expect to see more creative uses of beacon technology that combine additional data known about the customer to create highly targeted, timely and personalized communication.

Beyond beacons and empowering sales associates with digital devices to access more information about each shopper, new technologies allow brick-and-mortar retailers to provide shoppers with personal recommendations, up-to-date product information and coupons or discounts, all based on the shopper’s location and personal preferences. Warning: consumers are uncomfortable with many of these more innovative personalization technologies and in-store digital concepts. According to a recent study, consumers are comfortable with features that allow them to control the experience through their mobile devices. However, when it comes to more invasive features such as digital screens that recommend products based on purchase history and facial recognition technologies that can identify age and gender to...
personalize content on digital screens, consumers are more wary.\(^3\)

Some high-end hotels are reportedly using facial recognition to help identify VIPs so they can offer them preferred treatment. Some retailers already use facial recognition to catch shoplifters: faces of individuals caught on camera are converted into a biometric template and cross-referenced with a database for a possible match with past shoplifters or known criminals.\(^4\) It is only a matter of time before they start to use similar technologies to recognize VIP customers as they enter the store.

Despite privacy concerns, consumers show a growing preference for personalized and convenient experiences and continue opting into mobile marketing initiatives. As a result, leveraging facial recognition and other advanced personalization tactics in store might become more acceptable more quickly than we think.

**Identity Crisis?**

From fully digitized urban stores and showrooms to experiential pop-up stores and clicks-to-bricks, the format of the traditional retail store is being turned upside down. With all these new formats, it seems like brick-and-mortar stores are undergoing an identity crisis.

Even big box retailers are introducing new store formats. Target launched Target Express and City Target, which are focused on serving consumers in urban areas and offering merchandise based on the surrounding communities’ needs.

Another noticeable change in the retail landscape is the growing number of ecommerce pure-play retailers such as Bonobos, Birchbox, Warby Parker and even Amazon that are expanding their footprints by opening physical stores. This clicks-to-bricks model presents an opportunity to gain broader exposure and connect with consumers in a way not possible online.

The pop-up store continues to gain traction. The popularity of the pop-up store is understandable: it provides the opportunity for retailers to expand reach, create customer excitement, and test new markets without investing in full-sized stores. Combining technology and unique retail experiences, we expect to see more of these store types popping up in urban areas and at events relevant to the brand and its audience.

Target recently tested a pop-up store named “Wonderland” in New York City, where guests were ushered through a 16,000 sq. ft. space featuring a variety of unique displays, such as giant etch-a-sketch boards and life-size Lego figurines. Along the way, shoppers were able to scan products they liked using an RFID tag on a provided lanyard, and check out without carrying around the items, which were delivered down a “chimney chute”.

Driven by the desires and behaviors exhibited by Millennials in particular, more and more retailers are carefully considering

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3 Creepy or Cool, May 2015, eMarketer/RichRelevance
how they can offer value-added services to elevate the in-store shopping experience. By using their physical stores to deliver unique experiences that delight and excite, retailers have an opportunity to connect with consumers at a deeper level. Beyond leveraging technology to create these experiences, retailers can tap into services that align with their brands and resonate with their target audience.

Lululemon in New York City has effectively turned shopping at its store into an experience. The basement of the store is called the “hub” and includes a lounge area where shoppers can get free coffee and meet and mingle with other shoppers. The store also partners with local business to offer yoga classes and health and wellness workshops. The store even features a concierge to provide restaurant recommendations or help map a running route in the city.

In Honolulu, Bloomingdale’s has brought its tech-savvy, updated smaller-store format to the world’s largest open-air shopping mall. In addition to offering a variety of interactive features such as smart fitting rooms and touch-screen signage, the store features fitting rooms with communal tables where guests can mingle and reboot using built-in charging stations. The store also features a Visitors Center that serves as a retreat and informational hub with an array of services, including a multi-lingual staff, multi-lingual store directories, complimentary coat and bag check, concierge services, hotel package delivery and style advisor appointments. In addition, a limited-access VIP lounge offers further services such as light food and beverage, a Bluetooth printer and iPads, a charging station, a private restroom, and more.

STORY in New York City is an example of an experiential retail concept store built on a new retail business model. Set in a 2,000 square foot store, STORY is a retail concept based on the format of a magazine. Every four to eight weeks, STORY completely reinvents itself – from the design of the store to the curated merchandise it carries – with the goal of bringing to light a new theme, trend or issue. STORY also hosts events such as book releases, discussion panels and more.

While some stores are being reconfigured to factor in capabilities that address omnichannel expectations such as ship-from-store, others are adding endless-aisle capabilities. Through digital displays, retailers can feature products only available online or extended options for products not carried in the store. These digital displays might even completely replace in-store inventory, making the store more of a showroom where consumers go to see, feel and try products, and order product to be shipped directly to their homes. This model allows retailers to optimize floor space and free sales associates to serve shoppers instead of unpack deliveries and restock shelves.

British furniture online retailer, Made.com, recently launched a four-week connected pop-up store in Brighton, UK. The temporary store featured a localized product assortment based on the browsing and transaction behavior tracked on the retailer’s ecommerce site. The goal was to drive awareness and to synchronize online and in-store preferences. Shoppers could browse the showroom and access additional product information by tapping tablets against near-field communication (NFC) smart tags. They could also use the
tablets to browse the brand’s extended online catalog. An interactive tap wall featured customer favorites based on analytics from the pop-up store, the ecommerce site and data from other showrooms, with the images changing dynamically based on real-time data.

