LTIMindtree

Tech-celeration in customer experience Retail industry in the post-pandemic era

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Executive summary

Innovation often thrives in times of crisis—whether it be the adoption of new technologies like cloud computing during the crisis of 2008 or fostering groundbreaking new inventions during WWII—humankind has evolved stronger with each crisis. According to a recent McKinsey survey with executives of 200 organizations, over 90% expect that COVID-19 will fundamentally change the way they do business over the next five years, with almost an equal number anticipating that the crisis will have a permanent impact on customers' needs.[1.1]

Traditionally, the retail industry is ranked somewhere around the median of the Digital Maturity Index. However, the industry is now witnessing a rapid and disruptive period of digitization. The pandemic redirected the movement toward digitizing business, individual, and government pieces of machinery, which take months instead of years. The introduction and acceptance of new technology—as well as using existing technology in new ways—has been breathtaking in its scale, scope, and speed. The Economist calls it "Tech-celeration."

Existing technologies have mainly driven disruption: artificial intelligence, IoT sensors, machine-learning powered analytics, blockchain, robotics, etc. But now, these disruptors have converged to lead to what can only be called a hyperbolic inflection on the growth curve of digitization and hyper-personalization.

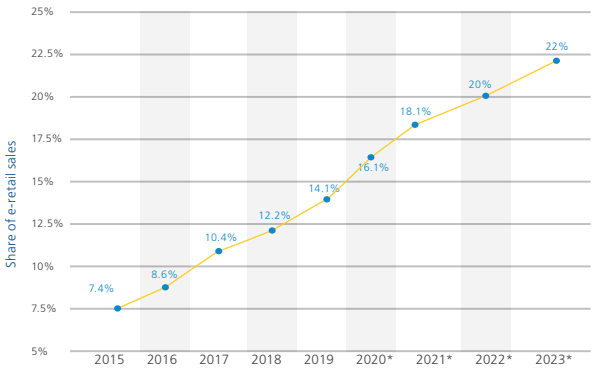
The impact of these emerging technologies is not uniform—especially in those areas of the retail value chain that directly contribute to customer experience. Areas like contactless checkout, ecommerce, customer service, and supply chain stand to reap maximum benefits from investments compared to areas that are not directly customer-facing. Online presence supported by a robust backend is no longer optional for retailers. The pandemic has redefined customer expectations, a booster for technology adoption rates. But while momentum is on the side of retail organizations, they face a plethora of challenges, including disconnected legacy systems, restrictive legislation, and economic constraints.

Organizations that want to remain relevant need to understand and empathize with their customers, map their customer journeys, and clearly define the experiences they are looking to deliver. They need to be agile, invest in the right mix of digital technologies, intelligently harness the huge volume of data available to them with the right techniques and align their organizations from front to back.

Trends in customer experience— retail industry

Global retail sales are projected to amount to approximately $26.7 trillion by 2022, up from approximately 23.6 trillion USD in 2018.[2.1] In 2020, retail e-commerce sales worldwide amounted to **$4.28 trillion** and were projected to grow to $5.4 trillion US dollars in 2022.[2.2] The e-commerce share of total global retail sales has been growing steadfastly since 2015 and is projected to continue to do so through 2023. The pandemic saw online sales peak at 50% of total retail transactions. The retail customer experience was already undergoing a great transformational journey in the last ten years. Technology disruptions enhanced the experience of the modern connected customer who wanted to be engaged in every step of the shopping journey.

Share of online sales in global retail



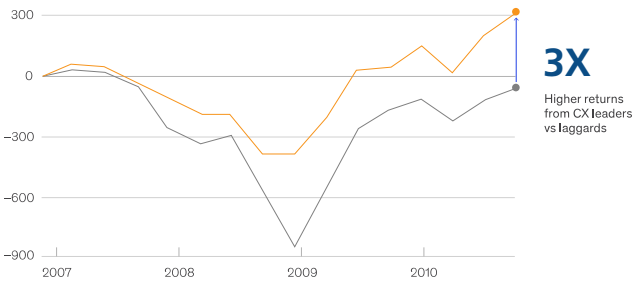
Source: Retail ecommerce projection published by Statista.

The challenges generated by COVID-19 continue to rattle the industry, and the way forward is unclear. Amid this crisis, retail players are questioning whether now is the time to focus on customer experience — and the answer is a resounding yes.

Data from the economic crisis of 2008 shows that retailers who focused on customer experience rebounded much faster than the laggards. **A study by KPMG showed that the retail leaders on customer experience in the U.K. grew by 14.1% versus the traditional growth of 5.1% for FTSE 100.** [2.3]

Customer experience (CX) leaders are more resilient during recessionary periods, experiencing shallower troughs and quicker recovery.

