



EBOOK

Navigating the new world of digital commerce in retail

How leading retailers are transforming the industry
with next-generation technologies in the cloud

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The rise of digital commerce

Although digital commerce¹ has been around for almost three decades, growth has recently accelerated, fueled by the rise of new cloud-based technologies and the emergence of mobile devices and omnichannel fulfillment. Retailers have been caught up in the digital commerce whirlwind as consumers increasingly demand more from their brands, including anytime-anywhere shopping, better buying experiences, and consistently great delivery and service.

Today, consumers are spending more time browsing and buying on an increasing number of digital channels. Ecommerce sales have soared to \$870 billion in the U.S. in 2021, a 14.2% increase over 2020 and a 50.5% increase over 2019.² Ecommerce represented 13.2% of all retail sales in 2021 in the U.S.³ A lot of the increase is coming from a surge in retail ecommerce sales from mobile devices, which is projected to surpass \$430 billion in the U.S. in 2022, an almost twofold growth since 2019, before the COVID-19 pandemic.⁴

The trend doesn't appear to be slowing down. By 2025, digital shoppers worldwide will spend \$7.391 trillion online,⁵ and ecommerce is on track to make up nearly 25% of global total retail sales by 2025. That same year, ecommerce sales in the U.S. expected to top \$1 trillion for the first time.

Digital commerce keeps widening its orbit, moving from basic home delivery to encompass a myriad of omnichannel transactions: From 2020 to 2021, there has been a 67% increase in "buy online, pickup in-store" (BOPIS) sales. Interestingly, 30% of customers actually prefer that option.⁶

¹ Gartner defines digital commerce as "[enabling customers to purchase goods and services through an interactive and self-service experience.](#)"

² Source: [emarketer-2022-global-ecommerce-forecast-report](#)

³ Source: [emarketer-2022-global-ecommerce-forecast-report](#)

⁴ <https://www.statista.com/topics/1185/mobile-commerce/#dossierKeyfigures>

⁵ Source: Emarketer 2022 global ecommerce forecast

⁶ <https://blog.adobe.com/en/publish/2021/03/15/adobe-digital-economy-index-covid-19-report.html#gs.vp9leo>

This ebook provides a view into current trends to help retailers become familiar with relevant technologies as well as a perspective of how the industry is heading into the metaverse age.

We will de-mystify the concept of the metaverse so you can have business impact today—with first-mover advantage.

A brief history of digital commerce⁷

1990s



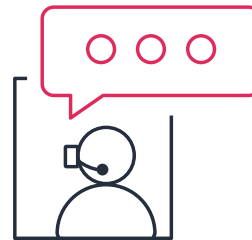
Infancy

Determining how to serve customers' basic needs of finding and purchasing products online

2010s

Optimization

Vendor consolidation, migration to the cloud, and faster delivery



Maturity

Cloud and microservices emerge, as well as clear industry trends like omnichannel and mobile

2000s



Machine learning and artificial intelligence

Leveraging ML and AI to automate fulfillment and deliver personalized experiences to customers

2020s



⁷ Source: [Brief history of digital commerce](#)

The current challenges of digital commerce

Fueled by the digital revolution and recent economic disruptions, consumer behavior has shifted markedly in recent years, leaving many retailers scrambling to figure out where to invest money and effort to continue to grow their brands.

Many large-scale retailers have made significant IT investments in digital commerce – and in the wake of the pandemic, it's largely paid off. But despite the rush to digital commerce, it's still hard for many retailers to take full advantage of the new possibilities and the impact it's having on consumer experiences. Even today, somewhat surprisingly, [80% of sales still involve physical stores](#).

To unlock the potential of digital commerce, retailers are seeking a fresh approach – and this will require new technologies and a new digital architecture, largely leveraging modern cloud-based solutions and services. It's becoming clear that many current and legacy retail ecommerce systems – typically built in the form of “monolithic” applications⁸ – are hard to scale, difficult to manage, and don't provide the flexibility needed to meet the buyer anywhere anytime.

