

/ BROCHURE /

# THE IMPORTANCE OF PERFORMANCE: EVERYTHING YOU NEED TO KNOW

By Melbourne IT Enterprise Services

# THE IMPORTANCE OF PERFORMANCE

In a crowded online marketplace, simply having a website is no longer a significant competitive advantage. The sheer range of choice means that customers are not bound to any particular supplier, nor must they allow any benefit of the doubt to retailers who fail to deliver according to expectations.

In order to improve conversion rates and profitability, businesses need to invest sufficient resources to ensure that their website is efficient, quick and uses technology intelligently to deliver an outstanding customer experience both now and into the future.

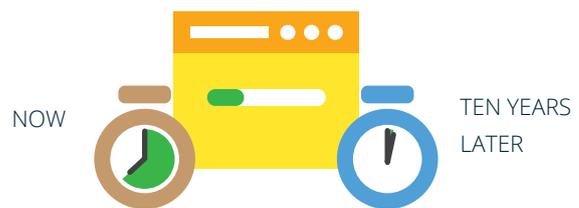
Speed, scalability, resilience and usability all combine to create a pleasant browsing experience, fundamental to increasing conversions and encouraging repeat business – or maybe even taking sales away from competitors.



## WHAT ARE THE ISSUES AROUND A POORLY PERFORMING BUSINESS WEBSITE?

With so many day-to-day activities carried out online, the Internet has become an embedded aspect of modern life. For both B2B and B2C transactions, the Internet has become the default interface for information transfer and sales.

The global reach of a website offers a potential customer base of billions. But this same visibility also means that competitors are never more than a click away. A business may have already won the battle in the search engine results and convinced someone to click through onto their site, but if the website is slow to load, or fails to meet expectations in any way, the visitor will quickly click off elsewhere.



## A BRIEF HISTORY OF SPEED

In the early 1980s, researchers at New York University discovered that system response times played a crucial part in productivity and user satisfaction<sup>i</sup>. The mass adoption of the World Wide Web confirmed little had changed when web usability expert Jakob Nielsen claimed download speeds are the 'single-most important design criterion on the Web' in 2000<sup>ii</sup>.

And in 2004 further research revealed that users would wait up to 38 seconds for a webpage to load, so long as they were given some visual indicator of activity, like a progress bar<sup>iii</sup>. Known as the Tolerable Wait Time (TWT), this period of grace has been shortening in line with computing and network speed increases. Ten years later and the optimum TWT has moved from 38 seconds to 2 seconds<sup>iv</sup> – sometimes even less.

# THE IMPACT ON PROFITABILITY

Not every website visit results in a sale, but if the web page loading times or other design elements are encouraging visitors to leave, profits will be directly affected. A bad website is the same as any other poorly performing business, eroding profit margins through general inefficiency that results in a poor customer experience.

Quantifying the impact on profitability is a case of assessing conversion rates and order values. Average conversion rates vary widely dependent on industry, from 10% for financial services or publishing companies, to 3% for retail and ecommerce<sup>v</sup>. Sites that fall below this somewhat arbitrary baseline are almost certainly going to fail the profitability test.

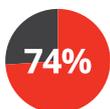
## 2015 – THE YEAR OF MOBILE FIRST?

January 2014 marked a watershed moment for the Internet. For the first time ever, mobile devices overtook the desktop PC in terms of usage, with 55% of all traffic originating from smartphones and tablets<sup>viii</sup>. Admittedly these figures relate to the US, but the general global trend is towards an increasingly mobile-oriented Internet.

Mobile-friendly websites therefore serve two purposes:

- > To simplify the shopping experience for mobile device users.
- > To gain an advantage over competitors who do not offer a mobile website.

Despite the lower bandwidth and processing capabilities of most mobile devices, 74% of mobile web users are only willing to wait 5 seconds or less for a single web page to load before leaving a site<sup>ix</sup>. Admittedly this is more than twice the length of time they would allow when using a desktop PC, but it still emphasises the importance of mobile design considerations. Especially as other reports suggest that most users operate the same generalised “two second rule” for mobile and desktop browsing, refusing to wait any longer before leaving the site.



74% of mobile web users are only willing to wait 5 seconds or less before leaving a site

Walmart 

American retail giant Walmart reports that improving page load speed by as little as 100ms resulted in a 1% incremental increase in online revenue<sup>vi</sup>.

amazon.com 

Similarly, online retail giant Amazon reports that every 100ms delay in page loading times results in a 1% loss in sales<sup>vii</sup>.

Despite the increasing importance of the mobile browser, many businesses are still not addressing consumer demands properly. Research conducted by mobile experience specialist Trilibis reveals that three quarters of websites (74%) perform badly on mobile devices, with 47% taking between 4 and 8 seconds to load, and a further 27% taking between 8 and 35 seconds to render<sup>x</sup>. As shocking as these statistics are, they also demonstrate a clear opportunity for businesses that choose to focus on improving the mobile experience for their users.



74% mobile website perform badly



47% taking 4-8s to load



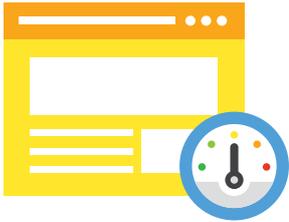
27% taking 8-35s to render

Google has also announced plans to make mobile browser support one of the ranking factors used to determine the order in which results are displayed when searching from a smartphone or tablet<sup>xi</sup>. This is an added incentive for businesses to deploy mobile-friendly or responsive sites to capture additional traffic.

