Solve CIO Challenges: Transform Your Business With Agile at Scale
Definition: Agile enterprise (noun)

“[A] fast moving, flexible and robust firm capable of rapid response to unexpected challenges, events and opportunities. Built on policies and processes that facilitate speed and change, it aims to achieve continuous competitive advantage in serving its customers. Agile enterprises use diffused authority and flat organizational structure to speed up information flows among different departments and develop close, trust-based relationships with their customers and suppliers.”

Business Dictionary, October 2017

1 Business Dictionary, “Agile enterprise,” October 2017
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Secrets of Agile’s Success

You don't need to be a Harvard Business School alumnus to understand why agile methodologies have become so popular over the past two decades. A traditional approach to creating new software—gathering all needs up-front before progressing through the design, coding and testing stages—can become an uphill battle in today’s quick-moving world.

Today, agile has become the progressive way forward. It enables organizations to put customers at the heart of the process. With constant and continuous iterations, agile drives improvements directly to the end users for feedback. This information allows teams to embrace changes to specifications based on customer needs and demands rather than rigidly sticking to a brief that was created weeks, months or even years ago.

As a result of agile’s rapid returns, we’re seeing it burst from its software origins and into the heart of business. Agile is changing the way that companies are delivering all kinds of projects, and with proven success. The Project Management Institute’s most recent report found that 100 percent of “champion” companies—those delivering projects on time and on budget on a regular basis—had embraced agile methodologies.

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1 Project Management Institute, “Pulse of the Profession 2017,” February 2017
Agile and the CIO: A marriage made in heaven

With the industry focus on agile methodologies and their influence in business, it makes sense that organizations seeking tremendous change would start to consider agile adoption as a way forward in the digital economy.

Organizations typically rely on their Chief Information Officer (CIO) to adapt their internal speed and technology to meet the demands of the market. With the focus on moving faster, CIOs are finding themselves responsible for more than their traditional job duties of internal tech, processes and procedures. The transition to digital business is creating compressed organizational stacks, where the roles of the CIO, CTO and CEO are morphing and often merging to meet customer demands more seamlessly. What this means is that titles like Chief Information Officer find themselves saddled with more business-critical responsibilities. Their choices in internal technology, business processes and procedures are influencing the entire organization's way of doing business.

With this in mind, the CIO must figure out how to deliver the most sound technology and strategic initiatives to steer the entire company. Digital imperatives often require significant change; the CIO is now the critical decider of such “make or break” business decisions. This merging of business steering and technological influence means the CIO cannot afford to choose the wrong technology, practice or methodology when making such a significant change to the future direction of the business, and its ultimate success.

So, how does an agile approach help a CIO? The answer comes when you dig deeper into the typical pain points for a Chief Information Officer:

- A constant flood of business requests that far outstrip your capacity
- The challenge of aligning product roadmaps with business objectives
- The challenge of making technological decisions that will impact the shape, future and success of the entire company
- Problems with legacy apps: How do you keep supporting the apps that have made the company money for years but now need technological intervention to stay relevant?
- And, marching hand in hand with those legacy apps, a culture of defensiveness rather than risk-taking
If we were to draw a parallel with agile development, these pain points line up with challenges seen in how products and software are rolled out to the market. The CIO’s deluge of requests can be likened to the needs and demands of a changing customer base.

The constant churn in the product roadmap also ties to customer demands, but starts to put strain on the time it takes to deliver something to market, or to make a required technology or process change to get something out the door and into the hands of future clients.

Legacy apps further drain resources at the expense of digital transformative advances needed to keep up with the competition.

All of these pains are further compounded by a potentially defensive, static culture that refuses to embrace new ways of working.

That is why it is increasingly important for the CIO to do due diligence when contemplating a substantive change to company procedure, policy, practice and technology. And, they must make these critical choices as quickly as possible due to the rapid pace of change surrounding digital business, digital transformation and the imminent “Fourth Industrial Revolution” that is upon all organizations today.
Now is the time: The Fourth Industrial Revolution

“We stand on the brink of a technological revolution that will fundamentally alter the way we live, work and relate to one another,” wrote Klaus Schwab, founder and executive chairman of the World Economic Forum in 2016.