Shoppers at Bonobos retail stores can browse through racks of clothes, try on for style and size, then decide which items to purchase. But unlike traditional stores, shoppers at Bonobos do not leave with any clothes to take home. Instead the products are shipped directly to them.

Retailers need to shift their thinking from maximizing every inch of the floor space for products to maximizing the in-store experience to form an emotional bond with customers. As the convergence of digital and physical gets stronger, expect to see more creative store formats emerge combining technology and with low-tech unique experiences that cater to specific segments of shoppers.

Taking Displays to a New Level

Digital is already starting to take center stage in today’s retail store. It is quite common to see digital monitors, iPad stations and sales associates equipped with digital devices; however, most of these digital experiences lack an interactive component. Among retailers surveyed by FitForCommerce, 21% feature digital in-store signage and 19% plan to within the next 12 months. In other words, 40% of retailers are experimenting with digital signage in their stores, so there is a way to go.

The true digital in-store experiences of the future are those that combine interactivity with dynamic content targeted to the individual shopper along with capabilities that enable retailers to improve operational efficiencies. According to recent research, only 3% of retailers leverage smart-shelf sensors such as the ones being tested by supermarket chain Kroger.

Kroger is experimenting with smart-shelf technology at a Cincinnati-area store. Today the shelves are programmed to display video images of outsize price tags that can be changed via a computer. Future applications of the smart shelf could include providing nutritional information when shoppers touch the shelf below an item. Kroger even imagines a future where the shelves can “talk” to shoppers’ smartphones. Early results from the smart shelves show that the digital tags are freeing up time for store associates to pay more attention to customers. With a typical Kroger store carrying tens of thousands of food items, it takes more than two weeks to completely update price tags manually. Kroger has also tested video and no-motion ads that have boosted sales. During a test in the diaper aisle, the store sold more wet wipes when the shelves flashed “don’t forget baby wipes” reminders.5

Kroger’s smart shelf is an excellent example of how retailers can better engage shoppers while optimizing in-store operations. The technology enables the retailer to provide real-time promotions and pricing updates in an instant that might otherwise take months of planning to complete.

Retailers have been experimenting with interactive displays for some years now. In 2013, Japanese-based TeamLab introduced its “hanger” product. Whenever a hanger is

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5 http://www.usatoday.com/story/money/nation-now/2015/10/04/kroger-tests-smart-shelf-technology/73320236/
and investigate the product in their hands, they can access information, video, social media and images through the display. Not only do these interactive displays offer greater interactivity in the store, they offer the opportunity to gain customer insights similar to what can be captured from ecommerce sites. Recording every interaction that occurs, the displays can provide data on which products are most popular and which content stimulates the most interactivity. Retailers can combine this information with sales data to better understand the influence of in-store digital on the shopping behavior.8

Other retailers leverage digital devices such as iPads so shoppers can engage with merchandise both physically and digitally while in the store. Shoppers can save what they have browsed in the store and revisit at a later time on their own digital devices. Retailers can also use this data to engage with shoppers after a store visit.

At the Timberland store in New York City, shoppers can use tablets to access product information, styling options and recommendations. Before leaving the store, they can opt in to receive personalized emails based on their store visit. An interactive tap wall features exclusive merchandise and customers can shop from an extended range of styles, colors and sizing not available in the store. The technology allows shoppers to shop and socialize while learning more about the Timberland brand. Furthermore, the technology

6 http://www.instamedia.com/technology/teamlabhanger-displays-celebrities-trying-clothes-for-you-on-a-big-screen/

7 http://raconteur.net/technology/connected-retail-has-arrived

8 http://www.perchinteractive.com/
helps the brand better understand customers’ preferences in store, online and post visit. The technology provides valuable insights and enriches the shopping experience by allowing shoppers to interact with products in exciting and innovative ways.9

Mirror Mirror and Other Magic

Trying on clothes can be a pain. You drag items to a fitting room, get undressed, try items on. Then if an item does not fit, you get dressed again, and head out to find another size, only to repeat the same process again. The fitting room experience has been the same for years. Finally retailers are testing the waters with new fitting room technologies that totally transform the experience.

Imagine being able to try on items without having to deal with the hassle of a fitting room. Leveraging 3D scanning technologies, some retailers are experimenting with virtual fitting rooms that allow shoppers to see what specific items might look like on them without physically trying on the items. 3D scanning can record a customer’s dimensions and shape and, using the 3D profile, let her virtually try on garments. In the future, customers will be able to save their 3D profile and virtually try on clothing at home before buying online, eliminating guesswork regarding whether an item will fit or look good.

Future fitting rooms at brick-and-mortar stores will become more interactive. We are already seeing forward-thinking retailers such as Rebecca Minkoff, Burberry and Ralph Lauren combining the best of both offline and online worlds, letting shoppers access more product details in the fitting room, read reviews, see matching items and request different sizes or colors. Some interactive fitting rooms are coupled with a digital personal assistant that can pull customer data and provide personalized recommendations. Shoppers can even initiate the checkout process right from the fitting room.

