



From data overload to data-driven decisions in retail

A practical guide to unlock consumer insights and deliver seamless commerce to achieve profitable growth.

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Introduction

Thanks to rapid advances in technology, retailers are routinely collecting ever-increasing data volumes, yet many fail to harness this valuable asset. And while there is unanimity that data is the next frontier for performance and competitiveness, retailers often fail to convert it into meaningful business outcomes. They are drowning in information, yet thirsting for the insights needed for sustainable growth.

Among the root causes for this is the fragmentation of organizations and data ecosystems at a time when seamless commerce has become the new normal in terms of consumer expectations. In order to achieve this, retailers need a deep understanding and orchestration of their customer journey, which requires moving beyond siloed data and embracing a holistic approach that leverages insights enabling them to personalize experiences, optimize operations, and empower employees at every touchpoint.

According to the KPMG Global Tech Report 2024, 54 percent of retail respondents enjoyed at least a 10 percent increase in profit due to data and analytics.¹ The same survey also found that 52 percent effectively secure insights from data, up from 38 percent a year ago. Despite this improvement, retailers' data maturity continues to lag in comparison to other sectors.²



^{1,2} Source: KPMG Global tech report 2024

Data operating model—the unresolved challenge

Up to now, online and in-store experiences have not been sufficiently connected, limiting data collection and analysis, and preventing retailers from obtaining 360-degree customer views from multiple channels. Many retailers are not able to gain unified data and insights, due to inadequate infrastructure, siloed data and departments, multiple but disparate technology systems, and out-of-sync transformations.

The sheer volume and velocity of data in retail present a significant operational challenge. But with marketing, sales, IT, finance, legal, and other departments often having access to and utilizing a portion of customer data, organizations may lack a unified data strategy.

In our last report, “Towards seamless commerce,” we had already identified the emergence of the chief value chain officer, a cross-organizational role focused on the customer as a possible answer to drive this unified data strategy. But this key question continues to need a clear response for retailers: where does data responsibility ultimately lie? And whose role is it to create a data operating model that brings together all this information in a way that enables seamless commerce.³

Anchored in the KPMG “Six pillars of data strategy,” this current report offers a practical guide for retail executives to bridge the gap between data and impact, break down silos, connect insights to decisions, and build a truly data-driven operation. These actions will help businesses win customers, drive sustainable growth, and maintain trust through effective and transparent data privacy and security, and ethical use of AI. Our research draws insights from the [KPMG Global Tech Survey 2024](#) of 490 technology executives from consumer and retail businesses, the [KPMG 2024 Consumer & Retail CEO Outlook](#)—a survey of 120 consumer and retail CEOs, and 8 executive client interviews, augmented by the views of highly experienced KPMG retail professionals.

The word “data” may be ubiquitous, but the promise of data is very real. We believe the insights in this report can help retailers realize the potential of this valuable asset.

A practical data strategy is based on six pillars:

- 01 The right operating model.**
- 02 The right processes.**
- 03 The right enabling technology.**
- 04 The right people with the right skills.**
- 05 The right data literacy and culture.**
- 06 The right data quality.**



Online baskets offer both opportunities and challenges. On one hand, analyzing the data from these online baskets provides valuable insights, revealing customer preferences, purchasing patterns, and potential cross-selling or upselling opportunities. However, this data is under-utilized, not being effectively leveraged to drive sales, improve customer experience, or make informed business decisions.”

—German retailer



Isabelle Allen

*Global Head of Consumer and Retail,
KPMG International*



Duleep Rodrigo

*US Sector Leader, Consumer and Retail,
KPMG US*

³ Source: KPMG: Towards seamless commerce 2024

Understanding the customer: The imperative of data-driven retail

In-store, online, and via social media, today's consumers have many choices regarding where, when, and how to shop. With the rise of online marketplaces and niche players, retailers must fight hard to capture attention and build loyalty, which calls for a deep understanding of the customer. The good news is that every transaction, shipment, online interaction, and customer review now generates potentially useful data. The challenge is to convert this data into usable insights that can improve performance.

Retailers need to move beyond basic demographics and develop a 360-degree view of their customers. This means harnessing data to answer critical questions:

Who are your customers?

Loyalty programs, combined with purchase history, demographic profiles, credit information, and even external data sources, can reveal high-value segments and their unique preferences.

What are customers' motivations and aspirations?

Data can illuminate lifestyle choices, brand affinities, and price sensitivities to enable personalized marketing.

How are customers discovering your products?

Website search data, social media engagement, and advertising campaign performance can be analyzed to understand customer acquisition channels and optimize marketing strategies.