⁸ https://en.wikipedia.org/wiki/Monolithic_application

Key challenges

To match the competition and break new ground in the market, leading retailers will need to innovate faster and master an ever-evolving omnichannel operating environment that consumers now expect, indeed demand. Here are key digital commerce challenges retailers face today.



Scaling flexibly to meet customer demand

The world of digital commerce is notoriously volatile. Retailers need to support peak demand periods while also scaling out innovative new capabilities as they begin to gain traction. Retailers need a platform that cost-effectively supports all of their digital channels and responds rapidly to deliver compelling customer experiences.



Innovating faster

Evolving customer preferences and new technologies are rapidly transforming digital commerce. Increasingly, retailers need the ability to experiment with new ideas and build them out quickly to realize business value from their digital commerce initiatives. They need to increase conversions and reach new customers with capabilities such as real-time streaming, artificial intelligence, conversational commerce, personalization, and other features deployed across channels.



Delivering consistent experiences across digital channels

Retailers can no longer view digital commerce as simply a “channel” but rather as an integral part of customer experience that needs to be unified across more traditional experiences.

“Monolithic digital commerce applications cannot support the agility and flexibility needed to support fast moving digital business. Organizations will need to move toward composable commerce to keep up with the pace of change in customer demand.”

- 2021 Gartner®: Composable Commerce Must Be Adopted for the Future of Applications.

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4 steps to building a smart digital commerce platform

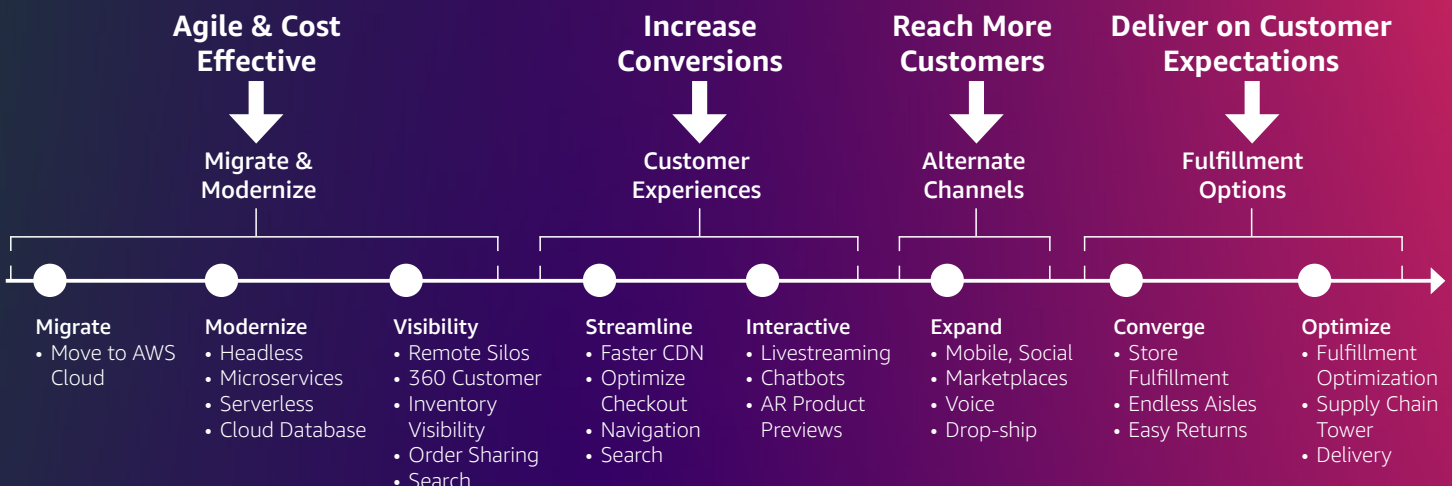
How should retailers design and build an ecommerce platform built for today's digital economy? Every retailer is different but AWS recommends a four-step process that is flexible enough to fit a wide range of businesses and maturity levels. Begin your journey with the goal of locking in quick wins while continuing to get the most out of your existing digital investments. Along the way, you'll want to build out new cloud capabilities and expertise as part of modernizing your systems to deliver exceptional customer experiences.

