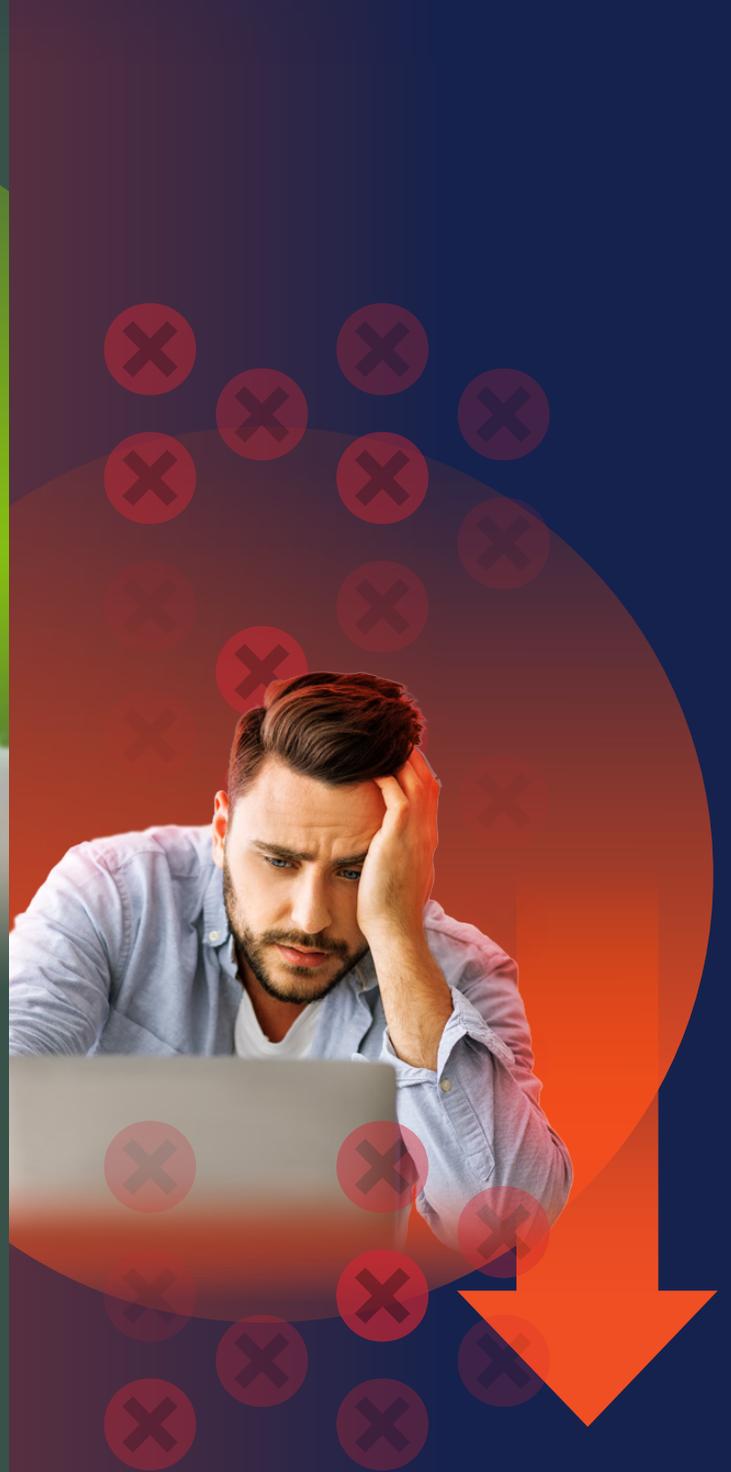


YOTTA

2023 eCommerce Technology Index



eCommerce is recovering from a bout of whiplash after the most volatile period in recent memory. The past 18 months have brought massive traffic gains, followed by supply chain nightmares, soaring acquisition costs, cooling consumer confidence, and, more recently, low-to-no traffic gains. With eyes-wide-open, brands have hardened their focus on a familiar mandate: to make the most of every shopper experience.

The burgeoning ecosystem of best-of-breed commerce and marketing technologies extends a helping hand in this pursuit of experience excellence. From attraction to conversion, fulfillment to retention, third-party technologies provide more coverage along the entire shopper journey than ever. Now, these technologies are increasingly adopted and seamlessly integrated into mission-critical moments that provide a better shopping experience.

Third-party technology adoption has risen 19% over the past year.

THIRD PARTIES PRESENT PER PAGE



As such, leading brands and retailers rely on these third parties to boost their KPIs and contribute directly to the core eCommerce levers: driving traffic, optimizing conversion, and reducing operational costs.

But, there is an often-overlooked tradeoff involved in adding more technology into the experience. For every technology added, sites strain to load, and page load times drag. The impact of slower page loads is real – **a one second delay in page load increases bounce rate by nearly 9% and decreases conversion by nearly 6%*** Slow sites bounce shoppers, and thus lose the opportunity to leverage those valuable third party contributions.

Quantifying the impact of these third-party technologies is a key cog in optimizing the entire site experience. Drawing on the industry’s most expansive tracking of eCommerce technology performance, this year’s eCommerce Technology Index shares the impact that third parties have on site speed and the shopper experience.

* Source: [Yottaa Site Speed Standard](#)

About the Report

YOTTAA tracks, monitors, and optimizes the performance of nearly 2000 eCommerce sites. The eCommerce Technology Index benchmarks the optimized performance of the most adopted third parties across the YOTTAA community of eCommerce websites.

MEASURING THE IMPACT OF THIRD PARTIES



These insights are drawn from eCommerce activity during December 2022, representing 5.5 billion page views. During this period, the YOTTAA-driven optimization provided an average page load savings of 1.3 seconds, or a 24% improvement in page speed. These optimizations saved shoppers nearly 2 million hours of time.

Each third party in the index earns a Performance Impact Rating (PIR) that measures the performance of a third party on an eCommerce website.

The PIR is calculated by adding a third party’s performance violations and the delay page load violations together and then dividing by the total number of resources loaded by the third party across the site.

Performance Violations are individual errors that occur when a single third party takes longer than 750 milliseconds to load.

Delay Page Load Violations are individual errors that occur when a single third party extends the time it takes for a shopper to be able to interact with a site.

The PIR is the most accurate measure of a third party’s performance impact on site speed, and the shopper experience.

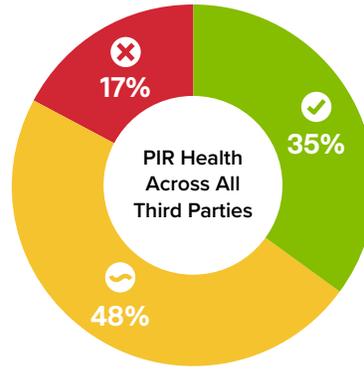
[Read more](#) about PIR score.

Performance Impact Ratings

Performance Impact Rating (PIR) measures the performance impact of third parties across eCommerce sites, assigning a Red, Yellow, or Green color to each technology.

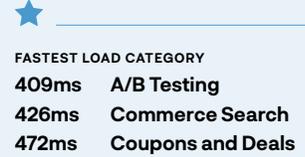
A Red rating indicates a significant negative impact on site performance, and represents 17% of all third parties.

[See the full PIR of individual third parties >](#)



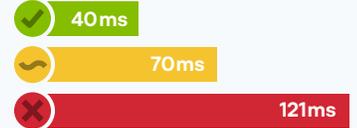
- Represents little or no performance impact
- Represents an inconsistent negative performance impact
- Represents a consistent negative impact on performance

Time to Last Byte



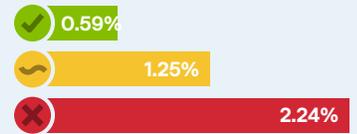
[See Time to Last Byte insights >](#)

Performance Impact



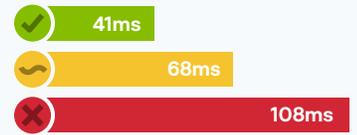
[See Performance insights >](#)

Time to Interactive



[See Time to Interactive insights >](#)

Largest Contentful Paint



Google judges LCP as 'Good' only when loads are under 2.5 seconds.

[See Largest Contentful Paint insights >](#)

Violations Per Page



[See Violation breakdown by pages, devices >](#)

[Third Party Category Insights >](#)

[Third Party YoY Change >](#)

[All Third Party Performance >](#)



Performance Impact Ratings by Category

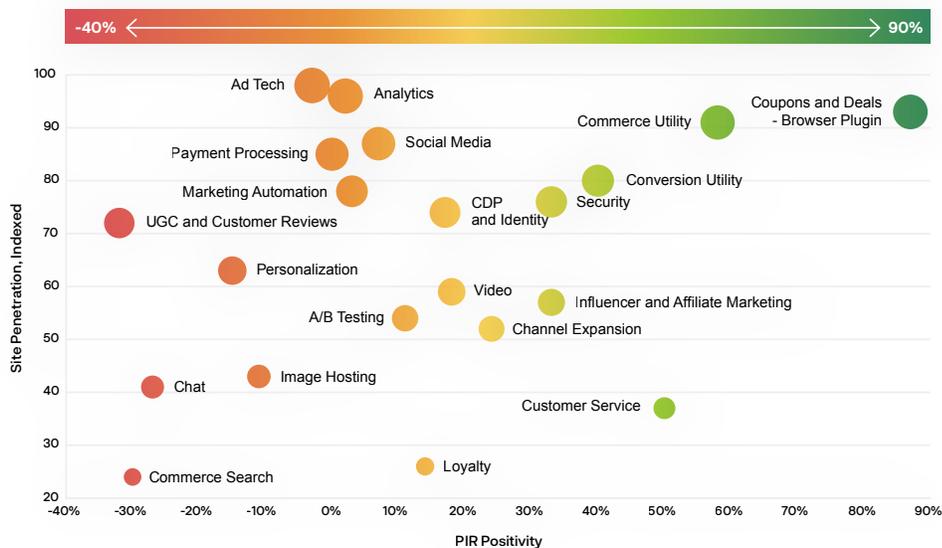
Assess third parties like shoppers: know your segments

Just as the unique shopping experiences provided by each site vary, and the journeys that shoppers take across those sites are unique, third party performance varies from app to app. But, this variance is especially pronounced when observing the impact that different technology categories have on the site experience. The differences between tech categories are dictated largely by the requirements of the technology. While some are simply collecting data – think web analytics – others

are injecting content into the site, like personalization. More javascript, images and API calls leads to more effort to paint the site. Heavier-weight sites generally feel the performance burden. So, when weighing the impact of the third parties, part of a brand's assessment of a technology should be a comparison against similar technology. Ultimately, while overall impact matters most, a third party that has far worse performance impact compared with its peers may not realize its promised return on investment.

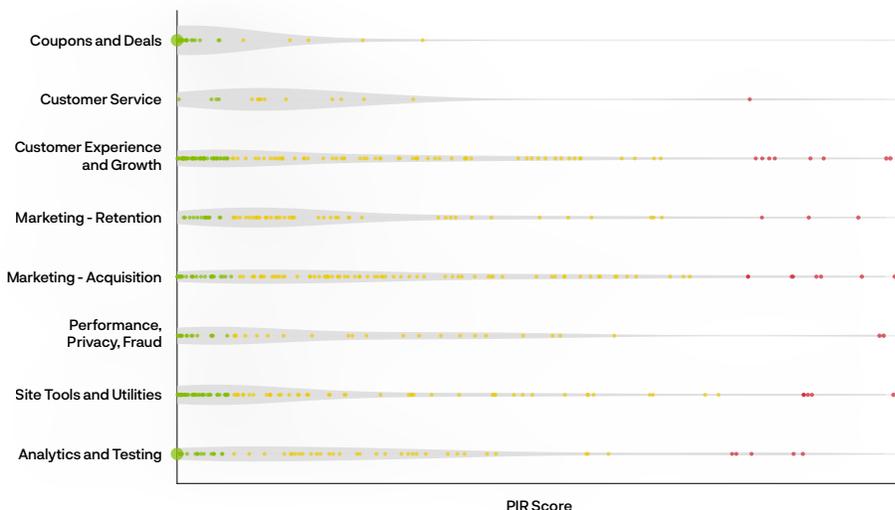
PIR Positivity by Category

Which category's third parties have the most negative performance impact?



