The Fujitsu guide to application transformation

shaping tomorrow with you

FUJITSU

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Transforming through continuous adaptation

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Making difficult decisions has always been an important part of business success. Now, after the widespread disruption caused by the COVID-19 pandemic and the dramatic acceleration of all kinds of digitization, striving for success is about making the right decisions as fast as you possibly can. The race is most definitely on.

Even though the pace of change has dramatically accelerated, it's worth remembering these shifts were happening long before COVID. After two decades of digital disruption, it was clear that only the organizations able to adapt could hope to succeed.

However, adaptability has gone from being an aspiration to a survival trait. Many multinational businesses embraced the challenge and successfully switched to remote working in days. Physical tasks became digitalized, and services changed to meet entirely new customer needs.

But the change is far from over. Organizations will have to keep continuing to adapt from crisis response to recovery, then on to growth and success.

The mindset shift

Along with technology adoption and transformation – a mindset shift is required. Currently, many organizations are in traditional 'reactive thinking' mode. Efficiency and cost reduction are the main drivers of IT spend. Technical debt reduces the ability to spend on new initiatives, modern applications and continuous improvement, so digital channels and experiences become static with limited change.

The most advanced organizations have made a shift towards adaptive thinking. This is a culture that redefines the operational model, to create harmony between enterprise IT and lines of business. It's built around the product-centric delivery of new services and innovation, and rapid experimentation with modern applications and emerging technology, in order to accelerate innovation and differentiation.

All decisions are driven by data through analytics, AI and machine learning; to continuously improve operations and respond to customer behaviour. And data is kept safe not through 'locking down' but through dynamic and automated security capabilities that carefully blend autonomy and control.

Adaptive enterprises and the power of modern applications

At Fujitsu, we are helping organizations respond to the new trends. We support their ambition to become adaptive to change, able to continuously evolve, and future-proof themselves against disruptive forces.

For some, this might mean comprehensive transformation projects. For others, it might mean rapid and iterative innovation. Either way, we help organizations to progress in five key areas, depending on how 'digitally mature' they are and where they are aiming to grow towards.

How do I ensure my organization and data are protected and compliant?	How do I prepare my organization and focus resources on the future?	How do I create memorable physical and digital customer experiences?	How do I enable my business to prepare and adapt quickly in an uncertain world?	How do I adapt my business model and create new future value?
PROTECTED FOUNDATIONS	**DIGITALIZE THE CORE**	**TRANSFORM EXPERIENCES**	**BUSINESS EFFECTIVENESS**	**PIVOT TO NEW VALUE**
Enabling agility with hybrid IT and public cloud but with the confidence that data is held in country and that it is protected and compliant to the highest security needs.	Reduce risk and improve resilience – focus resources and drive innovation to deliver more business value with less.	Bring the physical world to digital – create responsive, memorable and competitive digital experiences and products, faster.	Enhance your operating model and processes with data-driven insights that enable you to react quickly and adapt to market uncertainty.	Unlocking data to drive new business models – disrupt your industry through effective insights and emerging technologies.

Applications, as the fabric of how most organizations need to deliver information, products and services, are crucial to achieving these outcomes. Transforming them – which can involve one or a mixture of moving them towards cloud, modernizing them in the cloud or rebuilding from scratch – is now more important than ever for this.

Having safe foundations for applications and business data, which many organizations already have in a mixture of legacy or hybrid environments, is crucial. But beyond that, digitalizing the core of your business, creating powerful experiences, driving effectiveness and new sources of value, are all vital ingredients in successful transformation.

The next chapters will explore key application initiatives in this context – offering useful perspectives, advice and solutions for success.

Digitalizing the core

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According to our research, 77% of businesses admit they need to be able to react faster when faced with market uncertainty and change[1].

You will likely recognize this challenge of needing to quickly adapt to the changing market on an ongoing basis – and you will only be in a position to respond quickly to the market if you have agility and scale in your business systems and processes.

Digitalizing the core is about establishing an effective and flexible set of technologies, processes and skills that make this possible. With cloud adoption the key vehicle, it enables your organization to maintain, build and develop new capabilities for your people and your customers at a faster pace.

Underpinning this is the need to make the shift from maintaining legacy applications and systems to more resilient, secure and scalable services that reduce technical debt and risk. This essential process is the starting point of your application transformation journey. Importantly, it's also a way of optimizing your digital resources based on your organization's business priorities.

Removing the legacy burden

Removing legacy constraints is a common challenge that we help organizations overcome. Reducing technical debt is the big motivating factor – with outdated solutions developed quickly, cheaply or because they were the best available option at the time, now causing as many problems as they solve.

One of the main problems is a constraint on the innovation resource and capability needed in today's more dynamic world. In our recent research, IT and business leaders reported their hours spent battling technical debt outweighs driving innovation by nearly 3 to 1.

The main solution is migration or conversion of legacy application code to new cloud-based environments. However, this can be a major challenge in itself, with around half of organizations we surveyed reporting that 'tackling legacy debt', through embarking on such initiatives, was too complex to attempt.

If you're facing this challenge of modernizing your legacy applications, the first thing we will do is carry out an assessment to help us understand your IT ecosystem. What applications are you working with at the moment? Can they be modernized? If they can, is it right for your business to do so based on the risk, cost and complexity when compared with the likely rewards? Or can you achieve some of the benefits you need by migrating or outsourcing management of them? At the other end of the spectrum, if a straight replacement, either newly developed or adopted and tailored 'off the shelf' would be the better choice, we'll help you build that into your roadmap.

Cloud without the comprimise – can 'mission-critical' go there?

Digitalizing the core invariably means moving and modernizing business-critical applications towards cloud. Whilst this is a path most organizations have started on, accelerating benefits whilst avoiding pitfalls and risks is still a major challenge for many.

The big question for such critical applications here is – can they really 'go public' on a hyperscale platform, to benefit from rich platform scale and functionality – or should organizations steer clear of this? The alternative might be private or on-premise environments that address performance, compliance and security concerns.

Fujitsu helps organizations to achieve a 'cloud without compromise' model for modern applications.

