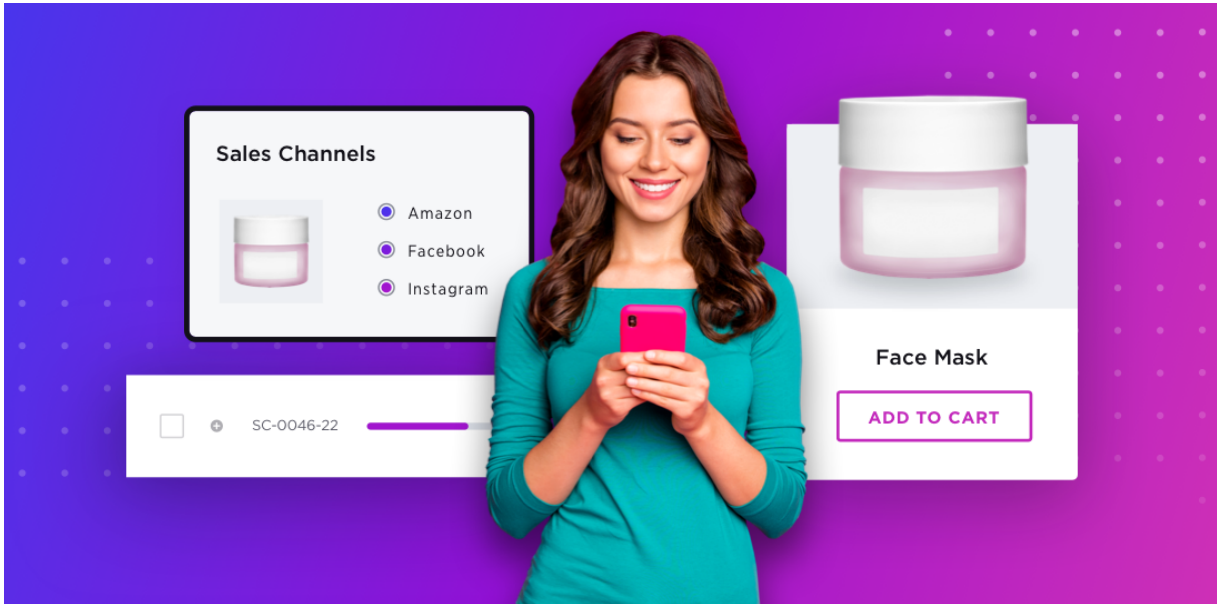


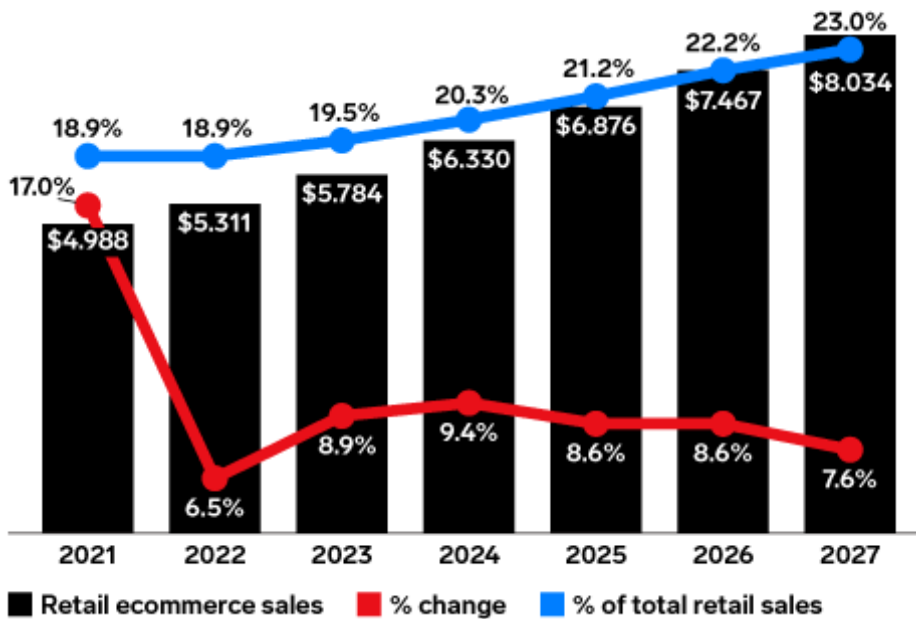
Ecommerce Framework



By now, you're likely well-versed in the nuances of online shopping. It's an industry that's not just growing but exploding with potential. The [entire world is buying online](#), and global ecommerce sales are expected to surpass a [staggering \\$8 trillion by 2027](#).

