



Four Tech Components of Successful Retail Transformations

From free shipping to easy returns, shoppers increasingly expect a good deal and a better online and in-store experience that includes personalized product recommendations, multiple payment options, real-time product availability information. **73%** of shoppers expect brands to understand their unique needs and expectations and 56% want all offers to be personalised¹.

53% of respondents	9% year-to-year growth	53% of consumers
changed the retailers due to better prices, discounts, and personalised offers.	is expected for online and non-store sales in the global eCommerce forecast.	use tech-assisted shopping including interactions with virtual customer service agents.
Source: McKinsey	Source: NRF	Source: PwC

Technology is the steering wheel for navigating the retail market

As market fluctuations are a given, retailers that understand how to navigate the present-day and future ebbs and flows with greater agility — be it a change in commodity prices or geo-political disruption of manufacturing operations – will come out on top.

Tech-savvy consumers also dictate market trends. Retail leaders who pay attention to customer needs are more likely to stay competitive in the long term. In this respect, technology is often promoted as a magic bullet to whichever trend dictated by consumers. For example, AI-powered recommendation engines ensure targeted and personalized marketing, virtual assistants improve communication with brands, and in-store automation enhances the offline shopping experience.

Retailers that build their digital roadmaps around their present-day operational setup and with the future outlook in mind are in the best position to succeed. Despite the promise of cashier-less retail solutions, most merchants won't gain better store performance results by merely automating all their branches. Social, voice, and in-car commerce may be promoted as the new growth channels. But these aren't a priority investment area for companies struggling to establish a unified commerce experience across two channels: web and offline.

CIOs are facing increased pressure to deliver digital dividends here and now. They must focus on technological innovations with proven ROI potential to engrain the future digital vision in different parts of the enterprise.



A triple squeeze of economic pressure, scarce and expensive talent, and ongoing supply challenges is heightening the desire and urgency to realise the time to value among enterprises.

Daniel Sanchez-Reina, VP Analyst at Gartner



Top 4 ROI-Proven Innovations Retailers Should Pursue

1

Effective transition to a **unified commerce strategy** to improve customer retention and lifetime value in the present and establish the base for long-term differentiation.

2

Empowered frontline store workers as a driver to maximize the value of a large physical footprint and progressively transition to *phygital* experiences.

3

Shift toward **customer-centric merchandizing**, powered by real-time data analytics and algorithmic advisory.

4

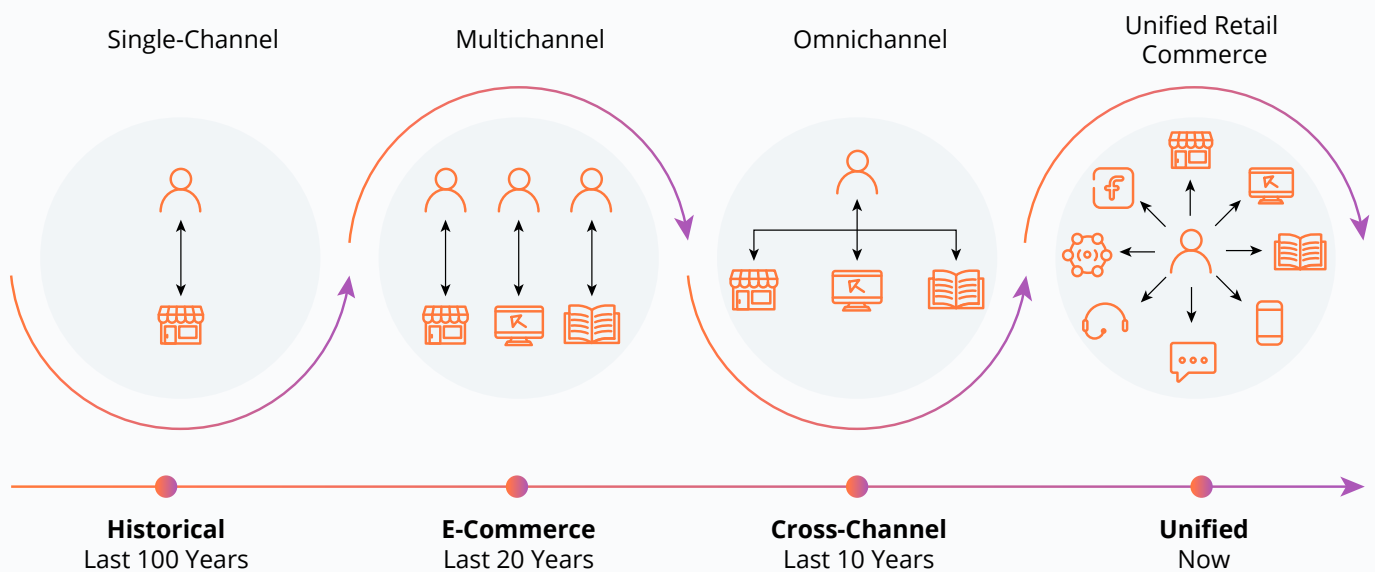
Collaborative ecosystems and retailers' homegrown commercialized technology as a dual strategy for sustainable scaling.