Optimizing third party performance helps reduce page load time by 1.3 seconds

PIR Spread by High-Level Category



The performance across the high-level categories can be wide or narrow.

While most Coupon and Customer Service apps are tightly packed 'in-the-green' and generally have little impact on performance, technologies that support the on-site Customer Experience have a much wider distribution, spanning from green to yellow to red, and require a deeper look by commerce teams to understand the performance impact.

Third Party Performance Movers

As eCommerce continues to evolve, so do the technologies employed to optimize it. The changes in third party functionality and features, technical solutions, and other factors can shift performance impact. And, performance shifts are meaningful. The Site Speed Standard, an eCommerce industry benchmark, found that a **1 second improvement in page load time can boost conversion by 5.9%** on mobile - that makes every last millisecond of third party impact important. While many third parties can help boost conversion, the ultimate conversion gain may come from optimizing the third parties already integrated into a site.



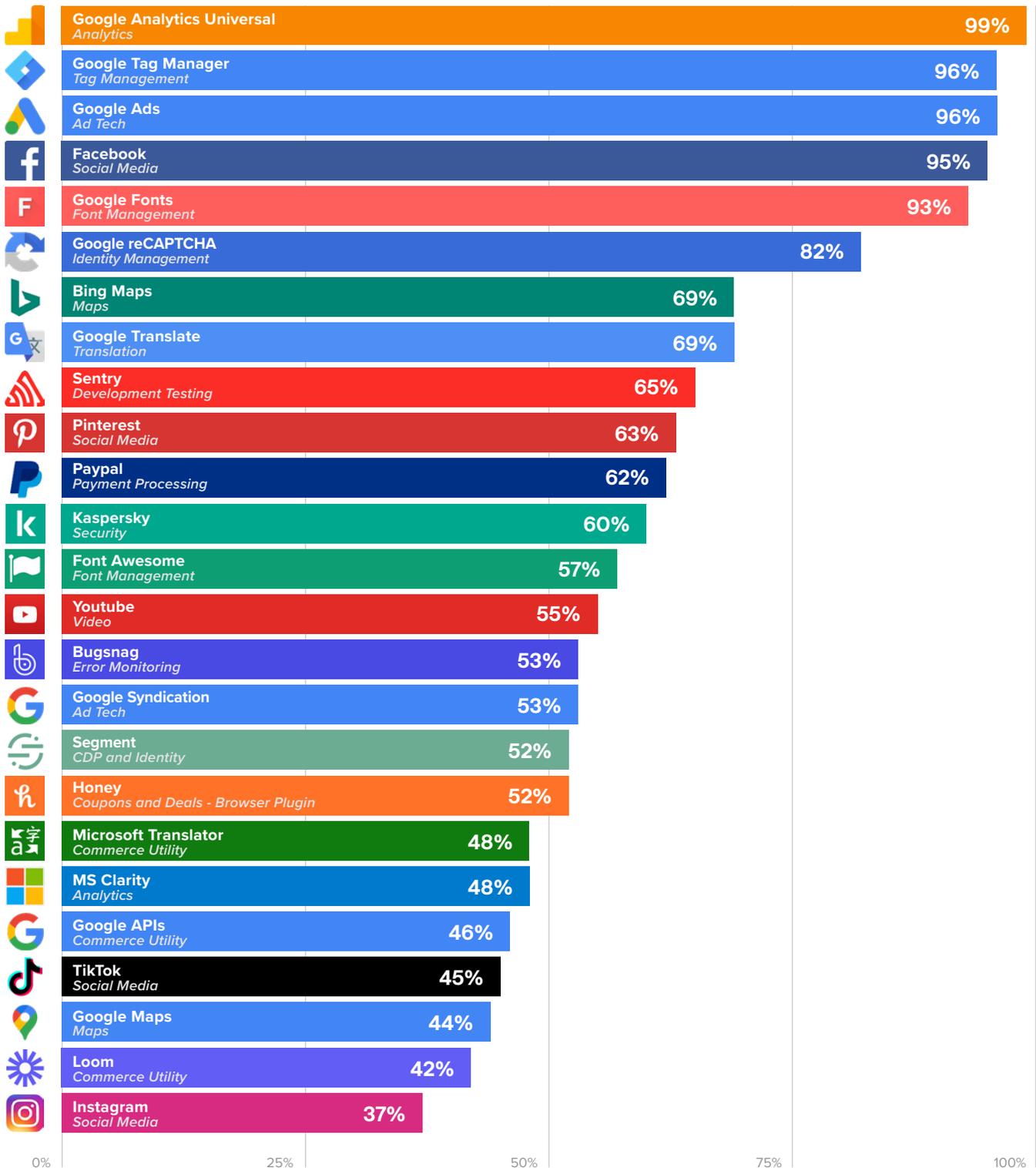
These next set of performance movers have made meaningful improvements this year.

Red to Green		Red to Yellow	
	Retailmenot		Automatic Coupons
Yellow to Green			Convert
	AppDynamics		CustomerFields
	Confirmit		EqualWeb
	Google APIs		FormStack
	Karte	friendbuy	FriendBuy
	One Signal		Google Analytics Classic
	Quantum Metric		Gravatar
	Salsify		LeadProfit
	SessionCam		MpEasyLink
	SmartAdServer		MyRegistry.com
	Syndigo		Optim Monk
	WebCollage		Oracle Engagement Services
			Re:amaze
			ShopTagr.com
			Sidecar
			SignifyD
			WisePops

Most Adopted eCommerce Technologies

The most adopted technologies are ubiquitous across the eCommerce stack – and are dominated by the likely industry titans. Some of the eCommerce technologies that were more adopted this past year include TikTok, Segment, Google reCAPTCHA, and Bing Maps. Lurking within the next tier technologies are some browser plug-ins that can disrupt the shopper's journey. Identifying and dealing with these [journey hijackers](#) is critical to ensuring a smooth shopper journey.

Here are the most adopted eCommerce technologies:



Third Party Adoption Changes

The changes in third party adoption typically reflects evolving opportunities and needs across eCommerce, and this year is no different, with risers including social channel expansion (TikTok) and customer data focus (Segment). Overall, the number of third parties expanding their penetration far outweighed the number of third parties reducing their footprints.

Top Increases

These eCommerce technologies are more adopted across the YOTTAA eCommerce community of sites this year than last year.



Bing Maps
Maps



Segment
CDP and Identity



Google reCAPTCHA
Client-side Security



SkimLinks
Influencer and Affiliate Marketing



Capital One Shopping
Coupons and Deals – Browser Plugin



LaunchDarkly
Development Testing



Google Tag Manager
Tag Management

bugsnag

Bugsnag
Error Monitoring



TikTok
Social Media



Google Ads
Ad Tech

Top Decreases

These eCommerce technologies are less adopted across the YOTTAA eCommerce community of sites this year than last year.



Tailwind App
Influencer and Affiliate Marketing



Quadpay
Payment Processing



TotalAV
Commerce Utility



ZoomInfo
Analytics



loom
Commerce Utility



Verizon Media
Ad Tech



Pusher
Push Marketing



PrintDirections
Maps



Keen
Analytics



Opentok
Video

Third Parties: Moving Forward

Third-party technology is no longer kept at arm's length, instead these apps are deeply integrated and relied upon to support and deliver mission-critical moments throughout the shopper journey.

Swelling adoption has seemingly provided a full-throated endorsement of third party usage, though cyclical changes in technology approach are seemingly always on the horizon. So, what is the role of third parties from now on – and how should brands consider third parties alongside their technical and business needs?

Here's what a panel of third-party technology architects, practitioners, and evangelists have to say about the state of third party usage, what's next for third party usage, and how brands and retailers need to think about them.

As third party adoption evolves, what do eCommerce organizations need to consider differently about working with and managing third-party technologies?

It only makes sense that brands continue to abstract away in-house engineering work and offload it to third party apps. 48 apps, on average, is an unsurprising number if you look at how things have been progressing. However, this presents a key challenge that I believe most brands have not solved for, which is integration. When you have 40+ apps, your stack naturally gets "tangled". There's plenty of data that needs to flow across all the different apps, into the correct corresponding attributes. Brands need to start thinking critically about setting up an integration platform that serves as the backbone for their massive tech stack.

Sara Du
CEO and Cofounder
Alloy Automation



The rise of curated app ecosystems and the extension of technical capabilities are meaningful to brands and retailers - there is no shortage of supply nor excuse to improve the experience, and tech can be integrated in moments, not months.

This shifts the hard work and necessary competencies - now, business and teams must streamline how third parties integrate with each other and pass critical customer, product, and operational data between each other.

Rick Kenney
Managing Director
Leading Lights



It's easy to add yet another app to juice your site's conversion rates, but retailers need to know: do they all perform in aggregate? The impact that third parties have on the entire experience can be catastrophic if not optimized.

Darin Archer
VP Product Strategy
YOTTAA



When adding 3rd Party Apps to their commerce experiences, the most commonly overlooked and yet critical element is of course the data, and being able to use that to inform your understanding of the customer and how they are engaging. Capturing that is key to deriving the needed insights and personalization at scale - or to even understand how these apps are really contributing to sales and lifetime value.

Brian Walker
Chief Strategy Officer
Bloomreach



The biggest challenge is understanding how well a particular app will natively address future commerce needs and use cases as they can change materially for different reasons. Similar to the cereal aisle at the grocery store - there are almost too many 3rd party options which can become daunting for brands while evaluating. Understanding an app partner's roadmap and investment/exit strategy are also important variables for brands to consider.

Travis Hess
CEO
The Stable, an Accenture Company



Native integrations across the tech stack are the foundation of delivering on today's customer expectations. Seamlessly enrich all customer-facing tools to ensure a personal touch in robotic time frames that have become a basic customer expectation.

Jeremy Horowitz
Partner Marketing Team Lead
Gorgias



The use of third party apps has exploded over the last few years. Along with the emergence of the MACH alliance, the trend towards interchangeable services will continue to grow. Coordinating the experience with so many services means that retailers must implement a robust monitoring and testing of all these services. To avoid conversion challenges and optimize the experience, it's critical to find and address the problem services.

Paul do Forno
Managing Director
Deloitte Digital



eCommerce Technology - Category Insights

Does performance really matter?

Site performance is often a second thought. While digital leaders often - rightfully so - first target improvements in merchandising and marketing, the operational performance of a site should be counted amongst the most impactful optimizations.

And, that site performance depends on many factors. Does a page issue lots of calls when loading? Are there many large files? When do page elements load?

While we're far past the days of these types of considerations going unchecked, these items can be unoptimized. And, when unoptimized, pages drag - and your shoppers' experience suffers.

Every second counts - and those extra seconds either boost or bust your KPIs. So don't give up the hard earned gains of a third party's technology - optimize them.