Macy’s is piloting new smart fitting rooms at its Manhattan Beach store to attract Millennials who want to try on items before buying. As shoppers browse swimsuits and yoga pants on mannequins, they can use an app on their own smartphone or a store-provided tablet to select the size they want. That size will be delivered to their fitting room using a chute, and once they are in the fitting room, they can continue to request additional items and sizes.10 Rather than displaying a whole rack of clothes, this technology frees up valuable store space by only featuring one of each item. In addition to a streamlined experience, this model also reduces the need for shelf and floor space and opens up new ways to display and present products in the store.

At Ralph Lauren’s flagship store in Manhattan, fitting room mirrors have been replaced with smart mirrors that use RFID technology to identify the items that the shopper brings into the fitting room. The mirrors then render the items onto the mirror with more product information, available sizes and colors as well as complementary products. The mirrors also feature a “call an associate” button that connects to a salesperson’s tablet on the floor to call them to the fitting room. Furthermore, to cater to an international customer base, the mirror features language options.11

Early results show that the smart mirrors at the Ralph Lauren store drive a 90% engagement rate. Interestingly, store associates are also using the fitting rooms to get more information about items sold in the store, including whether a particular item is in stock at the store or available online. Making the mirrors a daily part of their work routine, they use the technology to find other sizes and restock the floor.

Rebecca Minkoff – one of the first brands to introduce interactive fitting rooms in its store – has reportedly tripled expected in-store clothing sales due to the technology.12 In

addition to creating extremely engaging in-store shopper experiences, these smart fitting rooms also help retailers collect valuable data in store, such as conversion rate per item, time spent in fitting room, and conversion rate per fitting room visit. Retailers can leverage this data to better market their products and communicate with customers, while also informing their merchandising and even design strategies.

Other virtual mirrors like the ones tested by Neiman Marcus allow shoppers to, for instance, try on a dress and see what the same dress looks like in other colors and patterns without changing. Shoppers can then save images of themselves in the item and save for later or share with friends.

Projection technologies also allow shoppers to see what an item looks like in different colors, patterns and materials; a technology that can be especially beneficial for larger furniture items available in infinite combination, impossible to showcase all on the floor.

While the above technologies are proving highly effective, it can be a significant undertaking and investment to overhaul fitting rooms at all store locations. This is why only 6% are actively using these technologies and only 3% plan to add it to their immediate roadmaps. Yet, as the technology matures and becomes more affordable, expect to see these technologies expand significantly beyond the early adopter retailers in the coming years.

The Robots Are Coming

We’ve probably all fantasized about what it would be like to have our own personal robot like Rosie or R2D2. Sadly, they were fictional but Pepper the Robot – the world’s first humanoid robot - is as real as they get. So far, Pepper is built to get smarter over time and interact with humans on an emotional level. Leveraging facial recognition, Pepper can interpret a smile, a frown, tone of voice and other clues to determine a patron’s state of mind.

Pepper is already gaining popularity in Japan where Softbank Mobile uses the robot to greet, inform and amuse customers in over 140 brick-and-mortar locations. Soon Pepper will be greeting patrons in over 1000 Nescafe outlets. In partnership

14 FitForCommerce Retail Executive Survey, Jan 2016
with IBM, a Watson-powered version of Pepper will be able to tap into data such as social media, video, images and text.\(^{15}\)

While Pepper is unique, robots are already being used to clean floors, stack shelves, retrieve items in warehouses, package goods and operate forklifts, but Pepper is pushing the boundaries of what an artificially intelligent robot can do.

Amazon and other retailers use robots in their warehouses to help package and ship orders, but along with Pepper, a new generation of robots are moving from the back office into the actual retail store.

Best Buy is testing a customer service robot named Chloe at a New York City location.\(^{16}\) Chloe the robot works within a larger system that features nine touch screens inside the store. The robot has an arm that retrieves items and drops them off to the customers who place orders at the touch screens.

Orchard Supply Hardware, owned by Lowe’s, uses a robot called OSHbot at a San Jose store to help customers find items. OSHbot lets customers type on its touch-screen menu to find a particular item and then follow the robot to the shelf where the item is located. As a bonus, OSHbot also sports an LCD screen on its back for advertising. According to Lowe’s OSHbot is a huge success, loved by customers and employees alike.\(^{17}\)

There are many different type of robots, many different use cases, and varying views on what impact AI and robots will have in the future. Some futurologists predict that in five years 90% of call centers will be replaced by AI and some even predict that robots will reach human levels of intelligence by 2029. While we may not see Pepper at every local store we enter, robots in some form or shape are sure to continue making their way into the retail environment.

\(^{15}\) http://www.itproportal.com/2016/03/20/ai-on-high-street-clever-shopping-with-artificial-intelligence/


Consumers are getting more spoiled by the minute. We are getting accustomed to being catered to and technology has driven our expectations of what is possible. Need a car? Call Uber. Need help with your chores? Download Hello Alfred. Hungry? There’s always Seamless. What's this song? Shazam it.

So what does this mean for retail? Retailers need to be more aware of customer expectations than ever before and find ways to cater to their needs to stand out from the competition. It’s all about me and my needs. The future of retail is all about the concept of me: curated products just for me, a personalized experience based on an understanding of what I am looking for, my values and how I prefer to shop. Retailers must take a customer-centric approach to everything they do.

