HEADLESS COMMERCE BREAKS THE MONOLITHIC MOLD OF ECOMMERCE

HOW DOES THIS TECHNOLOGY AFFECT YOUR ONLINE STORE?

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Over the past decade, e-commerce has grown from ~4% of US retail spending to ~15%. This growth expects to continue, and the majority of consumer spending will someday be online.

Given this scale of growth, it makes sense that e-commerce is one of the most competitive industries. E-commerce companies like Walmart, Amazon, Bigcommerce, and Square are continually innovating to gain more market share.

As such, e-commerce tools, plugins, platforms, APIs, and frameworks keep evolving to please marketers, developers, and, ultimately, consumers.

E-commerce growth over the past 10 years

~4%   ~15%
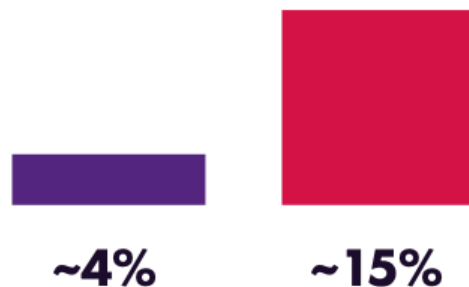
Over the past decade, e-commerce has grown from ~4% of total US retail spending to ~15%

eCommerce trends to watch and adopt in the coming years remain constant and behind each innovation -- customers are seeking unique and personalized experiences from the sites they shop on most frequently.

In response, brands have been implementing tactics such as flexible payment plans, live chat, social media shopping, hyper-personalization, and AR/VR to impact better browsing.

However, while eCommerce has continuously been changing in favor of customer acquisition and retention, legacy eCommerce platforms have stayed static. Traditional, monolithic platforms are often one size fits all, even when your brand isn't, making it difficult for eCommerce site owners to curate an experience that fits their business.

Headless commerce solutions that allow website owners to build from scratch will provide the flexibility needed to create customized, personalized experiences.

How Headless Commerce Can Help

Let's dive into some of the most relevant eCommerce trends we've noticed to understand better where headless commerce comes into play:

Flexible Payment

Where brands are offering shoppers new ways to buy, such as with buy now, pay later, or digital wallets, web and mobile apps must be able to support this new transactional technology. With headless solutions, the user interfaces layer can plugin into commerce backend logic without disrupting your overall technology stack, so you can easily add transactional functionality.

Adopting modern payment methods doesn't mean you have to reinvent the wheel or redeploy your entire site. As these options become increasingly popular among consumers, websites that are quickest to adopt them will be able to cater to their customers at the most critical point in their journey -- checkout.

The benefit of headless commerce gives you the ability to make more customer touchpoints transactional, which means you can also smoothly roll out new payment and checkout options throughout your site. In contrast, eCommerce businesses that depend on legacy platforms will also suffer from more extended development and turnaround times to implement them successfully.

Conversational Marketing

Considering headless commerce makes it easier to integrate with other tools, implementing something that improves customer support and communication channels such as live chat and chatbots is much easier than trying to do so with traditional commerce platforms.

As these conversational marketing tools become more dynamic, implementation into the backend will take more development time to link them to transactional properties correctly.

Headless commerce allows you to more seamlessly weave these tools into your backend to create a more direct channel for customer support and success teams to reach customers and impact site sales.

Social Commerce

Brands are using social media for much more than just awareness -- it can also be a tool for conversion.

By creating a social commerce solution, headless platforms create opportunities for consumers to buy right inside their chosen social media platforms, including Facebook, Instagram, or Twitter, to create a more seamless omnichannel experience across channels. Because the backend keeps tabs on customer data, it is used across all channels that customers use.

Ecommerce companies are using social media as a transaction method by meeting customers where they're already scrolling in their free time, but this also requires intelligent integration between platforms. By eliminating steps from when shoppers' first look at a product to checkout, you can effectively increase conversions with these shoppable posts.

Interactive Content

With headless commerce, you have more room to get creative with your site's content and the experiences you want to create. Implement a quiz that provides personalized recommendations or build a product page that allows users to customize their product down to its material.