 <p>Time to Last Byte How long until the third party finishes running on a page?</p>	 <p>Performance Impact How much delay does a third party cause on page load?</p>	 <p>Time to Interactive How long does a third party delay the shopper from interacting with a page?</p>	 <p>Largest Content Paint How long does it take for the largest image or text block visible to load?</p>
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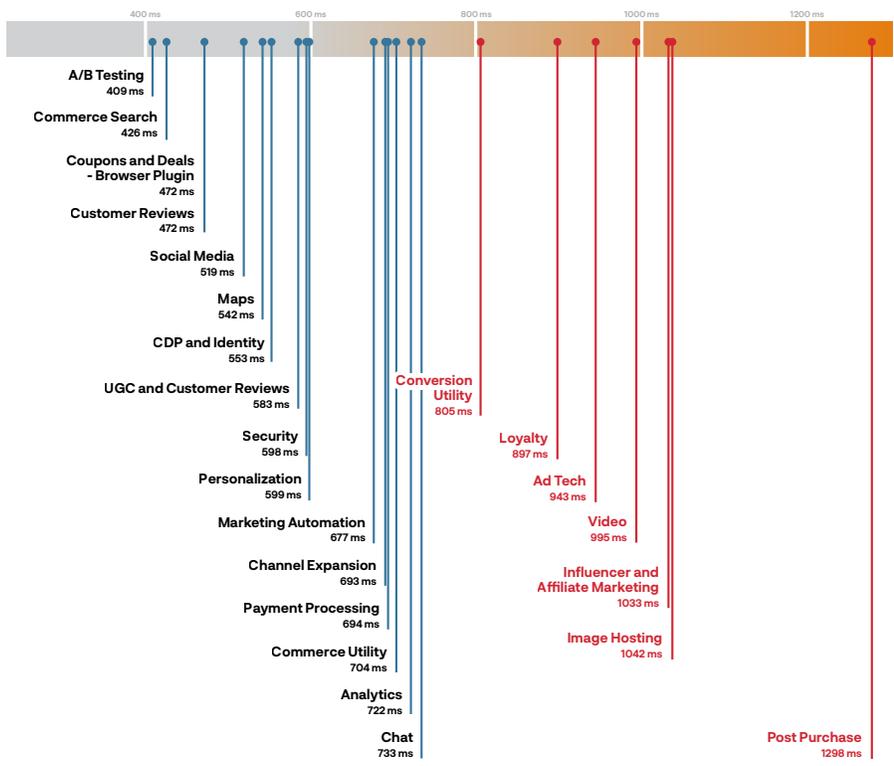


Time to Last Byte

Third parties are notorious for causing those brief bursts of loading notifications in the bottom of a browser. When not sequenced appropriately, the site will continue to flash those loads until all third parties are loaded, distracting the visitor and impacting the page performance. Here are the most adopted eCommerce technology categories and the average time it takes for the last byte to load into the browser.

How long does it take for a third party to finish loading?

Average amount of time it takes for a third party to finish loading, by category.



Category	Load Time (ms)
A/B Testing	409
Commerce Search	426
Coupons and Deals - Browser Plugin	472
Customer Reviews	472
Social Media	519
Maps	542
CDP and Identity	553
UGC and Customer Reviews	583
Security	598
Personalization	599
Marketing Automation	677
Channel Expansion	693
Payment Processing	694
Commerce Utility	704
Analytics	722
Chat	733
Conversion Utility	805
Loyalty	897
Ad Tech	943
Video	995
Influencer and Affiliate Marketing	1033
Image Hosting	1042
Post Purchase	1298

 If you're optimizing your site, you can use any third party regardless of its unoptimized load time and PIR rating.

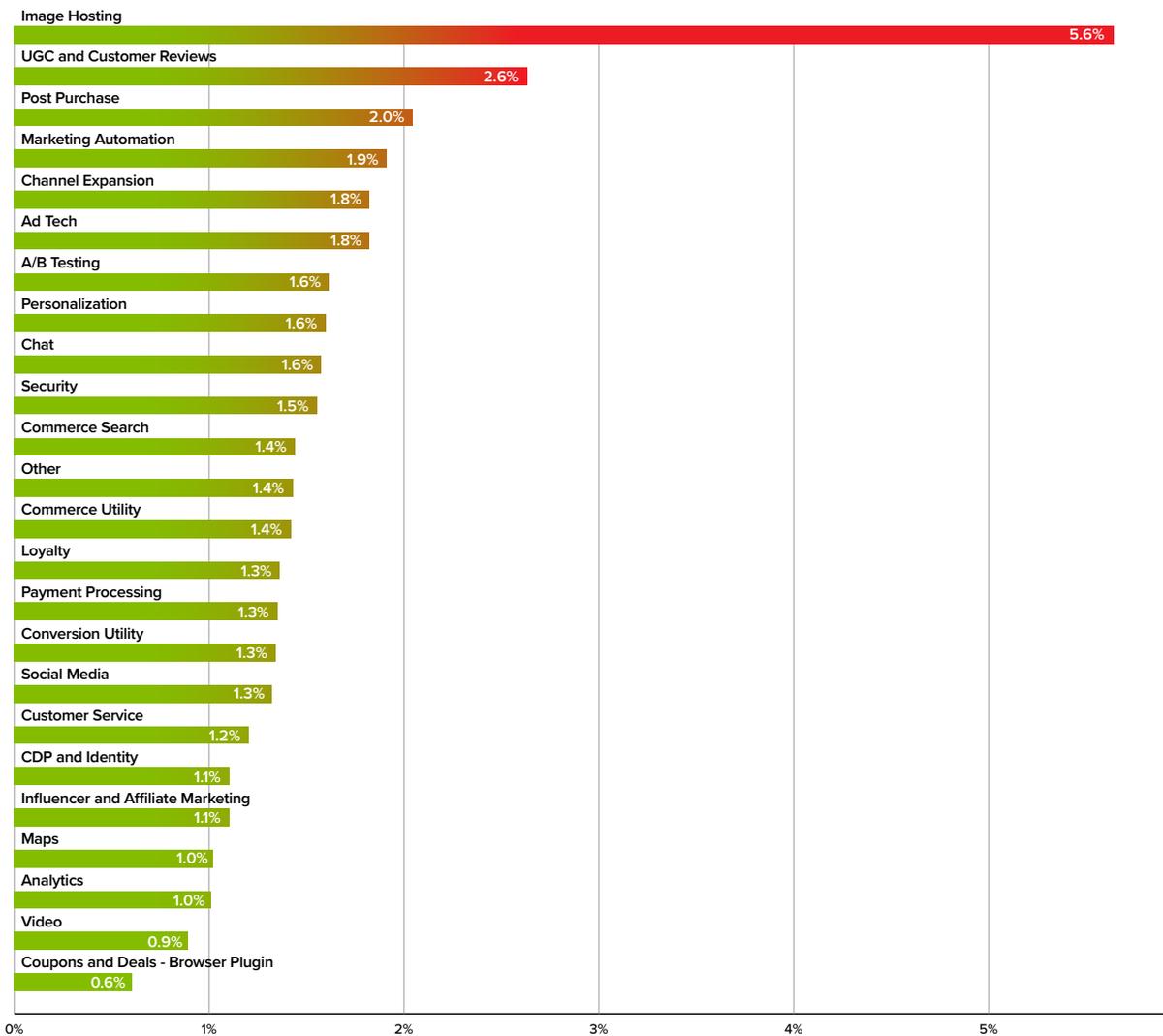


Time to Interactive

Waiting to engage with a page is a prime cause of frustration and creates a terrible first impression. Here is the amount of time that a technology category typically delays the shopper interaction, expressed as a percentage of the entire time it takes for a page to be ready to interact.

Expected Page Interactivity Delay by Tech Category

Average share of a page's time to interactive delayed by a third party, by category.





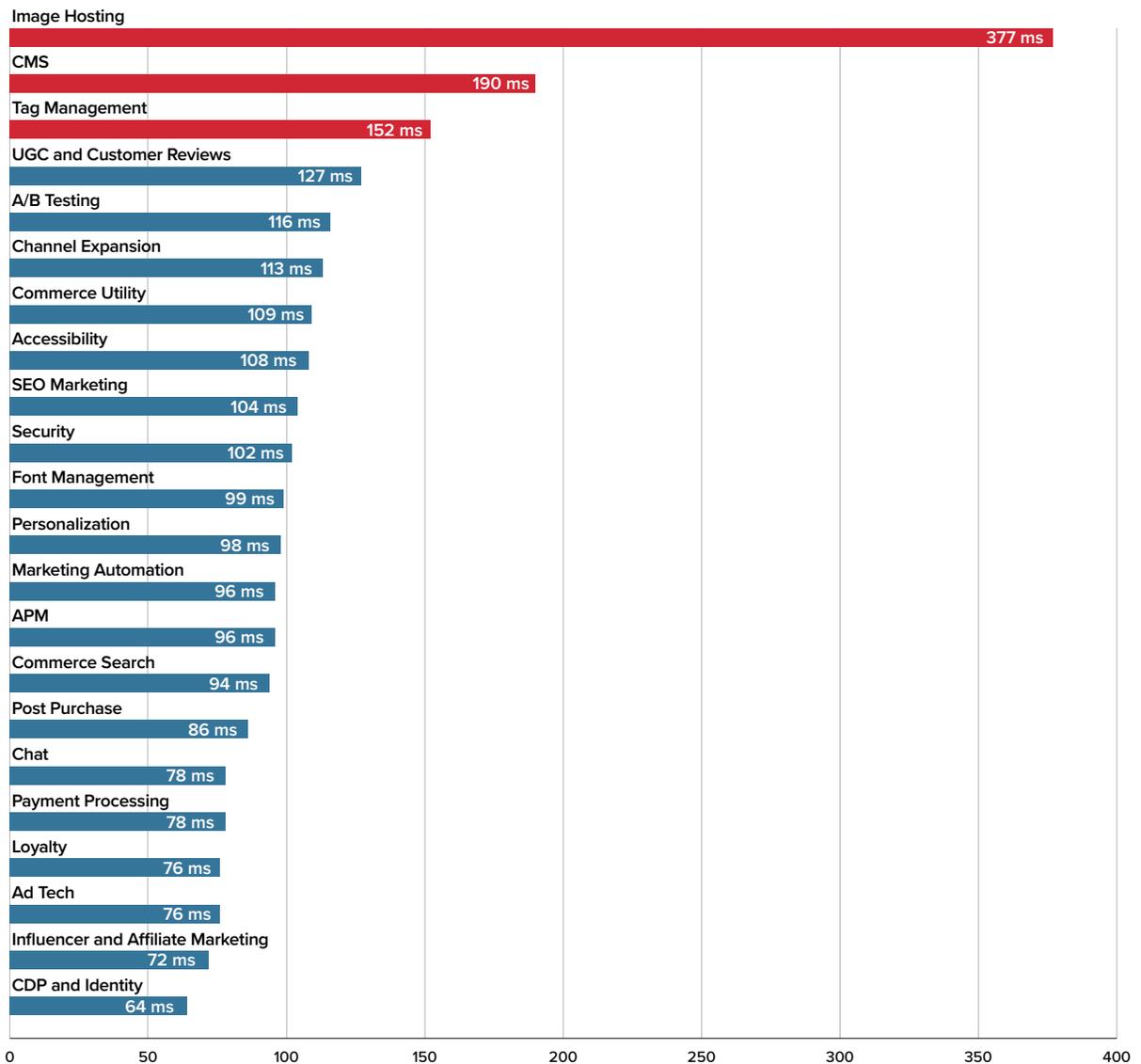
Performance Impact

Many consider performance - how long it takes for the onLoad event to occur - to be the best measure of site speed. When third parties impact that performance metric, sites load slower.

Here are the average page load delays for the most adopted eCommerce technology categories when unoptimized.

Expected Performance Impact by Tech Category

Average amount of time a third party delays a page load, by category



[See how each third party is performing >](#)



Largest Contentful Paint

When Google ushered in Core Web Vitals, sites renewed their focus on site performance metrics. And, the data shows that eCommerce struggled mightily with one of those - Largest Contentful Paint. Here's the impact that third parties have on LCP.

For a full view of [Core Web Vital benchmarks in eCommerce](#), check out the report.