Unified commerce experience: The cornerstone of long-term differentiation

Modern consumers switch between physical, digital, and social channels as they research, evaluate, and buy products. In this context, the next phase of commerce is less about shoppers choosing which channel to engage with and more about retailers reaching out to consumers via preferred channels.

Frictionless omnichannel customer experience (CX) is the ultimate goal of every retailer. Unified retail commerce architecture is the tactical approach to delivering continuous experience across multiple customer touchpoints.

The evolution of modern retail



eCommerce originally established digital sales channels and touchpoints (web, mobile, IoT-driven).

Omnichannel commerce advanced the consumers' ability to start and complete purchases via different channels.

Unified commerce aims to bring consistency in cross-channel sales experiences through better data exchanges, customer-centric analytics, and experience-led shopping experiences.

The average number of customer touchpoints now stands at dozens in the B2C segment and can reach up to a hundred in B2B purchase journeys. The goal of unified commerce is the creation of a seamless transition between offline and online channels — a “phygital” shopping experience.

Phygital (physical plus digital) stands for the bilateral integration of digital and physical customer experiences. Physical experiences are enhanced with online data and tools. Digital experiences are augmented through the human touch and physical enhancements.

Phygital is all about giving consumers an ambience of choices when it comes to purchase channels, payment options, delivery methods, and extra in-store or online services. This flexibility in choice should align with their journey that suits their needs at any particular moment.

To establish this type of delightful continuity, retailers must establish stronger ties between the front-end and back-end of the company. In-store experience should closely match the digital one. Frontline employees need the ability to identify repeat customers, provide real-time information, bespoke recommendations, and personalised upsells.

Experience-led interactions across channels are the core pillar of unified commerce and excellent customer experience.

Customer experience alignment on the technology level

	Front-end (Customer)	Back-end (Retailer)
Merchandizing	Good product selection, personalized recommendations; ability to easily locate preferred goods.	Localized product assortment per branch, optimised product selection by channels, analytics-driven up-sells/ cross-sells.
Inventory	Option to verify product stock online/ in-store, timely re-stock updated, alternative ordering options ("endless aisle")	Unified inventory management system, demand-driven stock planning, timely re-stocks, driven by real-time sales data.
Labour	Competent assistance is available in-store and online. Tailored advisory, based on preferences, past purchase history, and loyalty status.	CRM system offers a 360-degree view of the customer, integrated with customer service tools and in-store customer/ employee devices.
Pricing	Fair, competitive prices. Relevant sales offers and promotions.	Dynamic pricing software with advanced sales forecasting and price optimisation capabilities.
Fulfilment	Wide selection of delivery methods. Efficient order pick-up experience.	Integrations with multiple 3PL and logistics partners; data-driven in-store fulfilment hub.
Returns	Easy, channel-agnostic return experience. Fast refunds.	Strong reverse logistics function, and instant payment processing.



Transition to unified commerce: Case Study [Travis Perkins]

One the UK's biggest builders' merchant, substantially reduced operating costs, delivered over 1 million orders, and obtained £100 million in revenue, thanks to tactical digitization.

With over 550 branches, legacy retail software, and a high volume of manual processes, Travis Perkins initially struggled sought to balance high customer experience levels against growing operating costs (including high software TCO).

Digitally Inspired, an Intellias unit company, has helped the retailer enter the digital era with a cloud-based commerce core, optimised eCommerce apps, and a digital stock management system.

