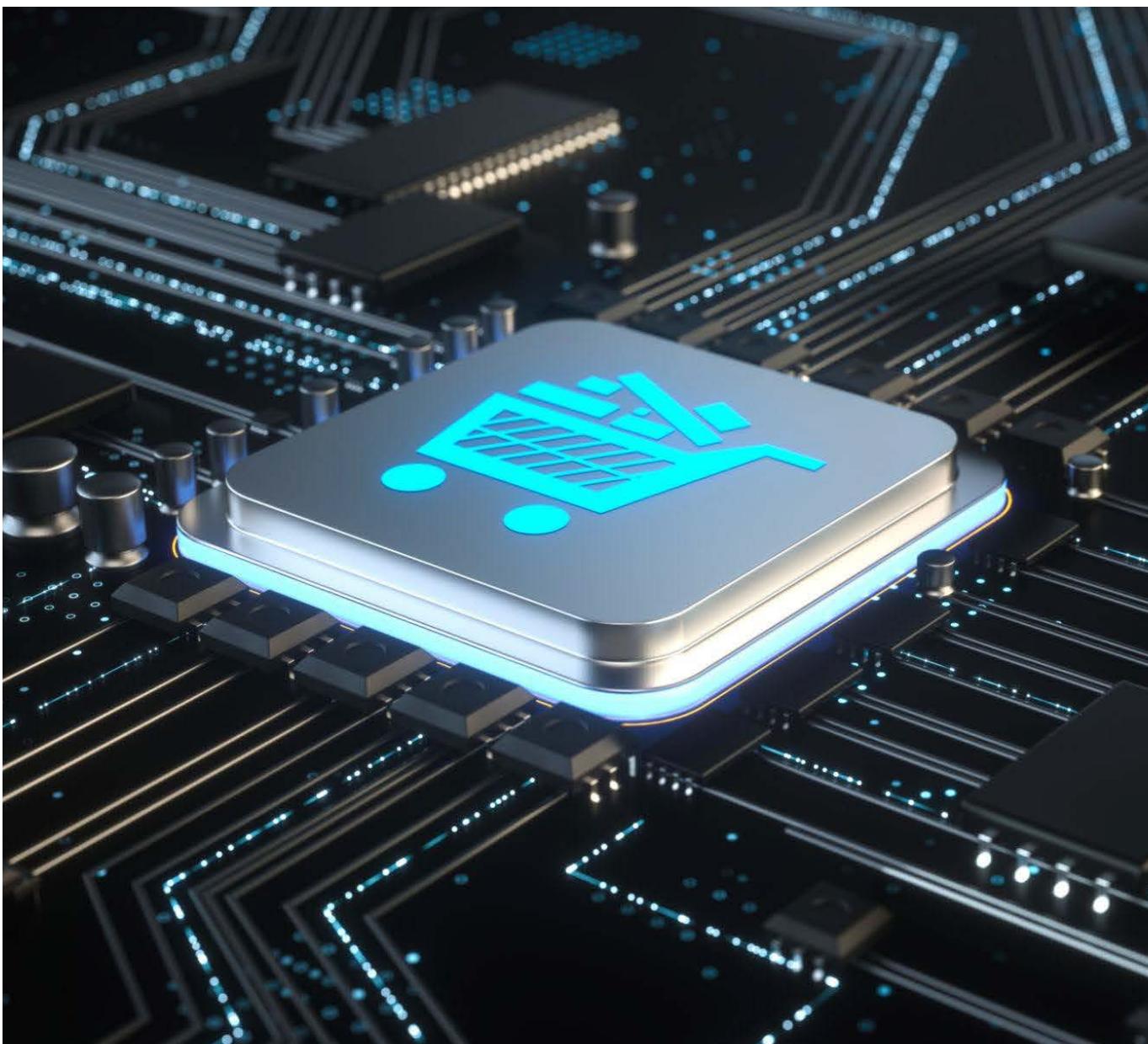




State of the API Economy

Retail Report



Introduction

Even before the novel coronavirus took its toll on retail, the footprint of physical stores was [shrinking](#). Retail space has diminished every year from 2010 to 2018, and online shopping is thought to be a big reason why.