What is new and innovative today will become tomorrow’s table stakes. Retailers will no longer be able to differentiate just by excelling at omnichannel capabilities. Whether making it easier to buy through mobile payments, meeting her needs for instant gratification or immersing her in one-of-a-kind experiences, new and disruptive technologies that help make it all about her should always be on the roadmap.

**Buy with a Smile**

Making is easier for shoppers to buy and removing any friction in the shopping journey is imperative. Mobile payment options like Apple Pay and MasterPass have already made it easier for shoppers to buy. More and more customers are expected to adopt these types of payments over the next five years. Even more innovative payment and fulfillment options
are expected to make shopping increasingly seamless for the consumer. By 2020, more transactions will take place via mobile devices, whether it is our smartphones, wearable technology leveraging NFC technology or facial recognition and biometrics. Plus, we will also see the emergence of even more streamlined payment experiences.1

In 2015, Starbucks launched an app to allow customers to skip the line by ordering in advance from their phone. Loyal Starbucks customers have overwhelmingly embraced the Mobile Order & Pay feature. According to the company, the usage of its mobile order-ahead feature doubled year-over-year during the most recent quarter. Starbucks now processes 8 million mobile order-ahead transactions per month, a 33% spike from the most recent quarter. The feature has become an essential differentiator at the company’s busiest locations because it saves time for the customer; it also frees up time for the baristas to focus on customer service.2

Services such as Uber and the Starbucks Mobile Order & Pay program that remove the payment process from the transaction should serve as a cue to retailers. The key is to anticipate and respond to customer demands for a more convenient experience. We expect more retailers to enable similar experiences in the near future. For instance, it is not difficult to imagine a future where a shopper can bypass the checkout process – by simply walking out of a retail store while she is automatically charged for her cart filled with products.

For now, some retailers are moving in that direction, taking “buy-online pick-up in-store” to the next level by introducing curbside pickup. CVS just announced a new service, CVS Express, that will allow customers to order items using a mobile app and get their order delivered to their vehicle when they drive up to the store.3

Amazon, Alibaba and MasterCard are driving more transformational developments in the payments arena, dipping their toes in pay-by-selfie capabilities. Amazon recently filed a patent application for a process that would allow shoppers to make a purchase by taking a photo or video of themselves rather than keying in their account password. The application aims to make it safer and easier for shoppers to buy something online by relying on images of themselves instead of a password. For authentication purposes, the application would be able to prompt the user to perform certain actions, motions or gestures to prove that the shopper is who she says rather than an imposter holding up a photo of the shopper.4

Alibaba is already testing pay-by-selfie functionality on its mobile platform, AliPay. Leveraging the mobile phone’s camera and facial recognition software, the “Smile to Pay” app validates mobile payments by matching a photo taken by the user at point of purchase to a stored profile photo.

MasterCard has also announced that it is launching a new mobile technology that will allow customers to authenticate their online purchases using selfies or fingerprints. MasterCard expects that consumers will use the technology – which will be rolled out in the U.S., Canada and the UK in 2016 – regularly within five years. MasterCard is also working on other ways to authenticate purchases including monitoring a customer’s heartbeat, scanning irises and using voice recognition.5

Today there still needs to be some kind of identifier and authorization to process payments. However, in the not-so-distant future, we will start to see shopping processes that bypass the checkout process altogether through biometrics or facial recognition.

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3 http://www.usatoday.com/story/money/2016/04/19/cvs-health-curbside/83195602/
4 http://recode.net/2016/03/14/amazon-wants-the-patent-for-pay-by-selfie/
5 http://money.cnn.com/2016/02/22/technology/mastercard-selfie-pay-fingerprint-payments/

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Satisfying the Instant Gratification Generation

One of the benefits of shopping in brick-and-mortar stores is the sense of instant gratification we get from walking out of the store with our purchase. When ecommerce first emerged, the convenience of shopping from your home competed with having to wait a week for the order to arrive. Now that ecommerce has become such an integral part of our everyday lives, waiting for an order to arrive can be incredibly frustrating. This is especially true for a generation of on-demand shoppers who are used to getting everything they want, when they want it. In order to accommodate the instant gratification shopper, retailers are increasingly offering “buy online pickup in-store.” In fact, “click and collect” and next-day delivery options are becoming a standard. However, pick up in-store takes away from the convenience of shopping online and next-day delivery is still next day.

So how do retailers respond to these demanding shoppers? Amazon offer same-day delivery in major cities and expedited same-day delivery is starting to become more prevalent with smaller retailers enabled by third-party delivery options such as Uber-Rush.

The future of delivery belongs to the drones – at least if you ask Amazon or Google. Picture drones flying above cities, landing on rooftops to drop off packages, then flying home to charge their batteries. It sounds like a wildly futuristic project, but both Amazon and Google confidently claim to have the technology to implement drone delivery today. Prime Air is a future delivery system from Amazon designed to safely get packages to customers in under 30 minutes, using small, unmanned aerial vehicles, also known as drones. Flying lower than 400 feet and weighing less than 55 pounds, Prime Air vehicles will take advantage of sophisticated “sense and avoid” technology, as well as a high degree of automation, to safely operate beyond the line of sight to distances of ten miles or more.