Results:

245K

new app
downloads

86%

branch stock
accuracy levels

47%

time reduction on
inventory counts

[Read the full case study](#)

Designing unified retail experiences

A unified commerce platform (UCP) is a collection of processes, data, and subsystems, designed to serve your business objective – such as greater data visibility, real-time insights, or consistent experiences across channels.

When designing a unified commerce architecture, you need to understand which systems are already present in your portfolio, as well as their role in achieving the specified objectives. For example, fully digitized stock management is required for more complex analytics scenarios.

The next step is to determine desired digital capabilities to support the selected use cases — be it the implementation of a click-and-collect service or a point-of-sale financing solution. Both will dictate the design and layout of the underlying data exchange platform — a connecting tissue, which would support real-time data flow between the retail sub-systems and enable new system functionality.



Select software, designed for easy integration. Look into proprietary and open-source solutions with well-documented private, public, and partner APIs. Select software with pre-made connectors to other business systems and the option to establish effective data querying.



Design composable solutions. Progressively replace monolith structures with loosely coupled, interchangeable, microservices-based applications.



Limit reliance on bespoke software. Custom retail systems almost always come with significant TCO due to a manual upgrade cycle and require niche engineering experience. Go for bespoke only when it's the only way to achieve desired outcomes.

Outcomes

Experience alignment

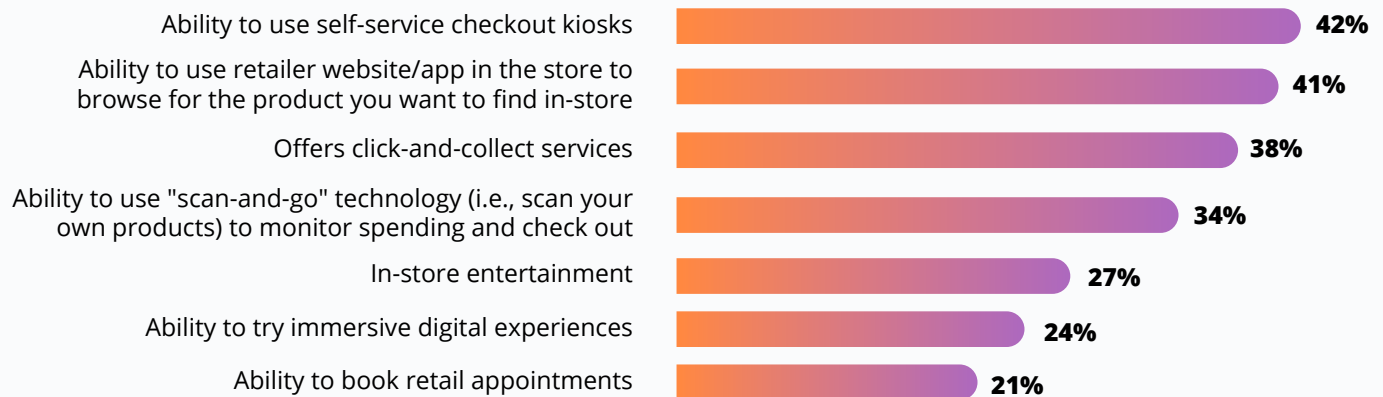
Optimized system TCO

Increased data visibility

Empowered frontline store workers are key to maximizing cross-channel performance

Shoppers continue to experience friction when wandering through the aisles. Over 40% of global consumers said that “out-of-stock products” had the greatest impact on their shopping experiences, followed by “long queues” and “reduced product ranges available”.²

Potential attributes of the physical store shopping experience that consumers find appealing