Firstly, through adopting and combining platforms in a hybrid or multi-cloud environment. This can be on several public clouds but more often than not is a mix of public and private – sometimes combined on a single solution like our VMware Cloud on AWS service, which enables application transformation without major rework in a blended environment.

Secondly, we assess and provide proof-of-value and road-mapping for moving or modernizing applications, increasingly in component parts across those hybrid environments.

Thirdly, we integrate across the new distributed landscape to ensure all components (infrastructure, applications and services) work seamlessly together.

» Fujitsu helps organizations to achieve a 'cloud without compromise' model for modern applications. «

Spotlight on:
Mainframe modernization

One of the key examples of removing the legacy burden is moving on from mainframe technologies. For most, whilst these support critical business functions, over-dependency on them is a ticking time bomb. Not only are they slow and inflexible, based on today's business requirements, they are resource and budget-hungry and have a rapidly diminishing support and skills base across the industry.

Moving mainframes into the cloud can be a lengthy, expensive and complicated process that seems too big a risk to take for many. This is especially so given their importance to day-to-day operations dictates that migrations simply cannot fail or cause business disruption.

Recognizing that standing still and not doing anything about the mainframe issue is probably the biggest risk of all. Organizations are trying to make fast progress in a way that minimizes the need for heavy lifting. This is a key area where we are helping customers, with our Progression solution able to turn old mainframe code – usually COBOL – into modern languages that can run in modern environments, including public cloud platforms like Amazon Web Services and Microsoft Azure™.

Such a transition frees up capital, enables greater business responsiveness (faster time to market) and allows the business to place resource and spend on higher-value initiatives. Beyond that, legacy mainframe data can also be accessed and exploited by cloud-native technologies and services running on those modern platforms – delivering insight to both employees, for better employee experience, for slicker operations, and customers – for a better experience.
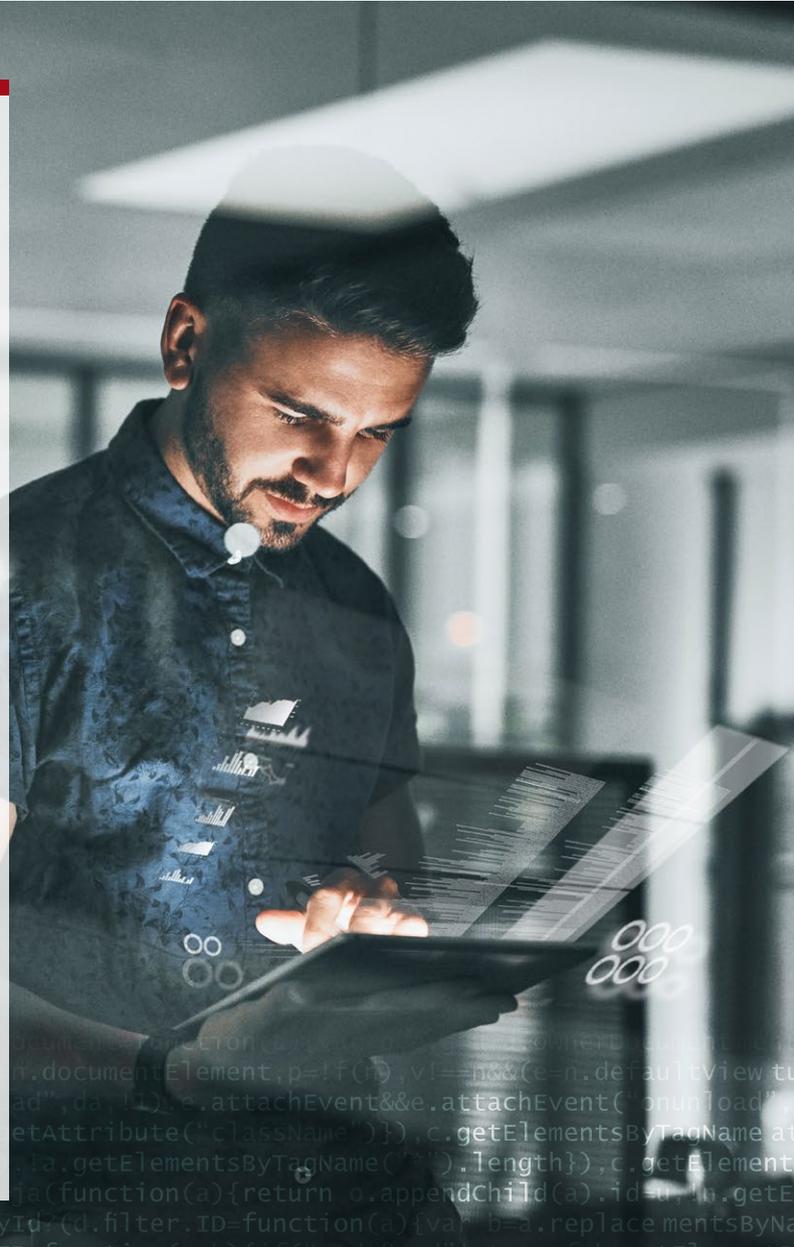
Case Study

A flood warning system for 5 million UK citizens

Challenge

Five million people live in flood risk areas in England and Wales, but the technology to reach those in need had become outdated. To resolve this, The Environment Agency asked Fujitsu to deliver a scalable, multi-channel flood warning system. This system needed to be capable of seamlessly integrating with mobile operators and new innovative communication channels.

Solution

Fujitsu used a co-creation approach, bringing together the knowledge of government and national mobile operators. We modernized the service by migrating it to cloud and creating an intuitive interface, while continuous improvement initiatives enabled new integrations.

Outcomes

- The text-to-speech service has decreased component costs by 97.5%
- An optimized process has reduced time-consuming manual input from half a day to 20 minutes
- Since re-launch, an average of 11,000 life-saving messages reach citizens every day
- The solution is highly resilient and includes new services and features that promote agility and speed.

Priorities and solutions to get started on the right track

Every organization will be at a different stage of their application transformation journey, and most will still have a long way to go. By shifting from aging legacy to resilient, agile and scalable applications that reduce the risk of technical debt and excess cost, you will accelerate your progress.

