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Point of View

Why Do So Many
Digital Services
Fail To Scale?

Executive Summary

Why do so many digital services fail to scale - and what might organisations do to tackle the disappointing returns on investment and frustrated customer expectations that so frequently result?

In this Zuhlke paper, Neil Moorcroft proposes an alternative approach to successful digital transformation, based on two things: first, the strong foundation of a digital platform that is built with the needs of developers in mind; and second, new ways of working that empower those developers to continually innovate.

Drawing on his experience of working with Zuhlke clients, he explains how the company's Digital @ Scale solution is helping organisations to successfully deliver engaging, scalable digital services at speed and at lower cost, as part of their wider digital transformation journeys.

Neil Moorcroft
Director of Digital Solutions @ Zuhlke

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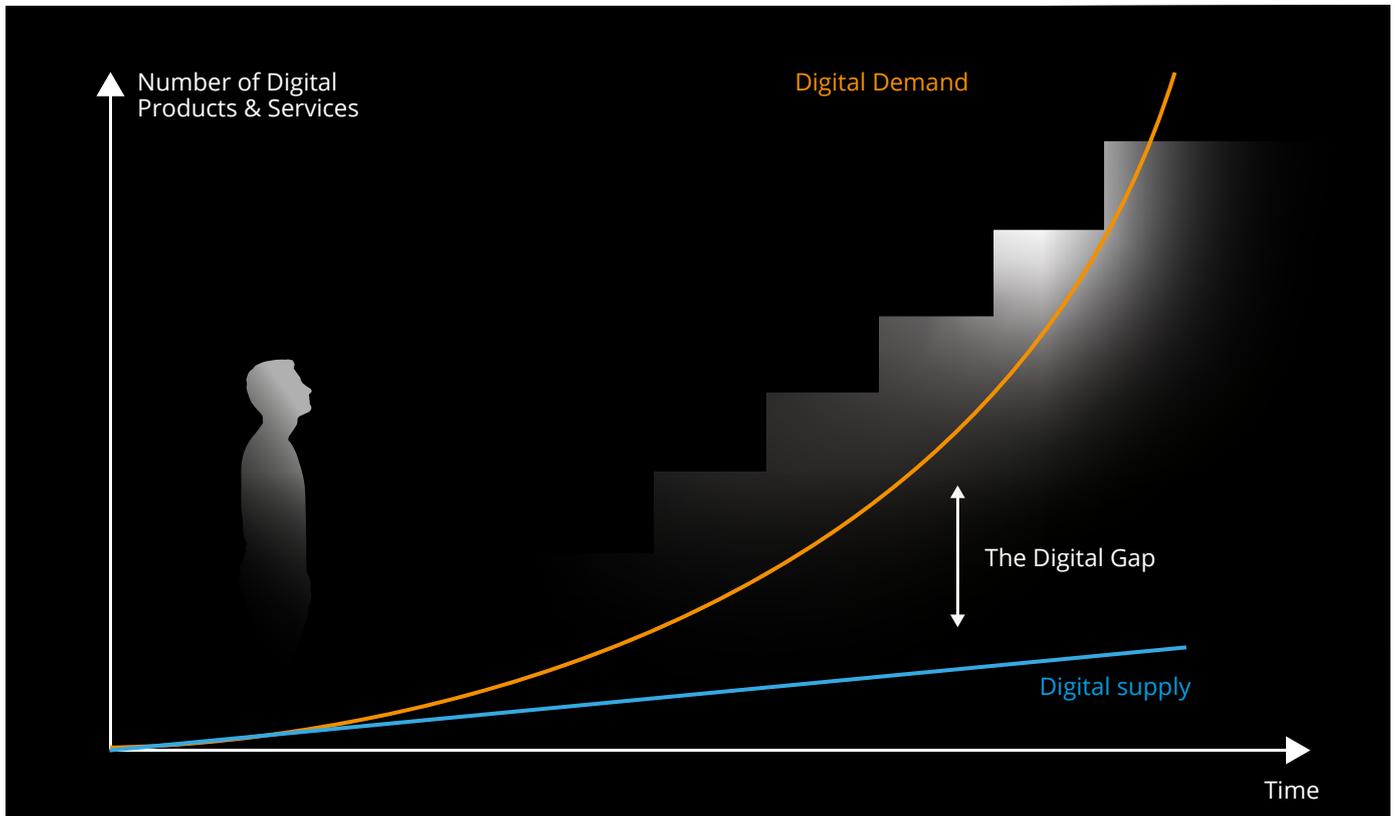
Plug the Digital Gap using Digital @ Scale Solution

The launch of a new digital service is typically a time of great optimism at most organisations - until some way further down the line, when reality kicks in. Confidence levels dwindle as the greater customer engagement, increased revenues and reduced costs that were so eagerly anticipated fail to materialise. High hopes turn to disappointment and frustration as the digital service devours technical time and resources, but software upgrades remain painfully slow to arrive. It soon becomes clear to everyone involved that the digital service is not delivering the expected return on investment, nor is it keeping pace with customer expectations. In short, it's a digital service that has failed to scale.

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Unfortunately, this situation is pretty common - and in my experience, it typically comes down to two things:

- A technical architecture that was never designed to support the kind of agility needed for today's version of digital business success.

- An adherence to old-school ways of working that hampers the ability of development teams to respond quickly to changes in customer and market needs.

At Zuhlke, our Digital @ Scale solution is focused on helping organisations that have already made some progress on their digital transformation journeys to build strong foundations that enable services to scale and development teams to deliver new innovations at speed. We work side-by-side with these organisations, with a focus not on projects that have a beginning and an end date, but on helping them to build internal development capabilities to continually evolve digital products for the long term.

