CTO Toolkit

A guide to help CTOs successfully manage the many moving parts in a corporate technology function



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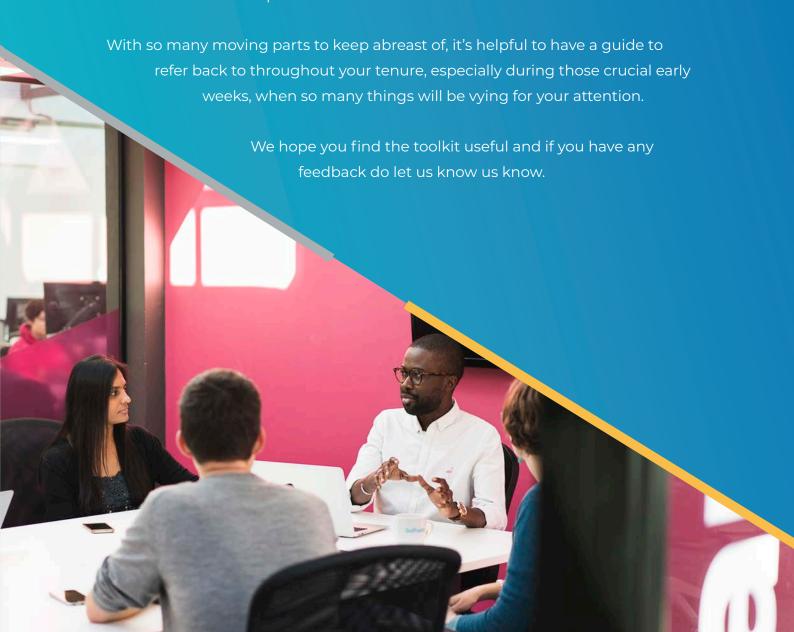
How we can help you

Discover what our clients say about us

e're delighted that you've downloaded our new CTO Toolkit. It's been written as a guide for CTOs starting out in a new role, whether interim or permanent, but is a handy reference for both new and experienced CTOs at any point during their time in post.

Regardless of the sector you're in, technology will have revolutionised the way virtually every part of your operation works. With expectations that it will drive greater efficiencies, boost sales, enhance customer experiences, and so much more, there's a lot of responsibility resting on the shoulders of the modern CTO.

And that's only part of the challenge: as you deliver all of this exciting innovation, you need to keep the essential business-as-usual systems running and also drive down operational costs.







In summary: Where to focus during the first 30 days

The early weeks in-post should be about understanding the state of play in the organisation, across four key areas:



Projects and processes







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<u>Technology</u>

The first task is to identify and prioritise the pressing issues: things that risk doing significant damage to the organisation. Wherever possible, you should start defining and implementing the tactical measures you may put in place to address them.

This will need to be done against the backdrop of getting your people on-side and looking ahead to see what's coming down the line for the organisation and its technology function.

The first 30 days in depth: Projects and processes

The technology function of a business might be to support the delivery of the company's products or services, or it might actually be the product or service itself. Delivering on this high-level aim typically means running multiple outcome-based digital delivery projects of varying duration, size and complexity.

Whether the customers are internal or external, these projects need to succeed. This means a priority in your early weeks is to get up to speed on everything that's in-flight.

You also need to look at the processes that enable you to deliver on your remit. This includes the way you run digital delivery projects, as well as your business continuity and disaster recovery processes.

This is a broad and multi-faceted area, so we have divided it into four main topics to focus on.

At-a-glance: Your high-priority to-do list

Identify pressing project issues

- Identify issues with your digital delivery processes
- Define and implement tactical fixes to projects and delivery
- <u>processes</u>
 - Check and test your business continuity and disaster
- recovery processes

We set out the longer-term priorities around your delivery projects and processes in <u>part two of this toolkit</u>.



Podcast: Running successful projects

We explore key factors for technology project success and what to do when things go wrong, in the 'Project management' episode of our Softwire Techtalks podcast.

<u>Listen now</u> or search 'Softwire Techtalks' wherever you get your podcasts.

Identify pressing project issues

First off, find out which projects are failing or at-risk. The signs may be obvious. But there may also be more subtle indicators that things are amiss.

Is the project on-schedule and within budget?

If either answer is 'no', what's being done to track and communicate this, manage the disparity and incorporate new information into the plan? How will the delay or overspend impact the customer? Does the customer know?

Is the customer happy so far?

Even if the project is on-schedule and within budget, is the customer happy with progress? Speak to key stakeholders to find out if there are any friction points.

What are your project team members focusing on in the immediate term?

Is everyone telling you they're working on a particular feature, to be delivered by a given date? Is there a clear overall goal for the team? Vague or inconsistent answers are a sign things could be going wrong.

How are people spending their time?

It's not uncommon to find lots of busy people, but not be able to articulate what they're doing or what benefits their work is resulting in. Is a lot of low-value work taking place? Are certain tasks taking disproportionate amounts of time?

Run an audit of how time is being spent, so you can reprioritise people's work, if necessary. Look at the source data from your time and project-tracking tools, assuming it's sufficiently detailed (if it isn't, we discuss how to address this in <u>part two of this toolkit</u>).



For each project, is there a single source of truth of the current in-progress work?

Is this list relatively short and fresh, or are there a lot of in-progress tasks?

How is work being prioritised?

Are tasks being prioritised based on business value and bringing forward risk? Or are teams preferring to do the 'easy' work first, and leaving the complex, riskier tasks until later?

What do different stakeholders believe is 'done'?

Do you get consistent answers from different people, including the end customer?



Insight: Why are there still expensive IT failures?

We explore more about why digital projects can go wrong – and what you can do to maximise your chances of success.

Read our article now



Identify issues with your digital delivery processes

Many project-related challenges come down to issues with the processes your teams are following to design, build, test and release digital capabilities. This is the next area to investigate.

