

The App Attention Span

Research report

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Report summary

According to a recent [report](#) by Kleiner Perkins, mobile applications now account for 25% of all internet traffic, with 1.6 billion users worldwide. There's a huge potential market here for businesses to play for: Forrester analysts [project](#) US mobile commerce sales alone will top \$100 billion in 2014. But doing digital right, let alone mobile, is far from easy. As this report shows, customers expect faultless performance of mobile apps, and are unforgiving about poor performance.

The App Attention Span is a study conducted by AppDynamics, the Application Intelligence leader for the software-defined business, in partnership with the Institute of Management Studies (IMS) at Goldsmiths, University of London. The study examines the impact of the increasing use of mobile devices on aspects of people's behavior, and the corresponding business implications.

The report, which includes findings from a survey involving 1,000 US and 1,000 UK adult smartphone and tablet owners, suggests the pressure on businesses is set to increase dramatically. It also underlines the importance of achieving the user's expectation of flawless mobile application execution. In today's digital economy, just a few seconds of app or website downtime can have a severe impact on business revenues, reputation, and customer satisfaction. As people's attention spans for poor performance shortens, the stakes are high for any business that depends on their website or mobile app.

Overall, the results highlight the importance of application intelligence to businesses in an increasingly software-defined world.

“The bottom line is that organizations must deliver a reliable, consistent mobile experience to grow and protect increasingly important mobile device revenue streams and customer interactions, even under the most demanding situations. Key to this is having the necessary depth of application intelligence in real time so that any problems can be anticipated or rapidly solved.”

Jyoti Bansal, founder and CEO, AppDynamics

Greater expectations

As smartphone and tablet owners become more familiar with, and reliant on, apps and websites, the research shows their expectations regarding performance increase. Nearly half (48%) of UK respondents involved in the study agreed that their expectations of app performance are increasing over time. In the US, this proportion was even higher, at 65%.

Their tolerance levels are also changing: close to half (48% for US and 47% for UK) of all respondents are less tolerant of problems with apps or websites than they were a few years ago.

The results confirm that the margin of error regarding mobile app and website performance is diminishing.

“Consumer expectations regarding apps are really high, so when people's experience is not satisfying, they are going to go elsewhere and look for an alternative. It's therefore very important for app developers and service providers to test and optimize.”

[Jonathan Freeman](#), Professor of Psychology, University of London, and Managing Director of [i2 media research](#) at Goldsmiths

Problems persist

Unfortunately, problems with apps or websites do happen, as the research shows:

In the US, 65% have experienced a mobile app crash in the past 12 months, and 62% have experienced a website outage.

One in three (34%) of UK people surveyed said completing transactions using mobile apps is too complicated and fraught with problems. Only about a quarter (27%) of US residents said the same.

These results indicate that organizations need all the help they can get to achieve flawless execution of their digital services.

Frustration and digital stress

When asked how the problems make them feel, consumers had similar complaints: frustration was number one (79% of US respondents, 63% UK). The next common complaint people stated was stress (27%) for the UK, and disappointment (38%) for the US.

The type of problems that frustrated people the most were performance related (46% UK; 43% US) – whether it's pages taking too long to load or browsing being slow and difficult.

These emotions were echoed by UK case studies involved in the qualitative part of the research detailed later in this report.

"It is very frustrating and can make you anxious that apps often don't work just when you need them to be there, like on a train. Disruption of digital routine can also be very stressful."

Will Marshall, UK case study

Corresponding consequences

The research also shows poor performing apps get don't last long: more than eight out of ten in the US (86%) and 82% in the UK have deleted or uninstalled at least one mobile app because of performance issues.

More than eight out of ten have deleted apps because of performance issues.

When asked what they do when they experience problems using mobile apps, 28% of UK smartphone and tablet owners try another app and 23% stop using the original app altogether. In addition, 18% tell their friends and family about the issues. For US adults surveyed the problem is compounded, 38% try another app when faced with a problem, 34% stop using the app, and 19% complain to friends and family.

The research found that three in ten smartphone and tablet owners would change banks if a mobile app wasn't up to scratch.