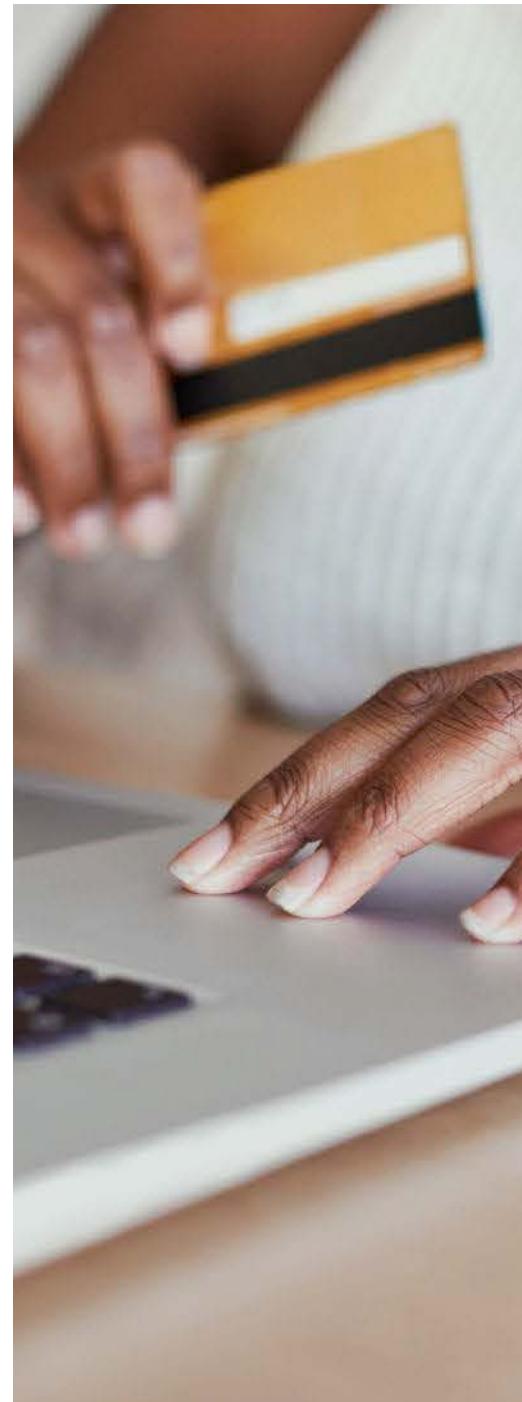
COVID-19 exacerbated this already-growing problem. During the pandemic, [250,000 stores](#) closed at least temporarily in the U.S. alone—accounting for 60 percent of the country's retail space. The dominance of big department stores, in particular, seems to have [come to an end](#), as Macy's, Nordstrom, Lord & Taylor, and other giants have shuttered multiple locations.

Savvy merchants pivoted their business models and expanded their online presence. Walmart, for instance, started a digital marketplace in order to claim market share in the increasingly competitive e-commerce arena. This shift worked well for retailers everywhere: The 2020 holiday season [broke online sales records](#).

For retailers, the writing is on the proverbial wall. Online shopping is here to stay. Post-pandemic, consumers are [unlikely to revert](#) to their former shopping habits, experts predict.

According to [McKinsey](#), 62 percent of organizations expect consumers to continue their new shopping behaviors post-COVID. One reason: Leading retailers have made digital purchasing easier than ever, with many consumers enjoying services such as contactless, same-day delivery. How are retailers providing these new offerings? They're using application programming interfaces or APIs.

APIs are sets of code that allow even the most disparate applications to share data and work together. They enable retailers to serve customers better, streamline business operations, reduce losses, and gain revenue from new sources.



Retailers are at the forefront of API use, which permeates every business sector. Merchants understand the importance of going digital and are using the same technologies their customers are using. As Google Cloud's [The State of API Economy 2021](#) report indicates, even retailers who are lagging in API usage plan to catch up quickly.

Some 43 percent of survey respondents for our report said they plan to invest more on accelerating digital transformation programs—a response rate that leads the way among all sectors. Globally, retail organizations plan to speed up application development (54%) and connect internal applications (61%)—tasks that require APIs.

