Reimagining Legacy Applications to Embrace Digital Transformation

Tackling the challenge and impact of legacy systems on digital transformation strategies

We are in the midst of a digital revolution; technology is shaping our personal and working lives to an unimaginable degree. As the 4th Industrial Revolution develops, it brings with it a need for change, a change that will shift towards a more innovative, connected way of working. This involves rethinking the processes and culture in a business to boost productivity, recharging business intellect based on insight from powerful analytics and reshaping the entire organisation with an ecosystem of innovation. Businesses that are digitally savvy are leading the way and are growing exponentially.

Market leaders understand that the Cloud is delivering agility and offering differentiation – and they are making it the foundation of their business plans. The right technology decision can create a platform that embraces an uncertain world and offers choices and new ways of working. Organisations are increasingly looking towards innovative technologies in order to take control and become a reinvigorated and connected business. They want to accelerate the adoption of digital to ensure they can respond quickly to changes in the business landscape

and take advantage of all the benefits it offers. What is clear is that it is no longer just an option to incorporate digital technology into an organisation - it's becoming a necessity.

The technical incompatibilities of legacy IT infrastructures

Companies that have been around since before the birth of the internet and are looking to transform digitally are starting with vital systems of record that go back decades. They are now trying to add new, digital systems of engagement on top of them, rather than the other way round. These systems of record have been patched and enhanced over the years as the business needs and regulations have changed, but the more they have been modified by different developers, the more complex and brittle they have become. This means the older an application is, the less easy it is to change, and these changes can create more problems than they solve.

In some organisations there are modules in legacy applications that have become 'no go zones', where the code is so old, so complicated

Digital Transformation and Banking

Systems of Engagement
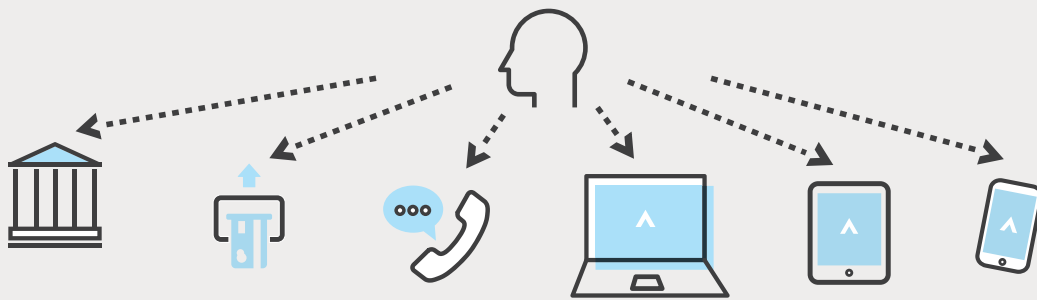
Systems of Record

Underlying Legacy Applications

Commercial / Treasury Management	Retail Banking	Trust / Wealth Management	Mortgage	Insurance

and has been adapted by so many people over time that no-one really knows how it works or dares touch it for fear of breaking it.

This software entropy is an increasing problem for companies who want to embrace digital technology. Legacy applications and processes are not set up to allow companies to continually evolve, revolutionise and disrupt markets.

This means that older more established businesses might struggle with the technical incompatibilities of their legacy systems of record with the new digital systems of engagement they are building. However, they do have an interesting advantage in that it is these proprietary systems of record and transaction processing that have provided competitive business differentiation for many years. A digital transformation strategy that fully leverages the value of these legacy applications can position companies to really compete and deliver tangible benefits to their user communities.

A cornerstone of digital transformation

Systems of engagement are how digital companies interact with their customers, suppliers and employees. Today, a modern system of engagement should be device independent, highly scalable, Cloud-hosted and web delivered. Many companies focus on creating modern systems of engagement, incorporating the latest technologies, as a cornerstone of their digital transformation.

However, it is a mistake to undertake these initiatives in isolation; the core, and often customised, legacy systems that support and differentiate the business need to be included in these plans.