The four steps in the digital commerce journey:

- 1. Create an agile and cost-effective digital commerce solution.** To build a robust digital platform, start by your migrating your IT infrastructure to the cloud on AWS. Next, modernize your applications by using microservices technologies to "decompose" your ecommerce infrastructure, making your apps more flexible and faster to build.
- 2. Maximize customer experiences** to increase conversions
- 3. Reach more customers** with tools and techniques to expand digital communications and channels
- 4. Deliver on customer expectations**

By following this four-step process (illustrated below), retailers can start on their digital commerce journey quickly while optimizing costs and driving innovation.

Digital Commerce Journey



Step #1

Build an agile and cost-effective digital commerce platform

Migrate and modernize

The goal of every retailer is to provide the best possible shopping experience by reducing friction throughout the customer journey and merging traditionally distinct channels so customers can move seamlessly between them. This has long been the promise of “omnichannel” and it is key to building an agile and cost-effective digital commerce solution.

Increasingly retailers are migrating their legacy digital commerce platform to the cloud to take advantage of its power, versatility, and cost-effectiveness. Retailers are now equipped to modernize their IT infrastructure – and for most retailers, this means embracing an agile microservices architecture for their digital commerce platform.

Unlike traditional monolithic apps, retailers can use microservices to “decompose” applications into separate business functions – such as a payment process or loyalty benefits calculation – tied together by APIs. These functions can be rearranged or “composed” to build innovative new commerce applications at scale. Composable apps go hand in hand with “headless commerce,” an approach in which retailers separate their back-end services from their front-end experiences such as a point-of-sale system, an ecommerce website, or a mobile app interface.

Delivering value

Adopting composable and headless apps, powered by microservices, helps retailers unify and personalize the shopper experience, reduce maintenance costs, and gain greater business agility and innovation at scale. Developers can change, test, and deploy headless apps without impacting the rest of the solution, increasing agility and reliability.

Migrating to AWS Cloud gives retailers a range of benefits, including on-demand scalability, improved flexibility, greater availability, and better security—all while lowering costs by up to 50%. Retailers can then apply these savings to modernize the rest of the IT infrastructure to outpace the competition and widen margins.

“By 2023, organizations that have adopted a composable approach will outpace competition by 80% in the speed of new feature implementation.”

- 2021 Gartner®: Composable Commerce Must Be Adopted for the Future of Applications.

How to get there

Retailers can begin by lifting-and-shifting their legacy apps to the cloud, helping jump-start their journey to a modern digital commerce platform. They'll garner savings in the cloud and maximize their existing investments on their way to adopting a modern retail architecture. Over time, retailers can progressively redirect investment into their microservices-based platform and systematically phase out their older monolithic systems.

To stay ahead of the market, retailers can benefit by joining industry associations that enable retailers to share best practices and encourage industry innovation. (See callout.)

Committed to MACH

[AWS joined the MACH Alliance](#) in 2022 to help create a common ecommerce architecture to give more freedom to retailers to mix and match solutions, deliver new features, and build a great customer experience. MACH, which stands for Microservices, API-first, Cloud-native, and Headless, helps to facilitate innovation and better support enterprises, retailers, and CPG companies worldwide.

How AWS can help

Today, the AWS Cloud is home to thousands of global retailers that use the platform to take advantage of its on-demand scalability and reliability, immediately helping improve the functionality of their website, enhance the customer experience, and control costs with pay-as-you-go pricing.