Category	LCP Impact, ms
Image Hosting	335
Performance	265
CMS	172
Tag Management	128
A/B Testing	127
UGC and Customer Reviews	116
APM	112
Commerce Utility	107
Marketing Automation	98
Commerce Search	95
Accessibility	92
Font Management	92
Post Purchase	90
Search Engine	90
Personalization	89
Channel Expansion	88
Security	88
Loyalty	86
SEO Marketing	80
Payment Processing	75

Category	LCP Impact, ms
Chat	72
Influencer and Affiliate Marketing	71
CDP and Identity	67
Coupons and Deals - Browser Plugin	65
Conversion Utility	65
Ad Tech	62
Social Media	62
Customer Service	57
Push Marketing	57
Video	55
Analytics	51
Other	50
Fraud	50
Client-side Security	50
Maps	48
Error Monitoring	38
Browser	30
Rum Analytics	19
Development Testing	15
Ad Blocking	11

Violations

Violations measure the negative impact that a third party has on the site experience. A violation is a material delay caused by a third party that impacts the shopper's experience.

Across the shopper journey, brands and retailers choose which technologies to deploy. Each third party provides different benefits from page to page. Innovation needed on a product detail page may not be required on a home page, for instance. As such, the experience – and the number of violations – varies from one page to another.

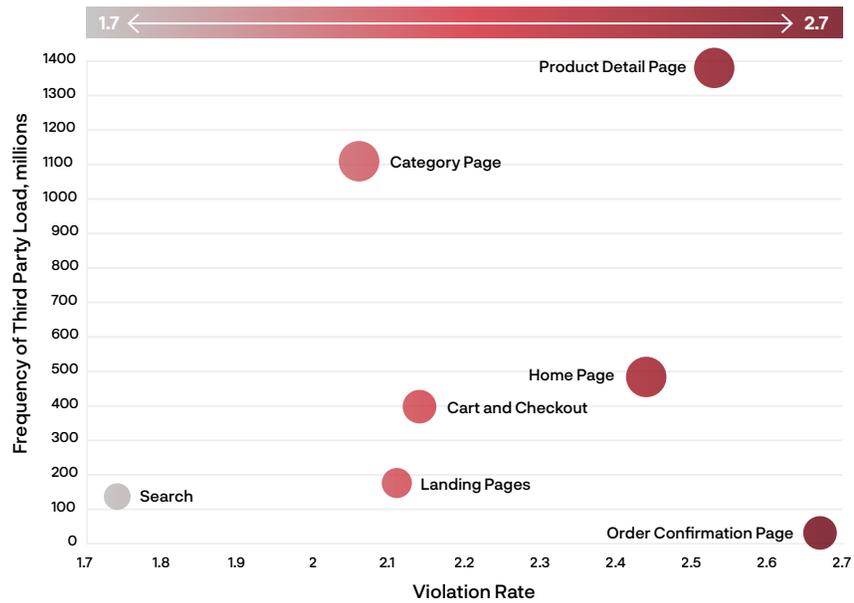
The below tables detail the two leading types of violations that impact the site experience:

Performance Violations are individual errors that occur when a single third party takes longer than one second to load. These performance violations do not affect onload, though they may reduce or restrict access to site or third party functionality.

Page Delay Violations are individual errors that occur when a single third party extends the time it takes for a shopper to be able to interact with a site.

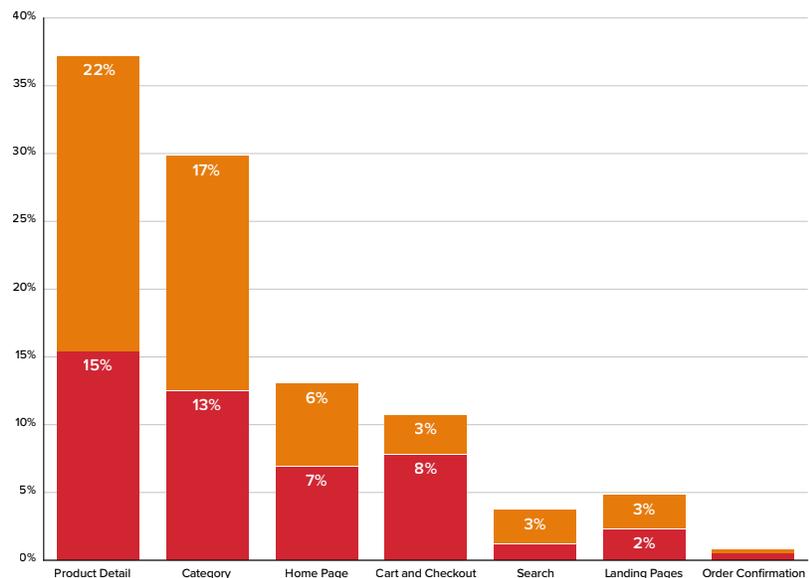
Which pages experience the most violations?

Performance and Page Delay Violations per third party load, by page type



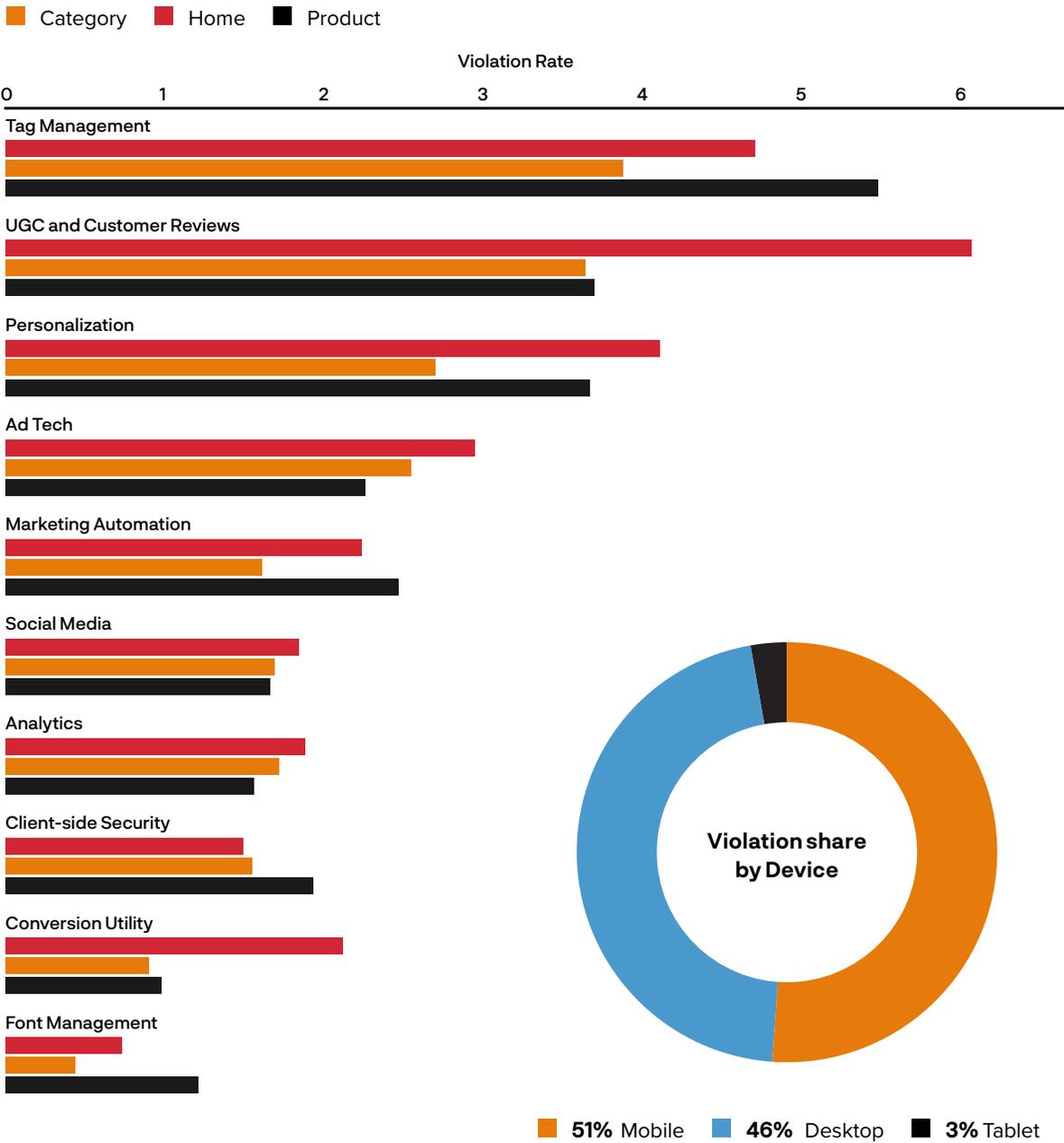
Violation share by page

- Performance Violations
- Page Delay Violations



Top Violating Categories across the Most Popular Page Types

Performance and Page Delay violations per third party load, by page type



Highest Offending eCommerce Technology Categories

Different technologies may impact pages differently. From category to category, performance needs vary, and may lead to higher performance impacts. Here are the categories with the highest violation rates.

Page Delay Violators

Category	Violation Rate	Site Penetration (Percentile)
Image Hosting	10.8	10%
CMS	10.5	1%
Post Purchase	2.8	3%
Tag Management	2.6	66%
Payment Processing	2.2	72%
UGC and Customer Reviews	2.0	62%
Personalization	1.9	59%
Video	1.4	38%
Conversion Utility	1.0	76%
Commerce Utility	1.0	90%
A/B Testing	1.0	41%
Marketing Automation	0.9	83%
Commerce Search	0.9	21%
Security	0.8	69%
Ad Tech	0.8	100%
Loyalty	0.8	17%
Chat	0.7	35%
Channel Expansion	0.7	45%
Analytics	0.6	97%
Maps	0.6	52%

Performance Violators

Category	Violation Rate	Site Penetration (Percentile)
Post Purchase	2.9	3%
APM	2.5	14%
UGC and Customer Reviews	2.4	62%
Image Hosting	2.3	10%
Ad Tech	1.8	100%
Tag Management	1.5	66%
Chat	1.5	35%
Other	1.4	28%
Social Media	1.3	93%
Personalization	1.2	59%
Analytics	1.2	97%
Commerce Search	1.1	21%
Maps	1.1	52%
Marketing Automation	1.0	83%
Commerce Utility	1.0	90%
Channel Expansion	0.9	45%
Video	0.8	38%
Payment Processing	0.8	72%
Conversion Utility	0.8	76%
Loyalty	0.7	17%

Highest Offending Third Parties

Each third party requires and relies on different resources to perform. For some, the performance may lead to shopper-impacting violations. Remember, if a third party is Red, it's typically a more robust technology doing some heavy lifting, and this heavy 'weight' may be a requirement to realize the value of the third party. Those technologies are shining examples of the importance of load sequencing and optimization. An optimized site can be performative, even with Red and Yellow third parties.

Here are the third parties that caused the most violations per load:

Page Delay Violators

Third Party	Violation Rate
 360	76.6
 Amplience	53.6
 Cloudinary	48.6
 LeadProfit	42.5
 ConfigureID	40.3
 Widen	36.4
 ImgIX	33.3
 Owl Carousel	31.5
 Adlucent	19.9
 Zipify	19.6
 Arm Treasure Data	18.7
 FormStack	16.8
 Netfree	16.8
 Automatic Coupons	16.0
 AMP Project	15.6
 OrderGroove	13.2
 Adyen	12.3
 Sendtrac	11.2
 Braintree	10.6
 Adobe Dynamic Media	10.1

Performance Violators

Third Party	Violation Rate
 Arm Treasure Data	150.1
 360	85.6
 ConfigureID	73.9
 Taobao	49.4
 ShopTagr.com	34.3
 Poweradspy	25.8
 Spectrum	23.1
 Okendo	21.6
 Clearbit	19.8
 LeadProfit	14.8
 ImgIX	13.8
 Ensignten	11.6
 GoInStore	11.3
 Widen	10.9
 Userway	9.0
 Avocet	8.7
 Cloudinary	8.4
 Linc Global	8.0
 Bazaarvoice	7.8
 Scarab Research	7.4

SUMMARY

Composing the Commerce Experience: Third Parties are at the Center of it

The recent evolution and continuing maturity of eCommerce has led to a wave of de-construction. This new-look tech stack is composed to best meet a new shopping standard - one that is designed to curate unique shopping experiences. Third parties are growing to play a more central role in supporting the shopping experience and operational requirements. Brands and retailers should expect to harvest continued innovations of the third party ecosystem to contribute to their sites and operations. Live shopping, post-purchase tech, and chat each serve as examples of fledgling technologies that have grown their adoption across the eCommerce industry. As brands continue to rely on the benefits and return on the investments of these tools, so too must they appreciate and weigh the total cost of integration - including the performance impact. To realize the full potential of the technology, each must also be optimized to limit the negative impact on site performance. By doing so, brands can offer shoppers both engaging experiences AND fast site speed, resulting in lower bounces and higher conversions.