By delving into website search data, retailers can see the exact keywords and phrases potential customers use to discover products. Social media engagement metrics reveal which platforms and content resonate most, highlighting where your target audience spends their time. Analysis of advertising campaign performance uncovers messages and visuals that drive the highest conversion rates. This data-driven understanding of customer acquisition channels allows retailers to optimize marketing spend, target the right customers with the right message at the right time and, ultimately, drive more profitable sales by offering a seamless experience.

As Linda Ellett, KPMG UK Head of Consumer, Retail, Leisure notes, "Consumers will routinely interact with retailers across multiple digital and physical touchpoints. But retailers are often simply acquiring more customer data, instead of truly understanding the customer across the many different data sets, and orienting their operating model to serve the customer in a way that suits them."



From discovery to purchase

Prospective customers expect products to be immediately available and will quickly move to another source if they cannot find what they want. Data can inform retailers how to optimize their product assortment based on local demand, profitability, and inventory management efficiency. Armed with real-time selling data, merchandising teams can craft bespoke assortments that resonate with each location's unique customer base—allocating more of a certain color, fit, or size—as

well as new products and collections—to a specific store's inventory. Data can also be used to gauge customer attitudes around value, trends, quality, brand, customer experience, loyalty points, and sustainability. Armed with this information, retailers can dramatically boost inventory investment and profitability. And they can track the effectiveness of their strategies by analyzing earnings per stock keeping unit (SKU) in each location by utilizing data from cost of goods sold (COGS) and historical sales.

Using data to inform pricing

Data can help optimize profits with dynamic pricing tools that adapt prices to market forces, competitor moves, and customer behavior patterns. This strategy, commonly used by ridesharing companies and airlines, aligns price to market demand and supply—although retailers need to respect ethical boundaries and not take advantage

of shortages due to natural disasters or other sensitive phenomena, to artificially inflate prices. Such an approach can also be extended to charge different prices for shopping in specific stores, volume rebates, and special offers if consumers shop at their home base shop.

A seamless experience

Seamless commerce requires a coherent, customer-centric organization that is fully connected offline and online, analyzing data from various sources to determine optimal store locations, online presence, and fulfillment strategies.

Retailers also need to determine the right blend of merchandise to appeal to customers in each geographic area, taking into account store size and ambience. Rather than using mere intuition, retailers can choose allocation strategies—and even change store sizes—based on real-time selling data, to help improve inventory investment and profitability.

Data from e-commerce platform analytics, CRM systems, social media analytics, competitor price analysis tools, customer feedback and surveys, and retail app engagement, can be pulled, aggregated, and analyzed. Transaction data from loyalty-card customers can attach a name to ease personalization. As Vijay Jerome, Senior Vice President and Head of Global Operations, H&M, says, “Our end-to-end ability to achieve or exceed our customer promises has been very important for us and has occupied a lot of our time. We are using data to understand where we can improve and push the boundaries to determine what we can actually do to exceed our promises and commitments we make to the customer.” By analyzing historical sales data, competitive pricing information, and customer response to discounts and promotions, retailers can identify pricing trends, determine the optimal price elasticity, and develop targeted discounting strategies.



It’s about getting to know our customer at a more detailed, advanced level and delivering a better experience through that understanding.”

— Samir Desai, Chief Digital and Technology Officer, Abercrombie & Fitch Co.



Other means of obtaining customer data include:



Personalized experiences:

Promising tailored product recommendations or customized services if customers share preferences and interests.



Exclusive content:

Providing access to special deals, early product releases, or unique content for those who subscribe to newsletters or create accounts.



Surveys and feedback requests:

Offering incentives like discounts or gift cards for completing surveys about shopping experiences or product preferences.



Social media engagement:

Encouraging customers to follow and interact on social platforms, indirectly providing insights into their interests and behaviors.



Product registration:

Prompting customers to register purchased products for warranty purposes, collecting additional data in the process.



Mobile apps:

Developing apps that offer convenience but require user accounts and access to certain device data.



Interactive kiosks or touchscreens:

Providing in-store technology that offers helpful information in exchange for customer input.



Nordstrom enhances shopping experience with personalized AI recommendations

Nordstrom is harnessing the power of customer and point-of-sale (POS) data to sharpen its competitive edge and refine its business strategies. The company leverages many different sources of data, such as purchase history, to understand its customers better and make decisions around product selection, quantity, and marketing.

One recent enhancement to its clienteling application “Personal Book,” is being used to gain more insight into customer style preferences. The tool leverages GenAI to analyze the customer’s purchase history and categorize that customer into a particular style profile. This tailored approach significantly enhances the shopping experience by ensuring product suggestions are highly personalized.

In another initiative, the retailer’s website includes a “look of the day” section that utilizes GenAI to create ensembles based on a customer’s style preferences. Additionally, a stylist can provide a “seed” item that the customer is interested in (or already owns), and use GenAI to assemble a complete outfit that complements that initial item.