AWS and its partners can move your apps to the cloud quickly so you can leverage its performance, scalability, and savings right away. AWS digital commerce solutions automatically minimize application downtime and latency to ensure faster page loads, prompting customers to spend more time making purchases online. In a digital commerce market that is increasingly volatile, AWS can help retailers tap flexible, elastic cloud services that easily scale up or down depending on demand, so you only pay for what you use.

Driving success with AWS

[Sainsbury's](#) stays future-ready with cloud transformation

Founded in 1861, Sainsbury's is the UK's second-largest supermarket chain with nearly 1,750 stores. Around 20 percent of its sales revenue comes from online transactions. In 2017 the group saw the need to improve its online grocery business, but its traditional IT infrastructure made it difficult to use data and ML to understand its customers. By moving to Amazon Web Services (AWS), the group now has multiple product releases a day compared to five to six releases a year. As a result, customer engagement has improved fivefold.

[Vend](#) Reduces infrastructure costs by 40% with AWS

Founded in New Zealand in 2010, [Vend](#) is a cloud-based point-of-sale and retail-management solution used by retailers in more than 140 countries to streamline all retail-related tasks – from payment cards to loyalty programs – in one system. Vend wanted to improve these features with a state-of-the-art infrastructure but had trouble achieving this with smaller hosting providers. The answer: the company migrated to Amazon Web Services (AWS) and now runs its POS software using more than six AWS services, including [Amazon Elastic Compute Cloud](#) (Amazon EC2), [Amazon Simple Storage Service](#) (Amazon S3), and an [Amazon Redshift](#) data warehouse. The company estimates that AWS has enabled Vend to reduce overall infrastructure costs by 40 percent while roughly doubling the number of sales its retailers process. The business has also seen a 40 percent reduction in average latency while delivering more than 99.9 percent availability levels.

Step #2

Increase conversions

Turning experiences into sales

With any ecommerce site, the goal is to increase conversions through powerful customer experiences. Simply put, retailers want to ensure that new customers coming to their site end up buying something. One of the best ways to make this happen is by reducing “friction” in every step of buying journey. That could mean minimizing slow page loads, reducing login requirements, making searches faster and easier, and limiting multi-page checkouts.

Delivering value

Removing these points of friction is a proven way to enhance the customer experience, boost customer conversions, and build brand loyalty and community. Creating fresh, differentiated online experiences and features – such as augmented reality, personalization, [and live-stream shopping](#) – can help consumers discover new products, gain confidence in a purchase, add more items to their cart, and quickly navigate checkout.

How to get there

Retailers don't need to reinvent the wheel to build more engaging customer experiences. By moving to AWS, they can take advantage of pre-packaged tools that streamline and standardize their digital commerce operations and drive more conversions and sales. AWS is continually investing in new ecommerce tools and solutions, and expanding its AWS Partner communities. Retailers can now develop their own product innovations with substantially less risk and human and capital resources.

To increase conversions, innovative retailers are designing new “immersive retail” experiences that target digitally native consumers. AWS provides retailers with the new level of computing power needed to support these experiences, including a real-time graphics compute services that can generate and store terabytes of 3D content and create seamless virtual gaming-style environments.

How AWS can help

AWS and its partners work with retailers to offer a growing array of digital commerce solutions designed to optimize customer experiences, drive operational efficiency, and increase sales.

- **Personalization**—With [Amazon Personalize](#), retailers can use ML technology to deliver an array of personalization experiences, including specific product recommendations, personalized product re-ranking, and direct marketing.
- **Livestreaming**—With [Amazon IVS](#) retailers can produce low-latency live videos that mix entertainment and shopping.
- **Powerful search**—Retailers can leverage [Amazon OpenSearch Service](#) to help their customers quickly discover items that match their interests, increase online sales and fueling brand loyalty.
- **Fast content delivery**—Using [Amazon CloudFront](#), retailers can securely deliver content with low latency and high transfer speeds, boosting website and video streaming performance
- **Chatbots**—With [Amazon Lex](#), retailers can build chatbots with conversational AI to drive traffic through more channels.
- **3D product visualization and virtual try-on via mobile**—AWS Partner [Hexa](#) simplifies this process and reduces the costs, offering retailers an economical way to help customers visualize their products.
- **Virtual stores**—AWS helps retailers provide a 3-D walk through of an actual store, enabling shoppers to browse items as if they were physically in the store. AWS Partner [Obsess](#) is a leader in helping retailers build out this capability.