So what is holding them back? Regulation. In the U.S., commercial drone use is illegal without permission from the FAA. In 2012 Congress asked the FAA to devise rules that would legalize and regulate commercial drone use but as of 2016, the FAA had not come up with guidelines. The FAA now expects to announce rules regarding the legal, commercial operation of drones by June 2016. However, many companies feel the delay has already stifled innovation and worry that future FAA rules could pose even further roadblocks.6

Amazon and Google are often met with skepticism when talking about drone delivery as the next iteration of consumer retail technology. But drones are already being used in some parts of the world for deliveries of medical supplies and specimens. Leveraging drones for medical purposes may sway regulators to embrace the technology sooner rather than later. And that means it won’t be long before drone delivery becomes an everyday reality.

While we wait for drones to deliver our packages, robots might be taking responsibility for delivery on the ground. A small robotics startup in Estonia, created by founding engineers from Skype, is aiming to send robots onto sidewalks with medium-size packages. The idea is that the fleet of robots, named Starship, will gather packages at a central loading hub. Using an app, customers will schedule a delivery when it is convenient for them. The package will be delivered within 20 minutes and then the robot returns to the hub. If someone tries to mess with the robot in transit, a human operator at a central control location can scare the thief away via speaker and call the police.7

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7 http://wapo.st/1q2hqWH
Products Just For Her

Consumers crave feeling special and Millennial shoppers in particular prize their individuality. Who can deny how cool it is to own a custom-made, one-of-a-kind product – something that only you have? And if you designed that product yourself, all the better. Mainstream retailers like Nike, Ray-Ban and Levi’s as well as smaller specialty startups are embracing the customization era as they cater to a growing customer base willing to put a premium on unique products made just for them.

The most well-known example of customization is likely Nike’s ID product that allows shoppers to customize the design of their sneakers. With an area in an Ray-Ban stores, shoppers can create their own sunglasses. A station at the Levi’s store in Macy’s Herald Square allows shoppers to personalize jeans by lasering on text or emblems. And the Converse store in SoHo, New York City features a customization station where shoppers can create one-of-a-kind merchandise.

The in-store design studios at Nordstrom, located in the shoe department, include a section called Shoes of Prey. The statement “shoe wall” exhibits the variety of styles available to the customer, ranging from flats to stiletto heels. Shoppers use iPads to customize shoes, selecting from different styles, colors, materials, and heels. Special “shoe stylists” are also available to guide customers through the design process. Every pair of shoes is made to order and customers may pick up their shoes at Nordstrom or have them directly shipped to their home.8

For a high-end retailer like Nordstrom, whose customers have extremely high expectations of personalized service, this type of custom design capability could prove a crucial competitive differentiator.

Inspired by the success of personalized products in the apparel and footwear industries, a crop of new custom beauty startups is entering the market. MatchCo is a new company that sells $49 custom foundation developed by an in-house team of scientists using patented technology. Users of the service must download MatchCo’s iPhone app to scan and submit their skin tone. With this data, MatchCo creates a custom formula, which ships within 48 hours.

MatchCo is not the only company attempting to succeed in the customized beauty sector. Launched in October

2015, Melange operates on a similar proposition, offering a foundation that is custom blended after a customer uses the company’s iPhone app to scan and submit information about their skin. Melange, however, takes the process one step further, sending customers five free samples to try and ensure a perfect match.

Mixologie sells a kit of eight rollerball fragrances, which customers can layer to create custom scents, complete with suggested recipe cards. ProfilePro is a customized shampoo and conditioning system that offers unique formulas for different hair types.

Offering customized products is a very attractive proposition. It allows retailers to meet customer demands and at the same time provides the opportunity to capture valuable insights about customer preferences to predict trends that can inform future product designs. But it is challenging to sustain this business model. The value-add must be strong enough for customers to pay a premium as well as wait longer for the customized and personalized products to be produced. New technologies such as 3D printing, as covered earlier, along with leaner production methods will likely make these customized features more sustainable in the future.

Personalized, Intelligent Assistance

Have you met Watson? The North Face was the first company to test IBM’s Watson technology in a shopping setting.

Initially designed as a desktop assistant, The North Face is soon launching an app version. The Watson-powered shopping assistant engages shoppers in a question-and-answer conversation to help figure out exactly what they need. If a shopper is looking for a spring jacket, the assistant can use that information to save her from the typical shopping experience of scrolling through pages of jackets with different styles and specifications.9

Artificial intelligence is rapidly becoming an integral part of retail today. Earlier, we explored how AI is influencing retail in the form of chatbots, robots and data analytics. Combining the analysis of big data with natural language interfaces, computer vision and machine learning to produce intelligent decisions, AI could also potentially change the shopping experience by enabling uniquely personalized interactions. Recommendations, merchandising, dynamic pricing, product placements and marketing decisions will in the future be informed by intelligent assistants.

It is in digital commerce, where every action is stored, trackable and learnable in real time, where AI will truly shine. The algorithms are fed every action, including product impression, image click, recommendation click, purchase, like, save, share, cart abandonment, email open, and email

9 http://venturebeat.com/2016/03/04/the-north-face-to-launch-insanely-smart-watson-powered-shopping-app-next-month/
link click, with the goal of making the shopper’s experience smarter and more personal.