Through the use of data and these advanced technologies, Nordstrom not only elevates the shopping experience, but also simplifies the process for customers to discover and engage with products that truly reflect their personal style.

Bridging the online/offline divide

Despite the growth of online shopping (projected to make up 25.3 percent of global retail sales by 2030, up from 19.4 percent in 2023⁴) brick-and-mortar stores remain crucial. According to US National Retail Federation data,⁵ physical stores in the United States account for 70 percent of all sales. The recent KPMG paper, [Navigating the future of seamless commerce in Asia Pacific](#), revealed that Japanese consumers favor physical stores, while, across all markets in this region, 45 percent of respondents chose omnichannel as their preferred shopping experience.⁶

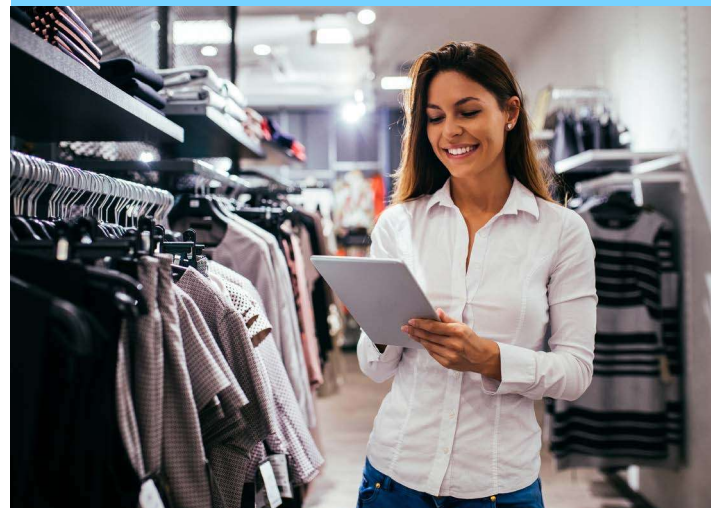
Referring to a recent consumer holiday shopping survey by KPMG, Duleep Rodrigo, US Sector Leader, Consumer & Retail, notes that “Consumers continue to demand to shop online, and retailers should invest in their online platforms to provide a seamless and informative shopping experience. This includes optimizing retailer and brand websites to deliver relevant information and personalized recommendations.”⁷

While online shopping provides a wealth of readily available customer information, collecting this in-person can be more of a challenge. The successful retailers will be those that can use data to drive customer-centricity, as Vanessa Santolin, head of Digital Channels at Camicado, Brazil, explains: “Our Cashback loyalty program is integrated into both the physical POS and e-commerce systems. The client can use Cashback anywhere they want, and it is automatically applied at the checkout without having to request it. This increases recurring and frequency of purchases for customers.” By offering a seamless reward system across online and offline channels, Camicado has increased both purchase frequency and customer lifetime value.

Abercrombie & Fitch Co. elevates omnichannel customer journeys with advanced marketing technology

Abercrombie & Fitch Co. has made significant strides in enhancing omnichannel customer journeys through strategic investments in marketing technology. Central to this initiative is their customer data platform, which is instrumental in orchestrating personalized experiences across various channels.

A key component of this strategy is the retailer’s mobile app, designed to adapt to use both at home and in store, to deliver highly tailored experiences. In store, the app becomes context aware and offers navigation options that include accessing product information, managing returns, or picking up online orders. These features ensure that the customer journey is seamless and personalized to the highest degree, thereby enhancing the overall shopping experience.



⁴ Source: “Online Shopping Statistics (2024): Growth, Sales & Demographics,” CapitalOne Shopping.com, December 31, 2024

⁵ Source: KPMG: Seizing the seamless opportunity, 2024

⁶ Source: KPMG: Navigating the future of seamless commerce in Asia Pacific, 2024

⁷ Source: KPMG 2024 Consumer Holiday Shopping Survey

Empowering the workforce with data-driven tools

Informed and empowered employees are better equipped to deliver exceptional customer experiences, fostering loyalty and driving sales. Mobile tools give sales associates instant access to customer insights and inventory, enabling them to process sales from anywhere on the floor. This data-driven approach not only enhances the customer journey, but also helps attract and retain talent who expects a digital workplace.

But that is only the beginning. Some retailers are using AI as a “store companion” that can give associates instant answers to customer queries, and find products on the selling floor, in the back room, or even at another nearby store. The associate can close the sale on the mobile device and capture loyalty-card data if appropriate. For the customer, AI-powered shop media can offer customer-service avatars and “speaking labels” that offer product data, messages, and product-consumer stories.