One final note on the subject of mobile-losing customers because a mobile optimised website is not available has been likened to closing the online store for one day every week<sup>xii</sup>.

# FACTORS TO CONSIDER

Perceived performance is as important as actual performance for customers. There are five major factors to consider when designing a high-performing website.

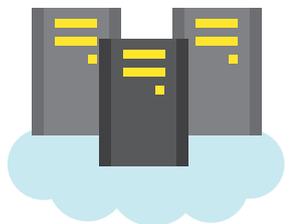


## 1. SPEED

As explained above, the speed with which a website serves pages is absolutely critical to a positive user experience. Every aspect of deployment and design needs to be tweaked to ensure content is delivered to the user's device in two seconds or less.

Page design plays a large role in page loading speeds, with techniques like asynchronous script loading, image optimisation and browser compression helping to give the appearance of reduced load times. Ultimately designers need to ensure that files sizes are minimised and bandwidth maximised for every asset on the site, and that the underlying content management system (CMS) assists with adherence to this goal.

The speed of delivery can then be further improved through the use of content delivery networks (CDN) to reduce the physical distance required for each fetch request, and ensuring pages and media are delivered to visitors more quickly.



## 2. SCALABILITY

Just as retail stores experience peaks in footfall, websites are prone to periods of high demand. During these busy periods, increased resource demands could have a negative overall impact on browsing if not managed properly. Worse still, periods of peak demand invariably coincide with the highest potential for visitor conversions, such as during the run up to Christmas, particularly Black Friday and Cyber Monday.

The supporting infrastructure for a website must be able to draw upon additional resources during these busy periods or risk creating a less than satisfactory user experience. Using cloud technologies and content delivery networks, business websites can automatically scale bandwidth, storage or processing power to meet these peaks and ensure a consistently excellent experience for all users.



### 3. RESILIENCE

Customers may understand that a call centre is not available around the clock, but they still expect the website to be available 24x7x365. Industries providing customer self-service portals, or ecommerce sites are expected to be available whenever and wherever the user demands.

The CMS and hosting technology need to be designed for maximum availability, and thoroughly tested under load before the site goes live. By developing robust applications that incorporate resilience and availability from the initial stages of design, systems architects will only need concern themselves with the physical technologies that underpin the platform in future.

Clustering, cloud hosting and content delivery networks can provide the platform required to ensure your site is available as and when required by users thanks to enhanced failover provisioning.



### 4. USABILITY

Site loading speed and availability are important, but if the user interface fails to perform as expected, potential customers will again click elsewhere. Design trends change relatively regularly, but the need for easy, intuitive access to key functions and data does not.

Strictly speaking, usability is not a technical factor, but it does play a large part in the user's perception of performance. The site needs to be responsive, accessible and deliver the information users require on both desktop and mobile devices. Developers also need to carefully consider the role that alternative web browsing methods, like voice search, will have on how their site content is accessed and delivered to visitors.



### 5. CONTINUOUS IMPROVEMENT

As technology evolves, so too do the expectations of website users. The ever-reducing tolerable wait time discussed earlier is the clearest manifestation of these demands in action. As a result, businesses need to stay on top of technological developments that can help to improve load times, availability or value for customers.

Obvious improvements in terms of responsiveness and rich content can be realised with HTML5, or modern scripting languages for instance. The ideal website will be built around a constant improvement cycle designed to delight customers new and old, adding new features and functionality and boosting performance in the process. Partnering with a trusted technology partner will greatly assist in applying new technologies that will help improve site performance as and when they become available to gain a competitive advantage.

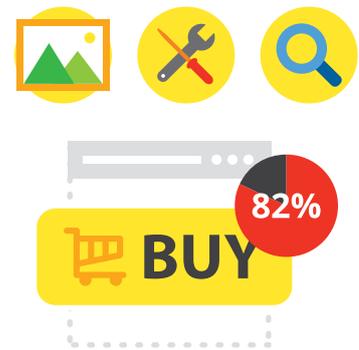
# KEY TAKEAWAYS

As already established, from the user's point of view, a high-performing website delivers information quickly and efficiently whenever, wherever and on whatever device they choose. It is important to remember that for business, performance is measured in terms of visitor conversions and ultimately, profitability.

Fortunately, focusing on improving the customer's experience is also likely to help improve the bottom line at the same time. As many as 82% of consumers will buy more from companies that make it easier to do business with them for instance<sup>xiii</sup>.

Thus a business website must deliver content quickly and efficiently, now and long into the future. The choice of supporting technology will play a large part in reaching these goals as well as creating a resilient platform for future developments.

All that then remains is to implement a system of continuous testing and improvement that leverages technology advances to further improve website experience for customers.



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## ABOUT MELBOURNE IT

Melbourne IT Enterprise Services designs, builds and manages cloud solutions for Australia's leading enterprises. Its expert staff help solve business challenges and build cultures that enable organisations to use technology investments efficiently and improve long-term value. With more than 15 years' experience in delivering managed outcomes to Australian enterprises, Melbourne IT has been long associated with enabling success. Its certified cloud, consulting, and security experts repeatedly deliver results. This is why many of the brands you already know and trust, rely on Melbourne IT.

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[melbourneitenterprise.com.au](http://melbourneitenterprise.com.au)

1800 664 222 [corporate.sales@melbourneit.com.au](mailto:corporate.sales@melbourneit.com.au)