The Need for Speed: Building Blocks of Modern Digital Value Chain

Let us look at the type of platform that's needed first. To be able to build and deploy digital services at speed, developers need to be free from concerns around networks or infrastructure. This means building a digital platform that is provided as a service to them, and doesn't require them to go through numerous, unnecessary steps in order to do their job. Empowerment is key to fostering creativity.

The platform will typically be based on the cost-efficient, highly scalable infrastructure provided by public-cloud suppliers. Today, these companies offer, at unrivalled price-points, the highly secure elastic compute and network resources to support both development and run-time environments. For most companies, it will be pretty difficult to beat these companies at their own game.

At the same time, we recognise that some organisations may opt for a multi-cloud approach that ties in their own private-cloud resources, allowing them to keep certain classes of data in on-premise systems, as dictated by corporate governance and/or regulatory requirements. Indeed, for the small minority of companies that need to keep everything on-premise, a digital platform can be built entirely in their own private cloud.

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It must also support a modern architecture, based on loosely coupled components that encapsulate specific functions or business capabilities and can be combined with other components to build new digital services quickly and efficiently and expand the scope of existing ones. These independent, reusable microservices' are what allow small teams to work independently of each other, reducing dependencies between different teams and, at the same time, avoiding duplication of effort and rework. It supports a more continual release process, as opposed to the 'big bang' releases of the past.

Since digital services need to constantly interact with one another, the business function encapsulated in these microservices needs to be exposed as reusable application programming interfaces (APIs), which can be combined in multiple ways to deliver innovative customer journeys and business processes.

APIs should be well-defined, easy to discover and easy to consume. A well-written API, moreover, can be exposed to the outside world, for the use of business partners and third-party developers who play a critical role in the wider ecosystem supporting a digital service. For example, an insurance company might expose certain APIs to allow automotive manufacturers to bring vehicle telemetry data into the service.

What Worked in the Past, Will not Work in the Digital Era

This brings us to those old-school ways of working that hamper innovation and what should replace them. In my experience, the cultural and organisational changes required here are significant, but the benefits of tackling them head-on, in terms of the delivery of digital services that continue to scale over time, are huge.

In particular, it's a question of building empowered, high-performing, cross-functional teams that bring together all the skills needed to deliver all aspects of the service or feature that they are working on, without needing to look elsewhere in the organisation for support or assistance. DevOps practices, for example, will enable these small, agile teams to deploy and subsequently manage and support their own services in production. When developers and infrastructure people work together, side by side, in these teams, they quickly find a way to achieve both the speed valued by developers and the stability valued by operations staff.

Automation is a big part of the picture here, replacing many tasks that might previously have been performed manually, from automated build and testing through to software release and deployment. Instead of implementing rollbacks when an issue arises with a recent deployment, smart DevOps teams 'roll forward', tackling those issues in subsequent releases.

Robust feedback loops are also key to this agile approach: releasing software, testing audience responses to it, and refining services on the basis of those responses. This is simple risk mitigation: the shorter the feedback loop, the less risk there is that a service does not work for or does not appeal to consumers. Delivering the best possible user experience should always be the goal here, based on frequent software releases.

Also important are monitoring and metrics: these are used not only to alert teams to issues so that fixes get underway quickly, but also to keep teams working towards organisation-wide goals on deployment frequency and quality, for example.

For many organisations, this is a lot to take on board. At Zuhlke, our work with clients allows us to bring a huge base of skills and experience directly into their organisations. We take an engineering-led approach both to building the core technical infrastructure they need and introducing the new ways of working required to take advantage of it in building and scaling their services.

Enable End to End Digital Experiences Faster while Reducing Costs

The benefits of this work are very clear for clients. First, it puts them in the driving seat when it comes to building digital services at speed, reducing lead times and responding rapidly to user feedback and market trends, so that these services can continue to engage customers and give the organisation clear competitive advantage.

For example, at one organisation that Zuhlke has worked with, the software release cycle for a mobile app used daily by millions of customers was cut from every six months to every two weeks.

Second, it leads to reduced operational cost per customer when it comes to running those services. In this way, as a popular digital service gathers new customers and delivers new functions to them, the organisation is not hit by new costs associated with having to deploy more developers to work on it. At another Zuhlke client, a major utility provider, the transition to a digital platform has enabled the organisation to dramatically reduce transaction costs per customer, by providing customers with online, self-service capabilities for viewing and paying bills and making change of address notifications. That is a huge step forwards in a highly competitive industry where new, digitally-savvy 'challenger' brands are disrupting more established providers.

Across a wide range of industries, in fact, Zuhlke's Digital @ Scale solution lies at the heart of digital transformation initiatives that represent a bold reimagining of entire business models. One client, for example, is using this solution to move away from being a provider of bespoke consulting services to becoming a provider of API-based big data analysis tools that plug into the wider retail ecosystem.

In these ways, organisations are preparing for a future in which they are able to scale and sustain their digital services. In doing so, they can finally achieve the returns that they initially envisioned in the early, heady days when their digital transformation was first conceptualised.

About Us

Zuhlke is one of the leading innovation partners for digital transformation. We operate along the entire innovation process – from ideation and prototyping through to implementation and maintenance. Our company combines business and technology competences in a unique way drawing on our strengths in innovation and project management, medical start-up financing, software and product engineering.

Zuhlke can count on the experience gained in over 10,000 software and product development projects and serves customers across a wide range of industries – from life sciences and telecommunications to financial services.

To learn more...
www.zuhlke.com/gb/en/solutions/digital-scale

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