In a 2024 KPMG survey of US consumer and retail workers, 46 percent said automation has improved their professional abilities, while only 28 percent said they were worried their role might be eliminated due to automation. Staff members are already using AI tools regularly, with 41 percent saying they help with data analysis, 37 percent for administrative tasks, and 29 percent for customer service and client interface.⁸

Dr. Zhang Wenzhong, the founder of Wumart, encapsulates the power of digitalization: “In order to truly utilize digital ways, you have to understand digital technology, methodology and logic deeply. Digital thinking reshapes your business procedures, your business organization, and the mindset of your people. The digital system, especially with Generative AI’s support, will provide great opportunities.”



Camicado embraces technology as a top workforce skill

In the fast-changing digital era, Brazilian furniture and houseware retailer Camicado sees the engagement of its people as critical to technological and data transformation. The company values workers who are comfortable with technology, who can learn quickly, and are at ease with new methodologies such as design thinking. “We seek professionals in the market who already have this dynamic and technological mindset, and Generation Z, in particular, has those characteristics” says Vanessa Santolin, who is responsible for digital channels at Camicado. Internally, Camicado invests in people development, enabling its team to absorb new skills and evolve and remain engaged and aligned with the company’s purpose. Using this approach, the company aims to prepare its workforce to not just meet the challenges of the digital age, but to also actively propel the company’s technology-driven initiatives.

⁸ Source: KPMG: US Worker Survey, 2024

Data can boost loyalty and sales, and optimize inventory investment

Whether in-store or online, retailers should not only have the right merchandise, they also need to know what customers want in order to offer a personalized shopping experience. And the key to personalization is customer data.

By analyzing data from customer transactions, browsing behavior, and feedback, retailers can gain a deeper understanding of consumer preferences, behaviors, and purchase patterns. “About half of our sales are through our digital business, so we have access to a good amount of first-party customer data,” says Samir Desai, Chief Digital and Technology Officer, Abercrombie & Fitch Co. “One source of that data is our very successful and engaging loyalty programs that we’ve established for both of our brands—Abercrombie and Hollister. These programs give us the right ingredients to deliver a lot of insights using that data across merchandising, marketing, how we personalize the experience, how we think about inventory—in other words, all facets of the customer journey.”

E-commerce has accelerated personalization, unlocking customer preferences and using digital communications to engage with customers. For customers in store, loyalty programs can offer rewards, discounts, or points in exchange for signing up and providing personal details, to provide insights, and earn additional revenue from relevant, personalized offers.

Getting big benefits from existing investments: Increasing customer lifetime value (CLTV)

A Fortune 500 brand, seeking to unlock the full potential of its customer data, engaged KPMG to help enhance its CLTV performance. Our team helped the business clarify its strategic objectives, identify key value accelerators, and leverage data science to achieve measurable results. We showed the client how to use data science and models to identify 14 different segments—such as one-time purchasers, benefits-driven consumers, low-value long-term loyalists, high value potentials, and price sensitive consumers—and then categorize them into the highest and lowest potential. Then we helped them use a cross-sell recommendation engine, an upsell recommendation engine, and a dynamic pricing engine. We used purchase date decision engines to align inventory and replenishing with anticipated demand, and helped design targeted tactics by delivering effective and engaging personalized messages to key customer segments. When comparing the key performance indicators (KPIs) of customers where personalization was used against those where it was not, significant and measurable results were found—sales uplift more than doubled, upsell rates were three times higher in the test group versus the control group, and conversion rates were four to five percent higher.⁹

⁹ Source: KPMG: How China's Consumer Goods Brands are using their existing technology to drive Customer Lifetime Value, 2023

Data for profit

Data-powered merchandising can help to optimize profits and margins, but is only possible with effective inventory management, which is a fine balancing act. Too much merchandise ties up capital and too little risks stockouts and potential lost customers. Retailers need to be mindful of external signals and take advantage of third-party data, for example, when weather or other emergencies may lead to an increased need for canned goods. According to the KPMG CEO Outlook 2024, when asked about the greatest threats to their organizations' growth over the next 3 years, retail CEOs cited supply chain (23 percent), and geopolitics and political uncertainty (20 percent) as top concerns.¹⁰ Coping with significant supply chain disruptions, as well as an increasingly fragmented regulatory and tax environment, calls for a holistic approach to value chain management.

"The opportunity that we are continuously focused on is how do we use data and analytics to optimize inventory across all the different dimensions of our business, whether it be channels, regions, or seasons," says Samir Desai, Chief Digital and Technology Officer at Abercrombie & Fitch Co. "Ultimately, we want to continue to get better and better at making sure we have the right product at the right place and right time."

A study by Retalon found that retailers that use predictive analytics for inventory management can lower inventory costs by 25 to 40 percent, increase sales by 11 to 20 percent, and boost turnover by up to 3.5 times.¹¹ Real-time stock visibility can help alleviate inventory management pressures by illuminating demand patterns and supply chain performance, enabling swift, data-driven decisions.