Consider banks; banks represent a market segment that has revolutionised and digitally transformed their systems of engagement over the last ten years. Many of us today do our banking on our phones and tablets, hardly ever setting foot inside a branch. For the majority of us, banking has become a completely digital experience. However, in almost every bank, once you get past the digital veneer of the customer facing applications, the systems of record are still the legacy transaction processing applications that have been driving the business for decades. Typically, they are running on mainframes, and very often still maintained in 3GL programming languages such as COBOL. Another example is airlines. In the last seven years, most commercial airlines have rolled out new mobile apps, which enable us to book our tickets, choose seats and even see a map of where a flight is on its route. However, many of the applications behind these digital apps are very old legacy systems.

Can you bridge the gap?

For the last fifteen years, companies have been looking to integrate and extend their legacy applications in order to create seamless processing between the new systems of

Reimagining Legacy Applications to Embrace Digital Transformation
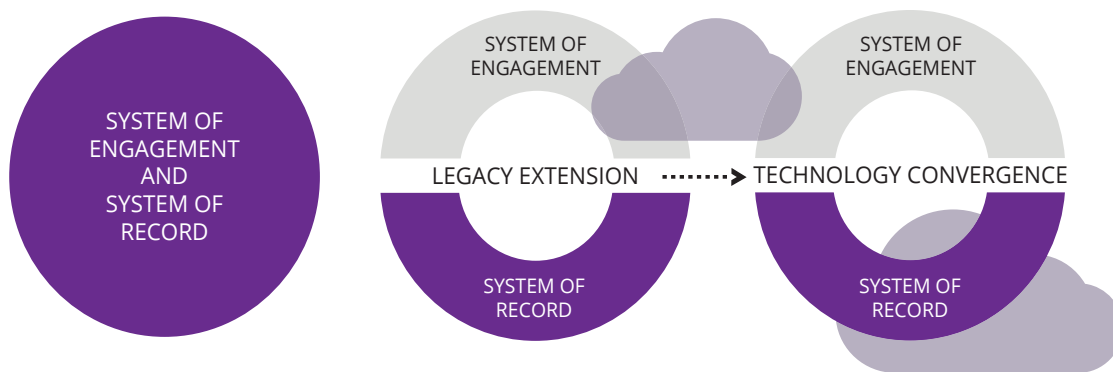
Legacy

> Functionality gaps and slow pace of change

> Some digital users are unreachable

> Higher total cost of ownership (TCO)

> Sustainability risk

Mixed

> Dual technologies and slow pace of change

> Enhancements must be coordinated

> Higher TCO

> Sustainability risk

Modern

> Compatible technologies and fast pace of change

> Agile methodology

> Lower TCO

> Highly sustainable

engagement and their older systems of record. Where this has been possible, like the banks and airlines example, organisations have been able to use their proven and mission-critical applications as a strong foundation to developing new digital user engagement applications, and in the process benefit from leveraging much of the intellectual property honed in their legacy applications over the years.

However, leveraging legacy applications has its complications. For the most part, legacy applications exist in older technologies and architectures and this creates problems when companies look to create a new digital architecture for the future. As the pace of digital transformation grows, organisations are hitting the limits of creating the layers of interoperability between the newer systems and the legacy technologies. Many legacy applications were built on very old technologies, and the effort and cost of ensuring the new digitally enabled systems can coexist and interact with the older systems becomes prohibitive. It can feel like trying to put a square peg in a round hole. Most large companies today are grappling with how to deal with this technical debt.

Application Modernisation

This is where Application Modernisation initiatives can help. In a broad sense, Application Modernisation provides a means to create 'technical convergence', allowing legacy systems of record to move to technologies that more easily coexist with newer digitally enabled applications. This can be through migrating applications to common commodity hardware and operating systems, exposing legacy functionality as web services, or converting a 3GL legacy code base into modern Object Oriented languages. Modernisation initiatives have the added benefit of reducing cost of ownership and continuing the return on investment from their legacy applications. A connected, modern infrastructure can also offer integrated data that will provide intelligent insights that can recharge, inform and optimise a business.