Gain the freedom to add any technology you'd like to your site, regardless of performance impact. With YOTTA, that's exactly what you can do! Start with your Free eCommerce Site Performance Snapshot report.

[GET YOUR FREE REPORT NOW](#)





Third Party Performance Impact Ratings

This set of third-party technologies, listed alphabetically, represents the most adopted third parties across the YOTTAA community of sites during December 2022.



Represents a consistent negative impact on performance



Represents an inconsistent negative performance impact



Represents little or no performance impact

Third Party	Category	PIR	% of Sites
 360	Security		24%
 33Across	Ad Tech		2%
 4Cite	CDP and Identity		6%
 A3Cloud	Ad Tech		2%
 AB Tasty	A/B Testing		2%
 accentuate.io	Commerce Utility		4%
 accessiBe	Accessibility		11%
 ACE STREAM	Video		6%
 acoustic	Marketing Automation		1%
 ada	Chat		2%
 AdBlocker ULTIMATE	Ad Blocking		11%
 Addshoppers	Ad Tech		1%
 AddThis	UGC and Customer Reviews		10%
 Adelphic	Ad Tech		1%
 adform	Ad Tech		2%
 Adguard	Ad Blocking		24%
 Adition	Ad Tech		1%
 adlucent	Ad Tech		2%
 Adobe Analytics	Analytics		12%
 Adobe Analytics Beacon	Analytics		12%

Third Party	Category	PIR	% of Sites
 Adobe Dynamic Media	Image Hosting		13%
 Adobe Fonts	Font Management		30%
 Adobe Marketing Cloud	Marketing Automation		34%
 Adobe Tag Manager	Tag Management		15%
 Adobe Test and Target	A/B Testing		3%
 Adroll	Ad Tech		7%
 Adstra	Ad Tech		2%
 AdXcel	Ad Tech		5%
 Adyen	Payment Processing		8%
 Affiliately	Influencer and Affiliate Marketing		1%
 Affirm	Payment Processing		19%
 AfterPay	Payment Processing		15%
 Aftership	Post Purchase		2%
 AgileOne	CDP and Identity		1%
 Akamai mPulse	Rum Analytics		9%
 Akamai Stats	Analytics		12%
 Algolia	Commerce Search		5%
 amai	Conversion Utility		3%
 Amazon Advertising	Ad Tech		10%
 Amazon Pay	Payment Processing		19%
 American Express	Payment Processing		3%
 American List Council	Analytics		1%
 AMOBEE	Ad Tech		5%
 AMP Project	Performance		2%
 Amplience	CMS		2%
 Amplitude	Analytics		35%
 AppDynamics	APM		2%
 AppMate Wishlist King	Conversion Utility		2%
 arm TREASURE DATA	CDP and Identity		1%
 ASTUTE	Other		3%

Third Party		Category	PIR	% of Sites
	Attentive	Marketing Automation		30%
	Audience Rate	Ad Tech		2%
	AudioEye	Accessibility		3%
	Auryc	Analytics		1%
	Automatic Coupons	Coupons and Deals - Browser Plugin		1%
	Automizely	Commerce Utility		4%
	Avada	Marketing Automation		2%
	AvantLink	Influencer and Affiliate Marketing		3%
	Avast SafePrice	Coupons and Deals - Browser Plugin		9%
	AVG SafePrice	Coupons and Deals - Browser Plugin		6%
	Avocet	Other		1%
	Awin	Channel Expansion		5%
	BabyList	Conversion Utility		4%
	BackInStock	Conversion Utility		9%
	Baidu	Search Engine		17%
	Bambuser	Channel Expansion		2%
	Bazaarvoice	UGC and Customer Reviews		25%
	Beeswax	Ad Tech		3%
	BeFrugal	Coupons and Deals - Browser Plugin		4%
	BenefitHub	Coupons and Deals - Browser Plugin		17%
	Better Business Bureau	Commerce Utility		2%
	BidSwitch	Ad Tech		3%
	Bidtellect	Ad Tech		2%
	Bing Maps	Maps		69%
	Bizrate Insights	Analytics		8%
	Black Crow	Personalization		5%
	Bliss point Media	Video		1%
	Blocksi	Ad Blocking		4%
	Bloomreach	Commerce Search		5%
	Blue Triangle	Rum Analytics		3%

Third Party	Category	PIR	% of Sites
 Bluecore	Marketing Automation		6%
 Bold Commerce	Conversion Utility		5%
 Bold360	Chat		1%
 Borderfree	Channel Expansion		2%
 Braintree	Payment Processing		9%
 BrandLock	Coupons and Deals - Browser Plugin		1%
 Bravo Systems d.o.o.	Ad Tech		24%
 Braze	Marketing Automation		21%
 Bread Financial	Payment Processing		3%
 Brightcove	Video		5%
 Brightedge	SEO Marketing		3%
 Bronto	Marketing Automation		7%
 BugHerd	Commerce Utility		1%
 bugsnag	Error Monitoring		53%
 buySAFE	Commerce Utility		2%
 Calendly	Commerce Utility		2%
 Capital Koala	Coupons and Deals - Browser Plugin		4%
 Capital One	Payment Processing		16%
 Capital One Shopping	Coupons and Deals - Browser Plugin		33%
 Cardinal Commerce	Payment Processing		4%
 Carro	Influencer and Affiliate Marketing		4%
 Cart.com	Post Purchase		4%
 Casale Media	Ad Tech		6%
 Cently (Coupons at Checkout)	Coupons and Deals - Browser Plugin		8%
 Centro	Ad Tech		2%
 Certona	Personalization		4%
 ChannelAdvisor	Channel Expansion		2%
 Cheetah Digital	Marketing Automation		2%
 Ciuvo	Coupons and Deals - Browser Plugin		17%
 Claritas	Analytics		3%

	Third Party	Category	PIR	% of Sites
	Clean.io	Security		1%
	Clearbit	Analytics		3%
	Click Cease	Ad Blocking		2%
	Clicktale	Analytics		3%
	Cloudinary	Image Hosting		12%
	Cloudsponge	Influencer and Affiliate Marketing		2%
	Co-op commerce	Channel Expansion		1%
	Code Blackbelt	Conversion Utility		3%
	Commerce Inspector	Browser		17%
	Conductor.com	SEO Marketing		4%
	ConfigureID	Conversion Utility		3%
	Confirmit	Analytics		1%
	Connexity	Ad Tech		4%
	Content Square	Analytics		10%
	Contentful	CMS		2%
	Conversant	Loyalty		18%
	Convert	A/B Testing		2%
	CookieBot	Security		2%
	CookiePro	Security		3%
	Cordial	Marketing Automation		4%
	CoreMedia	CMS		1%
	Coupert - Automatic Coupon Finder	Coupons and Deals - Browser Plugin		34%
	Coupon Cabin	Coupons and Deals - Browser Plugin		15%
	Coupon Follow	Coupons and Deals - Browser Plugin		5%
	Coveo	Personalization		2%
	Covet Pics	Conversion Utility		1%
	Crazyegg	Analytics		8%
	Criteo	Ad Tech		32%
	Cross Sell	Personalization		2%
	Curalate	UGC and Customer Reviews		14%

Third Party	Category	PIR	% of Sites
 CustomerFields	Personalization		1%
 Custora	CDP and Identity		1%
 Cybersource	Payment Processing		1%
 Daily Karma	Coupons and Deals - Browser Plugin		1%
 Dash Hudson	Influencer and Affiliate Marketing		3%
 Datadog	APM		23%
 Datadome	Security		18%
 DataStream.io	Analytics		3%
 dataxu	Ad Tech		2%
 DealFinder by VoucherCodes	Coupons and Deals - Browser Plugin		4%
 Decibel Insight	Analytics		1%
 Digicert	Commerce Utility		3%
 Disco	Conversion Utility		2%
 Disqus	UGC and Customer Reviews		2%
 Distillery	Ad Tech		3%
 dxpapi.com	Commerce Search		2%
 Dynamic Yield	Personalization		10%
 Dynatrace	APM		1%
 eBay	Channel Expansion		4%
 Edgeme	Other		2%
 Elevor	Analytics		7%
 Elfsight	Conversion Utility		2%
 Emarsys	Marketing Automation		2%
 EMX Digital	Ad Tech		5%
 Enquire labs	Ad Tech		4%
 ENLIGHTEN	Tag Management		3%
 EPSILON	Marketing Automation		4%
 EqualWeb	Accessibility		2%
 Everest Tech	Development Testing		19%
 Evergage	Personalization		5%

Third Party		Category	PIR	% of Sites
	Evidon/Crownpeak	Commerce Utility		2%
	Exelator	Ad Tech		1%
	Experian Data Quality	CDP and Identity		4%
	Exponea	CDP and Identity		1%
Extend	Extend	Conversion Utility		3%
	Extole	Influencer and Affiliate Marketing		2%
	Extrabux	Coupons and Deals - Browser Plugin		5%
	Eyeota	Ad Tech		4%
	Facebook	Social Media		95%
	Fast Simon formerly InstantSearch+	Commerce Search		3%
	Fillr	Commerce Utility		32%
	Fingerprint	Security		2%
	Flash Talking	Ad Tech		5%
	Flow	Channel Expansion		2%
	Font Awesome	Font Management		57%
	Fonts by Hoefler & Co	Font Management		3%
	Fonts.com	Font Management		28%
	Foodaily	Other		1%
	Foresee	Analytics		2%
	FormStack	Commerce Utility		2%
	Forter	Client-side Security		8%
FOUR SIXTY	FourSixty	Social Media		5%
	FreeWheel	Ad Tech		4%
	Freshworks Freshchat	Customer Service		1%
friendbuy	FriendBuy	Influencer and Affiliate Marketing		1%
	Fullstory	Analytics		9%
[geist]^M	GeistM	Ad Tech		1%
	Ghostery	Tag Management		1%
	Giphy	Commerce Utility		2%
	GitHub	Other		4%

Third Party		Category	PIR	% of Sites
	Gladly	Customer Service		5%
	Gleam	Conversion Utility		2%
	Global Media	Other		7%
	Global-e	Channel Expansion		6%
	GoInStore	Conversion Utility		3%
	Google Ads	Ad Tech		96%
	Google AMP	Performance		1%
	Google Analytics Classic	Analytics		37%
	Google Analytics Universal	Analytics		99%
	Google APIs	Commerce Utility		46%
	Google Cloud	Conversion Utility		12%
	Google Fonts	Font Management		93%
	Google for Retail	Commerce Utility		2%
	Google Maps	Maps		44%
	Google Optimize	A/B Testing		18%
	Google reCAPTCHA	Client-side Security		82%
	Google Syndication	Ad Tech		53%
	Google Tag Manager	Tag Management		96%
	Google Translate	Commerce Utility		69%
	Google Web Font Loader	Font Management		9%
	Gorgias	Customer Service		10%
	Gravatar	Commerce Utility		8%
	Gravotech	Conversion Utility		1%
	Green Adblocker	Ad Blocking		11%
	Greenhouse	Channel Expansion		2%
	Grin	UGC and Customer Reviews		5%
	GroupBy	Commerce Search		2%
	GroWave	Conversion Utility		1%
	Heap	Analytics		5%
	HERO	Conversion Utility		3%