To achieve inventory management visibility, companies need to pull together a wide range of data from up and down the supply chain and from warehouse to individual stores. That includes all inventory movements: inbound orders, advanced shipping notices (ASN) received at warehouse, in-transit to stores, received at stores, stock in warehouse, and stock on shelves. It also demands comprehensive sales data: all unit and dollar sales and consumption data, rate of sales by store, weeks on-hand by SKU by store, and lead time (distribution center [DC] to store, vendor to DC, vendor to store).

Aditya Birla Fashion and Retail Ltd. uses data to build a lasting customer journey

Aditya Birla Fashion and Retail Ltd., (ABFRL) a leading fashion retailer in India, recognizes the significance of data in understanding and engaging with its large customer base. With a vast network of over 4,500 exclusive stores and a strong online presence across marketplaces and its websites, the company caters to over 40 million loyal customers.

Data plays a crucial role in creating meaningful connections with customers throughout their brand journey. By analyzing data on purchase patterns, preferences, and customer behavior across both offline and online channels, ABFRL gains valuable insights into evolving customer needs.

These insights enable the company to curate personalized experiences, anticipate customer preferences, and seamlessly bridge the gap between its diverse portfolio of brands and its customers. By leveraging data-driven strategies, ABFRL aims to deliver innovative solutions and build win-win relationships that enhance both brand loyalty and customer satisfaction.

"The data that drives our stock flow is super important," explains The Very Group Chief Finance and Transformation Officer Ben Fletcher. "If I look at the last couple of Black Fridays since we've had our new logistics platform, which is data-informed in a way that the previous one wasn't, we can move from a customer placing an order, to having it at the back door of the warehouse in 16 minutes."

Gathering this inventory and transaction data may be a daunting task. But AI is fast becoming the new tool for inventory forecasting, with the potential to add increased efficiencies and accuracy to the process. And retail leaders are leaning into AI: 57 percent of consumer and retail (C&R) CEOs responding to the KPMG 2024 CEO Outlook believe transformative technologies and GenAI are a top investment priority. Ben Fletcher of The Very Group states

¹⁰ Source: KPMG CEO Outlook 2024

¹¹ Source: "Predictive Analytics Transforms Inventory Management in Retail," Retalon.com

that, “An area of focus for us is making sure that our data is in a state where it can be readily leveraged. When you think about GenAI tools, many will be external, and they’re going to need access to your data. You don’t want to take all of your data and move it around the world in the traditional model. So, you need to produce a layer on top of your data that you can leverage to make it accessible to any tool at any time in a safe way. This will be a game changer for us.”

AI-powered forecasting enhances inventory management, helping retailers balance customer needs with operational efficiency. Machine learning works well with replenishment algorithms integrated with demand forecasting. And unlike earlier technology, AI continuously learns based on past forecasting accuracy to update forecasts. Engaging AI can minimize stockouts and excess inventory while creating a responsive supply chain. To gain their cooperation, retailers need to convince suppliers that sharing data is better for their own business, giving them real-time retail sales reports for their products, which can help them improve account planning as well as sales and margins.

“Early adopters are yielding significant benefits,” confirms Martin Sokalski, U.S. Consulting Technology Leader for Consumer Retail. “AI-powered solutions are delivering quick returns in areas such as store operations, inventory management, and workforce enablement. Data, analytics, and AI are enabling retailers to more precisely identify opportunities for improving business outcomes including growth, operational efficiency, and customer experience.”

Expanding revenue streams with data

Data was once considered a cost; today it’s arguably the single biggest driver of revenue and growth. Those retailers that embed data into every aspect of their marketing and operations are likely to be one step ahead of the competition. And, with the right operating model, what was once considered a cost center can be transformed into a valuable asset. Data can be packaged and resold, unlocking a new revenue stream through data monetization—a strategy projected to reach \$16 billion in revenue by 2030 and one that demands the attention of retail executives.¹²

Data gives new clarity to supply chain capabilities at H&M

Clothing retailer H&M understood the benefit of data and AI many years ago, and has worked hard to get ahead of the curve. “We saw the potential then, and we continue to see the potential,” says Vijay Jerome, H&M’s Senior Vice President and Head of Global Operations. “It is definitely not an overblown or overhyped solution at this point in time. But of course, we have a lot of work to do to ensure that it is user friendly and great for our business users and consumers. That makes it a very exciting time to be in retail.” When it comes to fulfillment in H&M’s supply chain capabilities, Jerome believes this data helps the business understand business drivers with far greater clarity and granularity, enabling it to cross-reference data points across cities, seasons, continents, and product categories. The data also helps them better understand and interpret the lifecycle inflection points further in advance, informing decisions about what to offer customers, and when to bring products to market.