APIs enable retailers to provide the digital experiences consumers want and expect, as well as many they haven't yet imagined. And [Google Cloud's API Management Platform](#) is helping many retailers use APIs in powerful ways by orchestrating and integrating their API solutions.



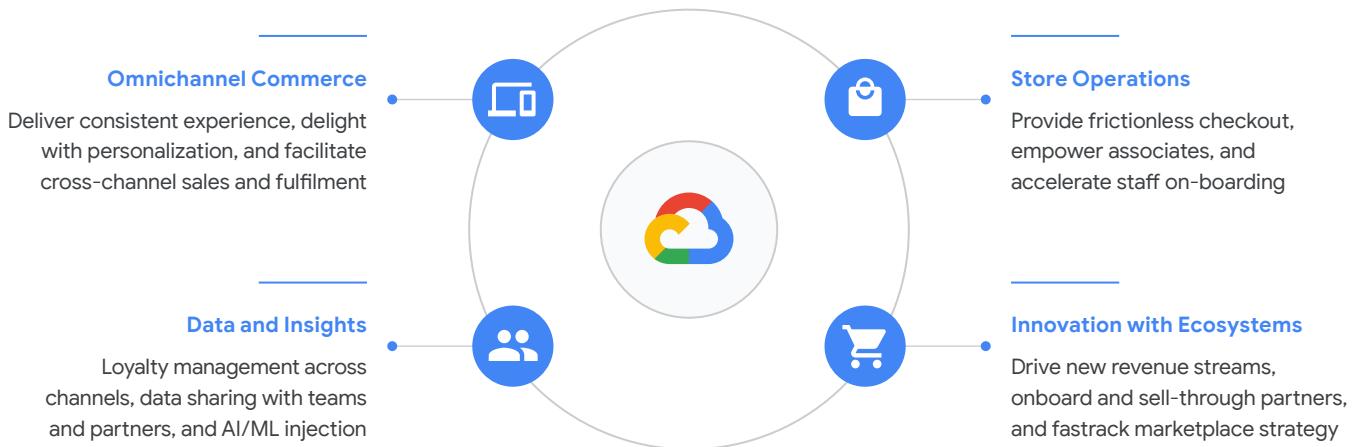
APIs Are Critical for Retail Digital Success

APIs comprise a library of functions that pass information over the internet. They enable software-to-software integrations and also serve as discrete packages of encoded functions for developers to use when designing applications. APIs not only enable faster changes and updates, their modular design also encourages creativity.

With APIs, retailers can offer services and functionality they'd never imagined, by forming partnerships with other businesses and service providers both within and outside the retail sector, from stylists and interior designers to personal shoppers and delivery companies.

Partnerships and integrations built around APIs can breathe new life into tired business models, and, by virtue of the data they can collect and compile, they also give retailers the insights they need to grow in line with their business strategy.

APIs help retailers in several ways:



APIs are the digital foundation for providing retail customers the experiences they've come to expect and even demand. They're also essential for entering new markets and reaching new audiences.

Surprisingly, in a [survey](#) by the auditing and consulting firm Deloitte, fewer than one-third of retail executives said they viewed their organizations as digitally "mature." Likewise, global API research conducted by Google in 2020 found that about 69 percent of retailers see their API program as ranking "low" or "medium" on the maturity scale.

Yet, as reported in Google Cloud's [The State of API Economy 2021](#) report, merchants understand that digital transformation is critically important, and plan to catch up quickly. Among retail respondents, 43 percent said they plan to increase IT spending for this purpose—leading the way among all sectors.

Retailers are aware of [predictions](#) that online sales will outstrip in-store purchases by more than 25 percent over the next five years. And they know that being able to deliver quickly and reliably—whether curbside or directly to their customers—is now *de rigueur*.

In that same Deloitte survey, the vast majority—80 percent—of retail respondents said they'll make moderate to major investments in supply-chain management and enhancements in 2021. They plan to spend the most on front-door delivery and curbside pickup, followed by warehouse management and procurement.

