THE ROLOF WPO A COMPREHENSIVE GUIDE



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Introduction

If your website takes longer than 3 seconds to load, it's already losing revenue.

And most sites do take longer. As websites evolve, they are becoming increasingly important in creating and retaining business. A good website is a profitable one, regardless of industry, because your audience is making decisions based on your web presence.

To this end, businesses are incorporating new features, like social media widgets, live chat windows, and large images to capture visitors' attention. But these new components also put a burden on your web performance, often leading to a frustratingly slow and suboptimal end user experience.

Today's users expect faster, safer, and more accessible websites. This means fast loading pages, a simple checkout process, and 100% uptime. They are ready to research and/or purchase at any point in time, from any device, in any location.

But not if your website doesn't meet their expectations.

How Poor Web Performance Affects the ROI of Your Site

What Causes Poor Performance

Your site can experience slow load, page errors, and downtime for a number of reasons, including:







Too Many Assets

Heavy & Un-Optimized Assets



Server Congestion or Failure



Traffic Spikes

Network Latency

3rd Party Assets

Some of these are back-end performance problems stemming from servers that can't handle large spikes in traffic or the lack of a content delivery network.

But many of these are front-end performance issues, and are related to the number and size of assets on your website, like images, JavaScript, CSS, and third party components. All of these assets can slow load time and pose a real risk of site downtime; every request on the web page represents a single point of potential failure.

Speed Factors on User Experience & Conversions

Website performance and user experience go hand-in-hand. Users expect a great online experience, including a fast and responsive website.

For a website that takes more than 3 seconds to load...





of visitors will abandon a website

of visitors won't return

Today, **40% of visitors** will abandon a website that takes more than 3 seconds to load and **80% of them won't return**, opting for faster competitor sites.

This high bounce rate and immediate competitor advantage are two huge strikes against your sales and marketing team, and degrade the effectiveness of your website to convey your brand and entice prospects.

It also means fewer conversions and potential revenue. Every second added to your load time results in a 7% loss in conversion. At that rate, for a small eCommerce site with annual revenue of \$2,000,000 a year, a **one second delay could mean \$140,000 in lost revenue.**

Page speed isn't the only performance factor preventing users from converting – what happens when your website is down completely? That's the pinnacle of performance problems. A typical site's availability is around 98%, which equates to a full 8 days of downtime in a year. So for that small eCommerce site, that's an additional \$40,000 loss due to site downtime alone. Improving performance means ensuring uptime, increasing revenue and satisfying users.

CASE STUDY #1

amazon.com®

100ms



DECREASE IN PAGE LOAD TIME

Amazon found that a 100ms delay in page load time caused a **1% drop in total revenue** -- that's hundreds of millions of dollars for them!

CASE STUDY #2



Target **lost \$464,000** in 150 minutes of downtime when they launched its Missoni collaboration line because the site couldn't scale with high volume traffic and demand.

CASE STUDY #3



Last year, Kohl's experienced several hours of downtime on Black Friday after running a massive online special for shoppers. For a company that made over **\$18 billion** in 2012, an outage on a major shopping day represents a huge loss.

CASE STUDY #4



12%

INCREASE IN REVENUE

+ 25%

INCREASE IN PAGEVIEWS

Shopzilla sped up its average page load time from 6 seconds to 1.2 seconds and experienced a **12% increase in revenue and a 25% increase in pageviews.**

CASE STUDY #5



INCREASE IN CONVERSIONS

Mozilla shaved 2.2 seconds off their landing pages, increasing their download conversions by 15.4%, which will result in 60 million more Firefox downloads per year.

How Investing in Web Performance Boosts ROI

When it comes to your online presence, you've already invested time and money in:

- Site design and development possibly even app development, or responsive and mobile versions
- Maintenance (and potentially support) costs
- Hosting fees and server charges
- Marketing programs, automation, and analytics
- eCommerce software

And that's just the tip of the iceberg; websites are constantly evolving, and can be a big investment for companies of all sizes.