"Every organization is fast becoming a software-defined business. Differentiating themselves by the software they create, and the engagement they have with their customers. The technology expectations of the average consumer continue to reach new heights, so too will their demands and expectations of mobile apps. Whether making an online purchase, streaming video and music content, or checking a bank balance, consumers demand flawless execution of the applications and technology they utilize."

Tom Levey, EMEA Tech Evangelist at AppDynamics

Flawless execution is rewarded

The study uncovered some good news for organizations, however: businesses who perform well online are rewarded:

- One third would spend more money with an organization that had a good mobile app.

1 in 3 said they would spend more money with an organisation if they had a good mobile app.

- Three in ten would pay more for a product or service if the organization's app performed better than its competitors'
- Tellingly, the study shows many respondents believe they are more loyal to an app than a brand.

Tackling the complexity challenge

Increasing expectations require also increase the technical complexity of a business's infrastructure. Providing perfectly-performing mobile apps that can deal with millions of transactions a day is incredibly complicated, and relies on multiple different applications and IT systems working seamlessly. It's made harder still by the added complexity that comes with the requisite software, hardware, cloud services, app developers and technology partners. And this too may have to be integrated with the creaking legacy IT systems that many large organizations still have in place.



Screenshots from AppDynamics platform indicating the correlation between application performance and business revenue

The rise of the software-defined business

To achieve flawless execution despite the complexity challenge and related problems, many organizations are becoming software-defined businesses (SDBs), either wholly or via a division or subsidiary. These are enterprises or organizations whose fundamental value proposition is defined, enabled or delivered through software. Notable examples of SDBs include Expedia, iTunes and Nike.

SDBs typically have highly complex IT architectures, with all the potential risks outlined above. They employ sophisticated analytics and monitoring applications to help mitigate these risks. These tools give SDBs certainty about the operation of their business, IT infrastructure and applications in real-time, and enable them rapidly respond to, and predict, issues that may arise. Amid a digital revolution in businesses, having certainty through such 'application intelligence' is a key to success.

Four prominent behavioral patterns emerged:

- Emotional Resonance
- Digital Anxiety
- Mobile Attention
- Matching Software's Appetite.

EMOTIONAL RESONANCE: Crashing applications, poor response times, errors, and overall poor Quality of Experience (QoE) are reflected in vivid emotional responses ranging from anger and sadness to frustration and surprise.

- "It's kind of sad, but true that these small digital moments have such a big impact on our emotional states," said case study participant Marit Ouwerkerk.
- "In demonstrations there was such a marked difference in overall emotional impact to changing QoE conditions with aversion to poor performance and attraction to high performance," said Dr Chris Brauer.

DIGITAL ANXIETY: Significant portions of daily lives are migrating online to 'get things done'. Feeling powerless and unattended in the face of poor application performance or user experience heightens unique forms of paranoia and anxiety formed by digital experiences.

- "I get really stressed when apps don't work," said case study participant Georgina Wilson. "I've been close to panic attacks."
- "Emerging forms of digital anxiety are very poorly understood. We can't use traditional methods for

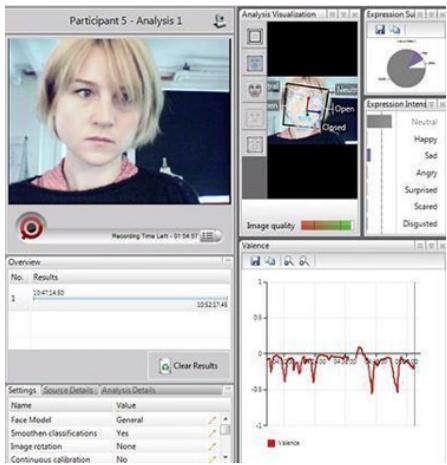
identifying and evaluating these products of digital culture and economics," said Dr Chris Brauer. "As in many areas of digital disruption and transformation we are struggling to catch-up to the reality of these human conditions."

MOBILE ATTENTION: Mobile users typically focus on very specific tasks, have location-specific needs, and have more direct and simple requirements for execution in the user experience. As people's attention spans for poor performing apps shorten, the stakes are high for any business that depends on its website or mobile app.