To establish and coordinate supply-chain partnerships for top-quality customer service, retailers need APIs. But many lack an understanding of the array of ways that APIs can help their business, and so are not yet using them to their fullest extent.

Retailers could, for instance, analyze the effects of APIs on their bottom line and use APIs to measure other business markers. These uses could be invaluable in helping retailers make better decisions about their products and product lines, and expanding their business.

But few are doing so. While 42 percent of retail executives told us in our 2020 study that they're measuring the fundamentals, such as how many APIs they're producing, fewer than a quarter of them (24 percent) said they analyze APIs' effects on their businesses' revenue or their speed to market for new products.

To remain resilient amid future business disruptions and move quickly into the digital age, retailers must take advantage of the full, impressive array of API benefits. Instead of just dipping a toe into this technology with basic uses—such as connecting internal functions and enabling developers to create applications more quickly—retailers need to take the API plunge.

APIs can fast-forward retail businesses into a vast, exciting, consumer-centric, technologically advanced digital business model. Increasingly, customers are demanding nothing less.



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Five API Advantages in Retail

1. Deliver Omnichannel Experience

APIs connect retail applications, websites, and other sales channels so customers can enjoy consistent, personalized, and continuous end-to-end experiences—from online ordering to curbside pickup or same-day delivery to post-purchase customer service and beyond.



Consistent Experience

Expose key services via APIs that can be consumed across all digital channels



Personalization

Delight customers with deep personalization and relevant recommendations

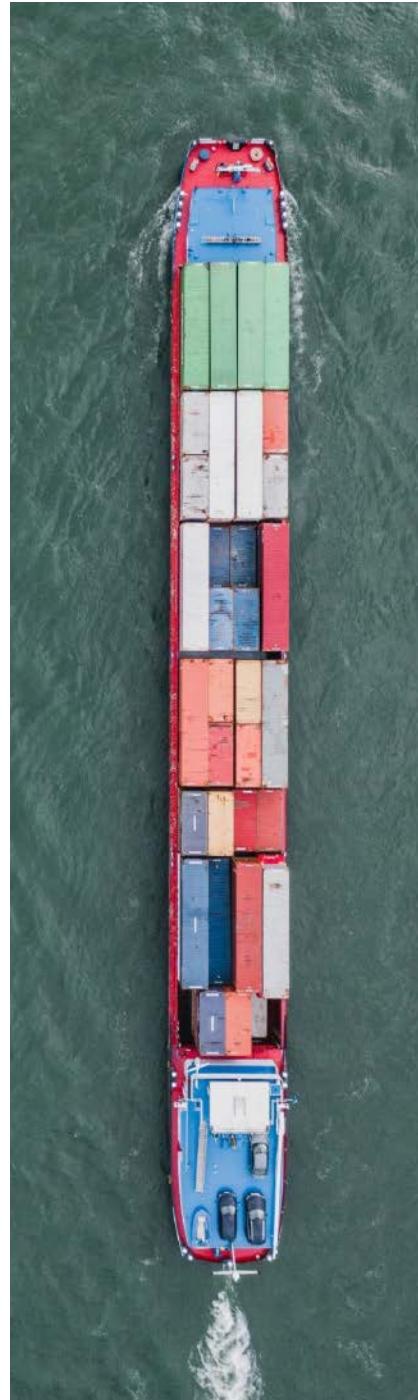
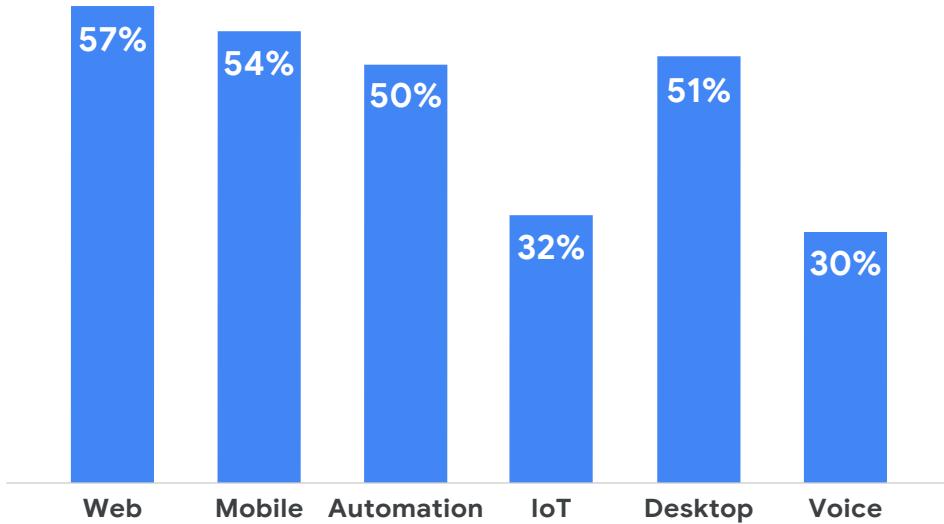