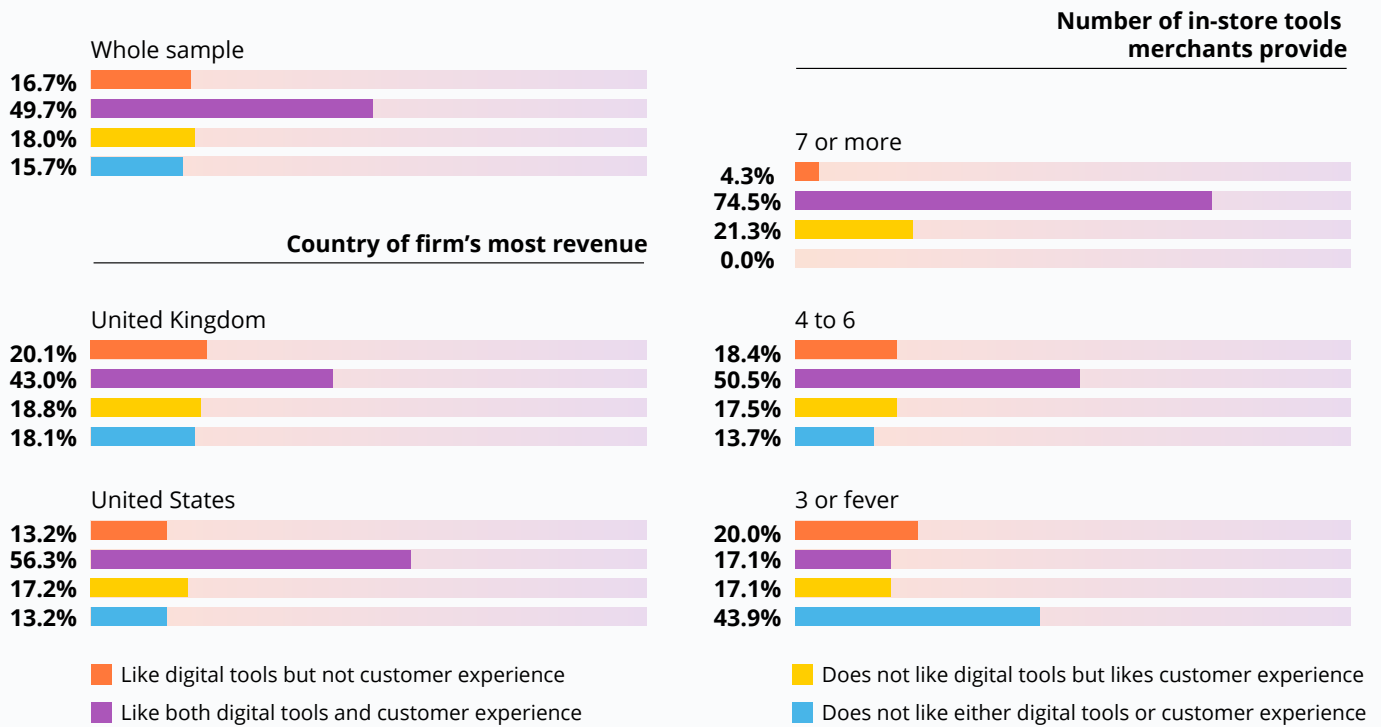
Source: [PwC](#)

The above complaints are the symptoms of larger problems pertaining to limited stock visibility, subpar inventory management practices, missing self-service and self-checkout options consumers have come to expect.

Although in-store shopping remains the prime sales channel for most retailers, consumers also come to expect a digital element to each visit.

A knowledgeable sales associate is no longer just an experienced and polite staffer. They are enabled with new mobility and analytics solutions: have on-the-spot access to real-time stock data, can digitally showcase different product configurations, or access the customer's purchase history, loyalty status, and warranty information.

Larger retailers have made admirable digital progress. However, 50% of executives working for big-box retailers in the United States and the United Kingdom admit that they have not still gone far enough. Only slightly above half of general retailers, pharmacies, and convenience store operators said that their digital tools are sufficiently advanced to the target levels of shopping experiences. But only 9% of automotive merchants are satisfied with both the digital tools in place and the levels of customer experience they deliver at present³.



Source: [PYMNTS](#)

To address the missing capabilities, an equal number of US and UK retailers plan to focus their innovation efforts on cross-channel customer purchase history tracking. A bigger percentage of UK retailers want to also improve the availability of different payment methods; data analytics and fraud detection capabilities. Whereas US retailers are slightly more concerned with data security at present.

Retailers will also need to concentrate on talent retention and upskilling to further improve in-store customer experience levels. Traditionally, retail has always been an industry with the highest turnover — a factor that directly affects other business targets.

Many digital transformation initiatives have not yet reached the frontline. In-store workers often lack baseline connectivity: the ability to perform back-room tasks on mobile, access product or stock information while on the sales floor, or get personalised insights about the customer in front of them.

Impressive customer experience goes hand in hand with an empowered frontline workforce. Smart retailers, therefore, focus on also providing the tools and training to the front-line staff, which would enable them to work smarter, serve customers better, and generate more sales per square foot. With strategic investments in workforce solutions, retailers can ensure higher talent retention, increase labour productivity, and their ability to attract top-performing talent.