Financial performance (total shareholder returns) of CX leaders vs laggards[1]



Source: Forrester Customer Experience Performance Index

Similarly, COVID-19 fostered innovation with the emergence of new ideas and the application of existing ideas in unexpected ways. Some of these innovations have been based on a new, primary expectation in customer experience: the focus on safety. Designing experiences with safety in mind will be paramount in the next normal of customer engagement. The retail industry has seen a massive acceleration in technology adoption in the past year, including e-commerce-friendly retail, contactless points of sale, curbside pickup, virtual fitting rooms, voice commerce, robotics and data analytics, and machine learning for demand forecasting.

For instance, consider curbside pickup: Many stores had already adopted **BOPIS (Buy Online, Pickup In-Store)** prior to the pandemic, and curbside pickup takes this to the next level. Retailers ranging from grocery stores to hypermarkets to specialty stores have started offering curbside pickup, which is appreciated by the customers owing to the safety and convenience. Revenue for businesses with creative pickup options (e.g., curbside or drive-thru) grew at a rate 60% greater than for businesses that did not provide such options during the last five shopping days before Christmas.[2.4]

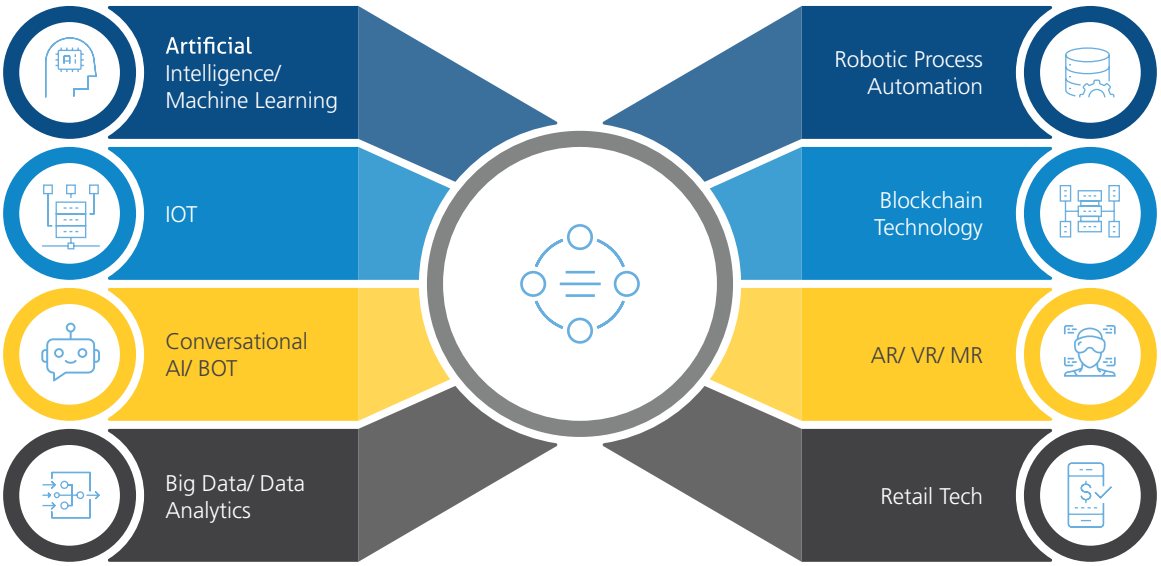
209% Curbside orders increased during the pandemic.

59% Customers more likely to continue curbside pickup **after pandemic.**[2.5]

This adoption of emerging technologies was already underway, and the pandemic crisis was just an unwelcome booster for rapid digitization. Tech-celeration is pushing companies further and faster into the future. Some of these upsurges in innovation are here to bring lasting changes that will endure even after the pandemic.

Top disruptors in the retail industry – use cases from pioneers

The world of retail is undergoing a massive transition due to disruptions from digital drivers, including artificial intelligence and machine learning (AI/ML), IoT, conversational bots, big data, robotic process automation, blockchain technology, augmented, virtual and mixed reality (AR/VR/MR), and retail tech (see chart, below). Many of these disruptors have been around for some time, but the pandemic accelerated their adoption rate.



Organization	Use Case Scenario	Description	Key Disruptor(s)
Amazon	Safety - Contactless Checkout.	'Just Walk Out' technology enables shoppers to walk into a store with a credit card, grab what they want, and leave. The technology detects the products taken and keeps track of them (picked up / returned) in a virtual cart for the shoppers. When they are done shopping, they can walk out, and their credit card will be charged automatically with the items in the cart.[3.1]	AI, IoT
Alibaba	Convenience – Virtual Shopping Mall.	Buy+ is the technology that enables customers to browse 3D images of products and make real-time payments in a virtual mall as if they were shopping in a brick-and-mortar setup. The entire experience just requires a simple VR headset and smartphone using which consumers can shop and have purchases delivered later at home.	VR
Kendra Scott	Safety and Convenience – Virtual Try-On.	AR enables customers to try on jewelry remotely and also allows them to preview the product's sizes and lighting, providing a more accurate shopping at home experience.	AR, ML, Analytics
Walmart	Safety – Curbside pickup.	Shop for the products via the Walmart website or app and check out. The system will check the inventory, route the order based on availability, and provide a recommended pickup time depending on the demand. Based on the chosen pickup time, Walmart employees will pack your items, bring them to your car and load them at your appointed time.	Big Data, Analytics