To keep your journey heading in the right direction, you need to get the basics right:

> Look for quick wins that help alleviate major parts of technical debt.

> Understand the legacy landscape and its dependencies.

> Know the positives and constraints of various platforms for specific applications.

> Get a clear picture of benefits vs. cost and risk profile required to migrate.

> Be clear on the added value of transformation vs. new development.

As you make your transition, it's important to have accountable experts with an equal understanding of both legacy and advanced cloud technologies. With Fujitsu as an application partner, you will benefit from our huge experience in the field and access to our unique solutions for friction-free progression of your applications to the cloud.

Transforming experiences

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Customers of enterprises are always looking for better experiences and more relevant products to meet their needs. And for government organizations, ensuring citizens can get quick and easy digital access to crucial information and services has never been more important.

Cloud and modern applications are the key enablers for keeping up with ever-evolving working cultures and demands, as validated by our research findings. Over two-thirds of business and IT leaders rank cloud-native applications (68%), cloud-hosted data (69%) and cloud platforms (71%) as their three most important contributors for better customer experiences. So what should organizations look to do?

Does transformed applications equal transformed experiences?

In our experience, customers have mixed views on which applications need to be transformed to drive improvements in CX and UX. It's important to look at this from two angles to have clarity.

Firstly, all 'apps' are applications, but not all applications are 'apps'. Front-end development, affecting what many consumers recognize as the 'app', is now more important than ever. This transforms applications to a place where features and functionality can be added quickly; even whole components ripped and replaced to serve people differently, is crucial. We've helped many organizations to do this – introducing new apps and interfaces that drive quick and continuous improvements in user-friendliness, without touching the underlying environment.

Secondly, at the other end of the scale, large back-end business applications need to be assessed in terms of the changes required to their current state to drive material CX outcomes. In this respect, it's crucial to understand whether a re-architect approach can only drive increases in the performance, agility and scalability of applications that underpin customer engagements. Or whether this can extend into enhancing the functionality to a point where it facilitates omni-channel access to the current requirements of products and services, and how they might evolve. If this is too much of a complicated or expensive leap, a cloud-native rebuild may be best.

Always remember, the key trait of the digital-first and platform businesses that set today's CX standards is the ability to 'build and smash' components of key applications across the spectrum. It's all about agile 'multi-experience' development.

Native or not? Accelerating multi-experience development

Cloud-native is a term that's often used but is not always fully understood. Cloud-native applications can be described as a collection of independent and loosely coupled services – and 'cloud-native development' is a method of building and managing such responsive, scalable and robust applications.

The appeal of cloud-native or 'born in the cloud' development is that it enables you to speed up how you build new applications, make the most of existing ones and then stitch them all together to deliver optimum performance. It allows you to accelerate new releases that augment the customer experience in days or weeks – rather than months or years – through more efficient innovation and support for emerging technologies available and connected through the same development platforms, such as AWS and Microsoft Azure™. The resulting applications, through a combination of development and infrastructure as code, are incredibly powerful for improved CX because they are:

Resilient

not relying on a single point of failure (disk or server) and with security built-in.

Ubiquitous

accessible from anywhere and any device by anyone with the right privileges.

Adaptable

with specific features able to be compartmentalized and easily upgraded fast.

However, cloud-native application development can be a challenge for many. Traditional, process-heavy organizations that still lean on monolithic applications may find it hard to make the necessary adjustments to take its agile, iterative and 'fail fast' methodology on board. There may be skills gaps that make a native approach difficult to adopt and drive. There may also be shortfalls in being able to provide regular and ongoing support for the native applications so that they deliver continuous value. If so, this is understandable with the support requirements for cloud-native applications being vastly different to heritage applications. Different monitoring methods, different tools and different skills that draw much more on coding expertise than User Interface design.

Addressing the application development skills gap

Technology is now moving at such an extraordinary pace, it's impossible for many industries to keep up in terms of attracting, retaining and skilling the talent needed to accelerate application development. It's a major headache for those wanting to transform how their business operates.

However – there are three things that can be done to help, and we are working on all of these with customers right now.

Firstly, we can try and increase internal understanding and capability. By organizing around product-centric thinking and adopting industry frameworks like SaFe (Scaled Agile Framework), organizations can have the right guidance and structure for effective product development. This is something we do to drive development with our customers – and as part of this, we mandate that every client has a product owner who works within the squad we assemble, giving them a sense of enablement and introducing vital knowledge in-house.