The goal is that all of these resources, tools, and programs you've invested in bring with them a considerable ROI. But without proper web performance optimization, your ROI is already lower than it should be – both in areas of previous investment and in your site's overall ability to create revenue.



" Metrics for average number of pageviews per visit & time spent on the site per visit have **increased by 30%** since enabling Yottaa."

Jesse Ness Founder & President, WalleyeDirect.com

Site Availability & Speed

We've already demonstrated how website performance correlates to user experience. When your users are happy, you see it in dollar signs.

User satisfaction can be proven using a number of metrics, many of which are relevant to your marketing and sales efforts and are already being tracked.

Time on site and page views skyrocket and bounce rate plummets on a site that is optimized for speed and performance. This is because visitors are likely to stay longer on a site that renders faster, giving you more time to convey the right message.

Uptime is similar – giving users the ability to access at all times enables them to purchase, call, or perform some action at any point without interference. Experiencing downtime during peak activity hours can not only cost profit from repeat customers, but can also prevent new visitors and potential customers from making their first purchase.



+1.0s +1.0s +1.0s ↓-7% ↓-7% ↓-7%

PROOF POINT #1

Faster page loads and uptime result in **more visitors**, longer time on site, and a lower bounce rate

PROOF POINT #2

Every additional second added on to your load time results in a **7% loss in conversion**





PROOF POINT #3

Site outages can cause immediate **profit loss**, but also inhibit your ability to gain long-term customers



" On Yottaa, Fathead.com saw a 16% increase in revenue per visitor due to a 37% decrease in page load time"

Mobile Presentation

40% of users pinpoint site speed as the biggest frustration in mobile browsing.

Most mobile visitors are frustrated with current standards and overall site experience, citing poor navigation and inaccessibility. An optimized website leads to better mobile performance, an experience essential to the majority of your audience accessing your site from a device other than a desktop.

But **about 40% of users** have pinpointed site speed as the biggest frustration in mobile browsing. This is because performance is more important to the mobile visitor than the desktop visitor, and **71% of mobile users** actually expect better performance on a mobile device than on a desktop.

Almost two-thirds of mobile users have encountered a website they deem to be too slow, and most mobile web users will not wait long for a site to load on their device – in fact, 74% of mobile visitors will abandon a website that takes longer than 5 seconds to load.



PROOF POINT #1

71% of mobile users expect faster performance on mobile websites than on desktop ones



PROOF POINT #2

Having a better mobile presence than your competitors gives you the upper hand in capturing **74% of bounced visitors**



PROOF POINT #3

A slow-loading mobile site will **turn away 2 out of 3 of visitor**s and lose immediate purchases and repeat visits

Organic Traffic

Site speed impacts the way search engines rank links. Whether it's Google's PageRank[™] algorithm or similar approaches by other search engines, the order in which they present links depends on the overall user experience.

The dominant factor is always how relevant the content is. But other factors, including site speed and the resulting user satisfaction in using the site – come into play. It's not uncommon that for long-tail search terms, factors beyond just content relevancy play an increasingly important role.

In other words, faster sites tend to float to the top.

Google knows sites with faster load metrics are going to have better user experience, a feature they want to provide to the visitors using their search engine. Case in point: when Shopzilla sped up their website by 5 seconds, the number of visitors from search engine marketing doubled.



PROOF POINT #1

When it comes to organic search rankings, website speed and resulting user experience **play a factor in determining rankings**



PROOF POINT #2

In one major case featuring Shopzilla, improving site speed by 5 seconds **doubled SEM visits**

Paid Traffic

Similarly, the exact order of paid ads is impacted not just by how much a company bids for that ad, but also other factors, including click-through rates (as a proxy for how relevant the ad is), and site speed once somebody clicks through (to ensure that they're having a good experience on the site). All these factors are taken into consideration in Google's Quality Score, and similar calculations within the other search engines.

Many of the paid ads that are in 1st position are there not simply because that's the marketing team with the deepest pockets and highest ad bids. More often, it's because that's the company that's optimized the experience start-to-finish with good ad copy, relevant landing page, great site speed once someone lands there.