Third Party	Category	PIR	% of Sites
 Heroku	Performance		30%
 Hextom	Conversion Utility		6%
 Hivewyre	Ad Tech		2%
 Honey	Coupons and Deals - Browser Plugin		52%
 Hotjar	Analytics		34%
 Houzz	Social Media		5%
 Hubspot	Marketing Automation		4%
 Hulk Apps	Conversion Utility		4%
 IBM Core Metrics	Analytics		1%
 Ibotta browser extension	Coupons and Deals - Browser Plugin		27%
 Icon Finder	Commerce Utility		2%
 ID5	CDP and Identity		2%
 iFrames	Commerce Utility		11%
 IgnitionOne	Analytics		1%
 Imagekit.io	Image Hosting		1%
 ImgBB	Image Hosting		7%
 ImgIX	Image Hosting		13%
 imgur	Image Hosting		4%
 Impact	Other		13%
 InMoment	Conversion Utility		1%
 Powerfront [™] INSIDE	Chat		2%
 Insider	Personalization		2%
 Instagram	Social Media		37%
 Instana	APM		3%
 intent.ly	Ad Tech		1%
 Internet Archive	Other		2%
 InvisibleHand	Coupons and Deals - Browser Plugin		9%
 Invoca	Other		1%
 ip-api	Commerce Utility		40%
 ipify	Commerce Utility		8%

Third Party	Category	PIR	% of Sites
 Ipinfo	Commerce Utility		5%
 Ipstack	Commerce Utility		2%
 IsenseLabs	Conversion Utility		4%
 iSpot.tv	Analytics		1%
 iubenda	Commerce Utility		1%
 Jivox	Personalization		1%
 Joinfudge	Coupons and Deals - Browser Plugin		3%
 JotForm	Commerce Utility		2%
 JudgeMe	UGC and Customer Reviews		4%
 Justuno	Conversion Utility		3%
 Kaltura	Conversion Utility		7%
 Kargo	Ad Tech		4%
 Karmanow	Coupons and Deals - Browser Plugin		19%
 Karte	Analytics		1%
 Kaspersky	Security		60%
 Katapult	Channel Expansion		6%
 Keen	Analytics		2%
 Kenshoo	SEO Marketing		4%
 Kinsta	Commerce Utility		1%
 Kiwi Sizing	Conversion Utility		1%
 Klarna	Payment Processing		22%
 Klaviyo	Marketing Automation		36%
 Klevu	Commerce Search		2%
 Koala Inspector	Analytics		10%
 Koala Inspector - Inspect Shopify Shops	Analytics		3%
 Kustomer	Customer Service		3%
 LaunchDarkly	Development Testing		33%
 Layer0	Security		2%
 LeadProfit	Commerce Utility		1%
 LexisNexis Risk Solutions	Security		6%

	Third Party	Category	PIR	% of Sites
	Lightbox	Conversion Utility		2%
	LimeSpot	Personalization		1%
	Linc Global	Marketing Automation		2%
	Line	Ad Tech		2%
	LinkedIn	Social Media		12%
	LinkedIn Marketing Solutions	Social Media		1%
	Listrak	Marketing Automation		8%
	Littledata	Analytics		2%
	Live Chat, Inc.	Chat		2%
	LiveClicker	Marketing Automation		1%
	LiveIntent	Ad Tech		9%
	LivePerson	Chat		7%
	LiveRamp	CDP and Identity		8%
	Locally	Channel Expansion		2%
	Loggly	Analytics		10%
	loom	Commerce Utility		42%
	Loop Returns	Post Purchase		3%
	Loox	UGC and Customer Reviews		2%
	Loqate	CDP and Identity		8%
	Lotame	Ad Tech		7%
	LoyaltyLion	Loyalty		6%
	Lsdirect	Personalization		1%
	Lucky Orange - Settings	Analytics		4%
	Lytics	Analytics		4%
	Mageworx	Conversion Utility		1%
	Magic Toolbox Magic Zoom Plus	Conversion Utility		2%
	Magnite	Ad Tech		4%
	Mailchimp	Marketing Automation		6%
	Mapbox	Maps		5%
	Mapdirectionsfor	Maps		20%

Third Party	Category	PIR	% of Sites
 Maptiler	Maps		1%
 Marin Software	Ad Tech		1%
 Mark Monitor	A/B Testing		31%
 Marketo	Marketing Automation		2%
 Maxmind	Conversion Utility		3%
 McAfee SECURE	Client-side Security		4%
 Measured	Analytics		2%
 Medallia	Chat		8%
 media.net	Ad Tech		10%
MediaMath	Ad Tech		5%
 Mention Me	Influencer and Affiliate Marketing		1%
 MERKLE.	Analytics		5%
 MERKLE.	Commerce Search		1%
 Miaprova	A/B Testing		3%
 Microsoft Translator	Commerce Utility		48%
 MixPanel	Analytics		18%
 MNTN	Ad Tech		5%
 MODESENS	Conversion Utility		19%
 Monetate	Personalization		10%
 Mouseflow	Analytics		2%
 Moveable Ink	Personalization		8%
 gOMOXIE	Chat		2%
 MOZ	SEO Marketing		30%
 3 rd PARTY	Analytics		1%
 Microsoft Clarity	Analytics		48%
 msn	Browser		2%
 M mulberry	Coupons and Deals - Browser Plugin		1%
 MUX	Video		3%
 m	Conversion Utility		6%
 MyUS Shopping	Coupons and Deals - Browser Plugin		2%

Third Party	Category	PIR	% of Sites
 Namogoo	Personalization		3%
 Narrativ	Personalization		1%
 Narvar	Post Purchase		3%
 Netfree	Security		9%
 NeuStar Ad Advisor	Ad Tech		10%
 New Relic	APM		12%
 Nextdoor	Social Media		1%
 Nofraud	Security		2%
 Noibu	Error Monitoring		6%
 Northbeam	Ad Tech		2%
 Norton	Security		1%
 Nosto	Personalization		5%
 Octane AI	Conversion Utility		2%
 Octoshop	Coupons and Deals - Browser Plugin		5%
 ojrq.net	Malware		8%
 Okendo	UGC and Customer Reviews		5%
 Olapic	UGC and Customer Reviews		2%
 Omnisend	Marketing Automation		2%
 Onclusive	Analytics		1%
 One Signal	Push Marketing		1%
 OneTrust	Security		32%
 Opentok	Video		2%
 OpenX	Ad Tech		6%
 Opera Software As	Ad Blocking		27%
 Optimizely	A/B Testing		10%
 Optimonk	Conversion Utility		1%
 OptinMonster	Marketing Automation		2%
 Oracle (Unknown)	Other		5%
 Oracle BlueKai	Ad Tech		7%
 Oracle Engagement Services	CDP and Identity		2%

Third Party	Category	PIR	% of Sites
 Oracle Maxymiser	A/B Testing		2%
 Oracle Responsys	Marketing Automation		3%
 Oracle Service Cloud	Customer Service		2%
 OrderGrove	Conversion Utility		3%
 Oribi	Analytics		10%
 osano	Security		2%
 Outbrain	Ad Tech		8%
 Owl Carousel	Conversion Utility		1%
 OwnerIQ	Ad Tech		2%
 Oxi Social Login	Commerce Utility		2%
 Pagefly	Conversion Utility		3%
 pagespeed-mod.com	Performance		33%
 Papago	Commerce Utility		1%
 Paypal	Payment Processing		62%
 PCA Predict	Client-side Security		5%
 Pebble Post	Channel Expansion		5%
 Pepperjam	Influencer and Affiliate Marketing		8%
 PerimeterX	Client-side Security		10%
 Pingdom	APM		5%
 Pinterest	Social Media		63%
 Pixel Union	Commerce Utility		2%
 Pixlee	UGC and Customer Reviews		7%
 Placeholder	Image Hosting		3%
 Podsights	Analytics		5%
 Polyfill.io	Commerce Utility		19%
 Postie	Channel Expansion		2%
 Power Reviews	UGC and Customer Reviews		11%
 Poweradspy	Ad Tech		1%
 Powr.io	Conversion Utility		4%
 Price	Coupons and Deals - Browser Plugin		3%

	Third Party	Category	PIR	% of Sites
	Priceblink	Coupons and Deals - Browser Plugin		27%
	PriceSpider	Coupons and Deals - Browser Plugin		2%
	PrintDirections	Maps		3%
	Printful	Channel Expansion		2%
	Privy	Conversion Utility		5%
	Prodege	Ad Tech		5%
	Profile Engine	Social Media		2%
	Protected	Security		6%
	Publitas	Conversion Utility		2%
	Pubmatic	Ad Tech		6%
	PulsePoint	Analytics		5%
	Push Owl	Push Marketing		5%
	Pushcrew	Push Marketing		1%
	Pusher	Push Marketing		5%
	Qikify	Conversion Utility		2%
	QuadPay	Payment Processing		5%
	Qualaroo	Analytics		2%
	Qualtrics	Analytics		4%
	Qualtrics	Conversion Utility		4%
	Quantcast	Ad Tech		10%
	Quantum Metric	Analytics		7%
	Quora	UGC and Customer Reviews		1%
	Radial	Post Purchase		2%
	Rakuten Marketing	Ad Tech		15%
	Rakuten: Get Cash Back For Shopping	Coupons and Deals - Browser Plugin		18%
	Rapleaf - Towerdata	Ad Tech		15%
	Rawgit	Other		2%
	Re:amaze	Customer Service		4%
	Rebuy	Conversion Utility		7%
	Recharge	Conversion Utility		6%

Third Party	Category	PIR	% of Sites
 Reddit	Social Media		13%
 ReferralCandy	Influencer and Affiliate Marketing		1%
 Refersion	Influencer and Affiliate Marketing		5%
 Reflektion	Personalization		3%
 Retailmenot	Coupons and Deals - Browser Plugin		21%
 Retention Science	Marketing Automation		1%
 Revenue Hunt	Conversion Utility		2%
 Reviews.io	UGC and Customer Reviews		2%
 Revlifter	Personalization		1%
 RewardStyle	Influencer and Affiliate Marketing		14%
 RhythmOne	Ad Tech		6%
 Rich Relevance	Personalization		2%
 RingCentral	Customer Service		23%
 Rise.ai	Loyalty		7%
 Riskified	Fraud		4%
 RoboTurk	Commerce Utility		3%
 RockerBox	Marketing Automation		2%
 ROKT	Personalization		4%
 Rollbar	Error Monitoring		7%
 ROUTE for MERCHANTS	Other		4%
 RTB HOUSE =	Personalization		3%
 rubicon PROJECT	Ad Tech		6%
 RudderStack	CDP and Identity		33%
 Saasler	Commerce Utility		2%
 SAIL THRU	Marketing Automation		2%
 Salesforce	Salesforce - Email Studio		3%
 Salesforce	Salesforce Audience Studio		11%
 Salesforce commerce cloud	Salesforce Commerce Cloud CQuotient		24%
 Salesforce	SalesForce IGoDigital		12%
 Salesforce	Salesforce Live Agent		11%

Third Party		Category	PIR	% of Sites
	Salsify	Channel Expansion		3%
	SAP Customer Data Cloud	CDP and Identity		2%
	Scarab Research	Analytics		2%
	Scorecard Research	Analytics		3%
	Searchanise	Commerce Search		5%
	Searchingincognito	Browser		1%
	SearchSpring	Commerce Search		6%
	Secomapp	Conversion Utility		1%
	Segment	CDP and Identity		52%
	Sendtrac	Marketing Automation		1%
	Sentry	Development Testing		65%
	SessionCam	Analytics		2%
	Sezzle	Payment Processing		3%
	ShareASale	Influencer and Affiliate Marketing		9%
	Sharethis	UGC and Customer Reviews		15%
	ShareThrough	Ad Tech		4%
	SheerID	Loyalty		2%
	Shogun Website Builder	Conversion Utility		11%
	Shop App	Channel Expansion		32%
	Shop.pe	Channel Expansion		4%
	Shopback	Coupons and Deals - Browser Plugin		2%
	Shopper Approved	UGC and Customer Reviews		1%
	Shopping Gives	Coupons and Deals - Browser Plugin		1%
	Shopperunner	Post Purchase		4%
	Shoptagr	Coupons and Deals - Browser Plugin		23%
	Sidecar	Personalization		1%
	SignifyD	Fraud		10%
	Simez	Ad Tech		4%
	Simon Data	CDP and Identity		2%
	Simplifi	Other		2%