The brands that have already embraced this idea of hyper-personalization have also piqued consumers' interest as they search for more individualized shopping experiences.

For example, using an API-first headless commerce service, tactical optics company Swampfox managed to personalize the customer content experience from the checkout experience, enabling the customers to have a very visual and personal experience on the product on sale. Something that would be nearly impossible with pre-designed templates that are characteristic of monolithic eCommerce platforms.

As more companies experiment with this concept of hyper-personalization, these experiences will be a significant differentiator for the brands who are among the first to adopt and implement the technology successfully.

Unified Stakeholder Experience

Customers today are going through many touchpoints, both online and offline, before making their final purchase. It's more important than ever to arm every stakeholder that interacts with these touchpoints with the information they need to continue the conversation and convert new shoppers effectively.

Traditional commerce services make it exceptionally difficult to connect all these data points, and they end up siloed from one another. Access to a customer's information such as pricing and budgetary information, discounts they're qualified for, SKU's they've interacted with, and sizing information is limited.

When you instead choose a headless, API-first commerce option, you're able to take account of each platform that you have available or that customers may interact with to create a seamless experience. Not only for your customers but also for stakeholders as they open conversations with shoppers that may affect buying decisions.

As eCommerce companies look for ways to make their eCommerce experience more interconnected to various touchpoints in 2020, they will need commerce services that allow them to assemble data all in one place in order to understand customer needs better.

AR/VR

As aforementioned, headless commerce gives you more flexibility when it comes to site content and the tools you're layering into your site architecture, which means it's an ideal solution for eCommerce businesses that want to start experimenting with augmented or virtual reality.

Winning Features of Headless eCommerce

Because these emerging technologies are more complex and not yet widely used, they're naturally more challenging to integrate into rigid legacy platforms.

Let's explore some of these features in a bit greater detail.

1. Buy Now, Pay Later

Layaway is dormant, but that doesn't mean shoppers aren't looking for similar options for spaced-out payments. Today's consumers want to receive their purchases immediately, even if they can't pay for it in full until later. Meanwhile, brands realize that flexible payment methods help reduce abandoned cart rates.

Services like Afterpay, Affirm, and Klarna have been gaining traction because they serve as a win-win -- shoppers can pay for the items they want to take home in installments. Brands have a tool for acquiring customers that may have otherwise decided the purchase was too expensive.

This option won't make sense for every business. Still, those who sell products with higher price points will want to consider implementing a buy now, pay later option as part of their checkout process as these services continue to popularize.

2. Social Media Shopping

Most modern brands are already on Instagram, Twitter, Facebook, and perhaps a few other social media channels posting pictures and updates. But not every brand is using social media to make sales straight from the app.

The ones that do are finding immediate success -- in fact, the brand Natori saw a 1,416% increase in traffic from Instagram Shopping.

Consumers are continually looking towards social media to see what trusted peers, celebrities, and influencers are wearing and using to inform their purchases, making these channels a gold mine for conversion.

When 30% of consumers say they would make purchases through Pinterest, Instagram, Twitter, or Snapchat, these channels are essential, especially as they continue to roll out new features such as in-app checkout to make shopping more accessible and more convenient for users.
Social media shopping is a significant differentiator in both brand awareness and buyer conversion.

3. Stakeholder Experience

While we endlessly focus our conversations on the customer experience in eCommerce, another expertise is critical -- the experience for all stakeholders involved in the customer journey.
Today's customers have long buying journeys with many touchpoints, especially when considering a product or brand they've never bought from before.

As an example, imagine someone who wants to buy a new washing machine or refrigerator—conducting research online and in-person, as well as through third-party distributors like Home Depot before making their final decision. But their customer journey doesn't stop there. They then need to work not only with the brand or distributor to make sure their new product is shipped and delivered but with contractors to make sure it's installed and running correctly.

In this case, there are far more stakeholders than just the consumer and the brand. The businesses that can harness the data provided at each of these touchpoints in a unique, unified-branded experience, arm their stakeholders with this critical information, and create seamless conversation for the entirety of the shopping journey will have an edge up in each customer engagement.