Nearly three-quarters of retailers with mature employee experience (EX) strategies achieve double-digit revenue growth year over year, compared to only 49% of retailers with low-maturity EX strategies.

Forrester research



Home Depot: Strategic investments in people and technologies

Home Depot began the ambitious roll-out of new employee mobile devices across its entire chain in 2022. The new devices come with advanced barcode scanning features for locating products, doing price checks, and inventory availability from as far as 12+ meters. The devices can be also connected to in-store screens for demoing product specifications.

At the beginning of 2023, Home Depot also launched a new workforce app, dubbed Sidekick, designed specifically for in-store devices. Powered by machine learning, the app creates a prioritized task schedule for each associate, suggesting a shelf restocking order, flagging the highest-demand products, and excess product placements on overhead shelves. Using computer vision, the app also detects and alerts about out-of-stock products, plus helps with navigation.

Such strategic innovations allow Home Depot to maintain a hefty profit margin rate of 10.87% and an operating margin rate of approximately 14.5%, of which they plan to issue \$1 billion in extra annual compensation to the frontline, hourly associates⁴.

Transforming the frontline

Frontline employee experience and customer experience are connected at the hip: one cannot be improved without investment in the other. Well-educated employees and workforce solutions that improve operations boost the retailers' progress towards their target KPIs. Reprioritize investments in the following areas to improve the branch performance:



Better workforce management tools. Evaluate vendors, offering customizable field workforce management solutions, which can be tailored to your operations. Leaders in this segment have pre-made software systems for different types of retail operators (grocery, convenience, big box, etc), supported by a wide range of hardware partners. Out-of-the-box, your company can obtain tools for real-time inventory management, stock optimization, customer relationship management, and omnichannel fulfilment, as well as a range of tools for task management, staff performance optimization, and training. Then customize and adapt them to your operational needs.



Modern inventory management system. A unified inventory management system with real-time tracking capabilities (e.g. powered by barcodes, RFID tags, or computer vision) is another pillar of improved frontline workforce performance. Minimize the manual steps in product returns, especially pertaining to reconciliation between online purchases, and returned in-store (and vice versa). Look into systems that would support multiple fulfilment models such as shipment from stores or delivery from multiple fulfilment centers. Provide frontline staff with accurate insights on inventory at each location by consolidating data from multiple branches into a centralized inventory system.



Introducing the Endless Aisle. Improve in-store sales volumes by offering consumers an extended selection of merchandise through in-store screens and helpful associates. Defensively, an endless aisle can be used to save a sale when a certain product is out of stock. Offensively, it can be configured to suggest upsells and cross-sells, especially by retailers with large inventories. Endless Aisle also allows capturing a wider range of trends in-store and combining them with digital dynamics to obtain a 360-degree view. This way you can ensure that the right stock is presented across locations and complemented by in-demand options on the endless aisle.

Outcomes

Superior customer service levels

Profit margin rate improvements

Higher workforce productivity

Higher in-store conversion rates

Optimized operating costs

Lower retail staff turnover

Customer-centricity as the pillar of new merchandizing strategy

Multi-touch customer journeys present more opportunities for engagement. However, retailers aren't always capable of recognising the hottest leads and most promising repeat customers within fragmented sales pipelines.

Although customers now spend 40% after moving to online channels, the quality of their experience will deter them from shopping with a brand: 71% won't return if they've had a bad experience either online or in-store⁵. "Bad experiences" can be anything from an unhelpful store associate and suboptimal store layout to annoying upsells and persistent retargeting after leaving without checkout.

With an abundance of options to reach consumers, retailers often forget that experience quality trumps quantity. The ability to engage customers at any time, via multiple channels does not always mean that all strategies must be deployed at once.

The same line of thinking should be applied to product assortment. More isn't always the merrier. Consumers have developed a stronger affinity and emotional ties with individual brands, which reflects in the progressive demise of department stores and the ongoing proliferation of pop-up locations among online-only retailers.

Over-stock affects retailers substantially more than stockouts. Inventory carrying costs represent between **15% to 30%** of the retailer's total inventory value. In addition, merchandising large stock volumes requires a greater labour force, which many already struggle to maintain.