After training people to use resources, we might set up a Centre of Excellence with a repository of knowledge, which we can initially support before our client is able to manage aspects themselves, when needed. It's important to realize this is not just a technology problem, but a cultural one too. Just as important as technology training, it's vital to help organizations restructure themselves in more agile ways that facilitate better technology learning and the sharing of knowledge.
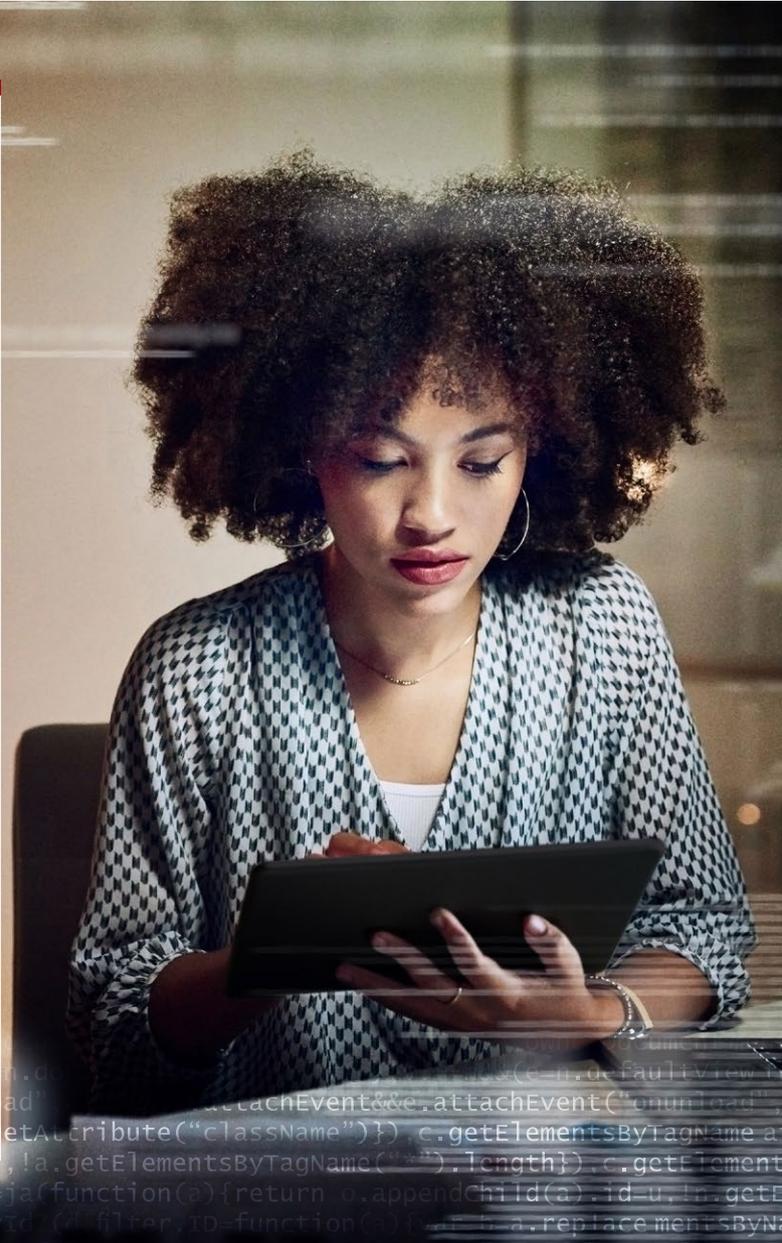
The second way the skills gap can be bridged is through low-code and no-code development.

Whilst many advanced low-code platforms still need expert users to produce the best results, generally a low-code approach does make development more accessible to people with fewer technical skills. The idea of democratizing application development – creating 'citizen developers' or 'power users', who are able to solve their own business problems through low-code solutions, without troubling their IT organization or requiring professional developers' assistance, is something that our customers are finding value in, through our partnership with OutSystems.

This extends beyond the development skills gap alone. It helps with aligning the business (where development knowledge may be lacking) to development teams (where 'business speak' may not be well understood) by making the applications' 'internal parts' more easily understood. Logic and elements are shown visually, not as lines of code. They become digestible and provide a common ground for establishing progress and accelerating continuous improvement of the applications' functionality.

The third way organizations can help bridge the skills gap is by supporting the sustainable supply of new talent for the enterprise through partnering with academic institutions – or working with someone who does, like Fujitsu. We are helping bridge the technical skills gap by collaborating with universities and their students who are preparing to enter the business world – supporting them through our own graduate scheme and by offering our own technical accreditation; the Fujitsu Certificate of Digital Excellence.

Case Study

Improving growth for an aviation manufacturer

Challenge

Our forward-thinking client saw software applications as an opportunity to enhance the customer experience, profitability and growth. They wanted to improve application development efficiency to reduce defect rates and quicken time to market for new features and upgrades.

Solution

Fujitsu provided a high-performing and cross-functional team with expertise in Agile, DevOps and mobile application development. Our team was deployed alongside the client in North America. New technologies were implemented on mobile, desktop and web platforms, and included software such as Jenkins, Maven, Java, Appium, Selenium, TestNG, iOS, Objective-C and Swift. Our LEAN approach enabled the client to test early, consistently, and efficiently.

Outcomes

- Our client has improved its ability to develop mobile applications and deliver releases at speed with confidence. As a result, application development is cleaner, and the release of new features can be brought to market faster
- The defect rate has reduced by 60%, and the integration testing cycle has fallen from 10 days to five
- The Application Development and Testing service from Fujitsu has transformed numerous mobile applications into a single easy-to-use EFB suite
- Our client can now manage the quality of a large mobile codebase with over 200,000 lines and has increased test months coverage from 11% to 40%. It has completed automation test suites for more than 600 integration test cases

Prioritities and solutions for ongoing application transformation

Think interatively
A big vision has its benefits, but investing in small projects that iteratively enhance the customer experience can prove to be more effective. Our managed services now include this style of transformation as a key focus.

Drive agile
Agile methodologies have to be embedded in your development practice to achieve the speed you need. Our development services are enabled by industry best-practice agile delivery frameworks to help you get to where you want to be.

Automate for efficiency
Leveraging automation for cloud adoption and usage helps you focus on maximizing the platform, not building the underlying basics. Our Springboard service for AWS and Azure™ gives you enterprise-grade automated blueprints to get started.

Don't overlook low-code
Through pre-fabricated building blocks and intuitive interfaces, low-code platforms can deliver high value, fast. Our partnership with Outsystems enables you to use leading low-code capabilities to accelerate the quick-wins.

Be smart on skills
Development skills gaps aren't unique to your sector. There is a shortage across all industries, so if you struggle to 'pull' the right talent in, take a partner ecosystem approach and use this as a platform to upskill your existing people.

Driving effectiveness through intelligent insights

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Data is arguably your most important asset. You need to use it to gain the right insight to meet business goals and quickly drive business value.

The importance of data has exploded further in the wake of market uncertainty and the disruption caused and accelerated by COVID-19.

Now, almost three quarters (74%) of businesses agree or strongly agree that utilizing business data is key for survival in 2021.[2]

Maximizing data value through modern applications

Modern applications need to go hand-in-hand with a modern data strategy. For most, this means a tricky path – moving from a centralized model with high-data visibility, to a more decentralized approach which enables consumption of data closer to the user and through a variety of channels and devices.

Database modernization, therefore, needs to be a big consideration. Single, traditional, often monolithic databases are both difficult to scale and can be a single point of failure for organizations' digital services. Modern applications, which leverage distributed data, can mean having to decouple for a close connection between data source and application component or micro-service. But, with many underlying considerations regarding compliance, this approach provides the flexibility of being able to pull on the right data for specific applications and services.