4. Live Chat

In an age where customer service and support are becoming fundamental to positive customer experience, companies must make their teams accessible to shoppers at any stage in their journey, whether they're wondering if a sold-out product will restock, for example.

Live chat provides customers with instant access to the very people that can help them when they're on the fence with a purchase, or deciding if they want to make another. When 51% of consumers are more likely to buy from a company that offers live chat, eCommerce shops need to ensure that their customer support teams are available online, where customers are already shopping, and responding quickly.

Companies that only provide numbers that direct customers to robot answering machines and email contacts with long wait times will also watch their retention and acquisition numbers plummet as shoppers find more responsive, human brands they engage with.

5. Hyper-Personalization

The importance of personalization in eCommerce marketing isn't anything new, but some companies are taking it a step further by creating products based on each customer's personal preferences. Brands like Curology, Care/of, and Prose use online quizzes to curate one-of-a-kind results for each customer.

This hyper-personalization means that each individual is getting a product that's made specifically for them. This is especially attractive when it comes to health, beauty, and wellness, where factors like environment and stress can affect what products best fit your lifestyle.

However, even if you're outside this industry or can't individualize the product to every shopper, companies that find ways to personalize the customer experience through interactive content will actively impact repeat purchases and customer loyalty in the coming years.

6. AR and VR

While many consumers revert to online shopping due to the convenience of not having to leave their house to get their errands done, many are also deterred by the fact that you can't touch products as you would in-store.

Especially when browsing new brands that customers haven't built up trust in yet, many might be hesitant to make the first purchase when they don't know how the item will fit or look in real life. In fact, not being able to see, touch, or try on things is the top reason why consumers choose to shop in physical stores versus online.

When your brand operates primarily or entirely through eCommerce, this is an obstacle.
It's also precisely why companies like Wayfair, Warby Parker, and Sephora have been experimenting with using augmented and virtual reality (AR and VR) to level up their online experience. As more online brands look for ways to increase conversion while also reducing returns and exchanges, they will begin looking to AR and VR to provide customers the ability to try before they buy.
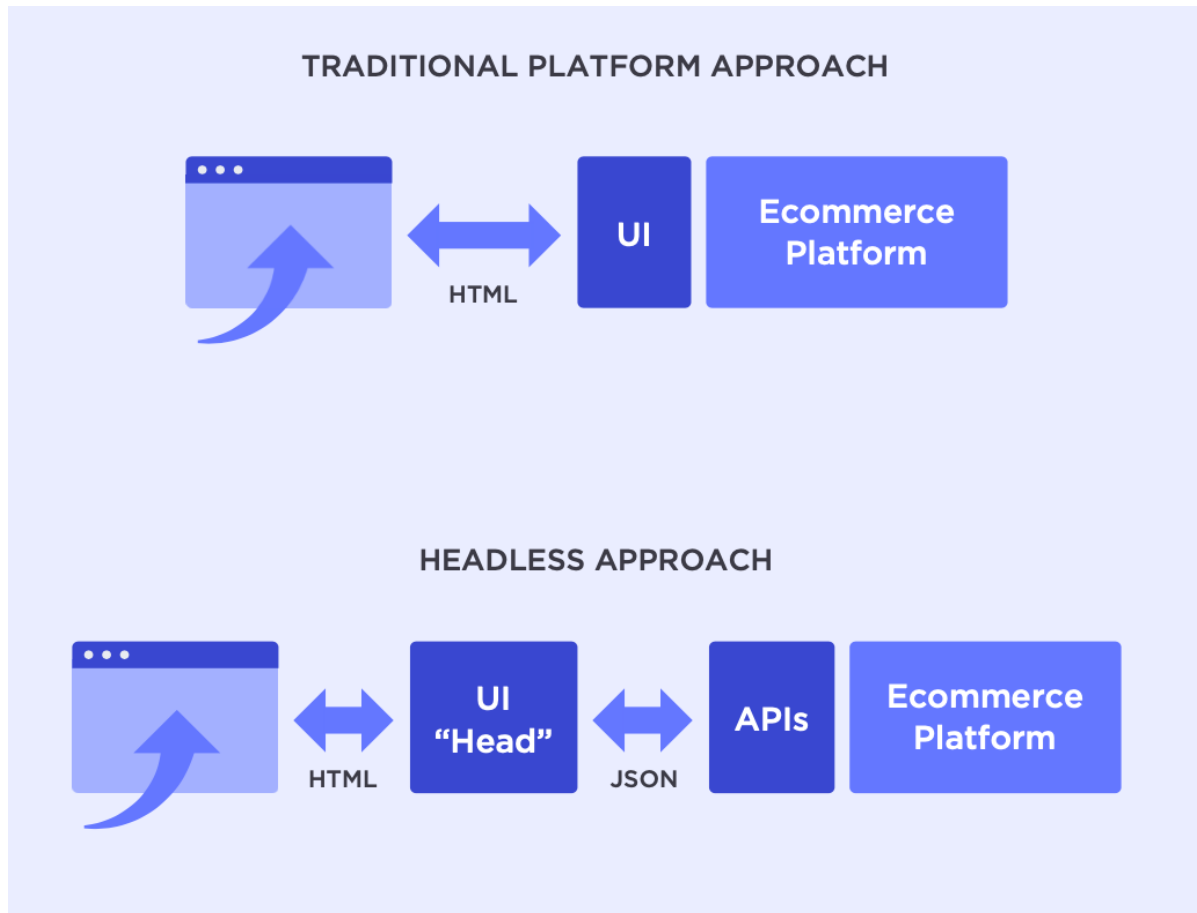
A New Era of eCommerce - Headless Commerce

