ESG WHITE PAPER

Transforming the Business Operating Model in Retail with IBM Cloud Paks

Enhancing the Digital Customer Experience Through Innovation, Agility, Efficiency, Empowerment, and Sustainability

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Introduction

Retailers are continuing their progress down the digital transformation path. In fact, when compared to all other industries, the retail sector is furthest along in the digital transformation maturity, with more than 1 in 3 retail organizations (34%) classifying themselves as being mature.[1] But whether already mature or just getting started in their pursuit of digital transformation, objectives are constantly changing in a world that rewards retailers who can be agile in how they respond to evolving customer requirements. For the retail industry, there are several aspects of the business and its underlying

operating model that must be considered amid digital transformation, including the customer-facing front-end, the supply chain back-end, and the overarching forward-looking strategy of a customer-centric retailer.

While customer acquisition and ongoing customer engagement remain pivotal in retail, barriers continue to prevent digital transformation success, all of which have been exacerbated by the pandemic. Challenges such as growing competitive pressure, evolving consumer preferences, the need to modernize infrastructure, attracting and retaining talent, and a greater reliance on data are forcing retailers to evaluate new operating models and approaches to enable the delivery of next-generation experiences desired and valued by both employees and customers. And while the pandemic exacerbated some of these existing challenges, while also creating significant delays throughout supply chains, customers' expectations and awareness of their local and global environment heightened. Environmental sustainability matters more than ever and is now a significant factor in the brands that consumers embrace, the products they buy, where they shop, and for some, where they choose to work.

Retail Barriers to Digital Transformation Success

At the root of many challenges is the remnants of a pandemic that was detrimental to traditional brick-and-mortar establishments. Retailers were all but forced to embrace digitization by establishing and/or expanding their e-commerce presence. For those retailers with minimal e-commerce capabilities, setting up a scalable e-commerce option proved costly. Further, customer expectations proved difficult to track, as organizations struggled to align customer touchpoints in a consistent way. Outside of what was deemed as essential retail (i.e., grocery, pharmacy, etc.), the customer experience was completely driven by online-only interactions across web properties and social media. Many of these retailers could not effectively deliver a consistent customer experience because they were unable to maintain communication with their customers based on the near-instant change in buying preferences.

Customer data was scrutinized, and a lack of relevant data proved costly. Many retailers either had stale customer data or lacked mechanisms to extract the right level of insight in a real-time manner. With the increase in web traffic came an increased cyber-attack surface area. Retailers needed to prevent bad actors from gaining access to customer data or from sending out phishing emails to customers, but lack of skilled staff in this area added complications, delays, higher costs, shrinking margins, and ultimately brand damage. In fact, according to ESG research, 57% of retailers have a problematic IT skill shortage in cybersecurity. And of course, the impact on supply chains was detrimental and many cases linger on today, with retailers ineffectively managing customer expectations based on fulfillment delays and product shortages due to either lack of visibility throughout the supply chain or lack of data.

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[1] Source: ESG Research Report, *2021 Technology Spending Intentions Survey*, January 2021. All ESG research references in this white paper have been taken from this research report.

As retailers look to minimize waste, improve margins, and properly set customer expectations, all aspects of the business are being examined with a focus on improving operational efficiency. It's clear that retailers need help in delivering an omnichannel experience that can satisfy strict customer demands while properly setting customer expectations with a revamped, modern business operating model.

Technology and Data Challenges

As retailers look to best satisfy new and existing customers through a next-generation and personalized experience, several challenges continue to slow digital transformation progress. The vast complexity that exists throughout the technological and data stack are making it nearly impossible to harness the power of disruptive technology. ESG research shows that an overwhelming 76% of retail organizations believe their IT environments are more complex today than they were two years ago. Organizations need real-time agility, scalability, reliability, and security to build trust with partners and consumers alike, but legacy infrastructure is unable to keep up. As IT looks to migrate workloads to the cloud, disruptions to existing business processes and workflows create delays and gaps in technology and resource availability. Further, due to the sheer amount of data collected by retailers across various entry points, organizations struggle with properly collecting, curating, and integrating high-quality data in a timely manner, never mind exposing the right people to that data, arming them with the right tools to conduct analysis, and trusting that data to act on any insight derived from it. This is a big reason why 46% of retail organizations plan to make the most significant data-centric investment in data integration over the next 12-18 months.

76% of senior IT decision makers in retail believe IT complexity has increased over the past two years.

IT teams continue raising their hands for help as they continue being asked to do more and more outside of their core skill set, and it is exposing problematic skills shortages in several technology-focused areas within retail organizations. In fact, the top five areas where IT skills shortages exist today in retail organizations include cybersecurity (57%), AI/ML (34%), IT architecture/planning (34%), data analytics/data science (33%), and IT orchestration and automation (31%). For AI specifically, these skills gaps are leading to many retailers missing the opportunity to apply AI to the data they have, allowing them to become more efficient with intelligent workflow automation and make faster decisions in such a demanding and dynamic industry.