Rebecca Mimkoff	Interactive fitting room – personalized messaging & product recommendations.	Clothing designer Rebecca Minkoff has created "connected stores" that use AI technology to run touchscreen smart mirrors, which enable shoppers to browse clothing items and then try them on in an interactive fitting room with custom lighting options. The mirrors in the fitting room use RFID technology to know what customers are trying on and guide them on other available colors and sizes.	AI/ML, IoT
Antwork & Zipline	Contactless delivery with drones.	Antwork, part of the Japanese group Terra Drone, was among the first companies to use drones in response to COVID 19. In Feb 2020 itself, they started transporting medical samples and quarantine materials. Even countries with strict airspace laws like the US have issued lenient licenses for companies like Zipline to deliver healthcare products. Zipline has partnered with Walmart to begin trial deliveries of consumer products. In the retail sector, drone delivery is pursued by companies like FedEx, Amazon, and Uber Eats to increase operational efficiency.	IoT
Houzz	Personalization – Home remodeling and design.	Houzz, an online community for architecture and interior design, introduced a "view in my room" option using a new 3D augmented reality feature. This would give shoppers a more realistic view of the chosen accessory in a room and a sense of how well it would fit in the space before before purchasing.	AR
Lowe's	Autonomous retail service robot.	Lowe's created the LoweBot to help customers navigate around the store and get the items they need. The robots roam the store asking customers simple questions to find out what they're looking for. They then provide directions to products and also share specialty knowledge with customers.[3.3]	Data, Analytics, RPA, AI/ML

Amazon	Upselling and Cross-selling through Hyper-personalized marketing.	The shopping app's interface automatically recognizes the customer's search and a "frequently bought together" section will appear on the page. By harnessing data, Amazon is able to anticipate what the customer is looking for and create a personalized homepage. Amazon has one of the best recommendation engines in the market, as a result 55% of its sales are driven by its recommendations. Its algorithms take into account not just a consumer's behavior but also the purchasing behavior of other similar profiled consumers.	Data, Analytics, AI/ML
Carrefour	Targeted Promotions and Offers: Hyper-personalization.	The French grocer delivers customers in-store routes and personalized promotions via their smartphone or a tablet attached to their shopping cart. As customers move around the store, the beacons installed collect data about their behavior and purchasing patterns, which it uses to continuously improve store layout for effective operations. With over 600 beacons installed across 28 supermarkets, Carrefour has seen a 4x increase in its app engagement rate and a 6x increase in users.[3.2]	IoT, Beacon
Nestlé	Product provenance and consumer trust.	In Australia, Nestlé launched a new coffee brand, "Chain of Origin," where consumers can see the coffee's supply chain using blockchain technology. All they have to do is to scan a QR code to find out where the beans were planted, where they were roasted, etc. This provenance information powered by blockchain ensures the consumers know that they are spending their money on an authentic product.[3.4]	Blockchain
Starbucks	Smart loyalty programs.	Starbucks uses geo-targeting to prompt its customers to enter a nearby Starbucks store. The coffee giant's app will have an easy to find information on how many "stars" (same as points) a consumer currently have, as well as let him/her place orders and make payments from the phone app. Additionally, the point from other retail partners of Starbucks can also be used to purchase any of its products like coffee beans, tea K Cups, and ready to enjoy drinks.[3.5]	Blockchain

United Payments Interface	Contactless near-real time digital payments.	A single platform to merge various banking services under one umbrella. Real-time bank-to-bank transfers can be made using a mobile number or unique UPI ID, i.e., a virtual payment address. A number of apps supporting UPI payments have been launched – Google Pay, Amazon Pay, PhonePe, BHIM, etc. – which are integrated with customer smartphones and enable faster payment.	Retail Tech
Sephora	Personalization and safety.	Sephora, tailored a unique experience to engage teens by integrating a personal digital assistant with apps like Kik and FB Messenger. Its chatbot was designed to provide consumers with on-demand access to tutorials, product descriptions, and seasonal promotions. The standout feature was that it allowed users to try beauty products by uploading a clear picture of themselves and all of this from the safety and convenience of being at home.	Conversational AI
Best Buy's Chloe Robot	Intelligent shelf management.	Consumer electronics retailer Best Buy collaborated with PaR Systems to introduce Chloe—an automated system that retrieves products from the shelves.	RPA
Domino's	Robotic unit (DRU) delivery robot.	Domino's is investing in its R&D to introduce a driverless vehicle in Australia to deliver its pizzas. The idea is to use GPS data gathered over the years based on the movement of its human drivers and combine that with an automated vehicle to make delivery rounds. The company will also require regulatory approvals before putting an autonomous vehicle on the streets.	RPA
Tally by Simbe Robotics	Smart inventory management.	Discount store chain Target aims to keep track of product inventory on its shelves and are testing a robot called Tally, built by Simbe Robotics to do so.	RPA
Safeway	Driverless cart service.	Safeway - a supermarket chain, aims to deliver groceries to local residents by leveraging a new driverless cart service. Similarly, Serve Robotics, formerly called Postmates X, is developing a delivery robot for Uber.	RPA