To overcome these challenges, retailers are progressively investing in AI-driven merchandising solutions. Powered by big data analytics, such algorithmic retailing solutions allow companies to optimise their marketing and merchandising strategies around known customer behaviours. By consolidating and analysing data across channels — online and offline — retailers can better understand the dominant market trends, as well as zoom in on individual store performance.

With a better understanding of the apparent and latent shopper behaviours retailers would be able to optimise product assortment, presentation, and promotion to sell the right product to the right audiences at the right time.

By 2025, all global multichannel fashion retailers will use AI and automation to create more targeted assortments, reducing item choices by up to 30%

Gartner



River Island: Data-driven merchandising

River Island has a large store footprint in its domestic market, as well as a presence in 125 other countries. Initially, over 150 team members were involved in different aspects of merchandising and had no unified view of the workflows. Duplication and other inventory management inefficiencies were common.

Thanks to new data management infrastructure and predictive analytics capabilities, the retailer can now hyper-local level no matter the store or channel. Based on the insights, the team can quickly divert stock to channels, where it is the most likely to get purchased, instead of relying on over-generalized clustering and aggregation. Shortly after adopting the new AI-powered merchandising platform, River Island's stockouts dropped by 23.7% for continuity products and the team recorded a 28.3% reduction in lost sales⁶.

The retailer continues to invest in new inventory traceability solutions to capture even more product performance insights. The new smart fitting rooms, equipped with RFID scanners, allow customers to look up more product information by scanning the tag. In addition, they also supply River Island with extra information, for example, if the product was tried on but not purchased or swapped for another size. Such eCommerce-style analysis not only delights shoppers, but also helps the team optimise store layout, product sizing, and promotion strategies.

Implementing hyperlocal retailing

Retailers increasingly rely on time-consuming store counts, manual data entry, and even spreadsheets for creating merchandise hierarchies. Moreover, much of the assortment planning relies on the assumptions retailers hold about their customers, which don't always match reality. Customer behavior is often evolving at a speed that is too fast for traditional merchandizing teams to catch up to.

To maintain high operational efficiency and minimize inventory carrying costs, retailers are investing in automation, analytics and AI technologies to enable a comprehensive shift toward customer-centric merchandising processes.



Modern retail assortment management application (RAMA). Place an analytics-powered RAMA in the core of your merchandizing process for hyper-localized product ranging, just-in-time replenishment planning, streamlined purchase order creation, and predictive forecasting. Use seasonality, footfall, and historical purchase data to cross-correlate with present-day trends. Leverage AI algorithms to identify new behavioral segments, promising touchpoints, and high-performing locations for various product categories.



Unified price, promotion and markdown optimization (UPPMO). Replace rigid business rules and personal hunches with algorithmic advice on every aspect of pricing (regular, promotion, markdown). Dynamically adjust prices across markets, branches, and individual product categories to reach target KPIs around inventory turnover, average transaction value, profit margins, and revenues. Run forecasting scenarios to model how pricing decisions will affect other KPIs to find the optimal strategy for each product category.



Predictive demand forecasting. Traditional retailers relied on reactive demand planning. In response to a rapid product sell-out, the merchandising team rapidly placed new purchase or production orders. However, ongoing kinks in the supply chain, paired with episodic shifts in consumer behavior, render reactive strategies less effective. AI-driven demand forecasting enables retailers to leverage historical and real-time data points to build dynamic future forecasts, such that more accurately reflect the likely product performance, conversion rates per campaign, or revenue per branch.

Outcomes

Optimized inventory carrying costs

Higher average order value

Increased conversions

Improved CLV and loyalty

Low to no deadstock

Revenue growth

Platform architecture and collaborative ecosystems for future-proofing revenue

While retailers feel the pressure to maximize net profit margins while delivering superior customer experience, the retail business model often comes with a ceiling companies cannot move past even if they diligently apply all available strategies for optimization. With a greater infusion of technology in their core, retailers are also perfectly positioned to move into adjacent market verticals with more attractive profit margins, as many successfully do.

Amazon has built out an ecosystem of complementary in-house offerings that reinforces its retail arm. Walmart adopted a similar growth strategy but chose the partnership route. The chain offers in-store lab testing with Quest Diagnostics and works with insurer Humana to sell Medicare plans. In the financial sector, Walmart teamed up with Green Dot to offer prepaid cards and has a partnership with MoneyGram for remittance services. At the same time, its marketplace is now almost neck and neck with Amazon Marketplace in the US.