Do you have one unified technology team, or different teams for design, development, testing and operations?

Having separate teams, while not uncommon, can lead to disconnects, misunderstandings and friction that harm projects. If you do have separate teams, find out how information and key artefacts pass between them, and whether the processes are working effectively.

How good are the specifications your technology teams are working from?

Who is writing them? Do they accurately reflect the business need?

Is feedback regularly sought from real users?

It's critical you periodically involve the people who will actually be using the product or service you're delivering. Without these regular sense-checks, how can you maintain your confidence that you're building the right thing?

Are there regular opportunities to reprioritise work?

Assumptions made at the start of any project should be reevaluated over time. User feedback, technology limitations, budget pressures or other factors can impact what should be built. What does your reprioritisation process look like?



Is there something of value to show at the end of each development iteration?

This will ideally be working software that can be used straight away, but could also be other valuable output, such as insight to guide future iterations. In any case, there should be a clear and explicit articulation of the value being delivered by each iteration.

Are outputs meeting quality assurance requirements?

Are tests being passed? How stable is the product or service you're releasing?

How often are releases taking place?

This is a high-level indicator of organisational agility. Generally, more-frequent releases mean you can respond faster to opportunities and threats when they arise. Long periods between releases suggest significant complexity or bottlenecking.

Moreover, regularly exercising your live deployment processes ensures your teams are familiar with them and can confidently deliver under pressure, if necessary. This is extremely important when it comes to our next point.

How quickly can you get a small new feature from concept to production?

Even if the general release cycle is slower than you'd like, how fast could you get something urgent into production? Inability to turn changes around quickly could have serious business implications should you need to respond to an emergency, such as emerging threats or zero-day vulnerabilities that can impact trust in your reputation and brand.



Podcast: How to prioritise effectively during technology projects

A panel of project delivery specialists discuss how those building digital products and services can best prioritise work, to ensure optimal business outcomes.

Listen now, or search 'Softwire Techtalks' wherever you get your podcasts.

Define and implement tactical fixes to your projects and delivery processes

Having identified where the fires are, you now need to take steps to put them out. Note that the most beneficial measures may not be the most obvious. Tackling the cause of an issue could be more advantageous in the longer term than tackling its symptoms, even if that symptom is causing immediate pain. Below are some of the things to do or ask.

Can you change the project deadline or scope?

Pressure on projects is often caused by the inability to meet a deadline. Find out what needs to be delivered by that point, and why. Is there scope to change the deadline, or deliver a key business outcome for that date, with other elements coming later?

Can you split the project?

If parts of a project are largely independent of one another, there may be opportunities to divide the work between teams, who could be internal or outsourced. This can sharpen each team's focus, thereby helping accelerate delivery.

Tweak the delivery processes

Where the issue with a project is down to the way the team is working, look to implement tactical process changes. These must be carefully thought-through to ensure they'll make a difference quickly enough to alleviate the short-term pressure on the project.

Could you re-allocate resources?

This might include people, budgets and facilities.



'Reset' the project

In some cases, it can be beneficial to pause and re-assess project requirements based on learnings to-date. This will enable you to re-prioritise and re-plan in a way that aligns with current circumstances, then restart with renewed focus.

Bring in external support

Supplementing your teams with outside help can have multiple benefits, and is generally a straightforward sell to your CFO if the issue is genuinely one of capacity-shortage. If it isn't, then simply adding more people to a project is unlikely to help.

Additional resource could be individuals or an entire team. Done in the right scenarios, it will relieve pressure, and likely boost morale. External people can also introduce fresh ideas and help instil best practices that make your teams more effective in the long run.



Insight: How to successfully outsource your IT project

Explore **our four-step process** for choosing the right digital project partner.

Read our article now



Check and test your business continuity and disaster recovery processes



Insight: Building resilience into your technical team

We go into more depth on how to equip your function to respond effectively to emergencies.

Read our article now

If a major incident occurs, your business continuity (BC) processes should ensure you continue to operate as normally as possible – or return to normal operations quickly. Much of your remit as CTO will be around the disaster recovery (DR) elements of the BC plan: restoring access to the critical data and applications you need to run the organisation.

The COVID-19 pandemic brought this issue into sharp focus,

with organisations across the globe suddenly needing to shift to home-working on an unprecedented scale. Those that were well-prepared continued operating relatively seamlessly. Others were forced to identify and implement new processes and technologies under extreme time pressure, which doesn't always lead to optimal outcomes.

Major worldwide health issues are just one eventuality these plans must cater for. Is your organisation equipped to respond to an office or data centre becoming unusable, loss of key connectivity, the sudden unavailability of particular employees, a cyberattack, or some other eventuality no one has yet even considered?

Do you have properly documented business continuity and disaster recovery plans?

Are these regularly maintained, to ensure they cover all your operations? Are your plans sufficiently detailed, with key roles assigned to teams or individuals? What happens if those teams or individuals are unavailable? What conditions need to be met to trigger the various parts of your plans?



When were your business continuity and disaster recovery processes last properly tested?

Providing employees with BC and DR training is important, but the processes must also be tested regularly. This is the only way to ensure all employees know what to do in an emergency.

When were your BC and DR processes properly put through their paces? In many cases, this will mean running table-top or live simulations, covering a range of potential major incident scenarios.

Can you restore data from your backups? Do enough people know how? Can you run the organisation from your disaster recovery site? Simulate an office shutdown by not allowing employees inside one morning; how does the business cope, both procedurally (do people know what to do?) and technically (can your VPN handle everyone trying to work remotely at the same time?)?

What issues arose during previous testing?

Have these been documented, prioritised and assigned to an individual or team to be addressed?

Have these been addressed or mitigated?

Has the process been re-tested?



What comes next?

Understand how to strategically evolve the way you deliver digital capabilities and outcomes, in part two of this toolkit.