The power of immersive retail

By leveraging 3D websites, augmented reality, virtual stores, direct-to-avatar (D2A) commerce, and more, retailers bring the in-store shopping experiences online and keep visitors around longer. Featuring interfaces optimized for easy transacting via social, mobile, and voice, immersive retail solutions help retailers propel sales while keeping their brand up in tune with digital trendsetters. In the realm of immersive retail, AWS and its partners are pioneers in new metaverse-inspired technologies and solutions designed to transform the buyer experience.

Driving success with AWS

[Pomelo Fashion](#) enhances shoppers' experience, increases revenue using Amazon Personalize

Pomelo Fashion, a global fashion ecommerce service based in Southeast Asia, had been displaying items on its website in much the same way since it was founded in 2013. The setup had grown stale, and the algorithm for displaying items was outdated and error prone. Pomelo Fashion turned to Amazon Web Services (AWS) and used [Amazon Personalize](#) to help developers build real-time personalized recommendations that boost customer engagement and convert it into sales.

[Zappos](#) creates breakthrough customer experiences using AWS

Established in 1999, Zappos.com is a major online apparel retailer famous for its industry-leading, 365-day return policy, fast and free shipping, and 24/7 service. The company prides itself on achieving a great personal experience in its digital store, but it needed a modern digital commerce infrastructure to deliver on this promise. By moving to AWS, the company measurably improved the ecommerce customer experience. Using analytics and machine learning built on Amazon Web Services (AWS) Zappos could personalize sizing and search results for individual users while preserving a highly fluid and responsive user experience. Zappos delivered improved search results to customers with a nearly undetectable increase in latency, with 99 percent of searches completed in less than 48 milliseconds.

Step #3

Reach more customers

Expanding retail's base

As retailers modernize with the latest cloud-based digital commerce platforms, the next challenge is how to pull in even more customers. It's no surprise that forward-looking retailers are searching for new strategies and more channels to interact with customers and remove friction from the product discovery and buying experience.

Customers today expect more from the retailers and brands they do business with, including access to preferred service channels, self-help options, personalized experiences, and robust data protection and privacy. To reach this next generation of customers, retailers need to support advanced communications and buying experiences, from online marketplaces to multichannel digital marketing and "social commerce" platforms.

Delivering value

By embracing omnichannel digital commerce, retailers can reach more people and deliver more value to their customers and business. You secure customer loyalty while enhancing sales and margins at the same time.

With the help of technologies like personalization, machine learning, and advanced analytics, retail marketers can reach the right customers at the right time with the right message. The latest marketing communications platforms, for example, allow retailers to segment their audiences for the right group of customers and personalize their messages with the right content. You can expand your customer's journey across custom channels, email, SMS and push notifications – or reach out to millions at once with bulk communications.

New social commerce platforms, where merchants sell products directly through social media, allow potential customers to interact with brands, browse products and make purchases wherever they are. The value potential is enormous: Today, Facebook, Instagram, YouTube, and TikTok, reach over 4 billion active users per month.⁹

According to eMarketer, the U.S. social ecommerce market skyrocketed by almost 38% to \$26.77 billion in 2020 and is expected to surpass \$50 billion annually by 2023.

⁹ <https://datareportal.com/social-media-users>

How to get there

Digital marketers in retail will need to pursue a diversity of approaches. Depending on your target audience, strategies might include digital ads, email marketing, text messaging, and curated social media content. Retailers can venture into the social commerce space, track the outcomes, and adjust tactics continuously.