In addition to the need for technical convergence of legacy applications with modern systems, another important reason to consider Application Modernisation is that many of the key technical staff who maintain the systems of record in an organisation are reaching retirement age. The knowledge and skills that

Reimagining Legacy Applications to Embrace Digital Transformation

they have are leaving with them. The technical skills required to develop old applications written in 3GL programming languages, such as COBOL, FORTRAN, Assembler and even C are not readily available in the market place. The scarcity of this resource is driving up prices and increasing what is already a high total cost of ownership for these legacy applications.

Making modernisation part of the plan

For companies considering their digital transformation strategies, it is imperative that their leaders step back from day-to-day busyness and away from the frenetic pace. Only then can they clearly review the plan for the modernisation of their proprietary legacy applications as part of these initiatives. Today, legacy modernisation needs to be more than the extension of old technology to the web that we have seen for the last twenty years. To transform to a truly digital enterprise, a greater change is required in an organisation's legacy landscape. Many will choose to replace in-house applications with packaged SaaS Cloud-hosted solutions – but this will be at the cost of losing intellectual property that is specific to the business and provides competitive differentiation. For smart companies not wanting to throw out critical business functionality in order to achieve technical convergence, there are automated modernisation options for re-hosting, migrating, re-engineering and transforming older applications. These are proving cost-effective and a viable means of modernising valuable legacy applications into modern technologies – without the risk and cost of replacing or redeveloping.

Top Tips

> Be bold and move quickly - most technology executives have been too conservative changing out back-end systems. According to Forrester, "Real digital transformation requires fast, sweeping modernization of old systems into new Cloud-based systems that are agile, mobile and able to deliver disruptive, real-time intelligence."*

> You cannot afford to be risk averse – it is not conducive to the innovative culture needed for real digital transformation. Forrester comments, "While it may be riskier in the short-term, moving to a modern Cloud solution will get you on a new path that fosters business agility and allows you to take advantage of ongoing vendor innovation." *In the world of digital transformation, low risk equals low reward.

> When planning your new digital initiatives do not forget about the core legacy systems that drive your business and create differentiation. It is vital to ensure you modernise and integrate these applications into the new systems of engagement.

> Work with modernisation partners you trust, and ensure their culture and approach is in line with your own. Check that they have not only

Reimagining Legacy Applications to Embrace Digital Transformation

the required technical skills and experience, but also the business acumen and market knowledge needed to help your business transform.

> The days of detailed, set-in-stone, three to five year roadmaps are gone - agility and the ability to change direction are key. Market leading organisations actually plan to alter their course in light of new opportunities that come along. A modern technology strategy should include working with organisations who will be able to help you achieve business goals you haven't even considered yet.

> Ensure your Cloud provider has the right service levels, guarantees and longevity. Look at their long-term vision, the people in their team and determine how accessible they will be to you.

> Keep an open mind, explore new ideas and encourage everyone in the organisation to contribute and think outside the box.

The bottom line is that organisations should be able to embrace the digital era with confidence - even those who need to integrate critical legacy applications. The Cloud can help deliver true and positive disruption now, and in the future. Those that dare to reimagine their entire business will reap the benefits with unprecedented productivity gains, soaring rates of customer satisfaction and increased visibility of business information - while supporting consistent, informed and proactive decision making. By working with the right partners, being bold and acting with pace businesses can modernise and leverage their vital legacy applications so they too can embrace digital transformation and respond quickly to the changes in the business landscape that will inevitably occur in this 4th Industrial Revolution.

*Forrester: "Your Digital Transformation Is Not Bold Enough – Five Signs Of Trouble And Key Fixes" - May 2017

More information

w oneadvanced.com
t +44(0) 8451 605 555
e hello@oneadvanced.com

Ditton Park, Riding Court Road, Datchet, SL3 9LL