The first 30 days in depth: People

Your people are going to be critical when it comes to meeting both your pressing short-term needs and delivering your longerterm vision.

At-a-glance: Your high-priority to-do list

- Get your teams on-side
- Assess your teams' skills and capabilities you have available (and what you're missing)
- Identify and mitigate bottlenecks and single points of failure
- Address short-term skills gaps

Insights you gain will form the foundation for both tactical appointments and the longer-term strategic evolution of your teams. We cover the latter topic in <u>part two of this toolkit</u>.

Get your teams on-side

"If you want to go far, go together," as the saying goes. Whatever you're looking to achieve, you need your teams' support. A new CTO can mean uncertainty for many, so go out of your way to get people on-side from day one.

the right working environment

do this.

Providing optimal conditions for your teams can make them happier and more productive. We explore a variety of ways you can

Insight: Creating

Read our article now

Ask people what's bothering them

Listening to people makes them feel valued. And it starts to give you an idea of the overall state of play in your new organisation. Do your people have ways to provide feedback to the management team, including anonymously? Do employees feel they can speak up freely if they need to?

Can you address these concerns?

Acting quickly on what people tell you has an amazing ability to boost their motivation and get them on-side. Even if the changes may not directly contribute towards your bigger vision, they can have enormous value in helping create a team that accelerates your journey towards it.



Assess what skills and capabilities you have available (and what you're missing)

To implement your vision, you'll need the right people in their right places. Start by understanding where you are now. The key is to get a genuinely honest assessment of your teams and their abilities. A good way to get some of these answers is to seek input from any external resources you bring in to support your teams.

What teams do you have, and what are their responsibilities?

Do these teams align with the outcomes you need to deliver? If a team sits on your critical path, are its members aware of what they need to achieve and the impact their work has on other teams and the wider organisation?

Do you have access to the right skills to run your technology function today?

This could be internally or via external suppliers. Have you got an up-to-date skills matrix, covering both in-house and outsourced skills? How deep and up-to-date is people's knowledge? Are there capability gaps or shortages?

Is this group made up of the right mix of permanent employees, contractors, onshore, near-shore and offshore partners?

What is your employee retention rate?

High churn is an indicator of underlying issues you need to address.

Are you making maximum use of your external partners' capabilities?

How are these services paid for? Where could each partner provide additional value under your existing terms?



Do your teams have the right ethos and work ethic?

Are they motivated? Do people feel a sense of ownership over what they're doing?

Are there any superstars?

While everyone loves having superstar employees, their existence can be a sign of systemic issues that need addressing. Why is someone a superstar? If they're the only one capable of doing a particularly critical task, or are constantly helping under-pressure parts of your organisation keep the lights on, these are risks to address.



Identify and mitigate bottlenecks and single points of failure

Few things are more dangerous to an organisation than keyperson dependency risk: an over-reliance on a single, or small number, of individuals. It's critical you identify where this is the case, so you can mitigate against the risks as quickly as possible.

Would you be in serious trouble if someone was suddenly unable to work for an extended period?

Mitigate these risks by implementing systems and processes that ensure the sharing of critical knowledge and expertise. Allocate people time to do this, set short-term targets and check back regularly to assess effectiveness.

Where is over-reliance on one person or team causing problematic bottlenecks?

Alleviate these by bolstering the teams, automating tasks, delegating work or making tactical changes to processes.



Address short-term skills gaps

In the longer term, you'll want to put in place a strategic plan to evolve your workforce into a shape that will be able to deliver your vision. But in the short term, you may need to make tactical appointments to ensure your teams can meet the pressing needs you've identified. Wherever possible, these should also support your longer-term goals.

Can you upskill existing teams?

The viability of upskilling will depend on how significant the skills gap is. Will training and development yield results quickly enough to meet your short-term needs? What will the impact be of diverting someone's time away from business-as-usual to learn a new skill?

Is recruitment an option?

Recruitment is great if you know exactly the right person, and they're available at very short notice. If not, the time required to advertise, interview, wait for someone to work their notice, and then get up to speed in their new role, may mean the individual can't alleviate the short-term pain.



Can you use temporary resources?

Your two main options here are individual contractors, or a partner agency. In both cases, remember your aim is to fast-track people of known quality into your organisation.

Without the backing of an agency employer, each individual contractor will require an interview and vetting process – unless they're already known to you. If you need multiple skills, can you find someone who ticks all the boxes, or will you need to hire multiple people? What happens if the contractors are ill or on holiday?

If you choose to work with a digital engineering agency, find out about the rigorousness of its recruitment process. How does it train and develop its people? Can the agency provide all the skills and capabilities you need? How quickly can it get you people on the ground? Will it provide similarly capable replacements when individuals are ill or on holiday?

Are its people well-versed in the ways of working they'll find in your organisation? And are there opportunities for them to mentor and upskill your own teams in technologies and/or ways of working?

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What comes next?

Understand how to strategically evolve your teams to better deliver on organisational aims, <u>in part two of this toolkit.</u>

The first 30 days in depth: Data

Data is the lifeblood of your organisation. It will drive everything you do, from front-line decisions to the strategic management choices. At the same time, poorly managed data will quickly become a liability with the power to do untold damage.

We always advocate addressing this latter risk first. As well as minimising or removing immediate dangers, doing so will help lay the groundwork to really leverage the value of your data in the future – a topic we explore in <u>part two of this toolkit</u>.

At-a-glance: Your high-priority to-do list

- Pinpoint and address your critical "P1" data issues
- <u>Understand your broader use of data and associated risks</u>
- Identify the strategic management information you're going to need
- Identify where data would improve internal operations and customer interactions

Pinpoint and address your critical "P1" data issues

It may only take one security breach, one high-profile noncompliance, or one business-impacting event to cost you your job, your organisation millions in fines, or do significant reputational damage.

