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The economic consequences of an unmeasured and unmanaged digital business

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The tremendous technological advancements of the past decade have revolutionised how we live and do business. Businesses the world over are rushing to invest significant resources in the most innovative, state of the art technology on promises of higher quality user experiences and competitive advantage.

Yet to keep up with customer demands and employee expectations, companies have also lost track of the digital tools, solutions and platforms they have integrated.

Employees are spending an increasing amount of time interacting with digital tools and processes. The reliability and performance of the digital business have become integral to the success of a business as a whole.

Despite this investment in digital, when the average employee is working to a tight deadline the dreaded Windows rotating dots or Apple spinning wheel are still common experiences. Failure to focus on the success of the digital business can result in decreased employee productivity, affecting customer experiences as well.



No business can afford to accept such a competitive disadvantage and yet the performance of the digital business goes unmeasured and unmanaged.

Finding the one bad cog in a complex digital ecosystem consisting of IT, third-party networks, data centres, applications, tools, digital systems and platforms is a mammoth task. Even though it causes endless frustration, the issue often goes unreported and when the IT department tries to address these issues, it is incredibly difficult to pinpoint the exact cause.

This is because most of an organisation's digital infrastructure is outsourced to third-party providers. Companies have no visibility and lack the ability to control the full extent of their digital infrastructure. Even if they request a performance report, they only receive data and metrics that focus on engineering performance of a specific piece of technology.

This paper discusses the economic consequences an unmeasured and unmanaged digital business can have on the wider business as a whole.

Actual Experience has developed a Digital Quality Score to highlight the user experience of a digital service and the cause of any bad technical behaviour affecting that user experience.

Patented technology performs millions of calculations per minute across the many businesses, technologies, networks, data centres and applications involved in the delivery of a digital service and quantifies the effect this technical behaviour has on user experience.

The Digital Quality Score is based on ten years of scientific research and measures on a scale between 0 and 100.

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US patent no. 9477573, Chinese patent no. ZL201080033909.7, European patent application no. 10735274.2



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Determining a good Digital Quality Score

In order to understand the impact poor digital quality has on business productivity, our experts have analysed a year's worth of measurement data from customer deployments.

It is based on the performance of the digital ecosystem existing between that user and the application and we have analysed the amount of time wasted by the digital ecosystem when it is underperforming.

The time lost is a direct, mathematically modelled consequence of poor performance in that digital ecosystem and its effect on the user's experience and by extension the digital business. Other solutions don't take into consideration the fundamental human experience – what customers and employees are truly experiencing – when calculating the performance of a digital ecosystem.

Research has confirmed that the average office worker could be spending up to 85%¹ of their time in front of their computers. In their study of the growing trend to cloud adoption Gartner² estimates that in 2019 36% of expenditure on enterprise applications will be cloud-based.

So, the average office worker could be spending up to 30% of their time using outsourced networked applications delivered across a complex digital ecosystem with limited visibility. These networked applications are becoming ubiquitous and integral to the completion of many daily business tasks. This could be using a CRM solution like Salesforce to process customer orders, collaborating with a team using Slack or WebEx, etc.

When an employee is using a networked application, it is communicating across the digital ecosystem. The pattern of communication will depend on the application's purpose, structure and underlying architecture. But when the digital ecosystem underperforms, this communication can suffer a variety of impairments, negatively impacting the time a user takes to complete tasks with the application. This is what we refer to as "wasted time".

We started by establishing a baseline for normal communication when the digital ecosystem is performing properly and then performed additional analysis to measure how wasted time accumulates as the Digital Quality Scores drop.



Terrible user experience, resulting in users typically giving up



Poor user experience with regular complaints



Acceptable experience, users can still be frustrated but don't often complain



Delighted users and efficient business



Over-engineered infrastructure - no additional user benefit but increased cost to business



¹ <https://www.independent.co.uk/news/uk/home-news/office-workers-screen-headaches-a8459896.html>

² <https://www.gartner.com/en/newsroom/press-releases/2018-09-18-gartner-says-28-percent-of-spending-in-key-it-segments-will-shift-to-the-cloud-by-2022>



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The true cost of time wasted

A Digital Quality Score of around 80 represents a perfect human experience and there's no human perceptible difference between 80 and 100.