“In its scale, scope and complexity, the transformation will be unlike anything humankind has experienced before.”

The World Economic Forum describes this as the Fourth Industrial Revolution, characterized by “a fusion of technologies that is blurring the lines between the physical, digital and biological spheres.”

“The speed of current breakthroughs has no historical precedent,” wrote Schwab. “When compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace. Moreover, it is disrupting almost every industry in every country.”

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“100 percent of ‘champion’ companies—those delivering projects on time and on budget on a regular basis—had embraced agile methodologies.”

Project Management Institute, “Pulse of the Profession 2017,” February 2017
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Why Agile is the Perfect Fit for CIOs

Few people dispute that there's a clear alignment between agile adoption and business success. It’s worth reiterating that the Project Management Institute found that 100 percent of its “champion” companies—those that completed the most successful projects—had embraced agile.\(^4\)

That shouldn't be a surprise. We've already explained how agile methods are better tuned to the current market economy. But embracing agile will involve some cost, both in terms of time and initial investment in tools that support you. So how can you justify the investment?

An obvious answer is to look at the alternatives. Once you map out the next three years, you may find the choice is to either make a heavy technology investment or adopt an agile approach. In doing this analysis, and anticipating how the Fourth Industrial Revolution impacts your customers, you might also find that a complete process change is inevitable. It might then become a matter of when to switch to agile methodologies, not if.

\(^4\) Project Management Institute, “Pulse of the Profession 2017,” February 2017
Achieve more with less

The key argument is that you will genuinely be able to achieve more with less. There is no magic here. You can only achieve more with less if you concentrate your time, energy and financial investment in areas that produce results. Here are some areas that most companies could do with less of:

- Endless meetings
- Procedures and processes
- Use-case descriptions

And here’s what you could do with more of:

- Concrete goals
- Alignment of time spent to delivering on the vision
- Face-to-face customer collaboration
- On-team responsibility and decision making
- Feedback loops
- Focus on continuous improvement

For a CIO seeking to make his or her company more agile, consider what you could do without. For example, some of your teams may enjoy the process of creating extensive pre-project documentation, but that causes a double-problem: it sucks up time and creates a false schema that you must adhere to. The pre-project documentation should be minimal, detailing goals but keeping open to change based on feedback throughout. To enable this change will require effort on your behalf, and your team, but it will save time in the long run.

Likewise, a top-down structure that places responsibility on decision-making to executives will slow you down. You need to separate out strategy and the day to day, giving junior team members the ability and confidence to make decisions that move the process along. After all, those decisions will be tested by customers soon enough.
Breaking down roadblocks

So, what are the roadblocks that will slow your progress to agile adoption? There is a unifying theme: if your business isn’t focused on delivering value to your customers then it will stumble and perhaps fail.

The first roadblock is, as discussed earlier, organizational structure. If you as the CIO aren’t making it easy for employees to communicate with one another, then you are creating roadblocks rather than breaking them down. Nothing will ever replace face-to-face communication, but an ongoing and constant feedback, status check-ins and interactions—as are completed during some agile ceremonies—will point your teams in the right direction.

Your leaders must be engaged, and here the role of the CIO is crucial. You, as a leading advocate of change, must be passionate about agile methodologies and able to communicate this in the right way to the right people. Your CFO may need to be convinced by a spreadsheet, your HR director through a personal story, your CEO by sheer fear—determining the right way to convince each member of the senior executive team is one of the biggest challenges you will face.

At the same time, you will need to build out the base of support for agile within your own team and across the company. Part of this is education. If you have town hall sessions, make sure you have a slot on stage to talk about agile. Shout about successes. And discover champions around the business. Discover how to drive and steer the business with your perspectives on what needs to change and the tools, tips, tricks and methodologies that will get you there.
Putting Customers at the Heart

We know that customers are fickle—and that’s because we ourselves are fickle customers. We’re all swept along by changes happening in the world, whether that’s new technology or a shifting political environment.

What’s different now compared to, say, fifty years ago, is the pace of change. This is making the traditional company structure more difficult to justify, because the idea of different silos—sales, marketing, product development and the rest—operating in parallel with one and other only works efficiently if customers’ demands are relatively stable.