By 2030, 35% of retail revenues and 50% of retail profits will come from “beyond trade” activities.

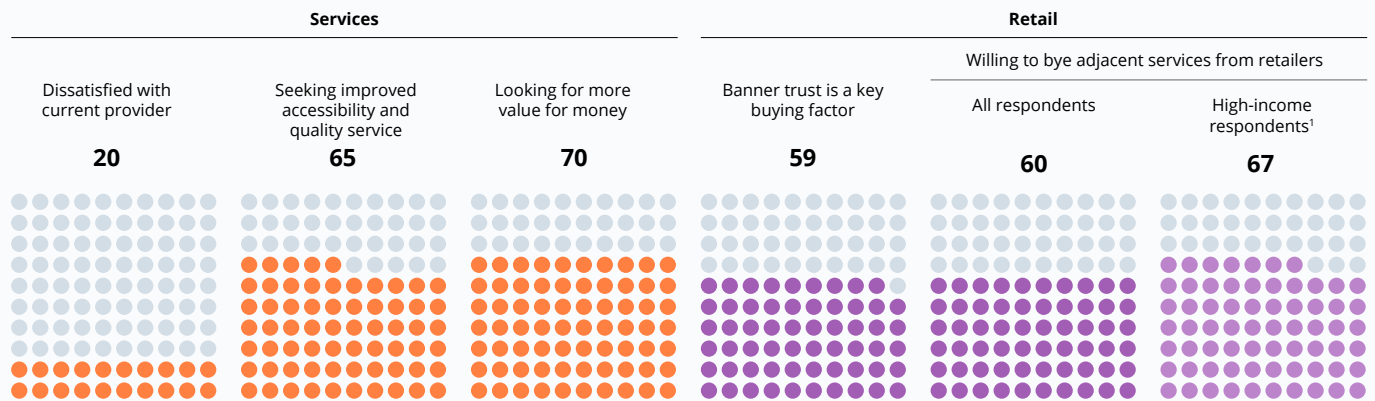
Bain & Company

Beyond trade, revenue streams can include a variety of offerings in travel, online media, and healthcare on the B2C side, as well as new services in advertising, finance, and logistics on the B2B side. In each case, retailers have several tailwinds playing in their favor — an existing customer base with a high degree of trust, which enables “soft launches” and product-market-fit validation and technological advancements, which allow companies to start profiting from digital-enabled partnerships within months, rather than years.



Traditional service providers are underdelivering on some customer expectations, while retailers are enjoying consumers' trust

European consumer sentiment on service and retail, % of respondents



¹ Respondents with income of ≥€60,000 in France, Italy, Spain, and Sweden; €80,000 in Germany; and £60,000 in UK; n = 974.

Source: [McKinsey](#)

Retail media networks (RMNs), for example, as a revenue diversification strategy are gaining strong traction. Since 2020, retailers launched 12+ new RMNs to capitalize on the surged demand for programmatic advertising. Non-existent as a concept just a few years ago, retail media represented 10.7% of global ad spending in 2021 and is expected to reach 60% by 2027. In 2022, Walmart alone made \$2.7 billion in revenue from its advertising arm, Walmart Connect, which is almost 30% more than in 2021.

Apart from profiting from “homegrown” technology, retailers can also profit from digitally enabled strategic partnerships, thanks to the burgeoning API economy. Instead of building new offerings in-house, retailers can “borrow” existing solutions from cross-industry partners and embed them into their platform. Embedded finance and insurance offers can improve customer loyalty and retention, plus bring in extra revenue from profit-share agreements. So no wonder that 56% of EU retailers plan to roll out new embedded finance solutions in the coming years⁹.

Co-branded credit cards, offered at POS, are one example of such a partnership. But thanks to recent tech advantages, retailers can now offer such solutions via digital channels and customize the partner-supplied technology to best suit their brand and customer base. For example, ManoMano, an online home improvement retailer, offers multi-year insurance coverage for sold products via an embedded insurance offering from Evy. Evy developed 25 bespoke insurance programs for ManoMano’s 25 product categories across four countries in several months, which are now distributed to customers via an API at no extra cost for ManoMano.