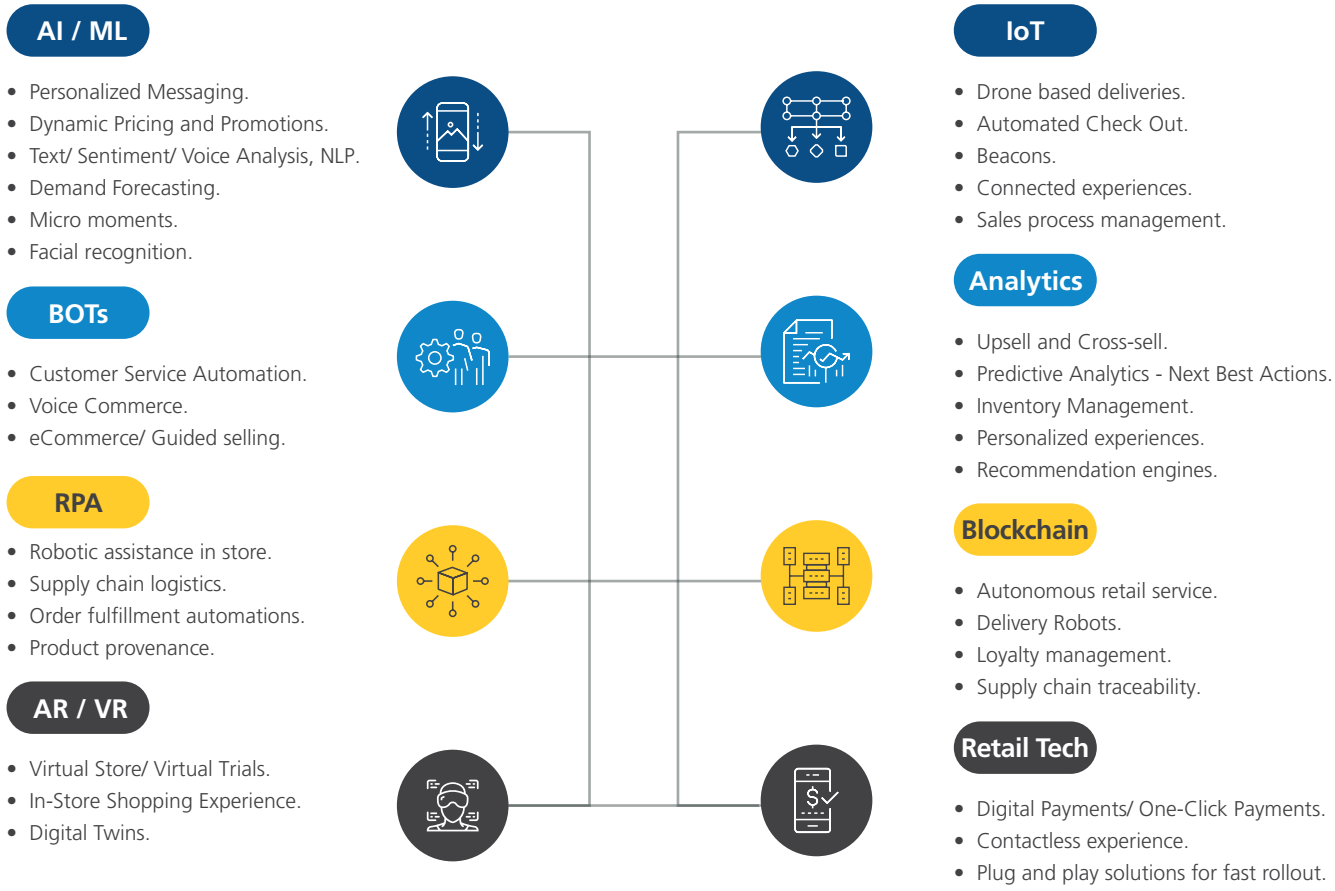
Key opportunities on the retail CX value chain

The retail industry was already going through major changes in terms of shopping, online experiences, and even customer expectations owing to the transformations in the digital space. The COVID-19 pandemic brought with it unparalleled technological innovations which has disrupted and turned the industry upside down. So, it's imperative to consider where these innovations are going to take us next by identifying the technological trends of the last two years that will continue to pave the way in years to come.

Mindtree has researched and analyzed the impact of each of the top emerging technologies on the retail CX value chain and have classified the same in the form of a heat map. The representation below can be used to identify the key focus areas for your customer experience strategy.

Heat map of emerging technology impact

Application scenarios across the value chain



This is one of the most disruptive periods of innovation in history and as these technologies move into the mainstream, there are bound to be more applications for the retail value chain.

Traditionally, sellers had been the influencers in the purchasing journey, but today's customers are looking for more engagement. The retail landscape is becoming increasingly complex with more power moving into the hands of the buyer. The retailers who can use customer-facing technology in the most innovative and effective way is surely going to reap long term benefits.