Page per-abandonment is a huge factor with PPC ads, as many visitors click on an ad and then abandon your page before it loads because of slow load time or page availability issues. **In this case, you're paying for visitors who never see your pages**. It not only wastes money, but also means that there aren't even brand awareness benefits, given that the user had a negative experience.



Landing Page Effectiveness & Conversion Rate Optimization (CRO)

40% of users pinpoint site speed as the biggest frustration in mobile browsing.

Marketers spend hours planning and tweaking landing pages for optimal conversion performance and user experience; so what happens when a potential lead is discouraged by a slow load time?

High initial click-through rates (CTRs) but low conversion rates.





Click-Through Rates (CTR)

Conversion Rates

Improving landing page effectiveness, or conversion rate optimization (CRO) – the science of creating a visitor experience with the goal of conversion – can only do so much before performance becomes a direct factor. As we've seen, conversion rate drops with each second added on to your load time, meaning many prospects won't even see the pages you've put the most work into.

"Yottaa brought Medical Supply Depot's average **page load time down from 6-8 seconds to 3 seconds**, resulting in a **13% decrease in bounce rate** and a **9% increase in conversions**"

Shopping Cart Abandonment & Revenue Potential

Increased leads and a higher conversion rate are great for B2B and B2C companies alike, especially in proving ROI by qualifying those leads and funneling them to sales. But with an optimized website, there are also greater immediate business gains, particularly for online retailers.

Shopping cart abandonment plagues today's eCommerce websites, with about 70% of carts abandoned by customers on average. Of this, 46% cite slow website speed as the reason. **Staggering fact: \$3 billion is lost annually** from cart abandonment due solely to slow website pages.

\$3 billion is lost annually from cart abandonment solely due to slow website pages.

And it's not just about abandoned carts - it's also about the overall spending potential of a visitor. An extra second of page load time reduces per-user revenue 1.8%; two seconds reduces it by 4.3%.

Web performance optimization means not losing out on that revenue because of a two-second delay. It functionally corrects a large portion of shopping cart abandonment issues and shaves off delays that are costing you money.





46% of visitors are abandoning shopping carts because of slow page speed

46%

Repeat Buying & Brand Loyalty

Brand loyalty may seem like an outdated metric – if it can't be readily quantifiable we tend to disregard it all together – but the value in retaining a customer can be measured.

Studies show that website experience and technology including site speed, server reliability, trust, security, and quick shopping cart checkout process are key factors in creating customer loyalty. In fact, 52% of online shoppers say that a quick page load is important to their site loyalty.

We also know by now that all of the marketing metrics used to determine lifetime value, including funnel measurement and overall marketing ROI, are improved with better website performance. This gives businesses a better chance at securing customer loyalty and a higher lifetime value.



PROOF POINT #1

52% of online shoppers indicate fast page load as an important factor in their site loyalty



PROOF POINT #2

Lifetime customer value is higher with improved marketing metrics and online user experience

The Cost of Web Performance Optimization

Traditional website performance optimization techniques can be time-consuming, complex, and expensive – there, we said it!

Typically, only large companies with ample resources and budget at their disposal have been able to successfully optimize performance on a large scale, utilizing:

- Globally distributed data centers: purchasing the hardware and building the necessary network infrastructure.
- CDN, ADC, Firewall and monitoring tools and services: paying for back end service providers like Akamai, Gomez, Cisco, or Keynote.
- A dedicated staff to measure, tune, and manage web performance: including engineering, operations, and support teams.
- Manual testing, monitoring, and tuning of webpages, load balancers, and servers: constant supervision and work on HTML5, Ajax, CSS, across devices, browsers, locations, and networks.

Although a great fit for some very large technology-forward companies like Amazon or Google, the vast majority of enterprises will find it difficult to achieve strong business impact from in-house performance optimization efforts. They're resource-intensive and require difficult-to-acquire expertise.

So, what's the solution?

Like in many other industries, today the answer lies in software-based automation. Not only do automated solutions provide optimization, they save resources and improve the productivity of application development teams.