In terms of business value, the effect on both customer and employee experience can be huge. With the cloud's ability to enable analysis of data in real time and serve it through modern applications and APIs, data can be visualized and pushed to employees to make faster, more informed decisions and enable easier collaboration. Services and offerings, available through modern applications, can also be personalized for customers based on the data generated.

»This approach provides the flexibility of being able to pull on the right data for specific applications and services... the effect on both customer and employee experience can be huge.«

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Driving a model of autonomy and trust

Unlocking data value through a decentralized strategy is one challenge. A related one that also has to be carefully navigated is data access; allowing employees to access and use data for the benefit of the business.

First and foremost, you will need the right data governance policies and applications that allow the right level of data access for people across the business, with this likely to vary from one instance to the next. This rings true with our market research findings, where despite 64% of business leaders reporting that they see the value of decentralizing data and access, many would prefer this to be managed on a case-by-case basis to minimize both security and business risk[3].

Secondly, a shift in your internal operating model is likely to be needed – towards a people-centric approach based on a culture of autonomy and trust, so data value can be maximized. 65% of business and IT leaders in our research told us that decisions should be made by everyone in their organization, not just those in traditional positions of power[2]. This model is what we refer to as a 'leaders everywhere culture' – where line of business employees are empowered to take their own actions to increase business pace and agility, avoiding the bureaucracy of traditional 'top-down' structures. Many organizations need to work on this as, while the vast majority see the value of making a change to their policy, over half say their decision-making model is still heavily or fairly centralized.
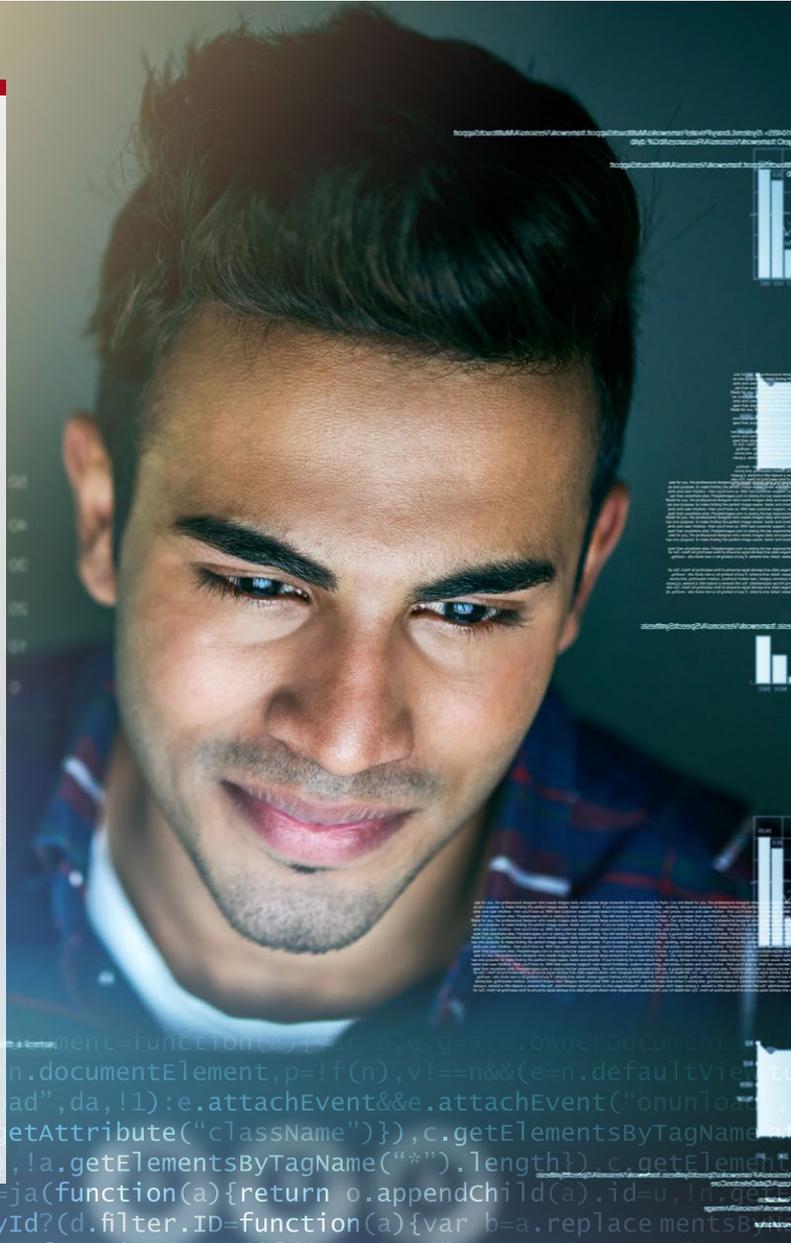
Decentralizing development:
Rewards and risks

By democratizing decisions and decentralizing decision-making and data access, your businesses can embrace a more trusting, autonomous culture which will be, by nature, much lighter on its feet.

This comes back full circle to modern applications. They are not just a conduit for a decentralized model; developing them should be one of the key areas where an autonomous culture is adopted. With applications needing to be continuously developed at speed, a culture that empowers multi-functional teams to make decisions and implement new application and service features is fundamental to keeping the business up to speed with the demands placed on it.

Fujitsu is doing this with many organizations – deploying agile development squads that transcend the traditional IT vs. business-leadership divide. And it is delivering game-changing results.

Security concerns in the age of modern applications

Security is clearly a major concern for organizations both during and after application transformation. When moving and modernizing and developing new applications, ensuring safety of applications and data in their new, often cloud, environment is one consideration. Being able to develop new application capability with security built in is also becoming increasingly important.

The first consideration is achieving the sweet spot between security and speed. This enables you to rapidly build applications for your market demands, safe in the knowledge that their security is intrinsic rather than 'layered on'. It is also context-aware, which means it stays with the application not only at rest, but in motion too as it is moved and evolved over time.