Retail Ecommerce Sales Worldwide, 2021-2027

trillions, % change, and % of total retail sales



Note: includes products or services ordered using the internet, regardless of the method of payment or fulfillment; excludes travel and event tickets, payments such as bill pay, taxes, or money transfers, restaurant sales, food services and drinking place sales, gambling and other vice goods sales

Source: Insider Intelligence | eMarketer, June 2023

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Insider Intelligence | eMarketer

Image source: [eMarketer](#)

Yet, it can seem daunting for those venturing into the ecommerce domain for the first time — or even experienced ecommerce leaders who are [considering replatforming](#).

How should you discern the ideal framework to construct your ecommerce platform? What's the [difference between open-source and SaaS ecommerce websites](#)? And is [headless commerce](#) the right ecommerce framework, given its nuances?

Remember, there's no one-size-fits-all solution. Each enterprise has unique objectives, and your choice of framework should reflect that. It's about aligning with your business's core requirements, enabling seamless digital transactions, prioritizing a superior customer experience, and [safeguarding sensitive customer data](#). You're in the driver's seat, making decisions shaping your business's future.

Let's look into the spectrum of ecommerce framework choices, helping you select one that best aligns with your business goals and strategic vision.

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What is an ecommerce framework?

An ecommerce framework refers to the software you use to build your ecommerce store. For example, Adobe Commerce (formerly Magento) uses an [open-source](#) ecommerce framework, while BigCommerce uses SaaS. Both also enable a headless framework. (Talk to our sales team to learn more about BigCommerce's ecommerce framework.)

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Importance of choosing the proper framework

Choosing the right framework from the start will prevent the need to replatform later when you discover that your first-generation website is not up to industry standards or customer expectations. Replatforming projects can get expensive, impacting your bottom line.

The right choice can reduce in-house developer costs substantially since the vendor often includes technical support, which is the case with SaaS. The framework should be flexible and customizable, adapting to your specific [ERP](#), CRM, CMS and selling capacity.

Your choice of platform should be a strategic one. Consider your business's long-term goals and your ecommerce store's capacity needs. Thinking about your choice early in the process will help you decide the best ecommerce framework to minimize risks and maximize return.

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Types of ecommerce frameworks

You can choose among three primary types of ecommerce frameworks. All three will work a little bit differently, and all three have their strengths and weaknesses. Those frameworks are:

- SaaS.
- Open source.
- Headless commerce.

SaaS.

SaaS stands for "software as a service." Users subscribe to the software (instead of buying it), and the vendor continues to host, maintain and issue updates. [SaaS platforms](#), generally, come with more out-of-the-box functionality. And, while customization is limited, SaaS platforms today are becoming more and more flexible thanks to APIs and pre-built integrations.

Pros:

- The vendor can push out real-time feature upgrades as they continue improving the software.
- They also include security and maintenance in your costs, so you won't have to worry about hosting.
- The total cost of ownership (TCO) is typically much less than with an open source or headless commerce framework.
- SaaS can help you get to market quickly.

Cons:

- Not as customizable as open source or headless commerce frameworks.

Open source.

[Open-source software](#) allows users to access and change the source code on their software instance. It's often — but not always — written in PHP, a popular general-purpose scripting language. Open-source ecommerce platforms offer a high level of customization, but it comes at a cost.

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You'll need developers to make the customizations you want and maintain the code over time. More customization increases the risk of unintended issues, so they must keep [cybersecurity](#) defenses strong to protect your business from hackers and secure your shoppers' privacy.

Pros:

- Almost limitless customization opportunities.
- Engaged communities of developers.

Cons:

- You'll be responsible for installing software updates and security patches.
- Customization often equates to complexity; you'll be more reliant on developers to maintain the software, not just at implementation but over the lifecycle of your business.
- The TCO is typically high once you factor in all the related extraneous costs. (No software is ever truly free.)

Headless and composable.

Headless commerce is a modern approach that separates the back and front ends of an ecommerce platform. This separation [allows retailers to choose](#) their preferred front-end presentation layer, which can be a website, a mobile app, or any other interface. It also enables brands to use different vendors for back- and front-end solutions, creating a unique and tailored customer experience.