Currently, most retailers personalize the shopping experience based on assumed personalities. With Watson, they can directly match personalities. The results are 40 percent more accurate and can increase up-sell and cross-sell by up to 20 percent, making targeting much more efficient (according to IBM).10

Artificial intelligence is also starting to take center stage in some mobile apps. iPhone apps Mona and Mezi, for example, are both marketed as personal shopping assistants, designed to help users buy more, faster. Developed by former Amazon employees, Mona is designed to provide a concierge-like experience for consumers looking for recommendations on what to buy. Mona is programmed to appeal to 18-to-35-year-old women who like to shop online, enjoy finding discounts on high-end fashion and appreciate getting feedback from friends. The app sifts through the users’ email receipts and interactions with the app to make educated guesses, based on probability equations, on what the user will want to purchase. Currently more computer program than persona, the team behind Mona plans to make “her” more conversational.

Jump In - Immersive Experiences

One of the largest barriers for more growth in digital commerce is being unable to feel and try on physical items before buying them. Enthusiasts of image recognition, and virtual and augmented reality (AR) believe that technology is getting closer to overcoming that barrier, promising a new era of digital marketing and shopping. With the first stage of consumer-ready virtual reality (VR) and augmented reality technologies coming to market in 2016, a new, immersive medium is shaping how shoppers interact with retailers and brands.

10 http://www.bussinessoffashion.com/articles/fashion-tech/data-is-the-new-oil-and-more-from-sxsw

But is the technology mature enough and are customers ready to embrace this new era of immersive experiences? Tech giants Facebook and Google seem to believe so, making huge investments in the area. Ecommerce giant Alibaba is the latest to throw its hat in the ring with investments in startups and the launch of its own VR lab.

While visual search along with virtual and augmented reality present interesting applications for marketing and retail, it is important to note the distinction between the technologies. Visual search based on image recognition links images to digital content, usually using a mobile device. Virtual reality is fully immersive while augmented reality overlays virtual objects and other digital information on top of the real world.

Although Google stopped selling Goggle Glasses to the public in January 2015, instead focusing on AR iterations for the B2B market, consumers can still use visual search via Google Goggles. And rumor has it that it might soon be possible to search any item you can see with your camera on an Android device without opening the Google Goggles app. Perhaps more relevant to the retail industry is that the new technology seems to deeplink; in other words, link directly to the information the user might need to learn more about the object and even buy it.11

11 http://www.slashgear.com/google-is-building-a-better-android-camera-that-can-search-what-it-sees-25433521/

Augmented Reality

Augmented reality overlays digital imagery or information onto the real world usually through a mobile device or hardware such as Microsoft HoloLens or Google Glass.

Virtual Reality

VR completely immerses a user inside a virtual world or experience, typically through the use of a head-mounted display that is often connected to headphones, controllers and other peripherals that let users navigate through that experience.
There has been no shortage of applications that claim to bridge offline and online worlds through the mobile device. First the QR code and then image recognition were supposed to revolutionize the industry. While the two technologies fought to become the industry darling, neither really took off. Until now. Image recognition, or visual search, is finally taking center stage with dozens of retailers, including JCPenney, Best Buy and Neiman Marcus, who are incorporating image recognition into their mobile apps. The technology has become much more versatile, allowing users to snap a photo of virtually anything in the physical world and identify a product within the photo.

**Augmented Reality**

Companies have been experimenting with augmented reality for some time now, but consumer adoption has been lackluster. Clunky implementations, technical limitations and gimmicky applications have hindered AR from really catching on. Some useful retail applications of AR over the years include the Ikea catalog tablet app launched in 2013 that let users place furniture in their home before buying. But more gimmicky AR applications with an entertainment rather than utility spin have dominated the space.

So, is AR poised to finally make a difference? The technology today is strong enough to support the shopping journey in a much more meaningful way. It is estimated that worldwide AR revenues will reach $90 billion by 2020. Other estimates suggest that by 2020 more than 60% of the immersive market is going to be made up of AR experiences.

The real value of augmented reality is enriching the real world and enabling offline to online engagement. But a lot hinges on the usefulness and application of the technology. According to most consumer studies, the ability to “try” products such as clothing, jewelry and makeup provides the most valuable applications of AR. Consumers also find the ability to understand how to use products through AR as valuable, as well as visualizing how a certain product will look in their homes.

In the auto industry, for example, owners’ manuals are transforming into mobile apps that use AR to help buyers quickly and easily learn about the features of their new car. Hyundai Motor America is planning to launch an AR app that will display AR icons once the owner points the camera at the car dashboard. These icons will teach drivers how to use the different features through short educational videos.

Microsoft is working with brands to figure out how its AR-enabled HoloLens headset can help solve problems across the path to purchase. Today HoloLens is only available in development kit form. But Microsoft has already collaborated with auto manufacturer Volvo to create a prototype AR showroom where users can select different model, color, interior and style combinations, as well as view demos of specific car features.

L’Oreal’s Makeup Genius app allows users to virtually try on makeup. A user scans her face so the app can identify the placement of her facial features, such as eyes, lips and nose, while also evaluating her skin tone. The user can then select a product to try. The app basically works like a dynamic mirror, allowing the consumer to see the makeup on her face as she tries on products. L’Oreal recently added a buy component to the app in selected countries, enabling users to purchase products they like directly from the app.