The second is addressed through having the enterprise-standard frameworks to start using cloud development features straight away but within safe guardrails (like our Springboard solution for AWS and Azure™). The adoption of an agile DevSecOps approach ensures security expertise is always represented as part of all aspects of new application development.
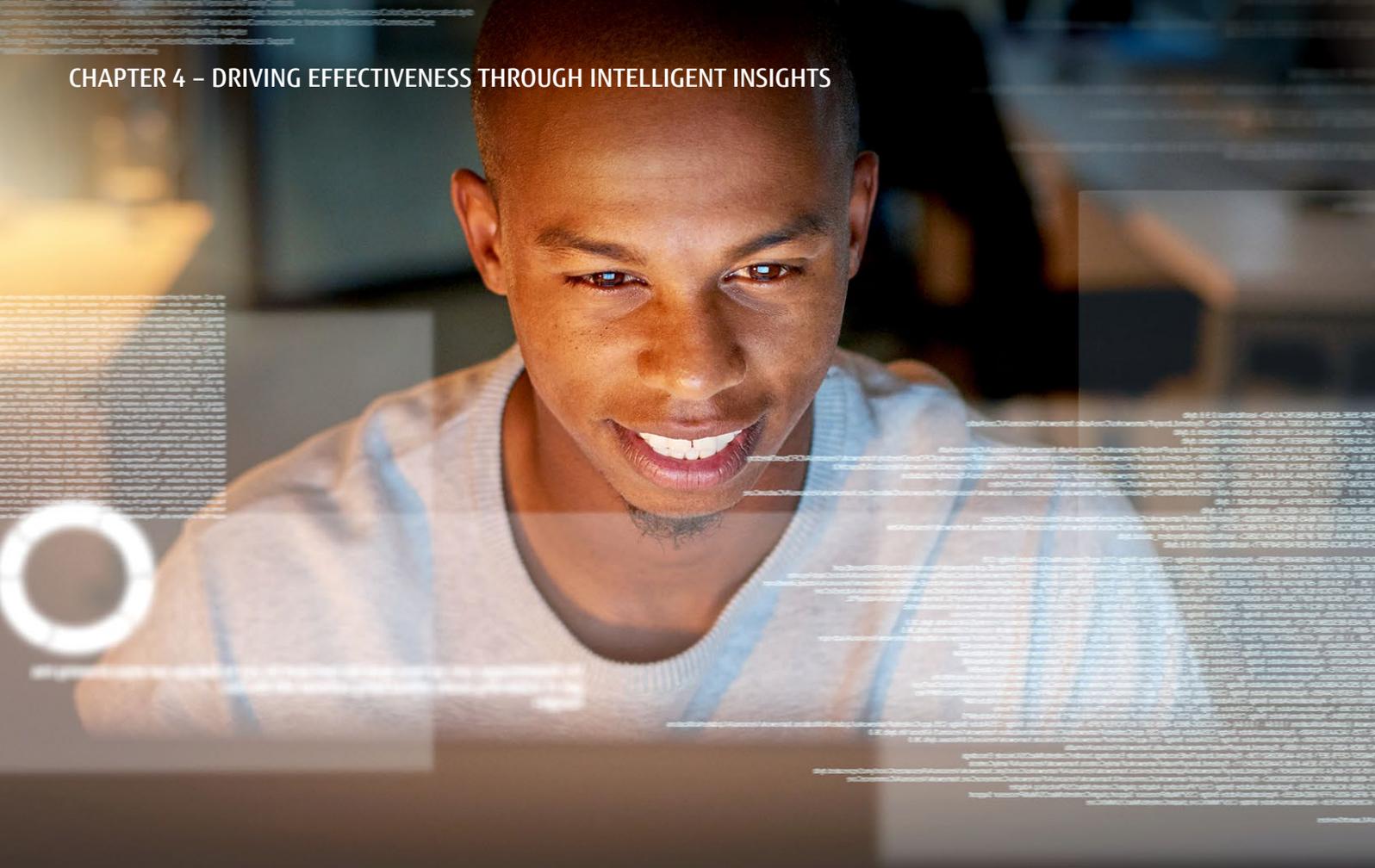
Success through collaboration

DevSecOps is all about collaboration and shared objectives between partners. Among the data security partners we work with, Fujitsu collaborates with Microsoft Azure™ DevOps (MAD).

»MAD provides the seamless automation processes to place applications in the cloud with all the efficiency and security benefits.«

MAD provides the seamless automation processes to place applications in the cloud with all the efficiency and security benefits outlined above. It also helps maintain security standards in another way.

Every time Fujitsu works with Microsoft Azure™ to build a new application, Microsoft's security engines examine it closely and give feedback on how it can be improved. This doesn't just happen at the development phase; once an application has been launched, MAD continues to scrutinize its security performance against emerging threats and provides recommendations of ways to enhance security levels.

The intelligence it uses to do this is so advanced that MAD is one of the few services to offer effective protection against so-called 'Zero Day' attacks – those carried out by viruses that are so new, little or nothing is known about how they work or the specific threats they bring.

Even if a virus or a hacker does succeed in targeting an application hosted on Azure™ Cloud, its multi-site infrastructure means it can instantly be relocated to servers in a different country or even on a different continent.

Case Study

A bold digital transformation program for the Driving and Vehicle Agency (DVA)

Challenge

The Driving and Vehicle Agency (DVA) has undertaken a digital transformation program aimed at introducing modern workstyles to the organization. This led to a change in roles of some administrative and management staff. The challenge was to identify what roles could be redesigned and how best to do it. To achieve this, DVA needed support for this Organizational Development (OD). They wanted a third party to conduct the research, to provide fresh clarity and independent thought.

Solution

The DVA engaged us to carry out application development across the business as part of the transformation program, giving us many unique insights. We executed four workshops with key staff and created 12 persona and user stories, together with a future impact assessment.