Cross-Channel Operations

Enable cross-channel sales and fulfilment such as order online and pick-up at store

And the quality of these personalized, streamlined customer experiences is higher than it might be otherwise, with 62 percent of merchants telling Google in a separate survey that APIs help build better digital experiences and products, and 54 percent reporting that APIs speed up the development of new applications.

Applications powered by APIs:



Customer Spotlight:

Ulta Beauty proactively uses new technologies to create “differentiated experiences” for its customers. Its GLAMlab application lets consumers try on makeup products virtually, using their mobile phones, while collecting information that enables the company to make personalized product suggestions. APIs enable Ulta to access information from a variety of sources and analyze and aggregate it so they can continually improve both the customer experience and the value of customer data.



2. Improve Store Operations

Our report found that, for 61 percent of retailers globally, connecting internal applications is a priority—and for this task, APIs are key. They enable:

- **Clienteling**, or connecting businesses with key customers to provide personalized notifications, offers, and experiences
- **Frictionless checkout**, including the ability to use their phones to purchase items (point-of-sale) and check themselves out
- **Faster staff onboarding** with bespoke applications and integrations of the various apps and solutions used in the process

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Empower Associates

Equip staff with clientelling applications to serve customers better



Frictionless Checkout

Enhance customers' checkout experience with mobile POS and mobile self-checkout



Faster Onboarding

Accelerate staff onboarding and training by building bespoke apps over APIs

Customer Spotlight: Conrad Electronic

Conrad Electronic is an early adopter of advanced digital technologies aimed at improving the way its 20 stores operate. Its internet-of-things (IoT) platform, Conrad Connect, has one of the European Union's largest user bases. It uses Google Cloud to compile customer data for analysis from 25 systems, as well as from external sources such as shipping companies. It also uses APIs, via Google Cloud, to connect the procurement systems of its B2B customers directly to its product catalog, speeding and integrating customer experiences.

Meanwhile, its developers used Google Cloud's API Management Platform to build a tool that provides Conrad's in-store teams and shoppers with key product, service, and warranty information via in-store devices and tablets. More than 60% of store customers use this tool.



3. Innovate with Ecosystems: Business Partnerships

APIs enable retailers to partner with businesses that they might never have worked with previously—a clothing store with a shoe retailer, for instance, or a sporting goods store with a football team. The possibilities are limited only by the partners' imagination.

Retailers recognize the opportunities that APIs provide for building business ecosystems. In our survey, 51 percent said they can increase and speed innovation by sharing their proprietary APIs with their partners. Doing so can create new sources of revenue, as well.

Customer Spotlight

Brazilian retailer Magalu —aka “the Amazon of Brazil”—(formerly [Magazine Luíza](#)), expanded its e-commerce footprint using APIs and Google Cloud to create a massive digital marketplace on which other sellers can conduct their own transactions with customers. Merchants can easily join the marketplace and use Magalu’s APIs to provide new experiences to shoppers or add products to the network.

To achieve this transformation, Magalu adopted a two-tiered IT strategy to first speed up the customer-facing parts of its business, and then phase in new approaches.

Working with Google Cloud, Magalu used APIs to decouple backend systems from their frontend in order to let these systems interoperate. With these APIs, developers could quickly devise and update tools to enhance customer experiences. Meanwhile, backend teams could easily maintain systems of records and adapt to new strategies.