This is reflected in the stats. Agile companies—those centered on the customer—grow revenue 37 percent faster and generate 30 percent higher profits, according to the CA Technologies Business Agility Survival Guide.¹

So, what do we mean by “agile companies”? Rather than operate in silos, these companies have small teams, working across multiple disciplines, who actively engage with customers during the development process.

Once a project is over a team member may return to their division in the business, but they will now have a clear understanding of customers’ needs in a way that is almost impossible to achieve in an organizational structure that prioritizes the silos over the customers they aim to serve.

Changing team dynamics

This may seem like a drastic change but, in reality, it’s a shift in view. However, to succeed, you will need your senior team to understand the switch to agile and to champion it. This is surely one of the biggest challenges for the CIO attempting to make his or her company agile.

“A successful agile effort not only requires real buy-in from executive management” writes Otto Berkes in Digitally Remastered, “but will also demand agile supporters in leadership across business, technology, organizational and personnel groups.”

This doesn’t mean all change must be driven from the top. You will need grass-roots support to succeed, and that’s another big challenge: by instinct, few people enjoy change. That means explaining the benefits of agile to them, and how it will change both their job roles and the company as a whole.

It’s also a mistake to think of this as a “once only” process. You will need to continue promoting agile and its benefits throughout the initial changes and long after. Indeed, agile by definition is about embracing change, and that applies to your organizational structure, as well.

One critical thing to remember is that, even as you scale agile across your business, small teams remain key. “Each team must be responsible for delivering a set of well-defined, customer-focused results,” writes Berkes. “And as the number of teams increases, leaders must layer in practices that maintain transparency while coordinating the work between and among teams.”

There isn’t a one size fits all for this. There are perfectly good arguments for retaining “skunkwork” projects that sit outside of your normal development structure; just be careful doing all projects in this way, as your long-term goal should be to evolve your organization so that there’s a shared goal and a shared responsibility for innovation. Consigning this to one small part of the business is potentially a mistake.

Customer feedback: Inspect and adapt

Chances are that your company has been operating in a steady state for years, tweaking existing products in response to consumer feedback and strategic thinking from the executive team. And, for new products, gathering insight from customers to create a specification that is then built.

It’s a comfortable existence, but needs to change if you are to become agile. In particular, you need to put customer feedback at the heart of what you do. Their feedback shouldn’t just be informing features in a particular product but where investment should be made. For a CIO, putting processes and measurement in place to make this happen—and to grant visibility to the executive team—is key.

You must put “inspect and adapt” at the heart of what you do. This doesn’t just apply to product development but architecture too: technology development and planning should be coordinated across your whole portfolio.

In the same way that you use agile procedures to dictate the delivery of a particular product, you should also “inspect and adapt” every aspect of your approach to technology.
How Agile Can Help Manage Business Requests

Let’s turn to one of the biggest problems facing CIOs: the imbalance between business requests and the resources you have available. In the absence of a time machine that enables you to work your team twice as fast, you need a different answer to the problem. Here, agile offers an excellent potential solution: increased transparency, faster results and better decision making.
Increase your velocity

We've already talked about the need to sell the benefits of agile to everyone around your business, and velocity is perhaps your biggest weapon. If you can improve velocity—in other words, finish your deliverables with a high-quality product in a short time—then even hardened cynics will find it hard to argue that this is the way forward.

So, how do you do it? First, build your teams: a collection of people, from a variety of backgrounds, who will need to have a clear idea of what they're delivering. Those outcomes must offer obvious value to your customers. "Improvements only matter if the organization delivers value all the way to the customer more effectively," wrote Berkes in Digitally Remastered.7 "Consider using metrics such as Net Promoter Score (NPS) to measure value, and be sure to track the number of releases delivered to customers per year to measure velocity."

As times goes on, adds Berkes, you will be able to “free up additional resources and create a virtuous circle of improved efficiency and value creation.”

Implement agile planning

It's worth pausing here to consider why "agile" is such a good adjective to use rather than, say, "quick." If you rush into agile then you risk making some serious mistakes. Instead, you should plan carefully and in an "agile" way.

That means choosing small pieces of work that deliver clear value to your customers. And then pause. What's the best order in which to attack the work so that you can deliver it consistently? You don't want different teams creating separate pieces of technology that don't work together, or perhaps rely on legacy systems that you will eventually want to retire.