That's why we advocate starting by pinpointing and addressing any data-related issue that could have a severe impact on your organisation. These fall into three broad categories: compliance, security and business continuity.

Compliance

Is data being handled in accordance with relevant regulations and legislation? For example, is personal data being processed in compliance with GDPR or other applicable regulations? Is payments data being handled in line with PCI-DSS? If you're working with classified data, is this being done in accordance with applicable regulations? Do your employees understand the regulations they must comply with, why this is important and how these apply to their roles?

Security

Information security covers everything from infrastructure to employee clearances and your ways of working. Have you got a definitive map of where all sensitive data is stored and used? How confident are you that your data is appropriately secured?

Business continuity

With your organisation reliant on data to operate, have you got the means in place to recover data if the primary copy is lost? Do you have backups? Are they stored on a physically separate site from your primary storage? Have you got disaster recovery processes? When were these last properly tested?



Understand your broader use of data and associated risks

Alongside the top-priority data risks, there may be other datarelated risks to address. That's why you must understand more broadly what data you have, plus how it's used and stored. This will help identify possible risk vectors and opportunities.

Are you making good use of your data today?

Where could it add further value?

Are you collecting and storing the right data across your organisation?

Are there places where you're gathering data that has low value but carries high risks?

Are you storing data in ways that promote consistency and cross-system compatibility?

Are you able to re-use data where required?

Do you have a data asset catalogue?

Is it complete? Is it up to date? Without one, how can you be confident you're meeting your legal and regulatory obligations? It also helps you identify where you could make better use of your data in the future.

Are your data governance structures and processes fit-for-purpose?

Given what you've identified about the data your organisation is processing and storing, are your data governance measures suitable? Are there appropriate lines of accountability around data usage and cybersecurity? Do you have, or require, a Chief Security Officer and/or a Chief Data Officer?



Identify the strategic management information you're going to need

You and your C-suite and director colleagues will want access to management information to drive strategic and operational decision-making in the future. It's highly likely that some of the insights you want aren't readily available today. Now is the time to start the process of obtaining them.

What insights would be beneficial, and why?

In an ideal world, what information would you have at your fingertips, and in what form? This could be anything from business-level information, such as KPIs around your most important transactions, to granular, project-delivery data.

Give each insight a criticality score. Some will require more effort to obtain than others, so knowing how significant an insight could be will help you decide how much effort to expend on getting it.

Does your organisation already have the necessary data?

Assuming the insights you want aren't immediately available, how easy would they be to obtain? Do you have the necessary data? Is it in the right formats? Is it sufficiently up-to-date for the proposed purpose? Will querying the data impact on other areas of your operations?



Identify where data would improve internal operations and customer interactions

Data can enhance customer experiences in a variety of ways, including improved personalisation and more streamlined interactions. Similarly, your internal processes can benefit, with your people able to work smarter.

All of this can help boost sales, cut costs, drive up customer loyalty and enhance your organisation's reputation.

What insights would be beneficial, and why?

In the same way you did for your management information, identify where your operational processes and customer experiences would benefit from additional, more-timely, or more-accurate data.

Where and how could front-line decision-making be better-informed? Could data empower your customer services teams to handle more enquiries? Could you improve targeted cross- and upselling? Do you know who your highest-value customers really are?

Again, prioritise each insight, based on business value.

Do you already have the necessary data?

Ask the same questions you did for your management information. In addition, is what you're considering legal and/or ethical?



What comes next?

Understand how to start using your data to unlock tangible business value, in part two of this toolkit.



Insight: Top tips for decluttering your data

We explore why turning data into a valuable asset can mean a change of approach for some organisations.

Read our article now

Technology The first 30 days in depth:

Like data, technology is an amazing enabler, but can also be a liability if it's not well-managed. Here, there are two main areas to address quickly.

At-a-glance: Your high-priority to-do list

- Identify and mitigate pressing technology risks
- Understand your technology landscape's fitness for purpose

Once you've done both, we explore best practices around defining and implementing a technology roadmap, in <u>part two of</u> this toolkit.

Identify and mitigate pressing technology risks

Is there any technology in your organisation that's putting you, your customers, employees or the general public at risk? In particular, focus on your production systems.

Is your hardware and software fully patched and up-to-date?

Is anything out-of-support, and therefore no longer receiving security updates?

Are your production systems stable?

If not, what's causing the outages? What impact do they have?

Are you experiencing significant performance issues?

What's causing these? And what is their impact?

Implement tactical fixes

Address high-impact issues with your production systems as a matter of urgency. This may involve tactical interventions, or bringing forward certain aspects of your longer-term technology plan.



Understand your technology landscape's fitness for purpose

Technology's role is to support the organisation's strategic vision, and as CTO, it's your responsibility to put the right enablers in place. In parallel with your tactical remediation work, you'll be creating a plan for the future. This starts with understanding the current landscape and how well it's supporting the wider vision.

Map out your technology landscape

What hardware and applications have you got? How are the various components connected to, and dependent upon, one another? What is the business-importance of each piece of infrastructure and application?

Are your systems and applications genuinely supporting the organisation's aims?

Where are the friction points and frustrations?

What key events do you need to be aware of?

When will hardware and applications reach end-of-life or end-ofsupport? When do key contracts, such as your data centre space, come up for renewal?

What constraints must you work within?

Are you tied to particular vendors or suppliers? If so, for how long? Must certain applications and their data be stored in particular locations?



What comes next?

We explore best practices around defining and implementing a long-term technology roadmap, in part two of this toolkit.





In summary: Where to focus from day 31 onwards

Action you've taken during the first 30-or-so days in post will mean the immediate fires have been identified and put out, or are at least being tackled. You'll also have learnt a huge amount about the current state of your organisation and technology function, including opportunities, pain points and priorities.