To provide consumers and society with the complex, ever-changing solutions they demand, retailers are increasingly choosing to collaborate, rather than compete. Symbiotic relationships with other companies — be it a payment technology vendor or an insurance broker – can help retailers evolve into more profitable ecosystems of interconnected offerings, which reinforce customer loyalty and lifetime value, while also providing access to new consumers.



B2X platform development for a global FMCG retailer

As part of its expansion plans, a global manufacturer decided that it needed to evolve its core commerce platform into a modular, multi-tenant, API-driven solution for converging its disparate B2B and B2C streams into an agnostic business-to-everyone (B2X) approach.

Intellias has helped the company develop a data-driven platform, based on microservices architecture, representing different operational segments and business verticals across the market. Local services were integrated into the global platform via API, while the multi-tenancy configuration allowed us to maintain high service performance in each market.

With a new core platform, the company reduced the time-to-market for new regional product/service launches by 65%.

Separately, we worked on the new data infrastructure, which enabled the company to establish a 360-degree customer view. As a result of our work, socio-demographic data, location, loyalty status, product preferences, and other buying behaviors are now aggregated into a centralized repository from multiple channels (website, customer care system, online chats, emails, etc).

With the new platform, the client can seamlessly deploy new offerings to regional markets via the global platform, while also profiting from consolidated customer analytics.

[Read the full case study](#)

How to build retail ecosystems

To move from core retail activities to auxiliary “beyond trade” revenue streams, retailers will need to establish a robust platform — an underlying technology core, which hosts both internal projects and is configured to include external partners. By combining the right tech components with new product or service offerings, retailers can progressively build out a self-reinforcing mechanism for distributing more value across the ecosystem.



Platform business model. Replace a rigid monolith core with modular, microservices-based architecture, with interoperable, yet autonomous components. This way, platform components can be reused and leveraged independently to accelerate development efforts without adding extra maintainability overheads. Decouple architecture, paired with multi-tenancy also enables better load balancing between different sub-systems, which translates to lower latency and higher product availability even under peak traffic. Add new system components and establish bilateral integration with third parties to access new revenue pools. Manage your ecosystem of products and services with centralized control mechanisms, while also supporting regional customizations.



Robust data management. Establish secure, streamlined data pipelines to de-silo your most valuable data. Resurface more intel to adopt more advanced retail analytics use cases based on first-party data and data enrichment services through third parties. Unlock extra consumer intel to deliver more personalized offerings and experiences across all channels without extra exposure to security or compliance risks.



API-driven partner ecosystem. Enable efficient data exchanges and communication between all business systems within your company. Take advantage of open APIs to add new dimensions to your analysis or embed offerings from other industry partners at fast speeds and low costs. Cultivate internal APIs to “rent out” and monetize proprietary solutions your company has built over the years.

Outcomes

Revenue diversification

Future-proof
competitive advantage

Improved customer
retention

New customer
acquisition channels

Higher profit
margins

Limitless scalability
potential

Confident path towards retail innovation

When facing multiple push and pull forces, the optimal path forward may be anything but obvious. During the worst of the pandemic, the retail industry mustered several years of digitisation in a matter of several months. Yet, consumers and competition continue to raise the expectations bar.

Big box retailers have the advantage of a large offline footprint; however, it may soon become an operational nuisance without targeted, effective transformation. Online channels will continue to gain traction, and phygital retail experiences will differentiate market leaders from laggards.

To remain competitive for the long term, smart retailers choose the route of unification: unified data management for 360-degree customer journey views; unified execution across offline and online channels with interconnected front-end and back-end systems; unified value creation, together with ecosystem partners.

About Intellias

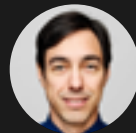
Intellias is a global software engineering and digital consulting company and a trusted technology partner to top-tier organizations that helps them accelerate their pace of sustainable digitalization. We empower businesses operating in North America, Europe, Middle East, and Asia to embrace innovation at scale. For more than 20 years, Intellias has been building mission-critical projects and delivering measurable outcomes to ensure lasting change for our clients. We are contributing to the success of the world's leading retailers that include HelloFresh, Highbourne Group, City Plumbing, and Travis Perkins.



Natalie Medved

Global Head of Retail and CPG

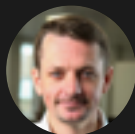
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