¹² Source: “Data Monetization Market Size, Share, Growth Report, 2030,” grandviewresearch.com



Retail media:

Retailers are increasingly recognizing opportunities to monetize their customer data by creating retail media networks to advertise to very specific customer segments, generating additional revenue streams. Emarketer reports that retail media will be the fastest-growing ad channel through 2027 and is forecasted to bring in \$140 billion in global ad spend in 2024.¹³

This treasure trove of first-party data allows retailers to offer advertisers highly targeted campaigns, reaching consumers at various touchpoints along their shopping journey. Imagine a customer browsing for running shoes online; retailers can leverage their data to serve up ads not just for shoes, but also for running apparel, fitness trackers, and even local marathon registrations—all tailored to the individual's preferences and purchase history. This level of precision and personalization is incredibly valuable to brands, making retail media a rapidly growing advertising segment. As more retailers launch their own media platforms and refine their data strategies, they are poised to capture a significant share of advertising dollars, transforming themselves from points-of-sale to powerful media players.



Other income sources:

Other ways in which data can generate new revenue include partnerships, data monetization, and subscription-based models, including partnering with logistics companies to leverage data and optimize delivery routes, generating additional revenue through shared efficiencies.



Credit and financial services:

Customer purchase history and preferences can be used to develop personalized credit offerings, loyalty programs with financial benefits, and other value-added services. Retailers can unlock lucrative revenue streams and deepen customer relationships, partnering with credit card companies to monetize their valuable customer data through tailored financial products. Products could range from co-branded credit cards with exclusive rewards and discounts to personalized financing options for big-ticket purchases. However, it is crucial to prioritize transparency and responsible data-sharing practices to maintain customer trust satisfy data privacy regulations.

The Very Group takes an end-to-end approach

UK-based The Very Group is a flexible payments company, where customers with significant lifetime value have an account that generates rich data insights showing their end-to-end shopping and credit journeys. Whereas a typical financial services institution views how people manage their credit, and a retailer can see how people shop, the Very Group brings these two capabilities together. This gives the company a far deeper knowledge of each customer, covering around 500 known or inferred attributes—around double what they could access five years ago. “It’s a really powerful data-gathering engine that we’re able to then use to inform our decision making,” says the company’s Chief Finance and Transformation Officer, Ben Fletcher.

¹³ Source: “Retail media is the fastest growing ad channel, but ‘is not invincible,’ our analyst warns,” Emarketer.com, December 4, 2023

What does this mean for sustainability?

Data helps retailers become more sustainable in their sourcing, production, logistics, and customer engagement.

Sophisticated data analysis can optimize inventory management, reducing overstocking and minimizing waste from unsold goods. And data transparency within supply chains allows for better traceability of raw materials and production processes, enabling retailers to identify and address environmental concerns at each stage.

By understanding customer preferences and behavior, retailers can also “nudge” consumers towards more sustainable choices, promoting eco-friendly products and practices.

Data analysis on returned goods highlights product issues (e.g., sizing, quality) or customer dissatisfaction, which can

inform design improvements, better product descriptions, or even adjustments to marketing campaigns, ultimately reducing returns, reducing waste, and lowering carbon emissions from shipping and processing.

However, the increasing reliance on data has its own environmental impact. The increasing reliance on data centers, while enabling these advancements, also raises concerns about their environmental impact. Data centers require significant energy to operate and cool, contributing to carbon emissions. The physical infrastructure and resource consumption associated with data storage and processing also present environmental concerns. Therefore, while embracing data as a tool for sustainability, the retail industry must also consider the environmental impacts of their data infrastructure.



Building your retail data advantage

Data-driven retail can personalize experiences and optimize operations, but many companies are struggling to translate this promise into reality. Rather than pursuing individual data initiatives, retailers should strive for a unified approach, to build a data foundation around six interconnected pillars:

01 The right operating model.

The sheer volume and velocity of data in retail demands an agile and scalable operating model. A retail-centric hub-and-spoke model, with a central hub housing core data functions (master data management, data governance, advanced analytics) and spokes extending to key retail areas (merchandising, supply chain, marketing and customer experience, store operations), can break down data silos and empower faster, more informed decision-making.

02 The right processes

Data without action is simply noise. Retailers need to establish clear processes that connect data to actionable insights across the value chain. This includes demand forecasting, merchandise planning, real-time inventory optimization, and customer experience management. By embedding data into core processes, retailers can create a more agile and responsive organization.

03 The right technology

Retailers should assess their technology stack, particularly regarding AI and advanced analytics. By embracing cutting-edge tools for data analysis, visualization, and AI/machine learning (ML) implementation, they can achieve new levels of efficiency, personalization, and profitability, by enhancing demand forecasting and customer service, optimizing product availability, and fine-tune pricing and promotions.