Over the coming months, use these insights to set out and implement your strategy for:



Projects and processes



People People





Addressing these four key areas will help move your technology function towards being an operation that effectively fulfils its primary purpose, which is to enable and support your organisation's products and services in the medium and long term.

Day 31 and beyond in depth: Projects and processes

As we touched on earlier, a large part of your remit will be around the delivery of digital projects for internal and/or external customers. It's therefore essential that this part of your function is set up to produce the best-possible outcomes in an efficient, responsive way.

At-a-glance: Your long-term plan for projects and digital delivery processes:

- Benchmark your organisation
- Define and begin your journey towards your longer-term working-practice vision
- Implement digital delivery best practices
- Establish a robust innovation pathway

Benchmark your organisation

Your work during the first 30 days will have given you broad insights into how your digital delivery teams are working and where the pain points are. To give this baseline some context and inform how you might improve matters beyond any tactical changes you've made, we advocate benchmarking against other organisations across a range of sectors.

Draw on your own experience

You'll bring your own knowledge from other organisations. This will be a valuable starting point for the benchmarking. How do the ways of working you've seen compare? What's going well? What could be improved?

Ask your colleagues

What do the people on the ground think is working well? What's creating friction? In addition to the value you get from the insights themselves, listening to people's concerns will help secure the essential buy-in from your teams that we touch on elsewhere.

Get an external perspective

Ask an independent third party to assess your teams' ways of working. As we touched on earlier, the views of anyone you've brought in are valuable here. Alongside these, consider a formal assessment or healthcheck by a digital delivery specialist or agency.



Define and begin your journey towards your longerterm working-practice vision

Based on the benchmarking outputs, you'll likely need to evolve the way your digital delivery teams are working, to better gear your function to meet organisational requirements.

Set out a roadmap

Draw on the benchmarking findings and your organisation's wider needs to map out what you want your teams' ways of working to look like, and how you intend to get there.

Share your vision

As we discuss elsewhere, securing buy-in for change is essential. Share your vision for your teams' future operating model, explain your rationale and demonstrate how the change will make everyone's jobs easier and more rewarding.

Encourge your teams to innovate

As you go on the journey, encourage your teams to propose new ways of working, tools to support these, and the expected benefits. Be open-minded, and willing to implement change if it's justified.

Be flexible and pragmatic

Your overall journey will likely be taking you towards a DevOpsstyle model. But there may be situations where you need to address a pain point in a way that doesn't neatly fit with this wider journey. Weigh up the short- and medium-term benefits of the change – there will be situations where it's merited.

All sorts of things can impact the way an organisation needs to operate, so be flexible around your plan. Events may occur that require you to alter course and do things in a different way.



Insight: Six steps to successful DevOps

Unleash the value of DevOps faster by following our six practical steps to embed the right culture.

Read our article now



Implement digital delivery best practices

Whatever your vision for a future digital delivery operating model looks like, there are things we advocate doing in all organisations, if you aren't already.

Keep your product owners and business stakeholders engaged

The most successful digital products and services are usually those where product owners and business stakeholders play an active role throughout design, development and testing. Their involvement in defining requirements, prioritising work and shaping the product as it develops plays a huge part in ensuring the final result delivers on the business goals.

This continuous engagement can represent quite a shift in mindset, particularly for those used to working in conventional waterfall delivery models. To support the change, showcase the benefits as early as possible.

Ensure regular end-user engagement

Testing with end-users should be a standard part of your digital delivery processes. It helps keep the product or service you're building on track to meet a genuine user need.



Improve visibility of what everyone is doing

Knowing what your teams are spending their time on means you can ensure resources are used where they're most needed. And sharing this visibility between teams is also beneficial, since it minimises the possibility of teams duplicating each other's work, or solving problems in incompatible ways.

Greater visibility also surfaces symptoms of other issues: a certain task taking a disproportionate amount of time could be the result of friction in an underlying process that needs attention.

Your teams will probably be using time-tracking tools, but would it be helpful if people logged tasks in a more granular way? If so, make sure you find the right balance between collecting more detailed information and this becoming too onerous on individuals. Bring your colleagues on the journey by demonstrating the value of the additional granularity, and how it will benefit them, their team and the organisation in the long term.

Ensure every project has a single source of truth showing what's done, in-progress and pending

These lists provide visibility, ensuring delivery teams and their customers have a shared understanding of project direction and progress. As we noted earlier, the in-progress list should be relatively short and fresh.



Maintain razor-sharp focus

The most efficient delivery projects are those where the entire team is sharply focused on the same goal at the same time. Ensuring your team leaders keep their lists of in-progress work short and fresh is part of the solution.

Many organisations, understandably, have a default position that resources must be fully utilised at all times. While this seems logical from an economic standpoint, it can fragment the time and attention of key team members, add friction and increase hidden overheads. This split focus can negatively impact the overall efficiency and velocity of a team. We generally advocate optimising for sharp focus over full utilisation. If someone has a short period of downtime, identify something indirectly valuable to the project they could do, while the rest of the team focuses together on the shared goal.



Establish a robust innovation pathway

The ability to innovate effectively is exceptionally important: it means you can respond fast to nullify threats and make the most of opportunities when these arise, to secure valuable first-mover advantage.

To do this, you need a well-defined procedure to validate new ideas and subsequently develop the credible ones through to a point where you can launch them.

Do you have established processes for validating ideas and progressing successful initiatives from proof of concept to launch?

How quickly can you kick-start this process? What happens during each phase, including proof of concept, prototype, pilot and after go-live? What are the success criteria that determine if and when you proceed to the next stage?

Do you have internal capacity and processes to enable responsive innovation?

Do you have all the resources you need in-house to validate and develop a given idea? Can you get access to the right people at the right times, often at short notice? How will you mitigate the impact of diverting people's attention away from core business activities?



Insight: Digital innovation in depth

Got an exciting idea for a new product or service? We reveal our proven process for validating it and turning it into a production-ready offering, in our threepart series.