Changing buyer habits are proving the link between content and commerce can no longer be ignored. While legacy eCommerce platforms struggle to keep up, SaaS innovations have helped retailers adapt and prosper without ripping and replacing existing ways of doing business.

Headless commerce architecture allows high-volume brands to operate with the best-of-breed solutions, flexibility at scale, and content-first approach shoppers demand. Merchants need a headless commerce solution to take full advantage of CMS options, such as Contentful and Sanity, digital experience platforms, and single-page app frameworks, such as React and Vuefront.

Understanding Headless Commerce

Headless commerce decouples the presentation layer — in most cases, the template or theme — from the eCommerce platform.

TRADITIONAL PLATFORM APPROACH

HTML · UI · Ecommerce Platform

HEADLESS APPROACH

HTML · UI "Head" · JSON · APIs · Ecommerce Platform

The eCommerce platform can still connect to all the backend needs, from inventory management to ERPs, OMS tools, and PIMs via APIs. In this model, the platform serves up PCI compliance, security, fraud management, and inventory management while connecting to the key infrastructure points mentioned above.

Benefits of decoupling the presentation layer from your platform:

- Content management systems and digital experience platforms present brands in the best possible light by driving an experience-led look and feel
- Removes the need to compromise content, commerce or experience
- Headless CMS systems such as Sanity drive content experiences that increase brand value perception and encourage shoppers to buy

Headless Commerce: Moving From A Monolithic Model

While monolithic offerings take away choice and cannot iterate fast enough to stay relevant, CaaS (Content as a Service) is committed to a consultative strategy that helps get the right solution bundled together for your client.

The End of the Monolithic Era

Slow go-to-market timelines, high development costs, delays in innovation — traditional eCommerce models simply can't keep up with the agility and customization of CaaS. Here's why more brands are moving to a CaaS eCommerce model.

APIs Deliver Commerce Where Needed

Headless commerce takes the core functionality and services of a SaaS eCommerce platform, removes the presentation layer, and clarifies where business takes place and what data needs accessing. All done utilizing a large swatch of APIs.

Flexibility and Customization

The commerce-led platform stepped away from the monolith by making it relatively easy to include functionality like shipping logistics, PIMs, ERPs, or to extend, modify, and enhance through apps and custom development alterations to the front end (such as pop-up banners, email or plugins).
Data moves in seconds, not hours.