JavaScript frameworks like Next.js, Vue.js and React are popular with developers who use headless commerce for their ability to deliver fast, interactive and dynamic user experiences. These frameworks help them build robust, scalable storefronts — a critical advantage in ecommerce.

Pros:

- Able to choose front-end options, such as digital experience platforms, Progressive Web Apps (PWAs) or frameworks like [Next.js and Vue.js](#).
- Improved performance and adaptability, allowing businesses to create content-rich, unique sites for diverse audiences.
- Back-end capabilities can support multiple frontends, enabling multi-site experiences across mobile, desktop and apps.

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BigCommerce, for example, integrates with [JavaScript frameworks like Next.js](#) and [Nuxt.js](#), supporting API-driven setups that streamline data retrieval and front-end customization. These integrations empower merchants to build high-performing storefronts without adding backend complexity.

Additionally, using a dedicated CMS, such as WordPress, Contentful or Prismic, alongside an ecommerce platform offers enhanced content management and SEO control. With [headless compatibility for major CMSs](#), platforms like BigCommerce enable seamless content and commerce management, providing flexibility without compromising performance.

Cons:

- The total cost of ownership may increase due to back- and front-end development expenses, especially when incorporating advanced frameworks and third-party CMSs.
- [Headless architecture](#) can pose challenges, as implementation with frameworks like React or Vue.js often requires specialized developer expertise.

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Key features your ecommerce framework should have.

Online businesses need different frameworks because customer needs are unique, and industries vary. But there are standard features and capabilities you should look for.

Product management.

Your products are, obviously, central to your business. So you want to ensure that [managing your inventory](#), from adding products, editing their information and tracking stock levels, is easy.

From SKUs and variations (size, color, quantity) to product names and images, some ecommerce frameworks will allow you to get a high-level view or drill down to the specifics with very little technical know-how.

You also want to make sure that your platform can support the number of SKUs you sell and the number of variants per product you may need in your online shop.

And if you're looking to support an omnichannel strategy, make sure your framework supports connecting inventory to online marketplaces like Amazon, ad channels like Google, social media and [point of sale \(POS\) solutions](#) for a centralized channel management hub.

Mobile supported ecommerce.

Shoppers are using mobile devices more and more to browse stores and even to make purchases. That's why your ecommerce framework has to support a good shopping experience across devices. [Mobile commerce](#) is crucial in omnichannel retail strategies, which can significantly impact the bottom line.

Pick a framework to create a simplified, user-friendly mobile checkout process. Think fewer fields, more oversized buttons and integration of popular mobile payment methods such as Apple Pay, Google Pay, PayPal, Amazon Pay, and others.

Built-in SEO capabilities.

Several features within an ecommerce framework should support improved SEO capabilities, including control over your URLs, title tags, header tags and metadata. [Search engine optimization \(SEO\)](#) can be a powerful tool to [grow your business](#). Some of the less customizable SaaS platforms will limit your ability to optimize fully. (BigCommerce provides robust SEO functionality).

Extensive plugins or integration capabilities.

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Every [ecommerce platform](#) will give you some out-of-the-box features, themes and templates, but you'll need other functionality, especially once you discover what your shoppers want. Identify what, if any, features or functionality you'll need to add on that doesn't come native to the platform.

The [future of ecommerce is everywhere](#) — and that's where the most successful store owners will sell. When researching or demo-ing an ecommerce platform, you need to know how easy or difficult it will be to integrate [social commerce](#) and sell on marketplaces like Amazon and eBay.

If you also run a [brick-and-mortar store](#), you can integrate data from your POS and online storefront to better view customers' shopping behaviors and inventory in real time.

Flexible checkout and customization.

In ecommerce, a smooth, flexible checkout process is critical to sales and revenue. Look for a framework offering single-page and guest checkout, multiple payment options and "[Buy Now, Pay Later](#)" features. We have put much research behind our [flagship one-page checkout](#), but we recognize there needs to be more than one solution.

Customizing the checkout page's appearance and functionality is crucial, particularly for developers supporting enterprise businesses. To create a tailored checkout experience, choose a framework that offers APIs and SDKs for customization, such as BigCommerce's customizable checkout API.