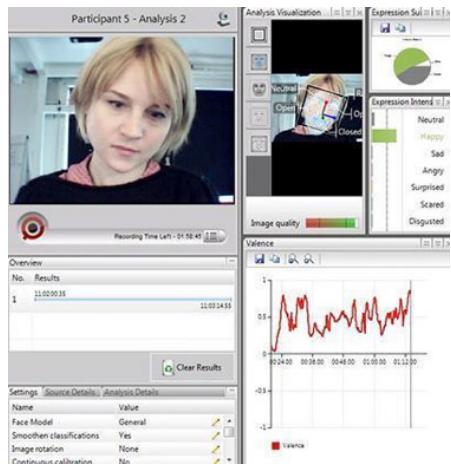
- "Traditionally I would think of my attention span as linked to boredom. I get bored and I go away," said research participant Jack McCormick. "On mobile my attention is focused on whether my need can be met, quickly and efficiently. Otherwise I switch apps."
- "Mobile is about instant gratification but often out of necessity rather than desire," said Dr Chris Brauer. "Users experience a lot of negative emotions and frustrations when trying to complete some digital tasks and apps or web pages are slow to load. Our attention span demands have adapted dramatically to the available technologies."

MATCHING SOFTWARE'S APPETITE: For each of us, unique aspects of our lives are getting eaten by software - from social interactions to media consumption; travel to health & well-being. Increasingly, it is not our choice how we feed software's insatiable appetite. Case study participants report great discomfort at their inability to make these choices, but have little patience for organizations' reluctant to adapt.

- "You get so used to accessing things instantly, you miss out on other slower, less certain aspects of life," said case study participant Will Marshall. "It is a sensation of aspects of your life slipping through your fingers and into the digital."
- "Asset-lite and information-rich organizations are disrupting every industry from taxis to accommodation, retail, entertainment, and logistics," said Dr Brauer. "The choice is either to transform into a software-defined business or figure out how you are going to compete with software-defined businesses. No sector of the economy or society will be immune to this challenge."



Case Study participant Marit Ouwerkerk experiencing negative emotions associated with poor app performance



Case Study participant Marit Ouwerkerk experiencing positive emotions associated with high app performance

About the research:

For the quantitative part of the study, between 3 and 5 June 2014, independent market researchers, OnePoll, surveyed 1,000 UK and 1,000 US adults, aged 18 years old or more, who own a smartphone, tablet or both.

Dr Chris Brauer, Senior Lecturer and Director of Innovation in the Institute of Management Studies, and Founder of the Centre for Creative and Social Technologies (CAST) at Goldsmiths, University of London, conducted a rapid qualitative research project involving case study simulations at the i2 Media research labs based at Goldsmiths, University of London.

Included were in-depth follow-up interviews with the case study participants, and extensive desk research to gather data on the social and psychological factors shaping and impacting behaviors of software-designed businesses and their customers.

From Dr. Brauer's analysis four prominent behavioral patterns emerged: Emotional Resonance, Digital Anxiety, Mobile Attention, Matching Software's Appetite.

Conclusion:

Not too long ago, having a reliable and consistent presence on the web was enough - then came the mobile explosion, and the shift didn't stop there. The dramatic evolution of user expectations is putting increased pressure on businesses, meaning that simply having a mobile app won't cut it. At a time where people are becoming more loyal to an app than a brand, strong performance of apps is vital to companies staying in the game.

To succeed in a world where digital anxiety exists, businesses need to adopt a mobile-first approach that meets the demands of today's users with nothing short of flawless execution. This report demonstrates how failure to meet these performance expectations will result in dwindling customers, deleted apps, and lost opportunity.

With consumers forcing innovation, and the competition being a mere app download away, a robust performance management strategy is essential in order to achieve and maintain operational excellence.

AppDynamics Application Intelligence platform empowers today's software-defined businesses with the ability to proactively monitor, manage, and optimize their digital business. For more information, visit AppDynamics.com.

About AppDynamics

At AppDynamics, our Application Intelligence Platform helps today's software-defined businesses proactively monitor, manage and optimize the most complex software environments. All in real time, and all in production. With cloud and on-premise deployment flexibility, AppDynamics works and partners with many of the world's most innovative companies. Customers include Citrix, Expedia, Edmunds, Fox News, John Deere, StubHub, Union Pacific Railroad, T-Systems, Aviva, Sky, OpenTable, Salesforce.com, Sephora. For more information, visit www.appdynamics.com.