04 The right people

Technology is only as good as the people using it. Retailers need to assess their employees' technical and interpersonal skills, identifying gaps, and training and upskilling. Empowering frontline employees with data-driven insights and tools should enhance customer interactions and sales.

05 The right data literacy and culture

Data literacy must permeate every level of the organization, from the boardroom to the shop floor. This requires a cultural shift where people make their decisions on the basis of data-backed insights, and not just instinct. Fostering a data-driven culture involves training programs, accessible data visualization tools, and leadership commitment to data as an asset.

06 The right data quality: the foundation of reliable insights

Retailers need to identify the specific data required for key functions, trace data sources to ensure accuracy and completeness, and evaluate their analytics processes. By prioritizing data initiatives that align with business goals and drive tangible results, retailers can establish a foundation of reliable insights.



The most successful digital transformations in consumer and retail happen when CIOs prioritize a holistic technology strategy focused on driving business value, rather than just optimizing technology. A strategic approach goes beyond individual technical projects, to consider the long-term impact on consumer experience and overall business goals."

— Puneet Mansukhani, Head of Global Retail Digital Technology and Transformation, KPMG India

A collective effort

Gathering and making this data accessible requires a coordinated effort among several functions. The information technology department is often responsible for implementing and maintaining data-collection systems across all channels (e.g., POS systems, websites, apps). The marketing department typically leads customer data collection efforts through loyalty programs, surveys, and digital marketing initiatives. Customer service collects data through customer interactions and feedback, store operations gathers in-store data through sales transactions and customer interactions, and the e-commerce team collects online behavior and transaction data.



Maintaining customer trust in a digital world

Consumers expect their personal data to be protected and to be used only for specific, agreed purposes. Criminals and malicious hackers are finding new ways to obtain precious personal financial details. AI and automation brings another level of concern over the ethical use of data. And regulators are willing to impose large and significant penalties to companies that fail to meet required standards of privacy and security.

Data security and privacy calls for robust access and storage policies, strong governance, and a diligent culture. The chief data officer (CDO) or chief information officer (CIO) often has ultimate responsibility for data governance and strategy, while the marketing department usually owns customer-related data used for campaigns and personalization. Third-party data management companies or cloud service providers are often involved in storing and processing data.

AI in particular is the subject of several global regulatory proposals. Retailers need to think carefully about their own use of AI and automation, and indeed many already recognize this imperative. Retailers should adopt a

comprehensive and proactive approach to data security, encompassing technological solutions, employee training, legal compliance, and effective communication with customers to manage these challenges successfully. Eighty-four percent of consumer and retail CEOs agreed that a degree of regulation regarding GenAI should mirror that of climate commitments.¹⁴

Given their high profiles and vast customer databases, retailers are aware that at some time they will suffer a cyber attack. That is where preparation and resilience come in, and to minimize the damage, be open and honest with customers and the media, and quickly resolve the problem. Clear communication and a well-drilled recovery plan can assure customers and regulators and preserve retailers' reputations.