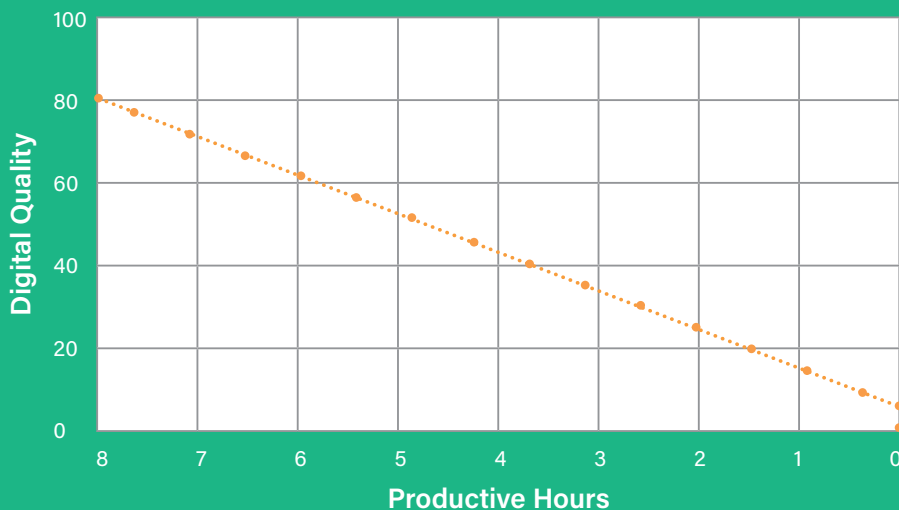
This is also why we don't refer to the perfect score as 100, because anything above 80 is over-engineered - there can be a technical improvement but no human experience improvement. This could be indicative of wasteful over-investment.

Any Digital Quality Score below 80 adversely affects the employee's productivity as the digital ecosystem slows their progress. Our analysis of real-world data revealed a fundamental relationship between human perceived Digital Quality and wasted time.

As an example, what does this mean for a customer service representative using a CRM in a call centre to process customer orders? Suppose that the Digital Quality Score experienced by the employee is 72, our analysis shows that their interactions with the CRM will take 10% longer with this score.

This means that if their working day is defined by a set number of calls, then their working days would be 48 minutes longer than with a properly working digital ecosystem. If instead, they finish the day after completing 8 hours of work, then fewer tasks have been completed.

Our analysis shows they would only have been productive for 7 hours and 16 minutes, with 44 minutes of wasted time. Multiply this across all employees within a call centre and the bottom line is that a poorly performing digital ecosystem can directly affect your employee productivity and can have a similar impact on customer experience.



Our graph, based on our real-world deployment data, shows that every time Digital Quality drops by ten points, approximately an hour of employee productivity is lost. We would expect a typical 'above average' organisation to be operating with a Digital Quality Score in the range of 70 to 80, but this still means nearly one hour of employee productivity loss per day.



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To make this more tangible we investigated the reality of a range of average daily Digital Quality Scores to understand the impact on actual user experience.

For example, at an average daily Digital Quality Score of around 80 the employee's experience is stable, with little variation. This enables the employee to be fully engaged, without technology underperforming and causing disruption to their tasks and hence their productivity. This is the ideal scenario for a day at work.