Figure 1. Top Five Areas of Problematic IT Skills Shortages in Retail

In which of the following areas do you believe your IT organization currently has a problematic shortage of existing skills? (Percent of retail respondents, N=70, multiple responses accepted)

Area	Percent
Cybersecurity	57%
Artificial intelligence/machine learning	34%
IT architecture/planning	34%
Data analytics/data science	33%
IT orchestration and automation	31%

Source: Enterprise Strategy Group

Modernizing Retail in a Post-pandemic World

As retailers evolve their operating models, improve agility through a modern infrastructure stack, and look to deliver the best omnichannel experience through an increased and more effective digital presence, retail technology spending is on the rise. In fact, ESG research shows that 56% of retailers reported that they would be increasing their technology spending in 2021. They are looking to transform and enhance digital customer engagement, create more agile and efficient operations, transform talent, automate workflows, and implement sustainable, cost-efficient business practices. Further, scaling innovation to be continuous is proving critical, as retailers look to rapidly innovate across their physical and digital estates with a dynamic technology and data ecosystem.

56% of retailers cite becoming more operationally efficient across the business to reduce waste and improve the customer experience as their top business objective for digital transformation.

The number one business objective for digital transformation initiatives cited by 56% of retailers is to become more operationally efficient across the business to reduce waste and improve the customer experience. This is being achieved through initiatives like automating business processes, relying more on real-time data, and improving asset tracking through comprehensive visibility throughout the entire supply chain. Rounding out the top three objectives of retailers over the next year are adopting digital tools and processes to allow users to interact and collaborate in new ways and providing better and more differentiated customer experiences. For organizations to thrive in the hyper-competitive digital retail world, retailers are looking to transform their operating models through six critical pillars that will shape a forward-looking virtual enterprise.

Agility

Retailers must enable intelligent orchestration in three key focus areas, including customer experience and engagement, product and supply chain, and enterprise operations. Retailers will reinvent the shopping experience by best aligning new shopping patterns with a consistent experience from brick-and-mortar to digital storefronts that seamlessly engage with customers and consumers across all touchpoints. With an intelligent supply chain rooted in automation and AI to react in real time, advanced capabilities like assessing localized demand patterns, identifying issues with best response suggestions, end-to-end transparency, and continuous intelligent planning are now possible. By digitizing enterprise operations, retailers can reinvent store/facility operations through streamlined back-office processes, while predictably scaling based on customer demand.

Sustainability and Purpose

With sustainability and social purpose increasing in importance to retailers, consumers, and governing bodies, retailers will emphasize their stances with appropriate action. They will look to embed sustainability and social purpose throughout the business by establishing cross-functional sustainability teams that will look for ways to incorporate sustainability into all business units, departments, and individual KPIs. This will include developing means to systematically measure and report on emissions, aligning connected supply chain partners on standards through data sharing, measuring social impact of operations, and preparing to comply with new reporting/compliance standards (i.e., TNFD, TCFD, etc.). Findings, results, and plans will also be shared with employees, partners, and customers to increase awareness on retailer's sustainable initiatives to best inform partner and consumer decision making.

Openness

Retailers will seek to go beyond the traditional buy-sell transactional models and explore areas to drive business innovation and expansion. In fact, ESG research shows that nearly 40% of retailers are looking to develop new innovative products and services, with nearly 1 in 3 retailers looking to develop entirely new business models. Joint partnerships across consumer ecosystems will enable the identification of new business opportunities, enabling retailers to reimagine the way consumers are targeted, helping extend brand awareness and relevancy in adjacent businesses.

Culture

With the continuation of hybrid work, retailers will work to create experiences that will empower all employees, while enabling organizations to embark on talent transformation whether functional or technical across the business, from leadership to frontline. Working conditions will be monitored and improved through the incorporation of health and wellness insights for employees working in factories and distribution centers. Using advanced technology like AI and automation, retailers will achieve higher levels of agility and effectiveness from workers involved in various supply chain functions, as well as incorporate intelligence to best enhance mental or physical capabilities. All actions will be taken to ensure the enterprise experience meets not only customer but also associate and employee needs.

Data Innovation

Data accessibility and availability will be prioritized across retail organizations to best arm stakeholders with trusted data that can confidently be analyzed and applied to the business. Consumer-centric data will be embedded throughout all relevant business units from marketing and sales to customer service and store operations. AI will be leveraged to predict customer behavior and buying patterns, as well as identify new business opportunities through monitoring of impactful changes in consumers and competition at both a macro and micro level. Pairing data centricity with organizational agility, retailers will be able to scale innovation with foundational governance strategies that enable the rapid iteration of ideas.

Hybrid Cloud

Retailers want to modernize IT by embracing cloud-like agility and flexibility in an open and secure hybrid cloud architecture. Pivotal to success is migrating legacy applications to cloud-native architectures through containerization. Organizations can standardize on a common platform with foundational data governance that ensures trust throughout the business and supports most applications, data, and AI workloads across all business units, including operations, finance, and marketing teams. The common platform will enable security teams to reduce risk and increase resiliency as they look to deploy end-to-end security across the entire IT landscape and data ecosystem.