Read our article now





Podcast: Prototyping

We explore the topic of digital prototyping in depth in the 'Prototyping: Design for success?' episode of our Softwire Techtalks podcast.

<u>'Softwire Techtalks'</u> wherever you get your podcasts.

Make use of external support

It can sometimes be challenging to find the resources you need to innovate and test new ideas internally, while maintaining focus on your core activities. Rather than disrupt your in-house teams' velocities or de-prioritise innovation, consider using external organisations. This can be a fast and cost-effective alternative for part, or all, of the innovation cycle. It leaves your in-house teams free to focus on business-as-usual, until such time as you want them to take over.

For example, you could use an external partner to validate the technical feasibility of a new product, before your teams design and develop it. Or you could use the partner for the full innovation cycle, designing and developing the production-ready product, which your teams then take on once it becomes part of business-as-usual.



Day 31 and beyond in depth: People

Having the right team will enable you to deliver the vision you're setting out for your technology function. Over the coming months, you'll be moulding your team into one with the skills and ethos you require to align with the working practices and technologies you're planning to implement.

At-a-glance: Your long-term plan for your people

- Build your team's sense of engagement
- Strategically address bottlenecks and single points of failure
- Evolve your skills base to deliver your vision



Insight: Building a company culture that delivers results

Get inspiration on how to create an environment that attracts and retains the best people, and delivers profitable growth.

Read our article now

Build your team's sense of engagement

Creating a team that's genuinely engaged with what it's doing, and that buys into the organisation's strategic vision, can be immensely powerful. Teams that feel part of something they truly believe in are typically more motivated, productive and loyal. This makes it easier for you to produce high-quality results, minimise churn and attract the best talent.

Show your teams how their work benefits the organisation, your customers, and their customers

This is a powerful way to get technology teams to support the organisation's wider goals. How much revenue has their product generated for the business? How many citizens have benefited from the digital public service they support? How many lives has your healthcare product saved?

Empower your teams to improve the way they work

Giving your teams a sense of ownership and ability to influence how they do their jobs is another great way to build engagement. As we <u>touch on elsewhere</u>, encourage them to constructively challenge the way things are done.



Strategically address bottlenecks and single points of failure

One of your priorities when you became CTO will have been to address the critical key-person dependency risks in your technology function. In the short term, these may have been tactical fixes. Longer-term, there might be more permanent measures you need to implement, ultimately making your organisation more resilient and responsive.

Further refine your processes

Assess how effective any tactical process adjustments have been. If there are still issues, refine your processes further, to smooth out any sticking points.

Build a culture of knowledge-democratisation

The more critical a skill or piece of knowledge is to your organisation's ability to operate, the more widely it must be shared. Beyond the tactical measures you may have implemented to do this in the short term, you now need to start building a culture where knowledge gets shared as a matter of course. Ultimately, you want to get to a point where no part of your operation is reliant on a very small number of individuals.



Evolve your skills base to deliver your vision

The team insights you'll have collected during your early days in-post, coupled with your longer-term vision for the technology function, will help you plan where you require additional skills and/ or capacity.

Map out your medium and long-term skills needs

Review the outcomes from the <u>skills assessment</u> you undertook during your early days as CTO. As you flesh out your longer-term technology vision and roadmap, how does the staffing picture change? Do you still require the same capabilities? Are there additional skills you'll need access to?

Upskill, recruit or partner?

Getting in place the skills you need in the long term is likely to involve a blend of upskilling, recruitment and partnering. Which you choose will depend on a variety of factors, including the quantity of each capability you require, its criticality, and the cost of accessing and maintaining it in-house compared to outsourcing.

This will likely evolve over time: something you initially outsource could later make more sense to bring in-house, and vice-versa. Keep your skills base under review to ensure it always aligns with business requirements.



Insight: How to choose the right digital support partner

If you're looking for an outsourced managed services provider, we explain what to look for and what questions to ask of potential suppliers.

Read our article now





Day 31 and beyond in depth: Data



Podcast: Do more with your data

A panel of experts explores ways you can use data to solve internal and sector challenges, in the 'Harnessing your data' episode of our Softwire Techtalks podcast.

<u>Listen now</u> or search 'Softwire Techtalks' wherever you get your podcasts. During the first 30 days, the focus around data was on <u>understanding and addressing potential risks</u>, and then identifying opportunities. Once this is done, it's time to start using data constructively.

The first step on this journey is to implement or refine your data governance policies, processes and procedures, drawing on your findings from the early days in-post. With suitable data governance in place, you'll be able to start leveraging data with confidence, to support your organisation's aims.

At-a-glance: Your long-term plan for data

- Implement suitable data governance
- Optimise your management information
- Optimise internal operations and customer interactions
- Consolidate strategic data

Implement suitable data governance

Data governance is incredibly important, both to protect your organisation against risk, and to create foundations that enable you to turn data into a genuine asset.

While overall responsibility may not fall within the CTO remit, your technology function will need to comply with and help enact the organisation's policies.

- Ensure you have access to the right data governance and security expertise, which could be in-house or external
- Make sure people handling data know the rules around its processing and storage
- Implement appropriate lines of accountability around data use and storage
- Ensure everyone understands the importance of data quality
 and the implications of errors
- Only store data you need to, balancing benefit against risk and cost
- Foster a can-do attitude when people want to use data in new ways



Optimise your management information

Strategic decisions that you and your fellow directors and C-suite take, need to be as well-informed as possible. As we outlined earlier, one of your first aims when in-post will have been to identify and prioritise the strategic management information you require. Now it's time to start getting it in place.

Look for cloud-based analytics solutions

Gone are the days when getting high-quality management information required you to build a full-scale data warehouse. Today, there are enterprise-grade tools available as a service, which can help provide the management insights you need much more quickly.