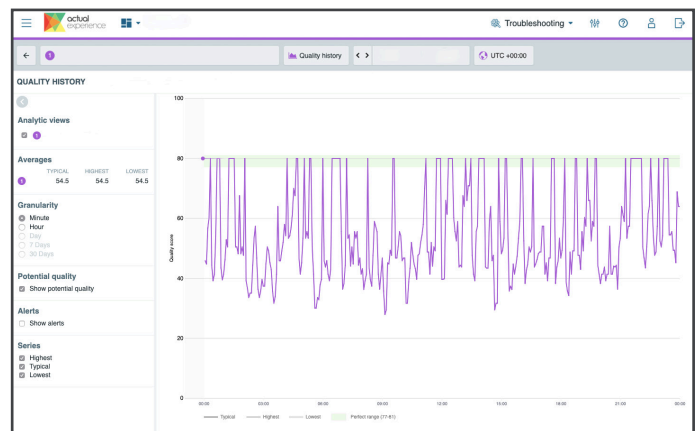
When the Digital Quality Score drops by ten points to around 70, we start to see significant variation in the user's experience. Although the experience is stable at times there are occasions when there are significant drops, resulting in an hour of wasted time across the working day. As the graph demonstrates, each drop takes a while to return to stability, causing significant periods of disruption to their productivity and likely resulting in frustration.

As the average or typical Digital Quality drops further to 60 we can see the user experience suffers substantially with only a few periods of relative stability. Over the course of the day an employee would experience two hours of wasted time, that's a quarter of an average working day lost due to technology issues. If an employee experienced this level of inconsistent experience over a period of time their patience with systems would understandably wear thin and they would have to alter their working to accommodate for lost time.

Digital Quality Score - 70



Digital Quality Score - 60





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The economic consequences

Now that we can calculate the lost hours of productivity as a consequence of poor Digital Quality, we can also estimate the cost implications this has on a business. We assume an average fully loaded hourly rate for a typical UK employee of about £31, based on an hourly salary of about £17³ plus wages, benefits and costs of providing space, IT, facilities, etc.

For an average FTSE company with a 20%⁴ digital business and a Digital Quality drop of 5 points this equates to a cost for wasted time of about £55M or 1.4% of the fully loaded wage costs for the organisation. If the company makes increased use of digital services with a 40% digital business and experiences a **Digital Quality drop of 15 points, then the cost for wasted time increases significantly to about £334M** or 8.4% of the fully loaded wage costs for the organisation.

For a real-world example we applied the same analysis to a **major UK oil and gas company**. We assumed an average annual salary of about £60,000 along with a conservative 20% digital business and only a 5-point drop in Digital Quality. We estimated the fully loaded wage cost. **This equates to a cost for wasted time of about £118M** or 1.35% of fully loaded wage costs for the organisation (We estimated the fully loaded wage cost.) Given the nature of this type of organisation, where a growing proportion of the day is spent routinely using cloud collaborative digital services, it is more likely this equates to a 40% digital business. **If this organisation was experiencing a 15-point drop in Digital Quality the cost of wasted time would be a staggering £711M** or 8.1% of the fully loaded wage costs for the organisation.

The reality is you are likely losing the effectiveness of tens or hundreds of millions of pounds' worth of employee time per year as a result of an inconsistent digital experience across your organisation. Despite affecting productivity, the true extent of the problem is currently ignored and swept under the carpet.

No company that relies on digital solutions to deliver their services can afford this level of inefficiency, risking their market share and crucial contracts.

Digital services are delivered over highly complex paths of businesses, technologies, networks, data centres and applications, which are increasingly outside of your direct control and managed by third parties. Deploying Actual Experience's technology enables you to gain visibility of this waste, reduce employee lost productivity and gain a competitive edge.

Actual Experience's patented technology is the difference between guesswork and presenting a quantifiable representation of the human experience of your digital ecosystem. With this knowledge you can tackle issues head-on and make a real difference to the productivity of your digital business. The cost of wasted time will reduce, and your employees and customers will be singing your praises for removing the roadblocks that held them back.

It's time to put the human experience first, by understanding the effect that poor performing solutions have on your overall business and then acting on the results.

³ <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashtable14>

⁴ This is an estimate of the amount of business activities that rely on digital services