And if you're a retailer seeking to broaden your partner and vendor ecosystems, now is the time to explore setting up a cost-effective digital marketplace where vendors can sell products for a fee, much like Amazon. It's a great way to extend the reach of your brand to a virtually unlimited community of potential customers.

How AWS can help

Thousands of retail companies around the world work with AWS and its partners to design and build leading-edge digital commerce platforms. These include:

- **Digital goods and product placements**—AWS can help retailers place products in existing popular virtual reality games, helping draw in more customers.
- **Create automated, intelligent marketing systems**—AWS provides enabling services like [Amazon Pinpoint](#), [Amazon Advertising](#), and [Amazon Simple Notification Service \(Amazon SNS\)](#) that can take your messages to new people through new channels.

Amazon Pinpoint is a flexible and scalable outbound and inbound marketing service to connect with customers over email, SMS, push, voice, in-app messages. Amazon has relationships with the top email providers, telecoms, and spam advisories to ensure the highest customer delivery rates.

- **Build online marketplaces**—AWS and its partners work with companies to design and launch online marketplaces. AWS Partner [Marketplacer](#) offers a plug-and-play platform that facilitates the capability to create scalable marketplaces for products, services, events and bookings.

In 2020 in U.S., 57% of B2C ecommerce sales flowed through marketplaces.¹⁰

¹⁰ Forrester Research, <https://www.retailtouchpoints.com/features/news-briefs/lands-end-launches-marketplace-with-24-third-party-sellers>

Driving success with AWS

Bata puts its best foot forward with AWS and Vinculum

A world leader in shoemaking, Bata had begun to expand its online retail presence but discovered that its legacy systems couldn't keep up with the drastic fluctuations in online shopping patterns during the pandemic, crimping its ambitious growth goals. To stay on track, Bata turned to AWS Retail Competency Partner Vinculum and its [Vin eRetail](#) solution powered by AWS. The move paid off, offering a great combination of marketplace integration, order orchestration and fulfillment, and warehouse management capabilities in one solution. Bata vastly improve its brand experience by reducing its inventory update time by 99% and improving key marketplace KPIs, which propelled a doubling of its growth in the last year.

Online snack retailer [Snaq.me](#) pinpoints customers with personalized messages

Japan-based [snaq.me](#) is an online snack retailer delivering personalized healthy snacks to a growing community of roughly 50,000 customers per month. To reach its audience with timely product and service messages, the company previously used its own in-house developed push notification system, but the data sets were unorganized and inaccurate, making it hard to target the right people with the right messages at the right time. The company switch to [Amazon Pinpoint](#), a flexible and scalable outbound and inbound marketing communications service that enabled it to deliver notifications with more information on customer snacks (such as sales and new products) to the appropriate audience. After migrating to Amazon Pinpoint, [snaq.me](#) has seen a four-hour reduction in its daily operational routines and three times more sales revenue per day.

Step #4

Deliver on customer expectations

Delighting your customer

You've built a robust digital storefront and it's attracting new customers with modern and compelling shopping experiences. Sales are heading up and your ecommerce infrastructure is delivering solid performance and helping control costs. But will your customers stay with you over the long run? Are they consistently satisfied with your customer service? How do you ensure customer loyalty year after year?

Much of that depends on how well you support all the ways your customers want to shop and how well you efficiently fulfill orders. That means routinely covering the basics: delivering the right product to the right place at the right time for the customer.

To give customers all the delivery options they need, innovative retailers are offering a growing menu of fulfillment options, including buy online, pick up in-store (BOPIS), buy online, ship in-store (BOSFS), and even reserve online, pickup in-store (ROPIS). They also offer "endless aisles" so they can ship a product directly to a customer if it's not available in-store.

And because returns are inevitable, leading retailers also make the return and exchange process as easy and efficient as possible. Depending on your products and customer profile, you might also want to offer [appointment scheduling](#) and third-party delivery and returns.