Outcomes

- Through our Co-Creation Workshops, we developed 170+ actionable ideas for change, grouped under HR, technology and culture These gave DVA insight into employee priorities and concerns
- We developed a clear and concrete vision of future roles. This enabled honest conversations with employees, as well as actionable ideas, such as integrating systems more tightly with a single-service management model
- The resulting co-creation resulted in best practice being incorporated into the new platform being built, and higher staff engagement – every participant of the OD exercise rated it 10 out of 10

Prioritities and solutions for driving effectiveness through data

Go hybrid

Hybrid data environments will need to underpin a decentralized data strategy. To enable fast access with high-availability and low-latency, our hybrid data storage and services can be mixed-and-matched across data center, cloud and edge.
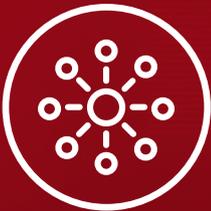
Evaluate and automate

Your data platform privileges will need to be reviewed and have intelligence and automation built in to allow flexible but controlled user access. Our data services and partner solutions achieve this across users, platforms and devices.
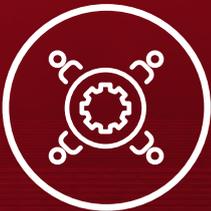
Align policies

You will need to align your organizational data governance and decision-making policy for a decentralized model to work. Fujitsu can assist with this through our change management and data consultancy.
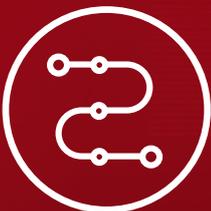
Call on APIs

You may be able to leverage data faster without modernization, by deploying API solutions. Identify where this can be done and take advantage of our API management capability in partnership with major providers such as Google (Apigee).

Understand responsibilities

Remember that in a cloud model, security responsibility is shared. It doesn't matter how secure the platform is, the provider is not responsible for your applications and data – you are. Our cloud-agnostic security services and DevSecOps approach to development are here to help you prevent security threats.

Looking ahead – towards new value

The future importance of application development

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Like it or not, the world has changed forever. It is because of the current climate that businesses need to change urgently. A new precedent has been set. Going forward, the market will be more volatile and customers will be more demanding than ever before.

As we continue into the future, it will be the most agile businesses leading the way: organizations with the technology and culture to react to whatever the market throws at them – continually transforming and reimagining themselves so they can carry on delivering for their customers.

Applications and the speed of development will be vital for future success. We have already seen modern applications businesses and platform enterprises disrupt the markets through their ability to re-orientate and add dimensions to their products and services instantly through flexible, digital-business models.

The likes of Netflix, Spotify, AirBnB and Uber are well documented, but we are seeing many more heritage organizations drive modern applications initiatives. They are now using cloud-native and container solutions in a similar way to help evolve their business. An example is the automotive manufacturers we are helping become broader mobility services businesses through new development of cloud-native applications and microservices. And, on the more tactical end of the scale, we have helped financial services' organizations enhance application functionality to extend the breadth of their portfolio. This enables them to offer greater support to customers and extend their services' reach.

Leveraging emerging technology solutions

A key part of the future is better integration of emerging technology solutions into applications.

We are now seeing greater appetite for chatbots, robotic process automation, intelligent search and data analytics, to be baked into applications to assist customers. However, two standout areas that we may see grow exponentially in a business applications context are AI and Blockchain.

With AI, Fujitsu and PAC concluded in a recent study that the combination of AI and business applications may help companies reinvent their business processes as well as their business models, if those initiatives are elevated to a more strategic level. 78% of companies see AI as a basis for process improvements or automation. AI is already in use in half of the companies surveyed – and, crucially, we anticipate that number to rise to 70% within two years[4].

And with Blockchain, although there has been much sceptical commentary on its business value so far, this is now beginning to shine through at scale. Particularly at a time when digital business models are becoming the norm, the use of Blockchain combined with modern application interfaces is showing its value in giving customers greater visibility, trust and confidence in the services they interact with. And, for providers, the ability to trade and collaborate across complex ecosystems and geographical boundaries can be enhanced through its use.
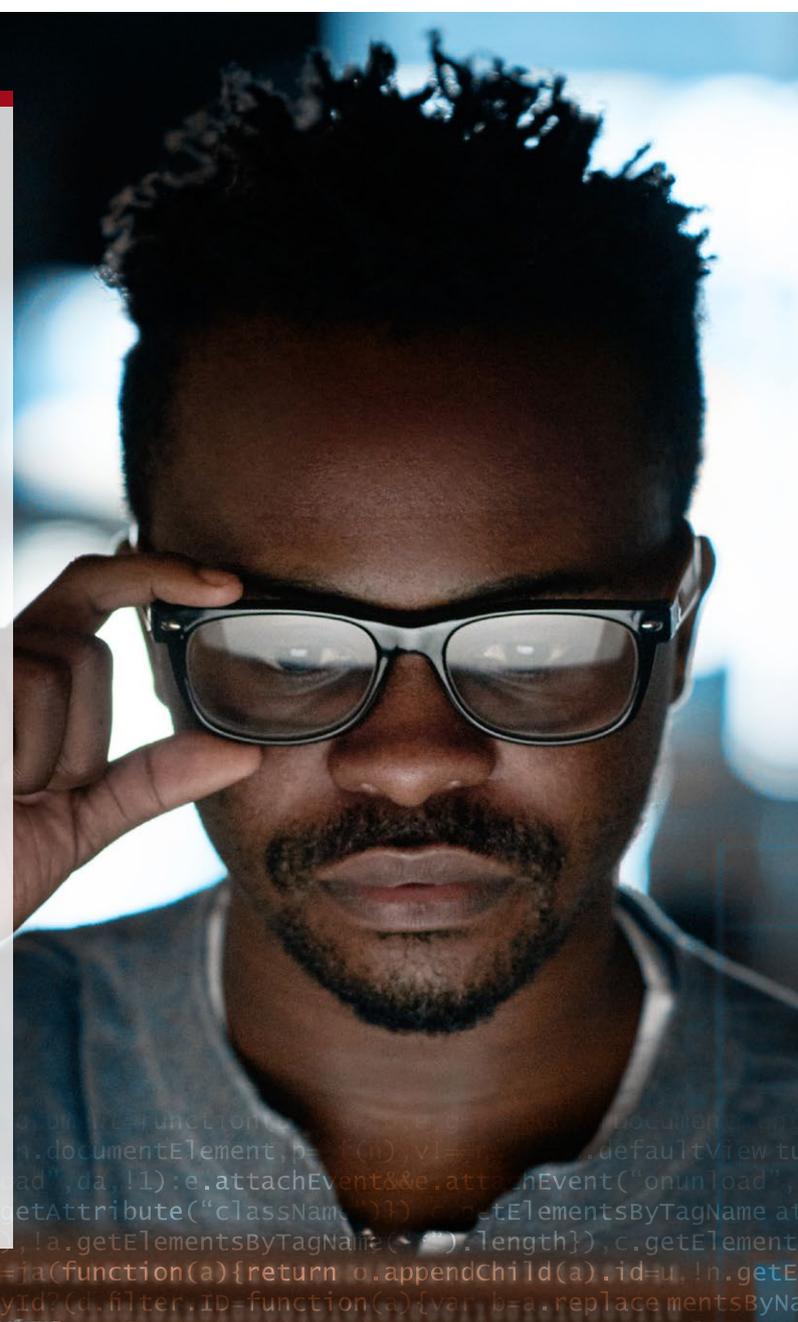
Case Study