The headless commerce model moves further away, aligning itself more closely with a microservices or decoupled approach without the over complexity and investment costs of those approaches. And it's driven by the need to ensure anything plugged in can run quickly — through robust APIs or other means.

What It Means for Retailers, and Especially Niche Retailers

For organizations building a commerce store or redesigning an existing one, it means a modular, streamlined approach that delivers what you need. Brands can reap the inherent benefits of a SaaS platform, but with the flexibility of choice when it comes to the presentation layer.

Another way to think of headless commerce is that all the components are modular. It's not quite Android (open) vs. Apple (closed, permission-based). It's a hybrid middle approach with a defined structure. It's an approach that welcomes the newest best-in-breed solutions to join the game with a commerce engine designed to hop on board.

It's a pattern-based, repeatable system that allows the rapid adoption of new technologies and trends. For example, there isn't a video hosting platform out there capable of click- to-shop-in-video commerce —, but with CaaS, it's possible to enable click-on items in-video with shop technologies. Monolithic systems have always paid lip service to openness, but when the critical components that used to only come in the monolithic system become genuinely open, that's a game-changer.

Reasons to Adopt Headless eCommerce

## Optimize site speed for better search ranking and conversions

Site speed is especially important for an eCommerce website.

Fast websites get better conversions, lower bounce rates, and better SEO rankings.

Site speed and bounce rates directly translate to revenue gained or lost for eCommerce sites. Sites need to load quickly or shoppers will look elsewhere. 53% of mobile users will abandon sites that take longer than 3 seconds to load (according to a 2016 report by Google).

Google has also openly declared that site speed is a search ranking factor. E-commerce companies are using a variety of development patterns to increase their site speed. Faster site speed often leads to better conversions, lower bounce rates, and higher SEO rankings.

But it's not easy to build a fast site with a CMS like WordPress/Drupal or SPAs built with Angular/Ember. With a few too many scripts, large images, DOM re-painting, or plugins, it's easy to bog a site down.

53%

53% of mobile users will abandon sites that take longer than 3 seconds to load

22%

22% increase in organic traffic

60%

60% increase in lead conversation rates
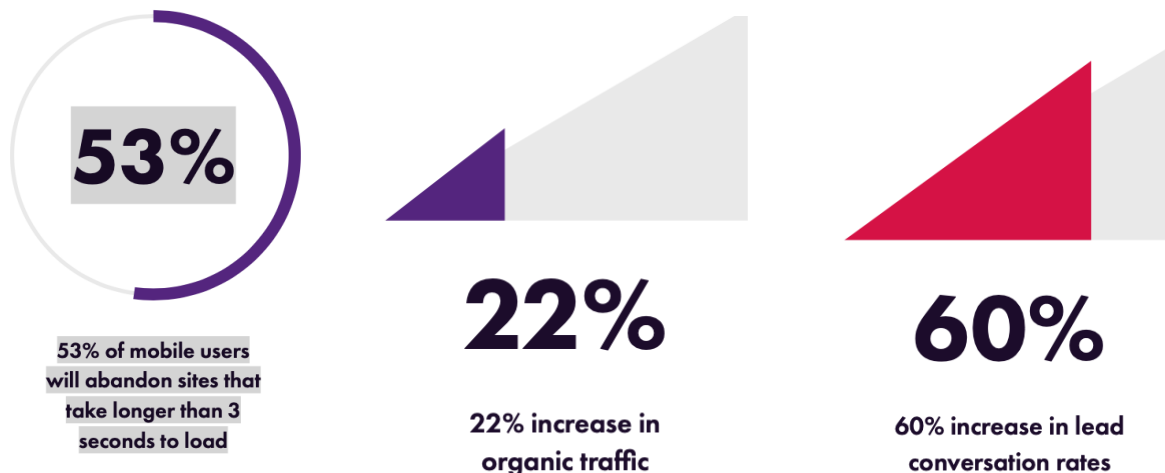
A significant portion of Swampfoxoptics traffic comes from new visitors and these issues were causing them to bail before they even had a chance to see who Swampfox really was AND miss the opportunity to engage with relevant content and the shopping cart. We implemented Gatsby for the rebuild due to its proven track record of building blazing fast sites which ended up increasing lead conversion rate by 60%.

