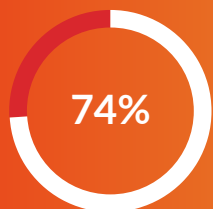


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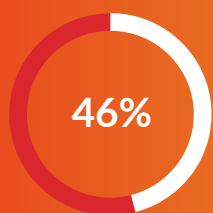
WHO SHOULD WIN THE
SITE PERFORMANCE TUG-OF-WAR:

*E-Commerce
Or IT?*



74% of mobile users will abandon a site after waiting just five seconds for a page to load, and **46%** won't return to a site they perceive as performing poorly.

Source: Soasta



Whether online-only or omnichannel, retailers with an e-Commerce presence face a common dilemma: Finding the right balance between maximizing **site speed and performance** and creating a **rich, engaging online shopping experience**.

For most of the year, this tug-of-war stays on a low boil, but it reaches its peak during the holidays, when a retailer's typical web site and mobile volume can multiply by **10** or even **100** times the normal average. Many e-Commerce sites now feature **40 to 60** third-party add-ons, according to **Yottaa** — each of which can potentially be a source of slowdowns or other performance issues. Even a brief slowdown can push away impatient consumers: **74%** of mobile users will abandon a site after waiting just **five seconds** for a page to load, and **46%** would not return to a site they perceived as performing poorly, according to **Soasta**.

TOP 5 OFFENDERS CAUSING SITE SLOWDOWNS

Collecting data from 1,500 web sites that use its acceleration solution, Yottaa has identified the types of add-ons most likely to negatively affect site performance:



1. Personalization



4. Social media



2. Tag Management



5. Customer reviews



3. Advertising tech



“

Someone may have thrown a tag on a site to check out a startup's functionality back in May, but with 100X traffic it doesn't work. Even an API call to a store locator or an inventory system may work fine most of the time, but if I'm now doing 400 calls per second, have I planned for that?



Jeffrey Neville,
Senior VP and Practice
Lead at BRP

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Understanding the performance trade-offs involved in adding functionalities like personalization, ratings and reviews, video, interactive chat and seasonal promotions is an internal conversation retailers must have — and the sooner the better. There are strong arguments on both sides, and the “balance point” will be different for each retailer.

“There's an incredible amount of value that marketing partners and affiliates all add to the business, but the tags and tag management attached to them have a hefty cost,” said Jeffrey Neville, Senior VP and Practice Lead at **BRP** in an interview with *Retail TouchPoints*. Tags may be working fine at normal traffic loads, but Neville noted, “the question is how do they do at **10X** or **100X** — for example, does the whole page load before they fail?”

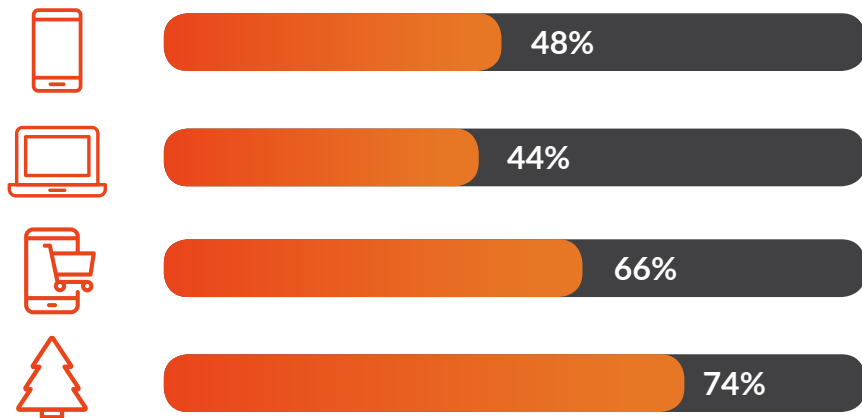
Neville, who served as a CIO for retail firms before becoming a consultant, noted that “It's always good hygiene to go back and ask whether all the tags are ready” prior to the holiday season. “Someone may have thrown a tag on a site to check out a startup's functionality back in May, but with **100X** traffic it doesn't work,” he noted. “Even an API call to a store locator or an inventory system may work fine most of the time, but if I'm now doing **400 calls per second**, have I planned for that?”

Neville recounted a situation when his developers used Google's free version of a store locator that handled a certain number of calls per second. “Up until November 21st, everything worked fine,” he said. “Then we clicked over the number of calls per second we were getting for free, and Google just shut it off because [the additional calls] weren't covered.”

Performance goes beyond a shopper's ability to access and use a retailer's web site. “Retailers need to think through performance at their call center, their credit processing facility, and even things like network utilization,” said Neville. “One holiday season we had an issue with the throughput rates for fulfillment, because each fulfillment station had a ‘rate shopping’ functionality that searched for the best [shipping] rate. That gave us a problem from a network utilization standpoint.”