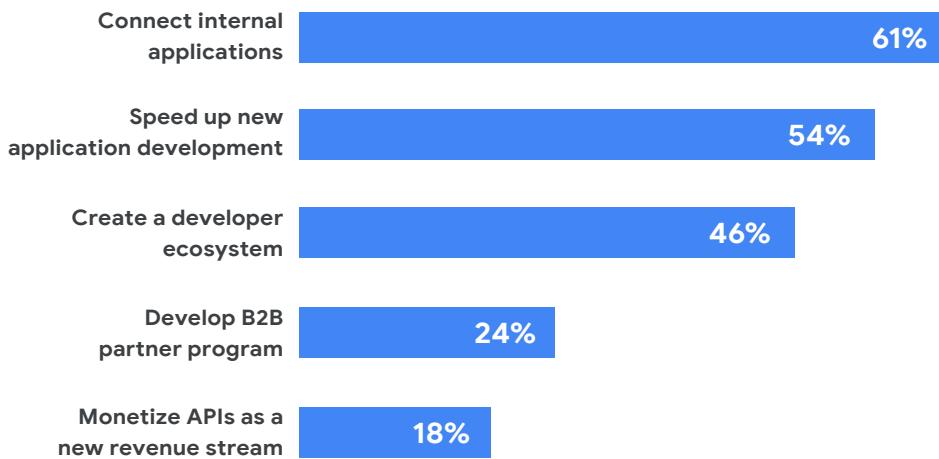
Today, Magalu’s marketplace supports 47,000 sellers and offers 26 million SKUs. In 2016, by comparison, the company’s sales and distribution system supported just 50,000 SKUs. APIs helped boost Magalu’s e-commerce sales 131 percent.



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4. Innovate with Ecosystems: Developer Connections

When developers use APIs to connect with one another inside a company and externally, innovation happens. In our research, we've found that enterprises that self-report as having highly mature API programs use APIs to:



Customer Spotlight

The smartphone camera made everyone a photographer—and eliminated the need to send film away for developing and pick up printed photos. That's great for consumers, but not for Walgreens, a drugstore that had long used its photo service centers to bring customers into its stores.

Recognizing that some people still like to print photos as keepsakes for framing and sending to friends and relatives, [Walgreens](#) developed an API that allows customers to print digital photos at its stores. The chain made the API keys available through a developer portal, and developers used the API to enable photo printing from smartphones, cloud accounts, and social media accounts—increasing access to the service and also increasing Walgreens' foot traffic.

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5. Provide Data and Insights

APIs are strategic assets for creating business value, said 45 percent of our 2020 survey respondents. The data provided through APIs deliver their greatest value when used to derive insights that inform our ability to make decisions. Using APIs in this way can give a retailer a competitive advantage and reduce time to market for new and improved products and services.

Ways APIs can add value through data:

- **Make loyalty programs easier to manage.** The data that APIs provide can tell retailers who earns loyalty points on which purchases, and how the points get redeemed, for more personalized marketing as well as refining loyalty programs.
- **Share even sensitive data securely.** Properly secured APIs can share data safely and in a way that protects the privacy of data owners—even to the satisfaction of the stringently regulated [financial services sector](#).
- **Make business processes intelligent.** Artificial intelligence and machinelearning APIs can add intelligence to almost any application for voice-command responses, analyzing customer relationships via dataflows, automated security, and much more.



Simplify Loyalty

Facilitate check, addition and redemption of loyalty points across channels via APIs



Secure Data Sharing

Secure and govern data shared with internal consumers and external ecosystems



Democratize AI/ML

Inject AI and ML models via APIs and manage with life cycle capabilities



Customer Spotlight

[7-Eleven Japan's](#) Seven Central platform uses APIs to connect its 21,000 stores to process point-of-sale and other data in seconds, provide instantaneous information on store inventories, sales, and profits, and more. The company intends to expand the system to all its stores worldwide.



To the Next Level: Retailers' Big Plans for APIs

Serving consumers in new ways is a given, but retailers have big plans for APIs down the road, going above and beyond customer experiences.