Delivering value

Tying these complex customer service and logistics processes together can be challenging. Traditional call centers can help but they're expensive to maintain and difficult to scale on short notice. A new breed of service technologies can help retailers orchestrate these processes in the cloud and seamlessly integrate fulfillment across multiple channels.

Migrating to a modern cloud-based contact center can pay off with happier customer interactions and lower overhead. [Using Amazon Connect](#), for example, retailers can reduce call volume by as much as 24% while saving up to 80% compared to traditional contact center solutions.¹¹

“Companies with a CX mindset drive revenue 4-8% higher than their competitive counterparts.”

- Bain & Company¹²

¹¹ <https://aws.amazon.com/blogs/contact-center/amazon-connect-costs-less/>

¹² <https://www.bain.com/insights/are-you-experienced-infographic/>

How to get there

Reinventing your contact center is a good place to make an immediate impact on customer satisfaction and loyalty. Retailers can set up a cloud contact center in minutes, personalize the interactions with AI and ML, and lift agent productivity from day one.

To ensure their fulfillment operations can deliver on orders, retailers can build new cloud-based systems that provide accurate, real-time visibility into inventory levels and more agile logistics capabilities across channels. Robust fulfillment systems are essential for just-in-time delivery and seamless returns capabilities – a must-have capability retailers that plan to keep customers satisfied over the long run.

How AWS can help

For more than two decades, AWS has been helping retailers design and build solutions that delight their customers with shopping, delivery and service experiences that are consistently great. Here's just a sample of how AWS solutions can help.

- **Omnichannel fulfillment**—AWS supports all the ways customers want to shop and provides efficient fulfillment of order and follows up with a seamless customer service and returns experience.
- **Fast, efficient service interactions**—[Amazon Connect](#) provides superior customer service at a lower cost with an easy-to-use omnichannel cloud contact center
- **Intelligent supply chain**—AWS can help retailers optimize their supply chains with

purpose-built analytics, machine learning (ML), and automation. Manage inventory accurately and provide fulfillment visibility to customers with [Amazon Location Service and AWS Amplify](#).

- **Smart stores**—AWS helps companies reinvent their brick-and-mortar stores with [cloud solutions](#) that make shopping fast, frictionless and engaging.
- **Reduced customer churn**—AWS analytics solutions such as [Athena and Sagemaker](#) can help retailers retain existing customers and build a loyal fan base.
- **Last mile fulfillment**—AWS and its partners are empowering retailers with a unified cloud platform that powers on-demand and scheduled delivery, BOPIS, curbside pickups and more.

By 2023, 78% of logistics companies anticipate offering same-day delivery and 39% of companies think that items will be delivered in a two-hour window by 2028.¹³

¹³ Zebra Technologies, [Future of Fulfillment Vision Study](#).

Driving success with AWS

[Morrisons](#) delivers a self-serve contact center in 8 weeks on Amazon Connect

Leading up to its peak season at the end of 2019, Morrisons, one of the UK's largest grocery chains, wanted to update its contact center to better serve its 11 million weekly customers. That's when it migrated to [Amazon Connect](#), a cloud-based omnichannel contact center tool capable of automated interactions. In just 8 weeks, Morrisons designed and implemented an agile, scalable solution that enabled the company to deliver a new customer experience and become operationally self-sufficient.

[Kurt Geiger](#) brings its unique in-store experiences to online customers

Kurt Geiger, a leading luxury footwear and accessories global brand, is well known for its high-end shoes and accessories, including some unique brands, and for its stylish in-store shopping experiences. The company's digital team has been investing heavily in bringing those same in-person experiences to their online customers. But there was a problem: 25% of their site visits were being disrupted by "customer journey hijacking" – that's when unauthorized products ads appear on consumer devices and browsers, distracting customers from completing their sale. AWS Partner [Namogoo](#) helped solve this problem with an innovative machine learning solution that blocks these unauthorized ads in real time. As a result, Kurt Geiger is able to increase online conversion rates by 6%, and recovered over £4M in revenue with Namogoo.