MOBILE PERFORMANCE: THE SMALL SCREEN CREATES BIG CHALLENGES

Retailers don't need reminding about the importance of mobile during the holiday season. In the **2018 holiday season**, mobile eclipsed desktop for the first time, producing **48%** of orders compared to **44%** from desktops and laptops. Mobile accounted for **66%** of all e-Commerce traffic during the season, and **74%** of shoppers browsed from a mobile phone on Christmas Day, according to data from Salesforce.



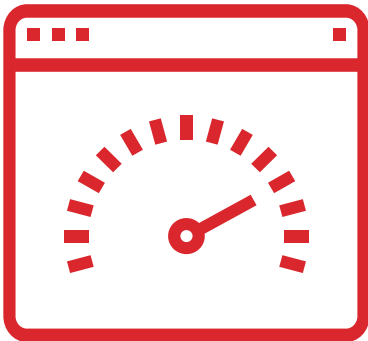
Mobile performance challenges are exacerbated by the fact that retailers get basically one shot with consumers on these devices: "Once something doesn't work on mobile, consumers abandon it, whereas more often they will retry an action on a desktop computer," said Suketu Gandhi, a partner in the digital transformation practice of A.T. Kearney. "There are big issues around the psychology" of using mobile versus desktop.

Mobile performance is also highly dependent on the user's network connection. "We're not yet at 5G, so if connectivity is weak, and on top of that the site itself has issues, retailers have to account for that a bit more," said Gandhi in an interview with *Retail TouchPoints*. Retailers also have less leeway in terms of error messages or other visible signs of poor performance, he added: **"'Ugly' looks really ugly on a mobile screen.** On the wider screen, there are ways to show other things that can distract the consumer, but on mobile, they are only looking at one thing, which makes [an error] really stark."



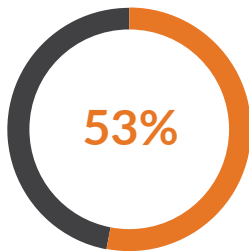
THE IMPACT OF THIRD-PARTY E-COMMERCE TECHNOLOGIES

By Rich Stendardo, Chief Executive Officer, YOTTA A



In the age of Amazon, everything is fast. In order to effectively compete, brands must not only have sites that load quickly, they also need to differentiate themselves through better shopper experiences by adding third-party e-Commerce technologies to their sites. As a result, the average e-Commerce site today has between **40** and **60** third parties. While these technologies, such as live chat and personalization, significantly enhance shopper experience, they also slow down page load times. Why? eCommerce sites with **40+** third parties require **300** calls to **100** servers to load a single page, making it virtually impossible to hit the three-second load mark shoppers expect. Studies from Amazon and Walmart have proven that every second of page load latency after the three-second mark costs retailers **7%** in conversions.

Due to the complexity of modern e-Commerce sites, the average online shopper has a **50%** chance of visiting a slow loading page. Inconsistent page load times often result in shoppers abruptly ending their sessions, which lowers conversions and leaves consumers with negative impressions of a brand. How many retailers are willing to take a one-in-two chance of losing shoppers due to site performance inconsistency? Not many. Accounting for over **70%** of page load time, third parties are the biggest performance challenge for online retailers. For example, the average e-Commerce site experiences **1.5** million third party performance violations per day. These performance violations can create a negative impact regardless of e-Commerce platform, or whether you are using Single Page Applications or Progressive Web Applications to address site performance. Third parties, which are external to these platforms and applications, still need to be optimized for performance.



Third Party Fact: **53%** of shoppers leave a slow loading site caused by poor performing third parties because “it is a waste of their personal time.”

Brands need to be able to inventory and optimally sequence the loading of all third parties on their sites and benchmark individual third party performance. Site optimization technologies, such as YOTTA A's e-Commerce acceleration solutions, enable online retailers to deploy all the third-party technologies their shoppers demand while ensuring fast site performance.

Designed to help retailers understand the impact third parties can have on overall site performance, the recently published **2019 eCommerce 3rd Party Technology Index** examines close to **400** of the most widely adopted third parties and ranks them based on performance and page load violations. By understanding the performance impact of all the third party technologies on their sites, and with the knowledge that site optimization platforms can accelerate the loading of these technologies, online retailers can have both engaging sites that are highly performant.



PREVENTING PERFORMANCE PROBLEMS

Because the holiday rush can spotlight site performance issues that might have been invisible the rest of the year, retail IT departments need to keep close tabs on the specific cause of each problem, both to speed up repairs and to plan for the following year. However, these analyses can be complicated when sites are using dozens of third-party applications, according to Beth Moriarty, VP of Product and Corporate marketing at Yottaa.