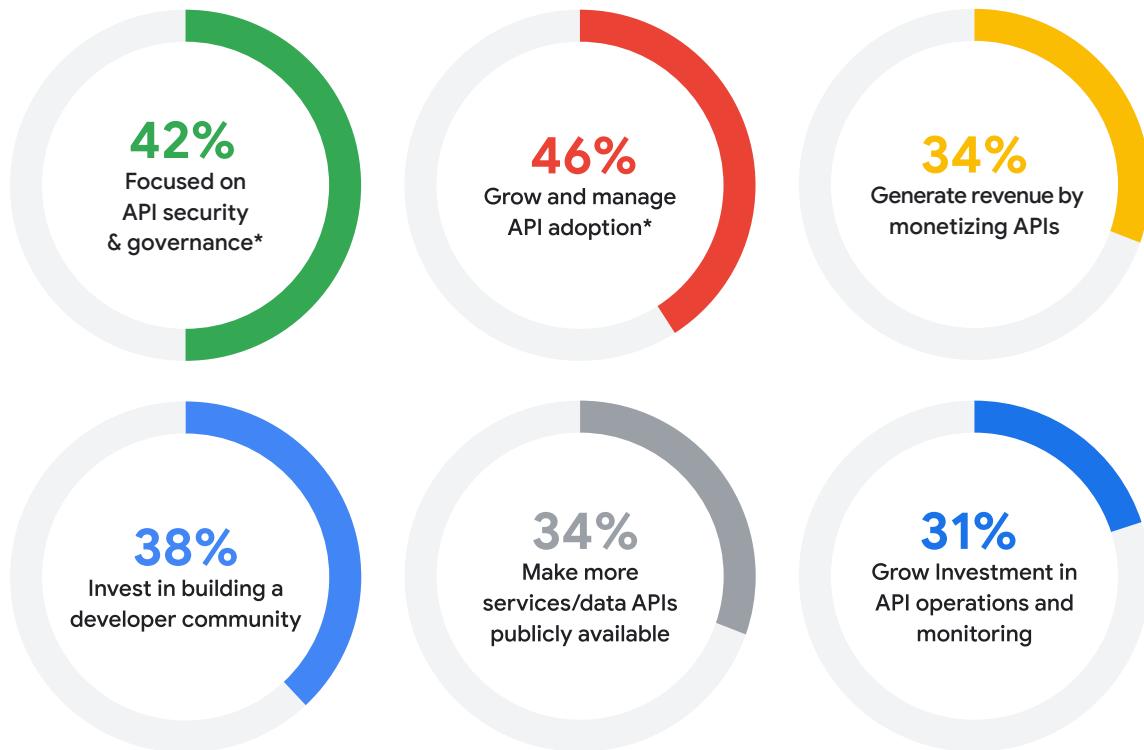
More than one-third of our retail respondents told us they plan to enact the following API measures:

- **Focus on API security and governance.** According to the [OWASP Foundation](#), APIs are increasingly a target for cybercriminals; many [never undergo security testing](#). Aware that security speeds innovation and development, 42 percent of respondents said they'll make it a priority in their API program. API platforms such as Google Cloud provide a security layer to protect data as it moves among sources.
- **Grow and manage API adoption (46%).** Retailers know their relationship with APIs is still maturing, and want to explore new uses for these connectors.

As they do so, an API management platform such as [Google Cloud](#) could be enormously helpful. Google Cloud enables retailers to design, secure, analyze, and scale APIs to ramp up their performance and business-boosting benefits at the lowest cost.

- **Invest in building a developer community.** As developers work together and share (or sell, or rent) APIs to one another, business opportunities and profits grow. API developer communities are a win-win.
- **Generate revenues by monetizing APIs.** Turning APIs into new sources of revenue is a goal for 34 percent of retailers, and with good reason. Developers are always looking for ways to make their jobs easier, and companies are looking for new ways to connect with business partners and customers. Using a monetization engine to offer proprietary APIs for sale or lease can provide income and increase business all at once.
- **Grow investment in API operations and monitoring.** An API that's not working properly—or at all—only helps the competition. Monitoring lets retailers know, in real-time, when something goes wrong, so they can fix problems quickly, and keep customers and partners happy.