Accelerators to disruption in the post COVID era

1. COVID led investments into multiple digital initiatives: The pandemic had overturned the retail industry, with lockdowns forcing closure of physical stores and causing uncertainty for the future of in-store experience. Digitally enabled and omnichannel retailers had pivoted more easily as major customer traffic moved to digital channels. For example online sales, which was growing at a 14% compound annual growth rate (CAGR) over the pre-pandemic four years, jumped by 25% in just a two-week period in March 2020 itself — led by grocery sales.[5.1] The massive migration to new channels had a profound impact on consumer shopping habits forcing the retailers to not only expand their digital presence but also provide an enriching experience at every touchpoint of the modified customer journey.

2. Connected customer with options: With easy, ubiquitous internet access, today's consumers have become more digital-savvy and their shopping journey starts way before they enter a store. With the increase in connectivity, the volume of data captured is growing rapidly. Retailers have an opportunity to combine exponential technologies with the existing data sets for a much deeper understanding of their customers to deliver the enhanced shopping experience desired. Many businesses today are already using advanced tech to increase sales and optimize the retail experience, as well as to overcome human error. According to a Salesforce research, 79% of shoppers today expect personalized offers basis their purchase history.

Additionally, with the availability of faster internet and 5G services being rolled-out and adopted, things look all the more promising for these disruptors as they are complex and computing heavy.

3. Safety as a new experience expectation: The pandemic had shambled traditional store operations, with physical distancing, contactless delivery and payments altering the formula of customer experience. As a result, today's disruptors are finding maximum application in store technology solutions.
For example:

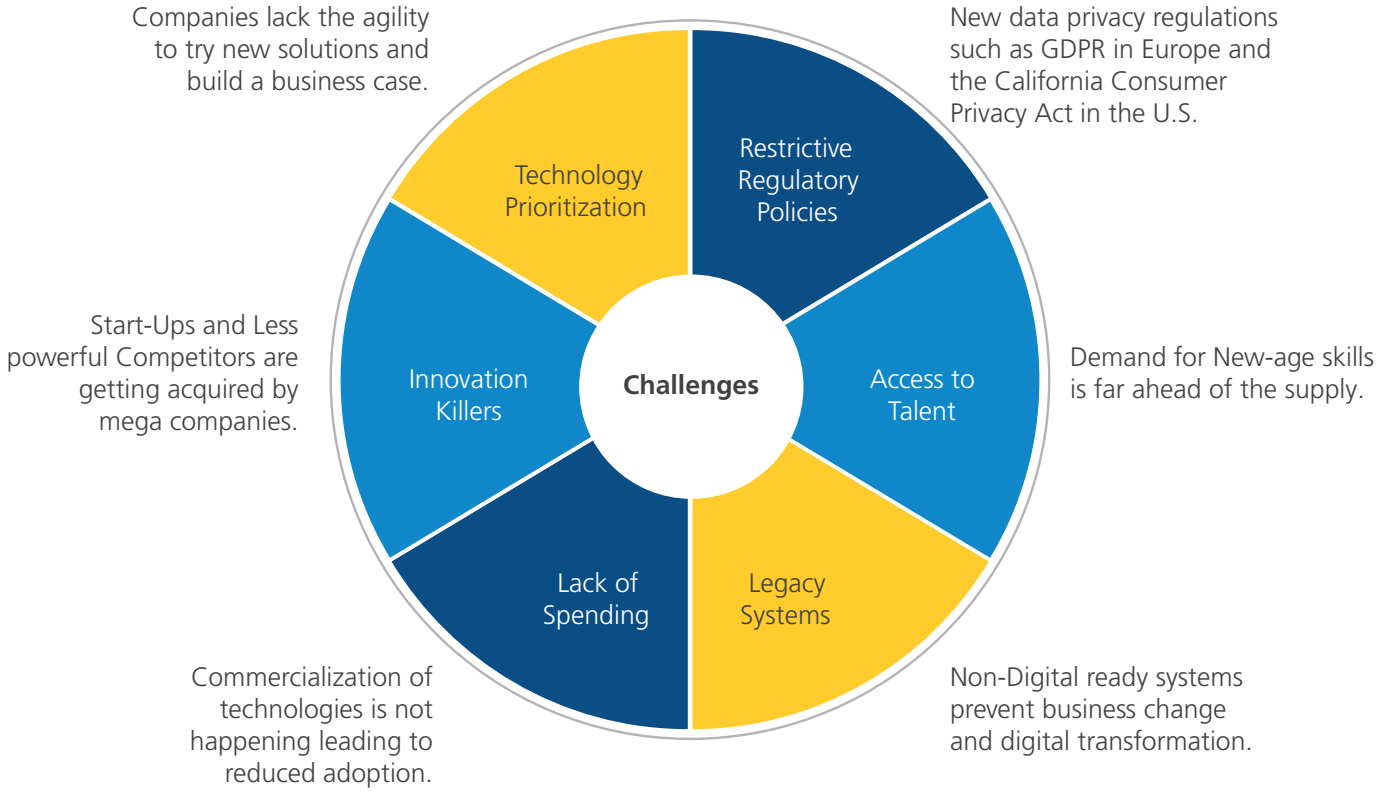
- Some stores leverage state-of-the-art technology solutions that combine AI/ML to not only perform temperature checks for both employees and customers walking in but also alert the staff once at-risk people are identified.