Since the relaunch of the website, they've also experienced: a 22% increase in organic traffic, an immediate 10% decrease in bounce rate, and a 60% increase in lead conversion rates.

Prior to the website rebuild, Swampfox viewed their website as an "add-on" because the team did not see it as critical to the success of the company. But now that they are experiencing first-hand the benefits of Gatsby and a headless CMS, their website has become a primary channel for lead generation.

"Headless eCommerce is an innovative model. WebriQ executes it with aplomb. Responsive and fast service; modern sense of design; robust and fast infrastructure; skilled multi-discipline coding. WebriQ understands the need for iteration to facilitate eCommerce activities."
Chris Cox
CEO Swampfoxoptics

Simplify Scalability with Static Sites + Content Delivery Network (CDN)

"We've had thousands of concurrent users right out of the gate on the site at once with no scaling concerns and zero performance impact" - Angela Burke at Anzacday

Scalability is a major concern for any e-commerce company or website but it can be challenging to get it right. ECommerce companies like [Swampfoxoptics](#) are serving their product pages as static markup hosted Content Delivery Networks (CDNs) to deliver content faster and make their sites more scalable.

Many e-commerce sites use Monolithic frameworks like WordPress and Drupal, which need to be hosted on a server. If a server experiences a large spike in traffic, perhaps during a successful launch or promotion, it can crash and cost thousands (or more) in lost revenue. Properly scaling servers to handle occasional traffic spikes becomes complicated and resource-intensive. High-traffic sites that use WordPress and Drupal will often cost thousands to host every month.

CDNs are used by most high-traffic websites (e.g. Facebook, Reddit) to host static assets like images or fonts. CDNs handle large traffic spikes well, deliver content quickly to a user, and cost a fraction of what servers do. With a static site, all files are hosted on a CDN, making them inherently more scalable.

Early 'static site generators' were initially used for static landing pages and 'brochureware' sites. These sites are fast and cheap to host. But if developers wanted to add dynamic or stateful functionality, this 'static-ness' was a major barrier. And so e-commerce developers would use CMSes like WordPress for some sites and static site generators for others.

Gatsby allows static sites to take on dynamic functionality through the use of APIs. This paradigm is sometimes called the JAMstack (JavaScript, APIs, and Markup). JAMstack sites offer the best of both worlds: the speed of static sites while still allowing for dynamic functionality (like an eCommerce shopping cart). This clever combination of technologies is changing web development and

eCommerce as we know it. Swampfox is one example of an eCommerce company that is leveraging these technologies to the fullest.

A few days after implementing basic SEO data on the site, the Swampfox marketing team noted that Google search ranking improved and they were quickly the top result for all of their branded terms with no outside consulting.

Leverage Progressive Web APP (PWA) patterns to engage users

E-commerce companies are adopting PWAs (Progressive Web Apps) in order to make mobile shopping faster and more engaging. PWAs aren't the easiest to implement so companies are choosing tools that do the heavy lifting for them.

PWAs are one of the most exciting recent innovations in eCommerce. In an era where few people want more apps on their phone,

PWAs offer a native app-like experience within the mobile browser. PWAs load quickly and work well offline or with poor signal. They can be saved to the home screen and offer notifications like 'Hey there. You left something awesome in your shopping cart!'. PWAs are SEO-friendly and easy to monitor with conventional web analytics. Google calls PWAs "Reliable, fast and engaging." The inventor of the PWA term, Alex Russell, says PWAs are "Just websites that took all the right vitamins."

ECommerce companies like AliExpress, Starbucks, Tinder, Uber, Housing.com, and Carnival Cruise Lines have all launched PWAs and seen significant improvements in conversions and engagement. For companies needing to serve users in places with spotty 2G/3G connections, PWAs can mean the difference between reaching those users or not.