¹⁴ Source: KPMG CEO Outlook 2024

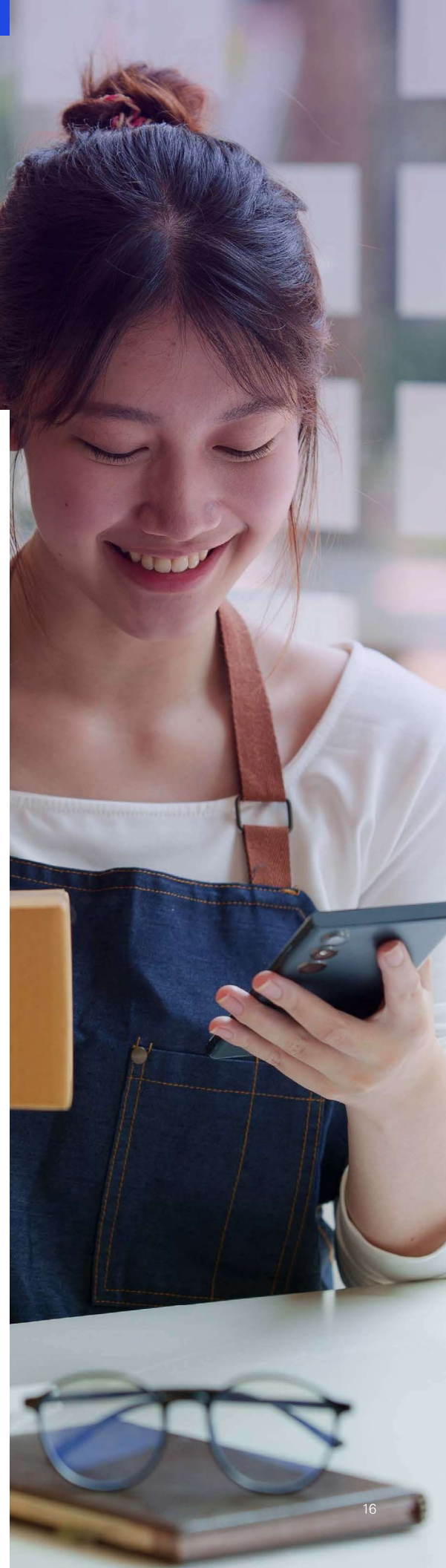
Conclusion

From data overload to seamless commerce

The vast amount of customer data made available by new technologies presents exciting opportunities to understand and anticipate consumer needs, tailor experiences, and optimize operations. The strategic application of data analytics can lead to improved decision-making in merchandising, dynamic pricing, supply chain management, and personalized customer interactions. Now, the advent of GenAI promises to further refine these capabilities, ushering in a new era of efficiency and customer-centricity.

However, the true potential of data lies not in its mere existence, but in its strategic application. Many retailers struggle to move beyond the hype, grappling with challenges like data silos, talent scarcity, and ethical considerations. The future of retail belongs to companies that can harness data and insights effectively to boost profits, optimize inventory, empower employees, customize products, and foster customer loyalty through personalization. According to US Consulting Leader, Consumer & Retail, Sam Ganga, “To survive, retailers have to figure out how to leverage data to unlock profitable growth. Given margin pressures, organizations need to spend fewer resources on taming data, and more time and dollars on insights.”

By embracing data as a strategic asset, retailers can not only adapt to the changing landscape, but can also actively shape it, creating a future where personalized experiences, agile supply chains, and sustainable practices are the norm.



How KPMG can help

KPMG is a leader in data modernization services¹⁵ and can help retailers navigate the complex world of data and analytics by providing a comprehensive suite of services:

01 Data strategy development:

KPMG professionals work with retailers to assess their current data capabilities, identify gaps and opportunities, and develop a tailored roadmap for data transformation. This includes establishing robust data governance frameworks, defining data ownership, and designing scalable data architectures that ensure responsible data collection, usage, and storage while complying with privacy regulations and building customer trust.

02 Technology enablement:

We help select and implement the right technology solutions to support retailers' data strategy, such as data warehousing, analytics, visualization, and AI/ML applications, as well as supporting cloud migration and data modernization efforts to build a flexible and scalable data infrastructure. We also help retailers integrate data across different systems and automate data processes to improve efficiency and reduce errors.

03 Analytics and insights generation:

We help unlock the power of data by providing deep insights into customer behavior, operational efficiency, and future trends. This includes leveraging customer analytics to personalize marketing and enhance customer experiences, using operational analytics to optimize inventory management and supply chain operations, and harnessing predictive analytics and AI to forecast demand and make data-driven decisions. We also help retailers segment their customer base to enable targeted marketing and personalized experiences.

04 Customer experience:

KPMG Customer Experience services add value at every stage of the customer experience lifecycle, from strategy development to execution. Leveraging its Six Pillars of Customer Experience Excellence framework—Integrity, Resolution, Expectations, Time and effort, Personalization, and Empathy—KPMG firms help retailers deliver outstanding customer experiences by providing a holistic approach to improving every aspect of customer interaction.

05 Trusted AI:

We guide retailers in developing and deploying AI systems that are not only effective but also responsible and ethical. This includes ensuring fairness, transparency, and accountability in AI development, establishing governance frameworks and risk mitigation strategies, and enabling retailers to understand and explain the decisions made by AI systems to build trust and transparency with customers and stakeholders.

06 Cybersecurity and data protection:

We help organizations protect their valuable data assets and maintain customer trust, by assessing their cybersecurity posture, identifying vulnerabilities, and developing a detailed strategy to mitigate risks. We also implement solutions to prevent data breaches, detect threats, and respond effectively to security incidents, while providing guidance on data security regulations and leading practices to ensure compliance and protect customer data.

¹⁴ Source: IDC MarketScape

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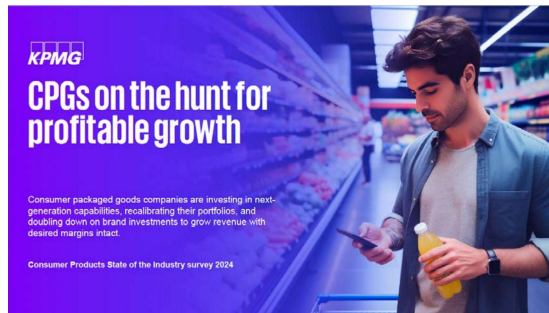
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