- There's a growing focus among retailers to enable frictionless checkout, where customers can scan their own purchases and pay through an app or through dedicated checkout lane using a contactless payment option.

- Drones too have become important tools in fighting the pandemic, helping create robust supply chains with socially distanced delivery services. IoT has enabled integrating drones into the supply chains and according to UNICEF eighteen countries had used drones for deliveries and transportation during the pandemic.[5.2]

4. Capabilities that accelerate digital transformation journeys: Agile and DevOps methodologies have received a larger momentum in this period with organizations looking for greater flexibility and higher productivity. These methodologies help automate most of the software development lifecycle processes to deploy new features on a nearly continuous basis. This allows organizations to adapt to the new realities of the market by quickly experimenting, validating and scaling leading-edge solutions.

Challenges/barriers to those disruptors' adoption



1. Restrictive regulatory policies to use consumer data: Consumer data resides at the heart of providing hyper-personalization. So, it becomes imperative that data privacy and security are key considerations. With new data privacy regulations, companies must walk a fine line: Consumers crave personalization but perceive an over-indulgence of such as creepy, thereby losing digital trust. This has led brands to exercise caution. According to a KPMG survey,[6.1] 24% of tech industry leaders believe restrictive regulatory policies pose a hindrance to technology innovation as regulators, businesses and consumers demand more transparency around its working.

2. Access to expertise and talent for complex technologies: As we enter Industry 4.0, the biggest challenge is developing a workforce that is skilled in technologies such as AI, ML, blockchain and IoT. Even countries with the most advanced study programs are not able to create adequate number of industry ready employees to fulfil the demand of new age jobs. Cloud services are projected to become a $600 billion business by 2023 up from $257 billion in 2020.[6.2] In the past three years, jobs in cloud technologies have grown by 108%. Even for a comparatively mature technology like cloud, the workforce demand-supply gap is huge and is getting addressed by initiatives like early skill development and pedagogy overhaul.

3. Legacy systems: According to an Infosys survey,[6.3] 33% of respondents from industry leaders have persistent concerns over legacy systems and have regarded it as the third biggest barrier to digital transformation. Legacy systems don't integrate well with new advanced technologies and end up hindering agile business changes. Reduced security is another major cause of concern with legacy systems as they are no longer supported by most security tools.

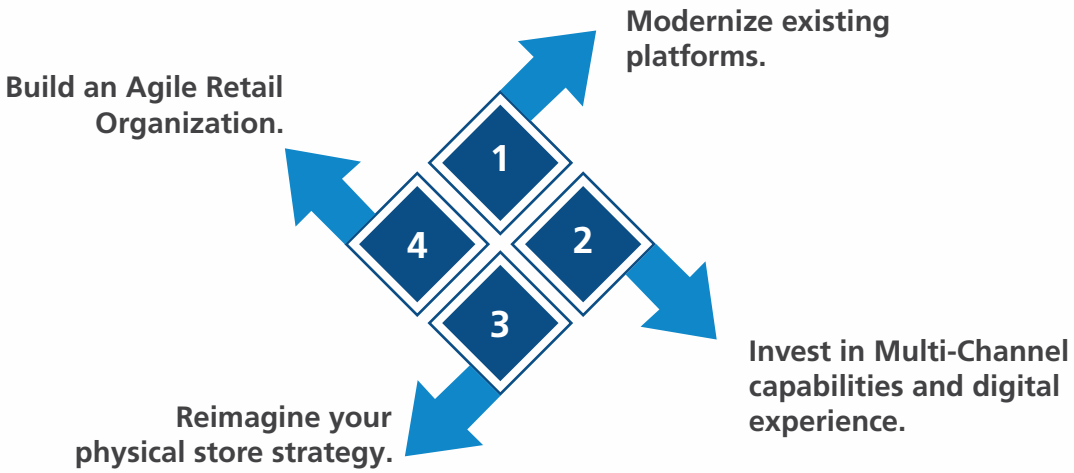
4. Lack of spending/funding: The real benefits of technology disruptors can be reaped only when the commercialization of technologies happen which can happen in multiple ways - educating students, publicizing the results of research that can have a mass impact and ensuring that products and services are developed that can do good to the common people as volumes will attract investments. One of the biggest barriers to commercializing technology innovation is funding and capital access – especially in these trying times.

5. Mergers and acquisitions are acting as innovation killers: The last few years have been very busy for mergers and acquisitions. Smaller companies and startups are often engines for innovation – but these companies are finding it increasingly difficult to stay afloat during economic downturns. This will tilt the balance of power heavily towards larger companies. The power and influence of the tech titans will force out competition by acquiring startups and less powerful contenders, ultimately stifling the innovation around the new technologies.