Building this type of website (a PWA) and giving it the right vitamins is no simple exercise. If getting a site to load 2-8x faster were simple, everyone would do it. Thankfully, like most development tasks, you can use a framework. Gatsby was created to make PWAs easier to create.

> "Great performance out-of-the-box is a huge win. Our team does not have to focus on these optimizations anymore. Instead, we focus on telling the story and building the values into our websites and web apps." - *MH Companies*

Bring your own content with seamless integration

Building a modern eCommerce website involves seamlessly combining data and content from multiple best-in-class services.

We seldom stop to appreciate just how many content and data sources an eCommerce website needs to incorporate into a coherent website experience. The main landing and content pages will likely pull data from a CMS like WordPress or a headless CMS such as Sanity, Strapi or Contentful.

The jobs or human resources pages will be updating job listings from a service like Greenhouse or Lever. The product listings might be managed with a service like Shopify or Square. The FAQs and help pages will need to be updated and managed by the support team (and whatever help software they use). The list goes on.

Pulling all this content and data into an integrated user experience is a challenge. Failing to get this right can easily lead to lost revenue, disgruntled customers, and missed recruiting goals.

Monolithic CMSes like WordPress can often do a lot of these tasks. With a score of plugins, custom post types, and custom fields, WordPress can be bent to the will of the developer to do a lot. The problem is that even if WordPress can do a lot, it still can't do a lot very well. WordPress sites with a lot of robust functionality can quickly become brittle messes of plugin hell.

Leverage modern tools like React and GraphQL

ECommerce companies are increasingly building their sites using modern development tools like React and GraphQL. This makes it easier to build an amazing user experience.

If it can be said that 'software is eating the world', then it could also be said that 'React is eating web software development'. Over the last couple of years, React has taken over web development and popularized an intuitive API for building user interfaces.

React's community is extremely active and there are many powerful and well-maintained React-related libraries that handle all sorts of things like testing, maps, user authentication, chat, and more.

The [2018 State of JavaScript survey report](#) found that 64.8% of developers had used React and wanted to use it again. StackOverflow's 2019 developer survey found that React was the most-loved framework in use. React has drastically improved web development and most developers enjoy working with it.

Gatsby builds upon React's strengths and helps React developers build faster apps, embrace PWA functionality, SSR, and more. The Couch, a web development agency, has fallen in love with React and Gatsby and what it allows them to do for their e-commerce clients.

"The traditional full-stack CMS does everything, but not a lot of that well. When we're working for clients or for a company that wants to distinguish themselves, we don't want just a generic website. We want something that stands out." - Hedley Lockyer at Anzacday

Headless eCommerce improves security

A website hack can be seriously damaging for an eCommerce company. This damage can include lost revenue (due to being offline), loss of brand trust and reputation, and legal challenges associated with stolen customer payment or personal data. Headless eCommerce makes it easier to build safer eCommerce sites.

The attack surface (on a website) is the complete set of vulnerabilities or entry points that exist in that system. Server-hosted sites that use a monolithic CMS have several prominent attack surfaces. First are the servers, which need to be constantly patched and updated to remain secure.

Next are the plugins. Plugins are very easy to install but much harder to maintain (and keep secure). Tens of thousands of WordPress sites are taken offline each month by plugin hacks. Then there are the login/admin pages (e.g. /wp-admin), which are susceptible to brute-force attacks. Finally, there are attacks like SQL injections and XSS attacks. The dynamic nature of server-hosted monolithic CMS sites makes them more vulnerable to attacks than static sites.

Headless eCommerce websites feature no server-side scripting and they are served on a CDN with read-only access. Not invulnerable (e.g. from things like a DDOS) but they are inherently more secure.

Conclusion

We are in a new era of eCommerce development. ECommerce developers, agencies, startups, and product teams are using new technologies like the JAMstack, CDNs, PWAs, dev tools like Gatsby, CMSes like Sanity, and several other leading-edge tools to make eCommerce sites easier to use, more fun to build, and better converting.

The companies who are willing to experiment and innovate with these new technologies stand to increase their conversion rates, delight their customers, beat their competition, and ultimately grow their revenues.