A practical ecommerce framework should also support [omnichannel retail](#) by integrating with POS systems, [online marketplaces](#), social channels and loyalty programs. Centralized control of inventory, pricing and orders across all channels creates a cohesive customer experience, whether online or in-store.

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10 best ecommerce frameworks

There are plenty of ecommerce frameworks on the market today. Still, the one that's right for you will depend a lot on your business model, choice of products, need to scale and even the skills of your internal team. Let's look at some of the ten most popular and some of their advantages and disadvantages.

BigCommerce.

BigCommerce is a [SaaS platform with highly flexible APIs](#) and a robust headless commerce offering. Core platform components enable extension and connection to any other environment and are designed to accommodate businesses of all sizes, from startups to established enterprises.

Additionally, with BigCommerce, businesses can easily sell both B2C and B2B on one platform, and [operate multiple storefronts with ease](#), making it easy to scale as your business grows.

Because BigCommerce falls on the more flexible end of the spectrum for SaaS products, there can be a higher learning curve than some alternatives. That said, the platform also offers 24/7 live global support and thousands of agency partners to help you launch and maintain your store if needed.

Shopify.

[Shopify](#), a hosted [ecommerce software](#), offers a low technical barrier to building a store with basic functionality. Setup and store management are relatively straightforward. Some non-native tools require a separate subscription. Integrations with over 4,100 apps that increase functionality — such as Google Analytics and Smile.io — can be activated in one click.

If you're an entrepreneur or very small business, Shopify can be a good option; however, for more mid-market and enterprises, its lack of flexibility and customizability can limit growth.

Magento (Adobe Commerce).

[Magento](#) is open-source software you deploy on-premise on your servers or in the cloud (PaaS). Written in the PHP programming language, Magento is highly flexible and scalable — if you know your way around open-source PHP development, that is. It's also now part of the Adobe Experience Cloud, integrating with Adobe products like analytics, a customer data platform and more.

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Magento has a large community of experienced developers, but many businesses have migrated off of Magento because of its high dependence on developers to set up, maintain and update. Even their [Magento Commerce Starter](#) using a template and no extensions can cost \$20,000 to \$45,000, [depending on complexity](#). Plus, since you have your instance of the software, you'll have to install updates and security patches yourself.

Volusion.

Launched in the early 2000s, [Volusion](#) was one of the original contenders in the SaaS [ecommerce](#) space. Their shopping cart solution combines core commerce and SEO/marketing tools for starting and growing your business. In July 2020, Volusion filed for Chapter 11 bankruptcy. According to a blog post on Volusion's website, the company is still open and operating as usual.

Shift4Shop.

3dcart, as it was formerly known, was acquired by Shift4 payments — one of the leading payment processors — to create Shift4Shop.

Shift4Shop has more out-of-the-box features than most SaaS platforms, making it somewhat challenging.

WooCommerce.

WooCommerce is a popular self-hosted, open-source WordPress framework known for its extensive plugin developer ecosystem. Developed and maintained by Automattic, [WooCommerce](#) has a decent starter selection of essential ecommerce features for checkout.

Because it's open source, you have complete control over customization and store management. You'll also find a large community of WooCommerce Meetup groups that you can tap into for help managing your store.

The disadvantage is that many must-have shopping cart features, such as single-page checkout, [abandoned cart recovery](#) and discounts, are unavailable natively (unlike a solution like BigCommerce). Adding additional payment, catalog management and marketing features becomes costly and time-consuming.

Kibo.

Kibo Commerce is a unified commerce product designed to enable your teams to [deliver personalized experiences across touchpoints](#). It is an API-first platform built on a microservices model. Kibo was formed in January 2016 by merging Fiverun, MarketLive and Shopatron. In 2016,

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Kibo acquired Baynote and Mozu, followed by two more 2019 acquisitions: Certona and Monetate.

This developer-centric platform can be complex, with a steep learning curve and potentially high total cost of ownership. Because Kibo's market presence is low, with just 18 solution partners, finding the information you need online may be challenging.

Salesforce Commerce Cloud (Demandware).

Salesforce Commerce Cloud (previously Demandware, before acquisition by Salesforce) is a SaaS platform for businesses that want to streamline their omnichannel operations. It enables you to manage sales in digital and physical channels from one solution and includes native AI tools for personalization.