Build your management information in stages

In the same way you can build software iteratively, create your management information in phases. Start with insights you identified as the highest strategic priorities, even if they aren't the easiest to obtain.

Share tailored insights with others

Elsewhere, we discuss the importance of <u>nurturing a culture</u> where people see the impact their work has on overall business goals. Your newly created management information will create fresh opportunities for you to share appropriate insights with people across the organisation.



Optimise internal operations and customer interactions

Having identified early on where <u>new, more-timely or more-accurate data could streamline internal processes or enhance customer experiences</u>, you should now look for ways to realise this.

Given that what you do will likely impact customers, it's important you keep compliance, security, ethics and technical feasibility in mind, as well as whether you have access to the necessary skills to achieve what you're aspiring to.



Insight: Launch a successful Al project

Maximise your chances of success with artificial intelligence, by following our six-step project kick-off approach.

Read our article now

Can you make better use of the data and tools you already have?

Would a data scientist, or even a data science function, help you understand your data better and draw out new insights?

Where could you collect additional data?

How easy will it be to obtain, and does it justify the cost?

Are you using artificial intelligence?

Where could this and other techniques enable you to offer more personalised services, which may previously have been impossible?



Consolidate strategic data

Siloed data has long been a major challenge in organisations. The explosion of new technologies risks making the problems worse. It can hamper all of the aims we've outlined above.

Make data consolidation an aim of your overall technology strategy

Break down data siloes to facilitate better sharing of information. From an operational perspective, having a consistent data platform gives product and service development teams more opportunities to use and re-use data, as well as link different parts of the organisation.

It can also enhance your management information in a variety of ways. It makes more data available to bring into your reports and dashboards. And it improves consistency across data from different sources.



Insight: Five ways to get the most from your analytics project

We explore some tried-and-trusted techniques to meaningfully leverage the data your organisation has.

Read our article now

Day 31 and beyond in depth: Technology

From a technology perspective, your first few weeks in-post will have been about <u>identifying and mitigating high-priority risks</u> and subsequently <u>understanding where your technology estate is fit-for-purpose</u>.

Coupled with your vision for the technology function and the requirements set by your board, CEO or wider management team, your findings will enable you to lay out and start implementing your strategic technology roadmap.

At-a-glance: Your long-term plan for technology

- Prioritise your roadmap based on business importance
- Choose appropriate technologies

Prioritise your roadmap based on business importance

There's a lot to consider when laying out a technology roadmap. As with other areas, it's important you maintain focus on business importance, and are prepared to change course if circumstances require.

- How will you need to evolve the technology platform to deliver on the organisation's strategic goals?
- How will you simultaneously implement your own vision for a smarter, more-efficient technology function that benefits the wider organisation?
- How will factors such as technology end-of-life and renewal fees impact your roadmap?
- Do any of the tactical fixes you applied to your high-priority risks and goals need further attention?



Choose appropriate technologies

As you put your roadmap in place, it pays to adhere to bestpractices, to help ensure your technology landscape remains fit-for-purpose and maintainable.

What is your process for deciding which technologies get used, and where?

As new options become available, how do you assess their suitability for use in different parts of the organisation? Where something is cutting-edge or even bleeding-edge, how do you balance the opportunities it presents against the risks of using something unproven?

Favour complementary technologies

No component in your technology ecosystem operates in isolation. The technologies you choose must be compatible, as far as is necessary, with existing and future components.

Avoid having too many similar tools

You don't want a CTO-imposed 'exactly one tool for every job' approach. Equally, it's important you avoid buying and maintaining lots of tools that essentially do the same thing.

Ensure you have the skills to deliver and support the technologies

This can sometimes mean delaying the implementation of certain technologies, to ensure you'll be able to unleash their full potential. Alternatively, if there is a pressing need to start using a technology before you can upskill or recruit, consider the strategic use of temporary resources.



What next?

There's an enormous amount to think about when you join a new organisation as CTO. We hope this toolkit has helped to crystallise some of the most important tasks and prioritise the order in which you should be tackling them. We hope it will also prove a valuable resource to refer back to throughout your tenure, to help maintain focus on the many moving parts you're responsible for.

If you would like to discuss any of the areas covered in this toolkit in more detail with one of our specialists, please contact CTO.Network@softwire.com and we'll be delighted to assist.





We're <u>Softwire</u>, a growing digital engineering, design and consultancy agency. We help some of the UK's leading brands shape and realise digital visions that support their organisational aims.

Established in 2000, and with over 200 employees, we're the go-to digital partner for numerous organisations across the public and private sectors. We help them define, build, launch and manage their digital products and services.



More insights

As we've referenced to throughout the toolkit, our regular <u>Techtalks podcast</u> goes into depth on a range of topics related to digital product and service development best practice.

You'll also find a variety of material covering technology, data, project delivery, organisational culture and more, in our <u>Insights</u> library.

We also run regular Masterclass webinars, which we advertise through our social media channels and our <u>Events page</u>, which also includes the back catalogue to watch on demand.

How we can help you



Strategic and technical advisory

We work with you to develop a vision and technology strategy to accelerate your digital transformation, and then build the capability to deliver the change. This can cover everything from the technology you use to the way your teams work.

We're completely independent, which means our advice is fully geared towards helping you meet your aims. And we think about the future, to ensure the path we take you on is the right one for you in the long term.



Bespoke software development

When off-the-shelf applications won't quite do what you need, we'll deliver your bespoke software project on time and within budget – however complex it is, and however much uncertainty there is at the start.



Team augmentation and software support

When you need additional resources to supplement your own, we can provide individuals or full teams to deliver tactical projects, as well as longer-term support and maintenance.