Initial Development & Maintenance Expenses

Considerable efforts are required to build a website or app, and even more to optimize for performance manually; IT professionals, developers, designers, and an operations team may all be needed for realizing optimal performance. **This requires a lot of time, collaboration, education, and budget to scale.**

Initial costs to develop an app can range from \$3,000-\$150,000, not including ongoing maintenance and improvement costs, salary, and support time. Websites can cost around the same range, with maintenance costs averaging in between \$500-\$1250 a year. For a SaaS company, support costs can escalate quickly and eat up a considerable amount of time and budget.

Website maintenance costs average between \$500-\$1250 per year.

When automated with software like Yottaa, web and mobile applications require a drastically reduced load of tuning and maintenance, meaning your teams can focus on innovating and pushing ahead new projects. Less resources will be spent reacting to issues, and more on planning for the future.



PROOF POINT #1

Ongoing development maintenance costs can average \$500-\$1250 a year on top of initial investment





PROOF POINT #2

Development and support teams can get bogged down in identifying performance issues instead of creating and supporting new initiatives

PROOF POINT #3

Automation eliminates time needed to identify issues, enabling businesses to **move forward** without interruption

Development vs. Performance Best Practices

Many development best practices are counter to performance best practices. For example, developers often keep multiple script files separate for organizational purposes and ease of editing; however, this causes slower page load times as more files need to be downloaded by the browser.

In other cases, in order to de-bug or understand website code, sometimes developers will leave commented code within the file. Most of the time, these are removed after serving the initial purpose, but sometimes this final step is skipped or forgotten. Leaving this within the code limits readability and increases code bloat, slowing down web performance.

Enabling automatic front-end optimization employs all performance best practices, including image compression, parallel loading, order of execution, and minification and concatenation, **so that your development team can work in an efficient way and not be inhibited by optimization efforts.**



PROOF POINT #1

Standard organizational tactics developers use in building code can run **counter to** website performance best practices



PROOF POINT #2

Going back and changing the file structure for performance **after initial development** can eat up time and cause additional errors



"Yottaa's cloud network **absorbed 95% of our traffic** during a LivingSocial campaign when our existing servers & network capacity would have been severely strained."

Adam Golomb

Director of E-Commerce, SmileyCookie.com

Infrastructure Pressure & Offloading

Many businesses today face growing marketing automation and multi-tier web app needs among a thousand other requirements; in the face of all that complexity, ensuring a sturdy infrastructure is no easy task. There's no way to choose between these increasingly important tools and traffic handling, which leaves infrastructures overloaded with requests.

Additionally, investing in building out servers and data centers can cost a pretty penny. By offloading requests and bandwidth using performance automation, businesses can increase the "head-room" of their infrastructure and can eliminate or delay need for upgrades. This saves software budgets from unexpected hits and additional growth costs, and ensures your infrastructure will never be overrun with requests to the point of failure.

Using a hybrid cloud network that handles traffic spikes by offloading them from your server means 100% uptime without constant monitoring or worrying. By offloading requests and bandwidth from the origin server, your site can handle a corresponding increase in traffic. In other words, it's as if your data center infrastructure grew by a factor of 5-10x, without the cost of building on.



PROOF POINT #1

Modern infrastructures are overrun and **can't scale** to traffic requests





PROOF POINT #2

Performance automation saves infrastructure from being overloaded and **saves potential downtime**

PROOF POINT #3

Added "head-room" by **5-10x** eliminates or delays the need to upgrade or grow often

About Yottaa

Yottaa is a SaaS solution to manage, optimize, and secure digital experience delivery.

Yottaa accelerates online and mobile performance, maximizes end user engagement, and delivers instant, actionable insights to drive business results via an intelligent, automated cloud platform. Our ContextIntelligence™ platform is purpose-built to deliver the power and flexibility required by IT organizations to exceed SLAs for uptime, performance, scalability, and security, paired with patented technologies that accelerate the delivery of innovative features and products to improve online and mobile channel execution.

For more information, please visit

WWW.YOTTAA.COM

If you'd like to discuss this paper, or meet with one of our experts to help you expand upon this topic, please feel free to send an email to info@yottaa.com, or contact us toll free in the USA at 1-877-767-0154.

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