One disadvantage of Salesforce Commerce Cloud is the relatively small number of agency partners familiar with designing and developing on the platform. The other is the high costs associated with the platform. Small businesses, mid-market companies, and small enterprises, might want to consider another option if they are looking to move quickly and save on costs.

Squarespace.

Squarespace enables quick and easy site updates and media management rather than requiring an outside developer. This SaaS framework offers template designs and built-in inventory tools.

But if you need help understanding all the features, you may miss some crucial elements that could grow your business. Some disadvantages to choosing Squarespace include that it only offers integration with four payment processors — and if you're subscribing to their cheapest plan, you'll pay a 3% transaction fee on every sale.

Wix.

Wix is a SaaS platform geared toward small businesses. It's quick and easy to start, and you can drag and drop to create your site. Design is simple with Wix, as you can access 500+ templates.

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Make sure you select the best ecommerce framework.

Some platforms offer many out-of-the-box features, making setup quick and easy, but customization down the road may add complications. Other platforms enable fully customized sites but require lengthier setup and costly [ecommerce development](#). As you compare platforms, prioritize your needs based on your unique business.

Identify business needs.

Every ecommerce business has different needs, depending on your business model, products, preferred sales and advertising channels and more.

Business model: Is your business [B2B or B2C](#)? B2B ecommerce businesses have specific technical needs that many platforms can't meet out of the box. Integrating your sales and inventory is important to have a unified view of your business if you have an online store and a brick-and-mortar. And if you're thinking of a hybrid B2C/B2B approach, you'll need to find a platform to support those alternate needs without incurring much more expense.

Products: How many products will you be selling? How many variants will those products have? Make sure the limitations of whatever platform you choose can handle what you intend to sell.

Sales and advertising channels: Will marketplaces like Amazon or Wish be part of your sales strategy? What about selling or marketing and advertising on Facebook, Instagram or other social media channels? Ensuring you have a seamless connection between your store and those sales channels will help you keep a unified view of your business, especially your inventory.

Consider your budget.

The [total cost of ownership can vary wildly](#) across and even within the different frameworks based on their features and capabilities. Plus, the way expenses are structured may impact your business' finances.

- SaaS will provide you with a relatively consistent cost on an ongoing basis, so your budget is easier to manage.
- Open-source frameworks often require a hefty licensing fee at the outset, plus you'll have to plan for variable costs like development and maintenance over time.
- Headless frameworks can be costly based on how many systems they integrate, including your choice of front and backend. Merchants looking for heavy customization may find it worth the added expense.

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Scalability and future growth.

If your ultimate goal is growth, consider not just your needs today but your needs in the future. Over time, you may need a platform that can handle higher traffic, more SKUs, more variants and more API calls. If you want to expand internationally, you'll need [support for international regulations and compliance](#), [multi-currency](#) functionality so shoppers can pay in their country's currency, and possibly even multi-store functionality to completely personalize the experience.

Make sure there is customer support.

It doesn't matter how experienced you are with technology or ecommerce — a new software platform will have a little learning curve. You need to know what support your ecommerce platform offers during onboarding and beyond.

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Benefits of using BigCommerce as your ecommerce framework

The best ecommerce framework can help you create an agile, scalable website with a great shopper experience. There's no one-size-fits-all ecommerce framework option out there, but we'd like to state our case on why BigCommerce might just be the platform to power your website to online growth.

Customizable and scalable solutions.

BigCommerce offers flexible customization options with APIs, SDKs, and the [Catalyst composable kit](#), making it easy to shape your storefront to fit your unique needs. Built to grow with your business, BigCommerce can handle more traffic, more extensive product catalogs, and new sales channels as you expand. You can choose between a ready-to-go SaaS setup or go deeper with custom options using JavaScript frameworks or a CMS.

Integration capabilities.

Connect easily to thousands of tools and platforms — like analytics, marketing, and CRM — so businesses can [link up all their essential services in one place](#). With our omnichannel tools, you can manage sales across multiple channels, including online marketplaces, social media and in-store POS, all from a single, easy-to-use platform.

Robust security and compliance.

Our top-notch security features include [PCI DSS compliance](#), two-factor authentication, and regular platform updates to keep your data safe and reduce security risks. Plus, built-in support for regulations like GDPR and CCPA makes it easy for businesses to meet global data privacy standards.

Customer support and resources.