Berkes adds that you should also limit "the amount of work in progress across development and operations teams, and account and buffer for unplanned work. Include design, development, operations, architecture, security, compliance, analytics, and other relevant stakeholders in your delivery groups and in planning sessions."

Finally, we come back to transparency. Work in progress must be clear to everyone involved in the process, so you will need to invest in agile tools that deliver this visibility and share feedback openly from stakeholder and customer sessions.

7 Ibid.
Apply agile portfolio management

We’ve talked a lot about delivering value to customers in this paper, and only you will be able to define exactly what this means—and the associated costs it will have in terms of employee time and investment. As the CIO, you must keep a tight hold of resource allocation.

So how do you decide? Again, it comes down to value. This, rather than absolute cost, should be what guides your decision making when it comes to considering new ideas, and allocating teams and funding. Once you’ve given the green light, you can’t allow projects to keep running if, having gone through certain stages of development, they’re no longer delivering the value they promised.

We again turn to Otto Berkes. “Determining value requires a tight connection between the implementation organization and the business need,” he writes. “Eliminate the expectation of exact requirements tied to a precise budget delivering a perfect solution to help you strike the right balance between strategy and tactics.”

Optimize your investments

This brings us to another key area: optimizing your investments. The idea of giving a project a set budget and sitting back to wait for results is the old way of thinking. “Dynamically and intentionally reduce or amplify your investments through quarterly steering and release planning,” advises Berkes. “On the other end, make sure you’re getting the full value out of what you’ve invested—that you’re delivering what your business needs and what your customers want, when, where and how they want it. Optimize what you build for the greatest impact.”

How? We come back to the principles of picking small projects with big impact, and limiting the number of works in progress. This helps you visualize the areas of investment that are working by delivering value to your customers. And you will know that you’re delivering value because your customers are now at the heart of what you do, and giving you feedback on all the projects you’re working on.
The Problem With Legacy Apps

How much of your time and money is spent “keeping the lights on”? It’s an uncomfortable question for many organizations, not least because they may not know the answer. Legacy apps are crucial for ongoing business, but they’re also potential time and money pits—and it’s because they’re crucial that money and time is sometimes thrown at them to the detriment of other projects and long-term goals.

To avoid this, your first step is to restructure and reprioritize investment across the entire portfolio. This, writes Berkes in Digitally Remastered, “can create significant savings that can be directed to fund existing and new projects with the greatest business potential.”

As we discussed earlier, the so-called Fourth Industrial Revolution—with all the effects it is having on the workplace and customer behavior—makes an intervention now timelier than ever. “The service-oriented customer is accustomed to constant upgrades of consumer experience in his personal space and expects the same in the enterprise space,” says Kaylan Kumar, executive VP and CTO of multinational IT services company HCL Technologies.
To mitigate against this, and encourage a culture of innovation, HCL recommends the following approach:

- Identify and quantify technical debt
- Determine whether the benefit of overhauling existing architectures systems exceeds cost over the expected life of the system
- Define the process to leverage multimodal IT
- Define an organizational change management plan to encourage the agile and DevOps culture in the organization
- Identify the current state of automation and plan the extreme automation journey
- Allocate the innovation budget after taking the above into account

“This in turn pushes the IT organization to innovate constantly. However, managing technical debt across existing legacy architectures and systems requires extraordinary effort and, as a result, organizations are becoming risk averse with innovation.”

IT services company HCL Technologies\textsuperscript{10}

\textsuperscript{10} Ibid.
Objectively evaluate every project

Technology projects have a nasty habit of taking on a life of their own. When first commissioned, they were given a certain level of investment—quite justifiably, at the time—and over time that cost has crept up while the value it delivers to customers has dropped. Indeed, you may find that the original justification no longer exists.

As CIO, you need a way to evaluate your portfolio easily and dynamically. This isn't just for legacy apps but for the new innovations. Are they delivering on the promised business outcomes?