Third Party	Category	PIR	% of Sites
 Siteimprove	Accessibility		1%
 Sitelab	Analytics		7%
 SkimLinks	Influencer and Affiliate Marketing		31%
 Slickdeals	Coupons and Deals - Browser Plugin		5%
 Smart Wishlist	Conversion Utility		1%
 SmartAdServer	Ad Tech		3%
 Smarter Remarketer	Ad Tech		4%
 Smarty	Coupons and Deals - Browser Plugin		2%
 SMCT	Other		2%
 smile.io	Loyalty		4%
 Smsbump	Marketing Automation		3%
 Snapchat	Social Media		31%
 Sojern	Ad Tech		1%
 Source Defense	Security		1%
 Sovrn Commerce	Influencer and Affiliate Marketing		7%
 Spectrum	Personalization		1%
 Speed Curve	Analytics		1%
 Spotify	Other		3%
 spotxchange.com	Ad Tech		4%
 Sprinklr	Social Media		1%
 Square Space	CMS		3%
 StackAdapt	Ad Tech		4%
 Stamped IO	UGC and Customer Reviews		6%
 Steelhouse	Ad Tech		5%
 Stodge	Marketing Automation		3%
 Stonly	Conversion Utility		1%
 StoreMapper	Maps		2%
 Stripe	Payment Processing		7%
 Student Beans	Coupons and Deals - Browser Plugin		3%
 Stylitics	Conversion Utility		2%

Third Party	Category	PIR	% of Sites
 subwayblaze	Malware		7%
 Sumo	Conversion Utility		1%
 SuppleApps	Conversion Utility		1%
 Survicate	Conversion Utility		1%
 SwagButton	Coupons and Deals - Browser Plugin		2%
 Swell Rewards	Loyalty		4%
 Swym	Conversion Utility		6%
 Symantec	Security		2%
 Syndigo	Channel Expansion		1%
 Syte	Conversion Utility		2%
 Taboola	Ad Tech		10%
 Tailwind App	Influencer and Affiliate Marketing		4%
 Talkable	Influencer and Affiliate Marketing		5%
 Tangiblee	Conversion Utility		5%
 Taobao	Channel Expansion		1%
 Tapad	CDP and Identity		3%
 Tapcart	Marketing Automation		2%
 Teads	Ad Tech		5%
 TextUs	Marketing Automation		4%
 The Trade Desk	Ad Tech		29%
 Thimatic	Conversion Utility		1%
 Tidio	Chat		2%
 TikTok	Social Media		45%
 TotalAV	Commerce Utility		10%
 TQL	Post Purchase		9%
 TrackJS	Error Monitoring		5%
 Transportr	SEO Marketing		2%
 TransUnion TruValidate	CDP and Identity		21%
 Tremor Video	Video		2%
 Trendmicro	Malware		30%

Third Party	Category	PIR	% of Sites
 Triplelift	Ad Tech		5%
 TrueFit	Conversion Utility		8%
 Trust Arc	Tag Management		4%
 Trustedsite	Security		2%
 TrustPilot	UGC and Customer Reviews		5%
 Tumblr	Social Media		2%
 Turnto	UGC and Customer Reviews		5%
 TVPage	Video		2%
 tvsquared	Analytics		3%
 Twitter	Social Media		25%
 Typeform	Conversion Utility		3%
 Unbxid	Commerce Search		2%
 UNiDAYS	Coupons and Deals - Browser Plugin		2%
 Unsplash	Image Hosting		1%
 Upsellit	Conversion Utility		5%
 UsableNet	Accessibility		3%
 Userway	Accessibility		3%
 UTag - Tealium	Tag Management		14%
 VerifyPass	CDP and Identity		1%
 Verizon Media	Ad Tech		5%
 VIBE	Influencer and Affiliate Marketing		2%
 VideoJS	Video		6%
 Vimeo	Video		23%
 ViralSweep	Ad Tech		1%
 VISA	Payment Processing		2%
 Visual Website Optimizer	A/B Testing		7%
 3rd PARTY	Vue.js		1%
 3rd PARTY	WatchNewsNow		4%
 WebCollage	Ad Tech		1%
 Webeyez	Conversion Utility		1%

Third Party		Category	PIR	% of Sites
	Weglot	Commerce Utility		1%
	Widen	Image Hosting		3%
	WisePops	Conversion Utility		3%
	Wistia	Video		3%
	Wordpress	CMS		5%
	Wufoo	Commerce Utility		2%
	Wunderkind (formerly BounceX)	Ad Tech		19%
	Xandr	Ad Tech		19%
	Yahoo Analytics	Ad Tech		15%
	Yahoo! Japan	Browser		4%
	Yandex	Search Engine		27%
	Yext	Conversion Utility		1%
	Yieldify	Personalization		2%
	Yotpo	UGC and Customer Reviews		27%
	Youtube	Video		55%
	Zaius	CDP and Identity		1%
	Zendesk	Chat		14%
	Zeta	Marketing Automation		2%
	Zeta Global	Marketing Automation		1%
	Zip	Payment Processing		29%
	Zipify	Conversion Utility		2%
	ZMags	CMS		4%
	Zonos	Channel Expansion		3%
	ZoomInfo	Analytics		16%
	Zopim	Chat		1%

Third Party Data Deep Dive

This wider set of performance metrics is shown for a select set of third parties with broader site adoption.

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 4Cite	CDP and Identity	37	274	98%
 AB Tasty	A/B Testing	87	229	80%
 accentuate.io	Commerce Utility	139	796	47%
 Ada	Chat	67	230	86%
 AddThis	UGC and Customer Reviews	45	343	33%
 Adform	Ad Tech	49	494	80%
 Adobe Analytics	Analytics	14	301	77%
 Adobe Analytics Beacon	Analytics	8	314	91%
 Adobe Dynamic Media	Image Hosting	243	607	73%
 Adobe Fonts	Font Management	96	152	82%
 Adobe Marketing Cloud	Marketing Automation	6	522	49%
 Adobe Tag Manager	Tag Management	221	175	97%
 Adroll	Ad Tech	146	477	72%
 Adyen	Payment Processing	45	794	5%
 Affirm	Payment Processing	56	284	71%
 AfterPay	Payment Processing	24	559	65%
 Aftership	Post Purchase	19	609	30%
 AgileOne	CDP and Identity	35	224	61%
 Akamai mPulse	Rum Analytics	1	1233	84%
 Akamai Stats	Analytics	10	495	72%
 Algolia	Commerce Search	31	263	41%
 amai	Conversion Utility	43	263	100%
 Amazon Advertising	Ad Tech	2	441	70%
 Amazon Pay	Payment Processing	19	339	40%
 American Express	Payment Processing	39	417	15%
 AMP Project	Performance	247	539	25%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party	
 Amplience	Amplience	CMS	349	392	80%
 AppDynamics	AppDynamics	APM	41	301	54%
 Attentive	Attentive	Marketing Automation	64	273	92%
 AudioEye	AudioEye	Accessibility	81	141	98%
 Auryc	Auryc	Analytics	23	246	89%
 BackInStock	BackInStock	Conversion Utility	0	344	91%
 Bambuser	Bambuser	Channel Expansion	8	572	77%
 Bazaarvoice	Bazaarvoice	UGC and Customer Reviews	149	255	62%
 Better Business Bureau	Better Business Bureau	Commerce Utility	13	1206	74%
 Bidtellect	Bidtellect	Ad Tech	79	496	99%
 Bing Maps	Bing Maps	Maps	39	265	86%
 Bizrate Insights	Bizrate Insights	Analytics	32	797	31%
 Black Crow	Black Crow	Personalization	19	324	87%
 Bloomreach	Bloomreach	Commerce Search	9	234	93%
 Bluecore	Bluecore	Marketing Automation	38	302	80%
 Bold Commerce	Bold Commerce	Conversion Utility	8	346	86%
 Bold360	Bold360	Chat	2	1444	97%
 Borderfree	Borderfree	Channel Expansion	51	236	72%
 Braintree	Braintree	Payment Processing	132	465	55%
 Bread Financial	Bread Financial	Payment Processing	71	375	80%
 Brightcove	Brightcove	Video	26	538	31%
 Brightedge	Brightedge	SEO Marketing	99	257	92%
 buySAFE	buySAFE	Commerce Utility	233	144	86%
 Capital One Shopping	Capital One Shopping	Coupons and Deals	7	286	10%
 Carro	Carro	Influencer and Affiliate Marketing	37	391	98%
 Centro	Centro	Ad Tech	2	417	96%
 Cheetah Digital	Cheetah Digital	Marketing Automation	36	423	70%
 Claritas	Claritas	Analytics	19	942	73%
 Click Cease	Click Cease	Ad Blocking	5	583	98%

	Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
	Clicktale	Analytics	63	261	85%
	Cloudinary	Image Hosting	403	356	79%
	Code Blackbelt	Conversion Utility	11	502	92%
	Conductor.com	SEO Marketing	14	554	100%
	ConfigureID	Conversion Utility	10	1216	2%
	Confirmit	Analytics	44	164	79%
	Content Square	Analytics	43	513	91%
	Conversant	Loyalty	21	518	59%
	Convert	A/B Testing	12	492	47%
	CookieBot	Security	46	262	97%
	CookiePro	Security	55	118	93%
	CoreMedia	CMS	125	237	96%
	Coveo	Personalization	40	297	97%
	Covet Pics	Conversion Utility	19	135	65%
	Crazyegg	Analytics	33	229	91%
	Criteo	Ad Tech	50	459	80%
	Cross Sell	Personalization	2	278	99%
	Curalate	UGC and Customer Reviews	27	376	79%
	Custora	CDP and Identity	47	291	95%
	Daily Karma	Coupons and Deals	30	154	85%
	Dash Hudson	Influencer and Affiliate Marketing	103	1154	10%
	Datadog	APM	0	409	84%
	Disqus	UGC and Customer Reviews	36	494	19%
	Dynamic Yield	Personalization	175	236	97%
	Elevar	Analytics	4	279	99%
	Elfsight	Conversion Utility	17	609	3%
	Ensignten	Tag Management	409	169	92%
	EqualWeb	Accessibility	3	78	84%
	Everest Tech	Development Testing	2	810	25%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Evergage	Personalization	72	446	88%
 Evidon/Crownpeak	Commerce Utility	150	355	96%
 Exponea	CDP and Identity	50	1041	96%
 Extend	Conversion Utility	31	464	78%
 Facebook	Social Media	51	293	95%
 Fast Simon formerly InstantSearch+	Commerce Search	66	515	91%
 Fillr	Commerce Utility	6	260	1%
 Flash Talking	Ad Tech	18	376	71%
 Flow	Channel Expansion	510	262	97%
 Font Awesome	Font Management	40	231	75%
 Fonts.com	Font Management	31	409	63%
 Foresee	Analytics	35	281	72%
 FormStack	Commerce Utility	12	635	1%
 Forter	Client-side Security	51	417	92%
 FourSixty	Social Media	42	426	26%
 Freshworks Freshchat	Customer Service	15	201	99%
 FriendBuy	Influencer and Affiliate Marketing	98	599	86%
 Fullstory	Analytics	34	1075	66%
 Gladly	Customer Service	37	163	94%
 Global-e	Channel Expansion	81	186	87%
 GolnStore	Conversion Utility	18	543	3%
 Google Ads	Ad Tech	74	334	92%
 Google Analytics Classic	Analytics	28	289	27%
 Google Analytics Universal	Analytics	48	204	96%
 Google APIs	Commerce Utility	22	525	64%
 Google Cloud	Conversion Utility	6	455	82%
 Google Fonts	Font Management	39	171	79%
 Google Maps	Maps	35	444	23%
 Google Optimize	A/B Testing	0	353	84%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Google reCAPTCHA	Client-side Security	24	393	63%
 Google Syndication	Ad Tech	4	160	24%
 Google Tag Manager	Tag Management	28	354	97%
 Google Translate	Commerce Utility	11	294	4%
 Gorgias	Customer Service	39	305	85%
 GroupBy	Commerce Search	32	403	95%
 Heap	Analytics	38	637	92%
 Heroku	Performance	14	637	39%
 Hextom	Conversion Utility	0	264	87%
 Hivewyre	Ad Tech	66	378	95%
 Honey	Coupons and Deals	2	402	4%
 Hotjar	Analytics	47	323	86%
 Hubspot	Marketing Automation	185	294	100%
 IBM Core Metrics	Analytics	131	215	87%
 Imagekit	Image Hosting	217	1091	86%
 ImgIX	Image Hosting	522	404	93%
 imgur	Image Hosting	25	960	16%
 InMoment	Conversion Utility	94	285	90%
 INSIDE	Chat	46	273	75%
 Insider	Personalization	31	473	72%
 Instagram	Social Media	8	1165	58%
 intent.ly	Ad Tech	18	134	94%
 IsenseLabs	Conversion Utility	3	891	86%
 JudgeMe	UGC and Customer Reviews	119	273	93%
 Justuno	Conversion Utility	45	204	84%
 Kaltura	Conversion Utility	30	618	5%
 Karte	Analytics	88	245	98%
 Kaspersky	Security	1	1093	1%
 Kenshoo	SEO Marketing	8	467	91%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Kiwi Sizing	Conversion Utility	44	364	86%
 Klarna	Payment Processing	39	308	69%
 Klaviyo	Marketing Automation	127	235	93%
 Klevu	Commerce Search	63	226	90%
 LaunchDarkly	Development Testing	1	1627	38%
 LexisNexis Risk Solutions	Security	16	787	29%
 Lightbox	Conversion Utility	58	183	87%
 LimeSpot	Personalization	160	247	94%
 Linc Global	Marketing Automation	26	482	21%
 LinkedIn	Social Media	2	619	84%
 Listrak	Marketing Automation	86	269	98%
 Live Chat, Inc.	Chat	69	192	100%
 LiveClicker	Marketing Automation	50	1124	9%
 LivePerson	Chat	57	609	76%
 LiveRamp	CDP and Identity	24	419	41%
 Locally	Channel Expansion	1	658	21%
 Loox	UGC and Customer Reviews	52	320	100%
 Loqate	CDP and Identity	4	351	82%
 LoyaltyLion	Loyalty	58	437	91%
 Lytics	Analytics	5	937	90%
 Magic Toolbox Magic Zoom Plus	Conversion Utility	62	536	100%
 Mapbox	Maps	68	299	3%
 Mark Monitor	A/B Testing	11	509	8%
 Marketo	Marketing Automation	47	437	48%
 McAfee SECURE	Client-side Security	38	1540	91%
 Medallia	Chat	30	313	84%
 Media.net	Ad Tech	109	306	81%
MediaMath	Ad Tech	29	329	68%
 Mention Me	Influencer and Affiliate Marketing	6	237	12%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 MixPanel	Analytics	2	307	54%
 MNTN	Ad Tech	19	578	92%
 Modesens	Conversion Utility	8	348	0%
 Monetate	Personalization	95	266	87%
 Mouseflow	Analytics	21	649	67%
 Moveable Ink	Personalization	2	406	80%
 Moxie	Chat	32	255	50%
 MS Clarity	Analytics	41	1030	49%
 Mulberry	Coupons and Deals	35	465	48%
 MyRegistry.com	Conversion Utility	19	403	22%
 Narrativ	Personalization	48	286	97%
 Narvar	Post Purchase	41	522	65%
 NeuStar Ad Advisor	Ad Tech	2	676	28%
 New Relic	APM	94	762	90%
 Noibu	Error Monitoring	4	981	72%
 Northbeam	Ad Tech	2	314	97%
 Nosto	Personalization	44	335	88%
 Octane AI	Conversion Utility	12	575	82%
 Okendo	UGC and Customer Reviews	38	717	35%
 Olapic	UGC and Customer Reviews	56	306	40%
 One Signal	Push Marketing	33	173	94%
 OneTrust	Security	89	100	95%
 Optimizely	A/B Testing	45	387	75%
 OptinMonster	Marketing Automation	2	191	66%
 Oracle BlueKai	Ad Tech	8	472	20%
 Oracle Responsys	Marketing Automation	46	375	82%
 Oracle Service Cloud	Customer Service	4	900	26%
 OrderGroove	Conversion Utility	46	592	82%
 Oribi	Analytics	3	554	29%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 osano	Security	62	572	83%
 Outbrain	Ad Tech	18	491	96%
 OwnerIQ	Ad Tech	62	314	91%
 Pagefly	Conversion Utility	43	455	5%
 Paypal	Payment Processing	59	373	32%
 PCA Predict	Client-side Security	20	353	4%
 Pebble Post	Channel Expansion	48	456	88%
 Pepperjam	Influencer and Affiliate Marketing	7	319	83%
 PerimeterX	Client-side Security	20	227	95%
 Pinterest	Social Media	55	323	86%
 Pixel Union	Commerce Utility	105	185	85%
 Pixlee	UGC and Customer Reviews	53	232	78%
 Power Reviews	UGC and Customer Reviews	116	197	65%
 PriceSpider	Coupons and Deals	68	382	89%
 Privy	Conversion Utility	16	254	91%
 Push Owl	Push Marketing	7	755	84%
 Pushcrew	Push Marketing	0	242	90%
 Qikify	Conversion Utility	26	453	76%
 QuadPay	Payment Processing	31	337	53%
 Qualtrics	Analytics	55	151	96%
Quantcast  Quantcast	Ad Tech	6	348	87%
 Quantum Metric	Analytics	6	304	81%
 Radial	Post Purchase	39	421	8%
 Rakuten Marketing	Ad Tech	15	398	87%
 Re:amaze	Customer Service	34	342	89%
 Rebuy	Conversion Utility	93	269	95%
 Recharge	Conversion Utility	2	293	78%
 Reddit	Social Media	4	651	85%
 Refersion	Influencer and Affiliate Marketing	16	588	71%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Reflektion	Personalization	41	235	96%
 Reviews.io	UGC and Customer Reviews	142	359	85%
 Revlifter	Personalization	7	359	96%
 RhythmOne	Ad Tech	10	572	27%
 Rich Relevance	Personalization	34	410	48%
 Rise.ai	Loyalty	36	409	84%
 Riskified	Fraud	34	244	76%
 RockerBox	Marketing Automation	7	894	37%
 ROKT	Rokt	26	194	4%
 RudderStack	CDP and Identity	29	231	33%
 SailThru	Marketing Automation	18	313	75%
 Salesforce Audience Studio	Ad Tech	24	249	51%
 Salesforce Commerce Cloud CQuotient	Personalization	44	388	97%
 SalesForce IGoDigital	Personalization	30	436	92%
 Salesforce Live Agent	Chat	95	1006	83%
 Salsify	Channel Expansion	34	759	38%
 SAP	SAP Customer Data Cloud	87	141	100%
 Scarab Research	Analytics	94	348	96%
 Searchanise	Commerce Search	83	139	92%
 SearchSpring	Commerce Search	106	295	90%
 Segment	CDP and Identity	41	218	55%
 Sentry	Development Testing	4	2071	6%
 SessionCam	Analytics	11	401	76%
 Sezzle	Payment Processing	30	843	46%
 ShareASale	Influencer and Affiliate Marketing	15	462	58%
 Sharethis	UGC and Customer Reviews	129	253	54%
 shogun	Shogun Website Builder	34	392	90%
 SafeOpt	Shop.pe	33	262	93%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Shopper Approved	UGC and Customer Reviews	48	237	85%
 Shopping Gives	Coupons and Deals	60	570	95%
 Shoprunner	Post Purchase	131	171	49%
 SignifyD	Fraud	6	461	93%
 Simez	Ad Tech	15	442	79%
 Simon Data	CDP and Identity	41	388	98%
 Smart Wishlist	Conversion Utility	24	174	100%
 Smarter Remarketer	Ad Tech	7	275	83%
 smile.io	Loyalty	60	164	94%
 Smsbump	Marketing Automation	63	342	96%
 Snapchat	Social Media	45	429	88%
 Source Defense	Security	105	184	93%
 Spectrum	Personalization	116	445	15%
 Speed Curve	Analytics	9	661	84%
 Sprinklr	Social Media	87	534	28%
 StackAdapt	Ad Tech	56	296	80%
 Stamped IO	UGC and Customer Reviews	87	415	73%
 Steelhouse	Ad Tech	27	685	89%
 Stodge	Marketing Automation	13	240	81%
 Stripe	Payment Processing	44	134	57%
 Stylitics	Conversion Utility	39	288	38%
 Sumo	Conversion Utility	161	207	85%
 Survicate	Conversion Utility	31	470	95%
 Swym	Conversion Utility	14	458	55%
 Symantec	Security	82	216	70%
 Syndigo	Channel Expansion	58	227	47%
 Syte	Conversion Utility	89	265	97%
 Taboola	Ad Tech	65	314	88%
 Talkable	Influencer and Affiliate Marketing	12	372	90%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Tangible	Conversion Utility	63	609	32%
 Teads	Ad Tech	21	787	87%
 The Trade Desk	Ad Tech	18	439	79%
 TikTok	Social Media	57	319	89%
 TrackJS	Error Monitoring	23	323	97%
 TransUnion TruValidate	CDP and Identity	27	372	47%
 TrueFit	Conversion Utility	50	256	38%
 TrustArc	Tag Management	83	193	82%
 TrustPilot	UGC and Customer Reviews	30	323	88%
 Turnto	UGC and Customer Reviews	75	202	79%
 TVPage	Video	19	683	15%
 Twitter	Social Media	35	595	72%
 Unbxid	Commerce Search	58	309	87%
 Upsellit	Conversion Utility	10	286	87%
 UsableNet	Accessibility	46	376	87%
 Userway	Accessibility	129	160	92%
 UTag - Tealium	Tag Management	233	189	98%
 Vimeo	Video	22	742	32%
 Visa Checkout	Payment Processing	62	431	12%
 Visual Website Optimizer	A/B Testing	118	320	82%
 Vue.js	Commerce Utility	495	284	55%
 WebCollage	Ad Tech	14	408	30%
 Webeyez	Conversion Utility	27	612	98%
 Widen	Image Hosting	410	681	85%
 WisePops	Conversion Utility	40	477	74%
 Wistia	Video	88	310	47%
 Wunderkind (formerly BounceX)	Ad Tech	72	200	88%
 Xandr	Ad Tech	12	604	73%
 Yahoo! Japan	Browser	93	274	96%

Third Party	Category	Average Performance Impact (ms)	Finished Running (ms)	% of the site pages with this third party
 Yandex	Search Engine	45	513	9%
 Yieldify	Personalization	12	298	86%
 Yotpo	UGC and Customer Reviews	141	480	84%
 Youtube	Video	24	475	41%
 Zendesk	Chat	22	222	83%
 Zeta	Marketing Automation	64	211	53%
 Zeta Global	Marketing Automation	59	280	98%
 Zip	Payment Processing	27	490	24%
 Zipify	Conversion Utility	150	1171	15%
 ZMags	CMS	96	405	59%
 Zonos	Channel Expansion	61	165	96%

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