Next steps

As digital commerce continues to grow and evolve, the most successful retailers will continue to innovate and embrace better ways to enhance the online shopping experience. They will also continue to optimize all aspects of their sales and supply chain operations to drive growth while keeping the digital commerce organization efficient and cost-effective.

The principles outlined in this ebook – creating an agile and cost-effective digital commerce platform; increasing conversions; expanding your customer base; and consistently delivering great fulfillment experiences – will continue to put retailers in an advantageous position for navigating the future of one of the most dynamic sectors of our economy.

Why AWS for Digital Commerce Transformations?

Born and tested in retail, AWS is uniquely positioned to deliver digital commerce strategies and capabilities to retailers.

As a leading innovator in the retail industry, we are customer obsessed and boast a ten-year head start in cloud services, leading this key technology sector, and AWS was an early pioneer pursuing a microservices-based architecture. Our agile, high-performance infrastructure enables retailers to experiment faster and seize market opportunities ahead of competitors.

With AWS, retailers can envision the experience they want to deliver and work backwards to make that a reality by leveraging the broadest set of retail technologies and services in the industry. In the process, retailers can connect to more innovations and resources through our expansive and ever-growing AWS Retail Competency Partner community. [AWS Retail Competency](#) Partners provide innovative technology offerings that accelerate retailers' modernization and innovation journey across all areas in the enterprise.

To find out how retailers can easily procure, deploy, and manage purpose-built for the industry, explore the [AWS Marketplace Retail Solutions](#) hub where you'll find a curated list of third-party retail solutions to help brands accelerate innovation, optimize operations, and improve business insights.

If your company is seeking a digital commerce transformation, AWS is your bold leap forward.

Contact AWS today

- [Contact](#) AWS today to discuss your immersive retail needs.
- Learn more about [AWS solutions for the retail industry](#).
- Find out how the [AWS Professional Services](#) team can help you design and implement solutions to simplify your organization.
- Find an [AWS Partner](#) offering purpose-built solutions for retail, to help you simplify and scale.

About AWS

For over 15 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud offering. AWS has been continually expanding its services to support virtually any cloud workload, and it now has more than 200 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 81 Availability Zones within 25 geographic regions, with announced plans for 21 more Availability Zones and seven more AWS Regions in Australia, India, Indonesia, Israel, Spain, Switzerland, and the United Arab Emirates. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs. To learn more about AWS, visit aws.amazon.com.

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Before joining AWS, David developed retail technology solutions at Infor Retail, Oracle Retail, 360Commerce, Circuit City, AMF Bowling, and Schlumberger's retail and banking division. David spent several years working with NRF-ARTS on technology standards, is on the advisory board for the MACH Alliance, and supports the Retail Orphan Initiative charity. He holds degrees from Virginia Tech and Penn State.



Vince Koh leads worldwide strategy and thought leadership for Digital Commerce at AWS.

In collaboration with the AWS Retail and CPG leadership teams, Vince works to shape and deliver go-to-market strategies and innovative solutions for consumer enterprises looking for guidance on how to transform their businesses with new capabilities for online, social, and mobile commerce, and how to connect the dots to create a unified commerce experience. Across his 15-year career, Vince has led digital commerce for both global enterprises and high-growth startups, developing and executing direct-to-consumer (DTC), marketplace, and omnichannel retail initiatives. Prior to joining AWS, Vince served as SVP of Commerce & Conversion at Weber Shandwick; VP of Ecommerce for Iconix Brand Group; led merchandising, strategy, and operations at venture capital backed startups (Keaton Row & Fab); and led global retail consulting projects at Accenture. He holds an MBA from Cornell University's SC Johnson Graduate School of Management.