Sephora has also entered the AR space, allowing shoppers to search for and try on different shades of makeup from a variety of brands via The Sephora Virtual Artist tool in the retailer’s mobile app. Similar to the L’Oreal app, users can virtually “try on” different lipstick shades using the front-facing camera and easily purchase the shades they like via an “add to basket” button. Sephora strongly believes that this

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14 [International Data Corporation (IDC)](http://www.idc.com)
feature is more than a gimmick as it can help customers make purchase decisions.

It is conceivable that, in the future, the real world will be augmented with information overlays that users can explore or dismiss. Walk to any location and you will see virtual arrows in the pavement in front of you, you’ll be able to pull up maps that will float in front of you. And if you see something you like, you can simply click on it to get more information and even buy it. This future is still a few years away - technical limitations are still holding these experiences back. In VR, nearly anything is possible because you have complete control of the virtual world. In AR, on the other hand, you have to be able to mirror the complexity of the real world with what digital overlays are on that world. Any disconnect can ruin the experience.

Virtual Reality

Bridging entertainment and shopping, virtual reality could potentially become the missing link that finally enables retailers and brands to inject emotion into the digital shopping experience. Leveraging VR, retailers and brands can create immersive experiences that place the shopper in a virtual world not otherwise possible. Instead of shopping via their screens, shoppers can enter a branded store in VR to engage in a fully immersive shopping experience where they can interact with products, open pockets, look inside bags and so on. This has the potential to reinvent retail by allowing the user to experience products in a way that is not possible through a basic computer or mobile display. VR can make it possible to customize the experience to the needs and preferences of each customer and provides an opportunity to strengthen relationships through deeper customer engagement while reaching new shoppers anywhere in the world.

Taking its interest in VR a step further, Alibaba announced its own VR research lab: GnomeMagic Lab. The company has also experimented with 360-degree panoramic videos and is in the process of acquiring the Chinese video site Youku Tudou for a whopping $3.5 billion.16 GnomeMagic Lab will work with the company’s shopping businesses to integrate VR into the shopping experience and at the same time explore other applications such as video with Youku Tudou and entertainment via Alibaba Pictures. According to Alibaba, the idea is that consumers will be able to use a VR headset to recreate the sensation of shopping in a brick-and-mortar store from the comfort of their own homes. In the longer term, VR could enable customers to shop virtually on New York’s Fifth Avenue without leaving home. On a more practical level, Alibaba wants to help merchants use VR to sell on its sites. In fact, it has already created VR visuals for hundreds of products, giving consumers a better idea of what the real-life versions of goods look like.

Mobile and in-store VR experiences will become huge drivers for consumer adoption as most consumers are hesitant to

16 http://techcrunch.com/2015/10/16/alibaba-to-buy-youku-tudou-in-deal-valuing-chinas-youtube-at-4-2b/
invest in yet another device just to try the technology. Giving consumers a taste of VR experiences through their mobile devices, cheaper headsets (a virtual reality viewer) such as Google Cardboard, or by letting them try experiences in store may be enough to lower the barriers to adoption. High-production VR experiences that require expensive equipment will likely first emerge in the physical retail environment through in-store customer-guided experiences.

One of the areas in retail showing huge potential for VR is furniture. It is difficult to “try out” furniture in a room and a quite a hassle to return it if does not “fit”. This is why a number of furniture and home improvement retailers are experimenting with VR.

Recently, a shopper toured the SoHo showroom of The Apartment by Line, a luxury boutique specializing in home décor, clothing and jewelry. She browsed The Line’s curated collection and purchased a neoclassical black opaline glass lamp after learning it was a one-of-a-kind French antique. Sounds like a typical shopping experience, only this shopper wasn’t actually in SoHo. She was halfway around the world, interacting with a virtual display that used 360-degree video technology and a Samsung Gear VR headset to tour the showroom and learn more about the items she liked.\textsuperscript{17}

Furniture retailer Ikea also just entered the virtual reality realm with a pilot app for the HTC Vive that enables users to explore and customize a virtual ikea kitchen. The Ikea VR Experience app enables users to change the cabinet and drawer colors for three different kitchen layouts, and explore the virtual environments from the height of either an adult or child.

The Ikea VR Experience is relatively limited in terms of functionality but, as an initial foray into virtual reality, it is an excellent example of how brands can begin to explore potential applications for their business.\textsuperscript{18}

Beyond recreating shopping environments, retailers and brands can benefit from VR by focusing on the shopping experience and storytelling. They can put the customer in a room with the designer or show-and-tell the story of how the product was made. Just as brands are using content to tell a brand story and engage with shoppers, they can use VR to take the consumer through a more immersive experience.

To date, most VR experiences are based on 360-degree videos that let consumers view rather than interact with VR content. Major digital video hubs have added 360-degree video streaming support, including YouTube and Facebook, which both added the capability in 2015. AT&T, Nestlé and Samsung all released 360-degree video ads in conjunction with Facebook’s launch of its support for the format in November last year.

The North Face launched a 360-degree video campaign in 2015, which involved a trip to Nepal and the summiting of Mount Everest, all done in partnership with Outside Magazine. 75,000 subscribers of Outside Magazine received a branded Cardboard viewer poly-bagged into their delivery.