IBM Cloud Paks

IBM believes a hybrid cloud architecture built on AI technology will enable business and technology leaders to deliver IT and applications that are responsive, open, and easily consumed anywhere they are needed. As organizations progress down the digital transformation path, they continue to look for ways to modernize their applications and infrastructure across environments, improve operational efficiency, and bring more agility into the business. IBM has introduced IBM Cloud Paks to deliver great value through a hybrid cloud-enabled, fully integrated platform that can:

- Accelerate innovation and digital transformation initiatives spanning distributed environments with increased portability through containerized solutions that run on Red Hat OpenShift.

- Deliver tightly integrated capabilities and processes to eliminate redundant, time-consuming tasks and satisfy the desire to infuse more automation and agility into the business, leading to higher efficiency and greater ROI.

- Improve collaboration across business units that are increasingly involved in strategic business decisions.

- Address skills shortages in a timely manner to prevent delays in achieving business goals.

- Deliver security and operational consistency though a single control plane that enables a common management experience across environments to improve productivity and lower TCO.

IBM Cloud Paks, AI-powered hybrid cloud software, are designed to accelerate application modernization with pre-integrated data, automation, and security capabilities. Built on Red Hat OpenShift, IBM Cloud Paks deliver the industry's only hybrid cloud platform experience, enabling business and IT teams to build and modernize applications faster across any cloud or IT infrastructure—on-premises, in public clouds, and on the edge. This gives enterprises the flexibility they need to grow, enhances employee productivity, and drives technology-based business innovation.

IBM Cloud Paks seamlessly integrate software capabilities from IBM, its partner ecosystem, and the open source community. All of these can be managed with a unified, intelligent control plane and consumed anywhere, as a service, to deliver faster business outcomes.

Capabilities Powered by IBM in a Retail Orchestration Hub

With IBM Cloud Paks, retail organizations can optimize all aspects of retail performance by automating the capture, orchestration, and surfacing of events and data through advanced capabilities that are easy for employees to consume in a way that yields value to consumers. Whether monitoring an application, microservice, or IoT edge device, data and event triggers can be captured from anywhere, including customer behavior, inventory, loyalty programs, pricing, etc. Retailers can then apply normalization to the data, check quality, apply governance, and utilize explainable AI to create consumable and intelligent workflows that enable stakeholders to gain actionable insight. Events can be appropriately prioritized, offers can be personalized, schedules can be optimized, and maintenance can become predictive as opposed to reactive. That insight is then surfaced to the right entity, whether it's a customer receiving a personalized offer, an associate being made aware of limited stock, or a supply chain partner relaying a delay to appropriately set customer expectations.

Using different components within a collection of IBM Cloud Paks built on Red Hat OpenShift, a hybrid cloud platform, retailers can enable a revolutionary business operating model. Retailers can deliver a unified shopping experience across all customer channels, whether digital or physical, by personalizing the customer experience and delivering convenient ways to seamlessly transact. Customer expectations can be properly managed through intelligent inventory and fulfillment optimized based on product availability online or instore. Personalization can be delivered through intelligent marketing with interactive displays on store shelves or using geo-location notifications on mobile devices of nearby shoppers. Mobile applications can be utilized by employees to improve working conditions by integrating omni-channel store processes and roles. And IoT-connected devices and equipment throughout supply chains can harness the power of AI to provide improved visibility that can predict outages, shift resources, and lower costs.

Explore this interactive experience to learn more about the Retail Orchestration hub use case, enabled by IBM Cloud Paks.

The Bigger Truth

As retailers look to transform their business operating models, several challenges remain. With the impact of a global pandemic having lasting effects on the retail space, shifting consumer preferences, increased competition, social and environmental consciousness, and the need to leverage next-generation technology to deliver fast and unique customer experiences must be addressed to stay top of mind with customers and partners. While some retail organizations are at the forefront of achieving transformational success, the dynamic nature of consumer buying preferences and the supporting supply chain will always require all retailers, whether segment leaders or laggards, to strive for improving agility, innovation, guidance, and enablement.

As IBM maintains its leadership position as a trusted technology partner of many organizations in the retail space, they recognize that to thrive in today's retail environment, delivering a virtual enterprise is essential in transforming business operating models of retailers. By leveraging IBM Cloud Paks, retailers are empowered to deliver a virtual enterprise built on a hybrid cloud platform that delivers value across the critical pillars that matter most to retailers and consumers alike: agility, sustainability and purpose, openness, culture, and innovation. And the results of retailers that have embraced these areas are eye-opening, from enhancing digital customer engagement, scaling innovation, and transforming talent and workflows, to creating more efficient operations and achieving cost savings through carbon-efficient business practices.

Enterprise Strategy Group is an IT analyst, research, validation, and strategy firm that provides market intelligence and actionable insight to the global IT community.

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