“This has become more of a problem in the last five years,” said Moriarty in an interview with *Retail TouchPoints*. “Before then, most of the e-Commerce features on a site came from one big monolithic e-Commerce platform, but then retailers began adding a lot of third-party technologies. IT is tasked with having expertise on all these technologies, and so **they now need ‘experts’ on 40 to 60 technologies running on the site.**”

Some performance issues can be addressed with relatively simple technological fixes. For example, “not all technologies are needed in the first two seconds of a user’s interaction,” said Moriarty. “The right time to execute a personalization script might be only after the page is already interactive. The right place to show product reviews might be only on product detail pages, and the right time might be only after a shopper has seen the product image,” she noted. E-commerce retailers also can use image optimization that only delivers what’s already in a viewport and then provide more only when someone interacts with the image itself.

Retailers also can be more strategic with features such as ratings and reviews, making them available on **their most popular products** or on those that are **high-consideration items** rather than commodities. “Retailers need to take control over these things on a category-by-category or even a product-by-product basis,” noted Moriarty.

It’s also advisable to limit the number and types of promotions a site offers: “A buy-one-get-one-free stacked on top of free shipping or a 10% off promotion may work just fine at 1X normal traffic, but it might grind away and be a significant problem at 100X, especially if the retailer hasn’t done it before,” said BRP’s Neville. “Retailers should do an automated performance test before the Cyber Five days [Thanksgiving through Cyber Monday], because having a conversation with your CMO about turning off a promotion is not a fun one.”

What retailers shouldn’t do is make an arbitrary decision to limit the number of third-party functionalities on their sites, for example, setting a ceiling of 25 or 30. “Retailers need to build good business cases for each of these third-party technologies, and part of that is getting both sides, e-Commerce and IT, on board,” said Moriarty. “It’s an ROI decision, and part of that calculation should be whether there is a negative impact on site performance that comes with the benefits.”



KEY ELEMENTS OF A SITE PERFORMANCE ACTION PLAN

Retailers can be prepared, but inevitably problems will occur. They will need an action plan that covers everything from a slight hiccup to a catastrophic failure, and ideally should maintain a “war room” to monitor performance issues. This is particularly important during peak periods such as the Cyber Five days and the days leading up to Christmas.

Following are recommendations for monitoring, mitigating and repairing e-Commerce performance issues:

1. Have a “canary in the coal mine” to monitor your sites:

“It shouldn’t be consumers telling you that a site isn’t working,” said Gandhi. In addition to internal technological testing, retailers must monitor social media, since many consumers will Tweet a complaint rather than alert the retailer that they are having difficulties. Monitoring also can help IT departments gauge how widespread issues are and where they are concentrated geographically. “If you see 17 Twitter references to a ‘site down’ or a ‘retail fail,’ set the system up to page the tech guys,” said Neville.

2. Have a “site down” page ready to launch:

“This shouldn’t be a 404 error message or a technical explanation, but a marketing message that’s well-written and on-brand, like ‘Our brand is so popular that we’re having issues,’” said Neville. “Also, this site should be on a set of systems that aren’t on the same technology as the existing e-Commerce platform.” Neville recommends **capturing customers’ emails or phone numbers on a site down page**, to make it easier to alert them when things return to normal. “Retailers also could redirect users to a ‘light’ version of their shopping experience, a super-simple catalog without a lot of branding. If your tech people can’t fix the regular site, it’s better than nothing,” he noted.

3. Use “graceful degradation”:

In some cases, a traffic spike can occur when a specific product gets hot — the so-called “Oprah moment” that suddenly makes an item a must-have because Ms. Winfrey has recommended it. This can be an issue when a site’s performance is degraded by 90% and then collapses altogether, according to Gandhi, because “every time a shopper clicks they are adding to the pain. However, if the retailer realizes what’s happening, they can ‘slim down’ their site geographically or by product type, and do it relatively quickly. If you don’t do it, it’s complete chaos.”

4. Focus on your must-have functionalities:

“There are things that can’t be worked around technologically or with marketing, such as payments, content that makes products compelling to buy and pricing functionality,” said Gandhi.



FIND YOUR ‘BALANCE POINT’

Retailers need to find the balance point between performance and functionalities that works for their business model and brand promises — even if it means making tough decisions. Within the organization, Neville recommends that a Chief Digital Officer (CDO) or Chief Customer Officer (CCO) should broker the conversation between merchandising, marketing and the technology organization. A CCO is a good choice to referee this tug-of-war, because “they are very focused on the customer experience, which is defined as including customer satisfaction but also increasing revenue and conversion rates,” said Neville.

All parts of the enterprise need to be prepared for digital commerce issues, said Gandhi: “Every e-Commerce site of every large retailer has failed at one time or another, so if you know it is going to fail, you need to prepare for it,” he said. “If you don’t design for it and think about how you’re going to handle it, you can’t do it when the CEO is screaming in your ear.”



You may be ready to maximize e-Commerce site performance leading up to the peak of the season, but how else do you plan to make the holidays jolly for your shoppers? Visit our Holiday Hub to receive a hearty helping of tactical tips and best practices.

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