BigCommerce supports you every step of the way — from onboarding to solving technical issues. Our dedicated team and knowledge base make it easy to get help when you need it. You'll also enjoy a strong community of developers, agencies and partners ready to assist with setup, customization and ongoing improvements.

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The final word

Selecting an ecommerce solution is a crucial but nuanced decision for any online business. By thoroughly evaluating your unique needs and the strengths and weaknesses of the top platforms, you can choose a solution that will enable a great shopping experience, power your growth, and provide the right combination of functionality and flexibility.

Whether you opt for a SaaS, open-source, or headless ecommerce approach, aligning the framework with your strategic vision and objectives is the key. With the right ecommerce foundation in place, you'll be well-positioned to thrive in the ever-evolving world of digital commerce.

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FAQs about ecommerce frameworks

What are the best practices for migrating ecommerce frameworks?

The best practices for migrating ecommerce frameworks include thorough planning, data backup and testing. Begin by outlining a detailed migration plan, including timelines and critical milestones. Ensure you back up all data to prevent loss during the transition. Test the new framework extensively in a staging environment to identify and fix issues before going live. Communicate with your team and customers about the migration to manage expectations and minimize disruptions. Designate someone on the team to monitor the new system after the switch to address promptly any post-migration issues.

What security features should I look for in an ecommerce framework?

When choosing an ecommerce framework, prioritize robust security features. Look for SSL/TLS encryption to protect data during transmission and support for secure payment gateways to safeguard financial transactions. Ensure the framework offers comprehensive access controls and user authentication mechanisms. Regular security updates and patches are crucial for defending against new threats. Additionally, seek out features like data encryption for stored information, built-in firewall capabilities, and compliance with industry standards such as PCI DSS. Lastly, you should consider frameworks that provide monitoring and logging to detect and respond to security incidents swiftly.

What role do JavaScript frameworks play in ecommerce?

JavaScript frameworks are the foundation for your website's user interface (UI), enabling you to create interactive elements, optimize performance, and cater to diverse user needs. Headless setups, where the front-end UI is separate from the back-end commerce platform, allow for greater flexibility and scalability to build a unique, custom, personalized brand experience. Frameworks like React, Next.js and Vue.js provide the building blocks and visual tools to make your website run smoothly and look beautiful across every digital device.

What role does third-party integrations play in an ecommerce framework?

Third-party integrations are crucial in an ecommerce framework as they enhance functionality and streamline operations. They allow businesses to connect their ecommerce platform with various tools and services, such as payment gateways, marketing automation, inventory management and customer support systems. This connectivity ensures a seamless user experience, improves efficiency and helps businesses scale by leveraging specialized services without needing to develop these features in-house.

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What's the advantage of a SaaS framework over open source?

SaaS stands for software as a service. Users subscribe — instead of buying — to software, and the vendor continues to host, maintain and improve. SaaS platforms, on average, come with more out-of-the-box functionality. And, while customization is limited, SaaS platforms today are becoming more and more flexible thanks to APIs and pre-built integrations. Open-source software is highly customizable but at a cost. You'll need an experienced developer or development team to keep your site running smoothly.

What are some common use cases for headless commerce?

Here are a few use cases for headless commerce that we see frequently: Highly personalized experiences: you can deliver entirely different front-end experiences to different shoppers (e.g., a customized experience for UK residents versus the US). Content-led commerce: if you're educating and entertaining as much or more (in terms of pages/products) as you're selling, headless is a great way to build and incorporate more robust content. Lightning-fast mobile speed: Using a PWA on the frontend of your headless architecture can ensure fast load times across devices.

Why are some platforms better for SEO than others?

Some ecommerce platforms allow you to customize the elements that matter most for SEO, like Page titles and URLs when building your website. Others restrict that customization.

What are some good reasons to choose an open-source solution?

Open-source frameworks often require a hefty licensing fee at the outset, plus you'll have to plan for variable implementation costs and the cost of development and maintenance over time. However, store owners looking for heavy customization and who have experienced development teams on hand may find it worth it.

What should I be thinking about if I want to scale quickly?

If your ultimate goal is growth, you may need a platform that can handle higher traffic, more SKUs, more variants and more API calls over time. If you want to expand internationally, support for international regulations, compliance, and multi-currency functionality are necessary. Consider multi-store functionality if you want to deliver a personalized customer experience.