6. Lack of technology prioritization: The frenetic ongoing pace of change has created an over-arching need for companies to be agile and quickly develop solutions. However, natural resistance to change and bandwidth limitations are preventing companies from focusing on the disruptors that would benefit their businesses the most.

Road ahead

Retail, like most industries, had been moving linearly: The business models and practices of the past are becoming increasingly irrelevant. Innovations in technology and the COVID-19 crisis have led to radical change in consumer behaviour and expectation. Retailers must act now to remain relevant, significantly rethinking their strategies and business models for the next normal. Organizations who can reimagine their omnichannel customer experience will rebound much faster. We propose four areas of focus that will guide retailers as a North Star.



1. Modernize existing platforms: The first step for any organization beginning its digital transformation (DX) journey is to make a significant investment in IT resources to modernize existing platforms. In fact, IDC believes that 65% of organizations will invest heavily into new technology platform modernization by 2023[7.1] to address existing pain points. Substantial investments in existing IT infrastructure are holding back many organizations from digital transformation and hindering business success. Outdated IT infrastructure is often referred to as "technical debt," as it entails the associated costs (in both time and money) for support and maintenance.

2. Invest in multi-channel capabilities and digital experience: The impact of Covid-19 on shopping habits has increased the necessity for retailers to rapidly increase their online presence, which will require them to reallocate funds to digital channels to account for shifts in consumer behaviour. These include paying attention to paid search (E.g., Google AdWords) and enhancing the shopping ability on social channels (E.g., featured products and clickable content on Facebook and Instagram).

Companies have also been forced to explore new ways of customer engagement in response to the pandemic, for ex – creating and maintaining online communities will certainly gather momentum. Customer expectations are rising for digital channels that come good on stability, site speed, and user experience. To meet the need, retailers should focus on designing optimized applications that are suitable for digital shopping to ensure a truly frictionless digital experience. frictionless.

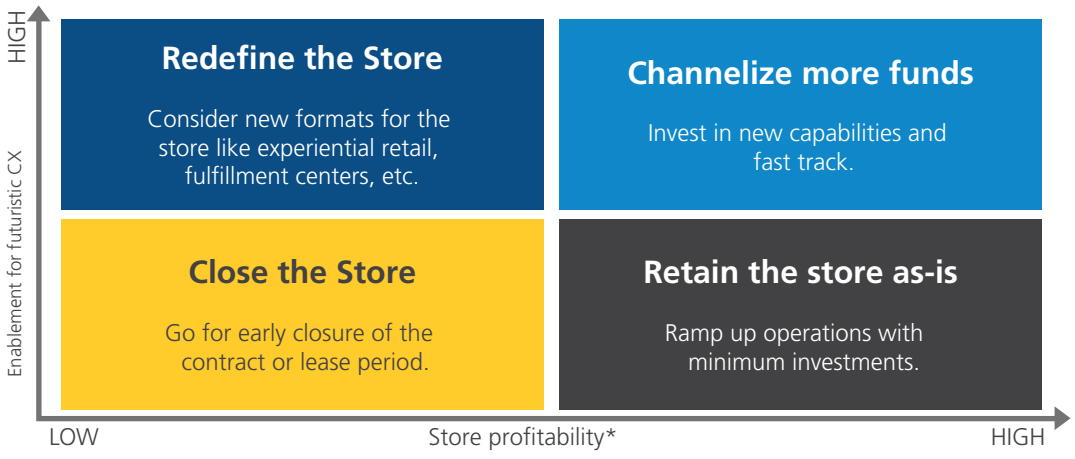
The customer buying journey ends with final product or service delivery. The pandemic has put a lot of importance on the last leg of customer buying journey that require safe delivery modes - curbside pickup and delivery aggregator services. Companies can also explore partnerships to enhance customer convenience and thereby boost sales. This multi-channel strategy would allow retailers to gain new capabilities and extend reach to customers in new places.

3. **Reimagine your physical store strategy:** Over the past few years, consumers have shifted their purchases to digital channels, which has led to continuous decline in physical store footfall. The rise of e-commerce transactions have prompted retailers to re-evaluate their network of brick-and-mortar stores and how physical locations can play a part in the overall customer satisfaction.

Retailers need to evolve on how they evaluate their stores and optimize their footprint/network. For example, various data sources can be used to deep dive into micro traffic patterns and then take a comprehensive, data-driven approach to store closures. Additionally, the role of the stores can be redefined from the traditional view that they are primarily for in-store customer engagement. For example, some can be of high strategic importance for the retailer's network while others can operate as gray or dark stores, i.e., fulfilment nodes to enable faster delivery.

Retailers also have to define their stores of the future to meet multiple objectives - educating consumers on product features, reinforcing brand positioning, and supporting online sales. New technology solutions can be used to change store formats to feature new models that support customer journeys, e.g. Tech-enabled stores such as Amazon Go. Sales associates at these stores play a critical role of product advocates for customers and enhance their overall store experience.