\textsuperscript{17} http://adage.com/article/digitalnext/virtual-reality-frontier-retail/300061/
\textsuperscript{18} http://mobilemarketingmagazine.com/ikea-brings-vr-kitchen-remodelling/
Subscribers were encouraged to download the app, check out the experience and then learn more about the story at the publication’s website.

The November 2015 launch of The New York Times’ VR app included the distribution of 1.3 million Google Cardboard devices to its print subscribers. The New York Times VR app brings virtual reality to the everyday consumer through the use of their smartphone or Google Cardboard. Consumers can select from content provided by The New York Times or from content created by brand partners such as Tag Heuer, Hilton Hotels & Resorts, General Electric and BMW.

Tag Heuer is the latest luxury brand to test the waters with VR. The watchmaker is using The New York Times’ VR mobile app’s storytelling capabilities to share the heritage of its Carrera timepiece. The content puts viewers in the “driver’s seat” as they learn the history behind the watchmaker’s Carrera watches. Through virtual reality, the viewer can move the screen around to see the watch movements in a way traditional video does not allow, thus creating a more in-depth experience with the brand.

Time will tell if 2016 is going to be the year AR and VR take off. We are seeing more immersive experiences in the market and early signs show that retailers are cautiously but seriously looking at the potential of VR and AR. Seven percent are currently testing applications and 10% plan to implement within the next 12 months.¹⁹

**Let Her Play - Then Pay**

Whether playing Candy Crush or Grand Theft Auto, most of us know the feeling of being addicted to reaching that next level - we keep coming back for more. That is true engagement. It is what retailers strive for. And more of them are using gamification to that end.

Gamification is the process of applying game dynamics and mechanics to other activities, such as shopping, with the goal of motivating and engaging consumers.

While the concept of gamification has been around for some time, only recently have retailers started to embrace this engagement tactic. Traditionally, retailers have been cautious about gamification, fearing that it could distract from and interfere with the path to purchase. However, faced with increased competition and fleeting customer attention, retailers are looking for innovative ways to engage customers and differentiate themselves. As such, a growing number of retailers are starting to add gamification components to their engagement strategies – particularly around loyalty programs. In fact, 20% of retailers plan to implement gamification in 2016.²⁰

The key to a good gamification strategy is providing an element of surprise that delights customers and encourages them to come back for more. This can be accomplished by allowing different outcomes, which then feed into the

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¹⁹ FitForCommerce Retailer Executive Survey, Jan 2016
²⁰ FitForCommerce Retailer Executive Survey, Jan 2016
Gamification is primarily used by retailers to deepen customer engagement, foster loyalty or drive in-store traffic. But we are starting to see new and interesting variations of gamification that insert shopping elements directly into the gaming aspect through third-party partnerships. Spring, the mobile commerce marketplace that sells fashion and beauty products, is taking a different approach to gaming. In an effort to expand reach and engagement, the company has partnered with the popular gaming app, Kim Kardashian: Hollywood.

Through a virtual boutique inside the popular mobile game, the company hopes to get its name and items in front of the game’s tens of millions of users. Players of Kim Kardashian: Hollywood can dress their avatars in items from 12 brands sold on Spring after which they will be redirected to the Spring app to buy the same items for themselves. Kendall and Kylie Kardashian are also testing a similar partnership with PacSun in their own mobile game.22

In the future we can expect to see more retailers embrace gamification to engage customers, but more significantly we will see a convergence of disruptive technologies such as VR/AR and gamification techniques to create truly unique experiences.

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Customer expectations are at an all-time high - and their appetite for innovation is outpacing retailer adoption. As we rush to meet the demands of the today’s customers, it is important not to forget about what comes next.

Keep up with customer demands and you’re rewarded with greater loyalty. But keeping up with the latest and greatest takes time and resources - both of which are scarce for most retail organizations. When asked about the things holding them back from innovating, budget, other priorities and lack of proven ROI tops the list with most retailers.23

It is not easy to keep up with the status quo and at the same time stay ahead of the curve. Some retailers are getting in front of this by developing in-house innovation labs dedicated to testing new technologies and predicting the future. The rest try to keep up as best possible or partner with a resource that can help them separate the wheat from the chaff.

Even though it seems overwhelming, it is more harmful to do nothing. So do some research, monitor what other retailers are doing and pick a few technologies to test that do not require huge investments or disruptions to your current operations. Some will work out, others will not, but at least you are making an effort to keep up instead of always catching up.

No one can precisely predict the future, but it is clear that retail is once again reinventing itself. And as we have explored over the next 5-10 years, retail, as we know it will continue to be redefined. One thing is for sure - it never gets boring.

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23 FitForCommerce Retailer Executive Survey, Jan 2016

Top 3 Things Holding Retailers Back From Innovating:

1) Budget  2) Other Priorities  3) Lack of Proven ROI
FitForCommerce is a leading boutique consultancy that helps hundreds of online and multichannel brands and retailers make informed digital, ecommerce and omnichannel retail investment decisions. Leveraging years of experience, state-of-the-art tools, strategic diligence and tactical planning, FitForCommerce helps brands and retailers define strategies for growth, improve the customer experience, plan and hire the right organization, and find "best fit" technology solutions. www.fitforcommerce.com

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