Design and innovation

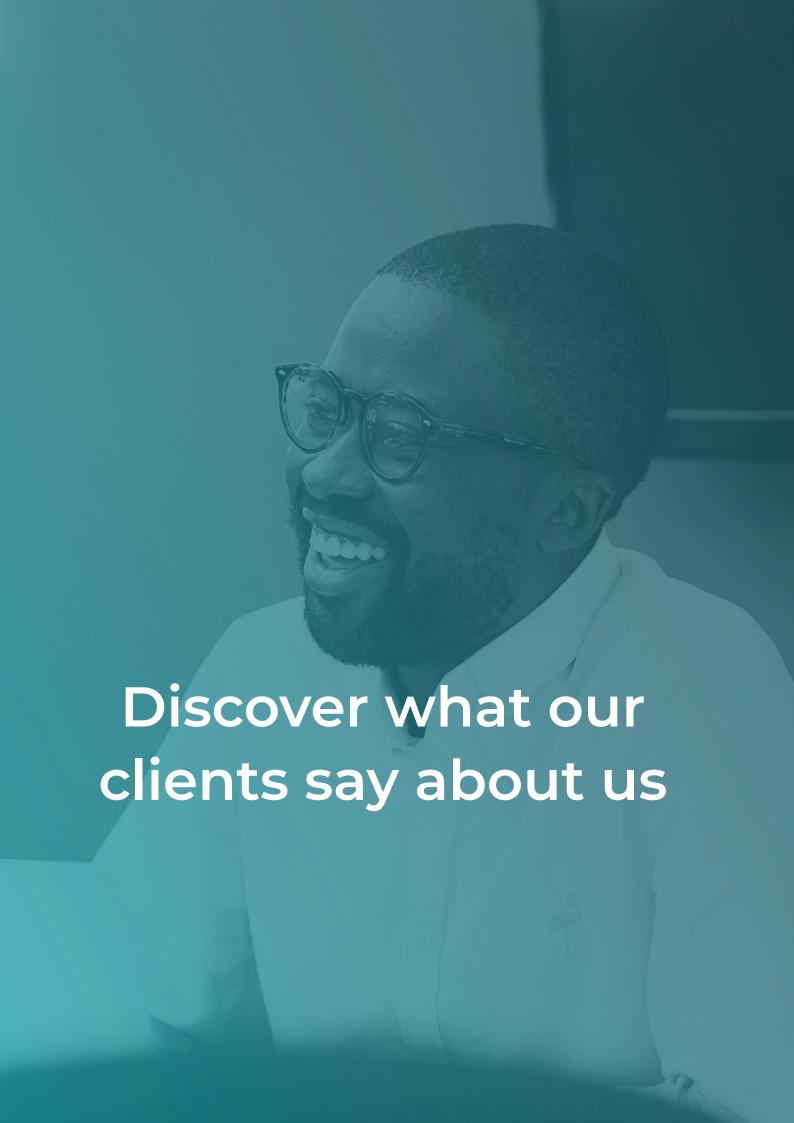
Work with us to shape, test and launch your brilliant ideas, with the nimbleness of a lean startup. Our unique multi-disciplinary approach minimises risk: we combine business, user and technology expertise to ensure your product or service meets organisational and end-user needs, and is technically feasible to build and maintain.



Data and artificial intelligence

Together, we'll explore the art of the possible when it comes to your data, then realise your vision by designing and building you the right data platform and the tools you need to benefit from it.





Zurich Insurance

66

What's stood out about Softwire is the way they have genuinely bought into helping us improve our team and ways of working. It was obvious that alongside their work to deliver the various data engineering projects, they were committed to helping us achieve self-sufficiency.

77

Read the full customer story

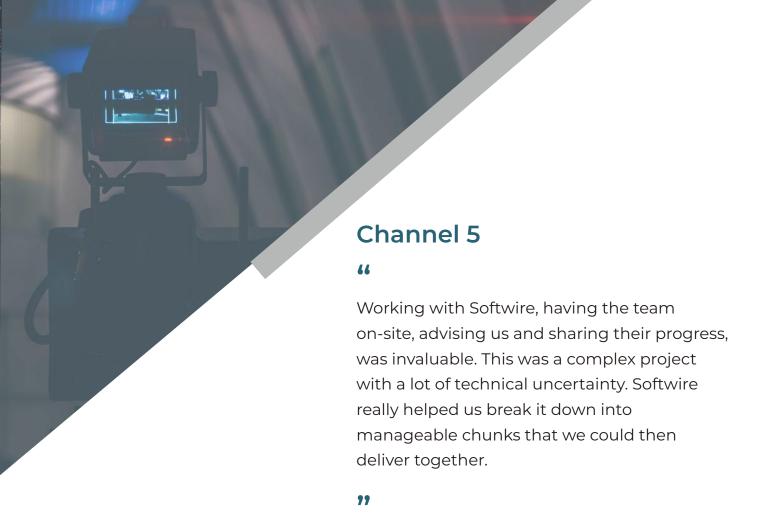
David Lloyd Leisure

44

Softwire take full responsibility for all our customer interaction channels, which means there's always that strategic, big-picture thinking going on, even when they're working on individual projects. What this has meant is that we've been able to create unified customer experiences across the web, mobile and in our clubs.

77

Read the full customer story



Read the full customer story

Public Health England

66

Softwire provided a balance of digital experience and data know-how. This was important because we're linking this work with an in-house, digitally oriented data project, and needed people who'd be able to work closely with us. This collaboration went really well, and Softwire's work with our digital team has been really important in getting the PHIS project moving.

77

Read the full customer story

Moorfields Eye Hospital

46

I would love to work with Softwire again in the future. I feel that if the NHS had access to this type of expertise, at scale, on a regular basis, it would have huge benefits for the UK and the world.

77

Read the full customer story

The Fleming Fund

66

We needed a partner that offered the complete spread of skills we required, was really proactive and willing to guide us through the process. Softwire were great value for money and gave us lots of confidence: they were so inspired, passionate and proactive. And along the way, they built capability within our team.



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