Transforming the $450 billion rice trade

Challenge

Rice has been a strategic food staple for millennia, with millions of metric tons consumed daily. It is a $450 billion annual market. However, rice trading lacks transparency and is a complex and extremely process-intensive business.

Solution

Ricex chose Fujitsu to build a production-ready, private, permissioned DLT scale-out solution running on Hyperledger Fabric. In addition, experts from the Fujitsu Blockchain Innovation Center (BIC) in Brussels are helping to develop the solution. The Fujitsu BIC uses Microsoft Azure™ to support both the development and production environment for Fujitsu's blockchain-as-a-service offerings, including DocumentFlow and InvoiceFlow.

Outcomes

- Faster, secure and more transparent trades
- The first, full-integrated, digital platform for the global rice trade
- Within a year, Ricex expects to handle over $250m in trades per quarter
- Fujitsu's DLT solution allows buyers, sellers and service providers to find new counterparts in new geographic markets in a secure and trusted environment
- Early estimates indicate that Ricex will result in at least 20% savings for stakeholders and 90% savings in the time it takes to trade – with an end-to-end trade completing in as little as six minutes

Prioritities and solutions for ongoing application transformation

Build a framework

The Adaptive Transformation Framework (a dynamic environment driven by analytics and intelligence) is built on an agile approach that enables continuous delivery of business value through models such as Factory or DevOps.
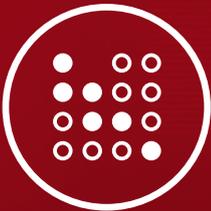
Establish patterns

Repeatable and proven development patterns ensure consistent quality and predictable outcomes. Fujitsu's pattern library is an integral part of the Adaptive Transformation Framework, bringing a rich set of established solutions and insights to your development practices.

Adopt human-centric automation

Automation brings a competitive advantage to business transformation at any scale. It should accelerate delivery, lower cost and increase service quality for the benefit of your people and customers. Our Adaptive Transformation Framework takes our standard proven patterns and overlays automation to optimize delivery with industry leading tools.

Think outside of your arena

Everyone is learning how to apply and integrate emerging technologies – and many of the use cases are industry-specific. But use cases can be moulded and re-applied through a concept we call 'digital arenas'. It's a co-creation approach that's enabled greater value of emerging tech through cross-industry learning and knowledge-sharing.

Grasp emergent complexity

Cloud-native and emerging technologies are maturing fast across a range of platforms. With so much choice from one provider to the next, you'll need to know which ones (or combinations) match your future use case best. Our agnostic, end-to-end view can help.

Supporting you

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If you want to adapt and drive modern applications at high-speed, you need to have the right expertise working with you. That's where we and our partners can help. Together, we support you to develop and apply the right strategy, accelerate your application initiatives and overcome the major hurdles that often stand in the way for most organizations.

Application strategy

We help you identify and combine the best strategies to move, transform and build new applications using legacy modernization (progression), application transformation (re-architecting), application development (cloud-native and multi-experience/low code development) and integration services.

Through our tried and trusted methods – covering design-thinking and ideation to proof of concept and proof of value – we set you on the right track, using the right methods on the right platforms.

It can all take place in our virtual Digital Transformation Center sessions where, in a matter of days, you will get a clear understanding of which initiatives will deliver specific, measurable outcomes against your business goals. The result is a business case and roadmap you can confidently move ahead with.

Accelerating application delivery

When it comes to moving, modernizing and transforming applications, we ensure a safe and fast transition that minimizes business risk. Our proven frameworks, solutions and accredited experts have successfully delivered for many of the most highly-regulated, heavyweight and risk-averse organizations in the world – both enterprise and government.

Accelerating the build of new applications and features happens quickly with the help of our agile development squads. Adept across a huge range of development languages and cloud platforms, we work alongside your own experts as part of one DevOps team. And we keep supporting you, either locally or through our Global Delivery Centers, for as long as you need us to.

Overcoming big hurdles

Overcoming organizational red-tape, technological complexity and skills shortages. These are just some of the big hurdles that most organizations, that have already embarked on a modern applications journey, are grappling with. We've covered how to address these and more in a dedicated article.

Bearing all this in mind, you can rest assured that with Fujitsu's unique blend of expertise, covering the entire applications spectrum from legacy to cutting-edge cloud-native, your transitioning from old world to new is in the safest of hands.

Accelerate by working with Fujitsu and our partners

Fujitsu has the global expertise and partner ecosystem to accelerate your adaptive future, powered by modern applications. When you co-create with us, you get a partnership that is:

- **Connected** – with one diverse ecosystem fully at your disposal for all your application transformation needs

- **Responsive** – our agility and pace are designed to deliver fast and positive results for our clients

- **Experienced** – our multi-faceted problem-solving skills give us the know-how to unravel complexity and present a clear way forward

- **People first** – our purposeful approach unlocks meaningful change for every employee within your business

- **Grounded** – we always stay focused on the outcomes, using pragmatic approaches to deliver value. We will not allow distractions to divert our attention from your end goals

- **Trusted** – we are stable, resilient and proven

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Contact us via __our website__ to get started.

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