An indicative matrix that can help retailers optimize their footprint

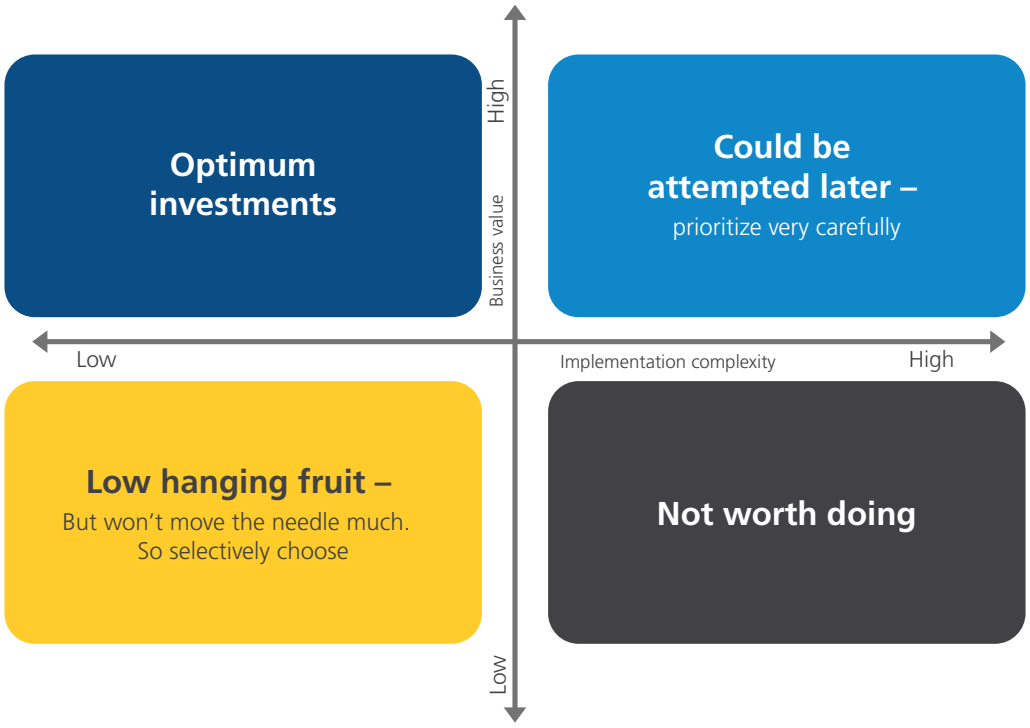


* Include store's contribution to cross-channel sales

4. Build an agile retail organization: The pandemic induced measures such as social distancing and complete shutdowns led to a supply shock as it reduced the economy's capacity to produce goods and services. The digital age is a boon for retailers as it brings opportunities to enhance operational efficiency and optimize business models to be able to reap long term benefits. The availability of advanced tools is pushing retailers' limits and can help shift towards:

- Digital supply networks (DSN).
- Digitally enabled logistics services and automated warehouse monitoring.
- Enhanced collaboration for Procurement & Vendor Management.
- Data-driven algorithms for store's assortment planning and predictive models. for real-time forecasting.

5. How to prioritize: Some of the aforementioned trends are here to stay and some are temporary adjustments in response to the pandemic. Similarly, every digital experience and futuristic design may not suite your unique needs. Every organization needs to identify the right priorities to invest in order to maximize the value that can be extracted out of scarce resources. The most simplistic evaluation of potential digital initiatives can be done using the matrix (below).



The fourth industrial revolution is well underway as the disruptors are creating a massive upheaval in the retail industry and the ramifications of inaction are more severe than ever. Success lies in proper planning, commitment, and coordination among the leaders and professionals. Retailers do not have the luxury of time – they must re-envision the future now by assessing their current state, defining where they intend to go and place a method for understanding, discovering and deploying new innovation.

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Author profiles

Anoop Thomas

CoE Lead, Salesforce Functional consulting.

Anoop Thomas has more than 17 years of industry experience specializing in Customer Experience Consulting and Global Delivery Management for complex SaaS/PaaS transformations primarily for Salesforce.com solutions. With prime focus on the arena of Customer Relations Management, Sales Force automation, CPQ, Contact Centre Transformation, Marketing processes, and eCommerce; Anoop has been delivering transformational experience for customers across the globe.

Rohit Maloo

Senior Functional Architect, Salesforce

Rohit Maloo is a seasoned management professional with over a decade of experience in IT Industry helping clients realize their Digital Transformation goals by delivering cloud-based CRM solutions leveraging the Salesforce platform. He holds an MBA degree from the Indian Institute of Management, Indore.

Subhadeep Dutta

Senior Solution Architect, Salesforce.

Subhadeep Dutta is a seasoned Salesforce consultant with over a decade of experience in IT Industry. He has worked with some of the Fortune 100 companies in their digital transformation. He comes up with a strong consulting, development background cutting across domains and geographies. He holds an MBA degree from the Indian Institute of Management, Kozhikode.