Planned API Changes



The Customer is Always Delighted: How APIs Move the Goalposts

"The customer is always right," long a retail maxim, has never been more true than it is today. Ever-eager to meet their customers where they live, work, and shop, retailers are leaders among all sectors in API adoption and use.

As retailers explore the creative potential that APIs afford, they can use them to join forces with other businesses, forming partnerships that increase the array of goods and services they can offer their customers.

Need a belt or a pair of shoes to go with that outfit? Earrings and a necklace? Matching lipstick? Want it delivered to your home, so you don't have to carry your packages while you continue shopping? When shall we drop it off?

Chances are, there's an app for all that, and more—powered by APIs.

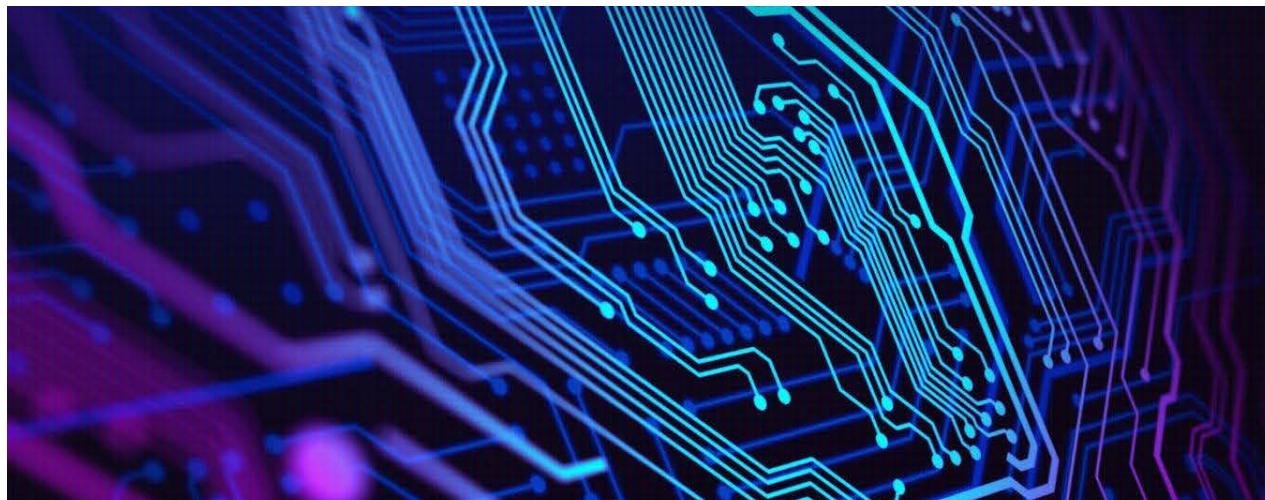
APIs connect developers, as well, so they can use their creativity to innovate digital offerings, and even earn some extra cash by charging other developers to use their proprietary APIs.

APIs make “minding the store” easier and more efficient, as well. They link frontend and backend systems so that retail stores, whether digital or brick-and-mortar, can operate smoothly, give consumers unforgettable experiences, and collect data on those experiences with an eye toward continual improvement.

Yet, with so many uses, how can retailers keep track of all their APIs, make the most of them, and keep them secure? Businesses are increasingly turning to Google Cloud’s API Management Platform, which takes the guesswork and the grunt work out of API use.

The Google Cloud platform makes it easier to track, manage, and monetize APIs, onboard new business partners, and use APIs to grow the business. Using Google Cloud makes it easy to analyze data, streamline business processes, innovate, and integrate with new technologies, so customers can shop hassle-free, tell their friends, and come back for more.

If our State of the API Economy 2021 report findings are any indication, retailers will continue evolving their API use. Entrepreneurs to their core, merchants will discover more ways to connect their businesses to the wider digital universe—and if they don’t find what they need out there, they’ll create it.



Read the full [State of the API Economy 2021 Report](#) to learn more about how retailers and other businesses are taking advantage of the fast-growing API economy, and visit us at cloud.google.com/apigee.