After you have performed your evaluation, you may find that the legacy apps still have an important role to play. “You may find that you can unlock new efficiencies of value by increasing an investment in an existing area,” writes Berkes, “and you may need to decrease or perhaps halt investment in new areas that are not delivering value.”
The Orange example

If you’re looking for companies that must combine legacy systems with cutting-edge software, the telecoms industry offers fertile ground. Take Orange, formerly France Télécom. It began its journey to becoming a software-driven enterprise around 10 years ago. "We were just trying to understand what the benefits could be of bringing some apps into our information technology group," said Patrice Slupowski, Orange’s Vice President for Digital Innovation. "At that point, these applications were very much considered a foreign element inside our company."

Today, Orange thrives in the app economy, with its biggest software development projects carried out in an agile mode. Given its size—€40.9 billion in annual revenues (2016), 155,000 employees and 263 million customers worldwide—Orange is moving at what feels like breakneck speed. "We are quite obsessed now with the feeling that we have to go fast; that we have to either deliver fast or fail fast on any project. That way, we are able to quickly learn from failure," says Slupowski.

Success didn’t happen overnight. Orange would see an app being used by another company and create a prototype to try in its own projects. But even when a prototype worked well there was resistance within the company. "[The app] would conflict with other things we were doing internally, and people were afraid we were cannibalizing our own activities," Slupowski explains.

Still, the evolution continued. Explanations and analysis of the advantages of advanced software methodologies and application development accumulated. Eventually, the CEO got on board producing a predictably galvanizing effect. "When the head of the company explains why it is important to move in a certain direction, that simplifies everything," says Slupowski.

Now, Orange is borrowing ideas and approaches—from lean startups in particular—and assimilating them into the organization to increase its agility. "Globally, we consider that innovation is a key differentiating factor," Slupowski emphasizes. And the company backs that up by having several thousand people dedicated to the task of innovation—a tangible sign of Orange’s progress in the years since the company launched its first set of APIs.

Ibid.
Scaling Agile

While many companies have already embraced agile product development, 12 percent use waterfall and a further 17 percent only use it rarely. So, if you’re a CIO who’s relatively new to agile, how do you move from a fragmented approach to fully embracing agile methodologies? How can you promote it throughout your organization? And more importantly, how can you convince your entire executive leadership team that agile is what will ensure your future success in the digital economy?

One way to establish the change is to use an outside coach to train members of your team—including you, if you don’t have direct experience of agile development—who can then train or coach others.

Reporting is also a key aspect of any agile project, and it makes sense for the CIO to work closely with the project management office (PMO). The more you can standardize reporting across your organization, the quicker the results and the more your senior team will understand them.

This will also help with budget allocation. Many businesses default to using tools such as Microsoft Project and Microsoft Excel, but these weren’t designed with agile development in mind. Often, information is trapped inside traditional software, requiring specialist knowledge to understand its meaning.

“The distributed nature of agile-based decision making requires information to be freely distributed as well,” writes Otto Berkes in Digitally Remastered, “and must flow both horizontally as well as vertically.”

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12 Project Management Institute, “Pulse of the Profession 2017,” February 2017
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If you’re using the wrong software, then you’re trapping the information and making it difficult for people—from the developers who need to make day-to-day decisions to the CEO trying to understand the status of the project—to access it.

One important part of the process is to identify your key metrics. Ideally, this should mean additional “measuring” burdens for the team carrying out the project—this rarely works well in an agile project that’s built for speed—so the more this can be integrated into your toolset, the better.

As CIO, you must also ensure the PMO has the tools to understand how much work is happening at any one time, and control the flow of projects—is now the right time to take on that big project, or will it distract from one nearing completion?

1. Turn to automation and highly integrated development to ensure a steady flow of software and new value to your customers.

2. Acquire agile skills. Increasing the number of individuals that have agile skills will make it easier for the entire organization to understand it and embrace it.

3. Invest in tools that will allow you to understand your customers—analysis not only gives you the ability to continuously improve the experiences you deliver, but also optimize your business based on data-driven insights.

None of this is easy, but Otto Berkes sums up the opportunity in one sentence: “While the scope of the changes required for transformation may seem daunting, they represent a rare and compelling opportunity to re-think, reshape and reinvigorate your business: to remaster it for a new digital future.”
What next?

As we’ve seen, the modern CIO faces many challenges if he or she is to help create a truly agile company. There are cultural complexities, financial challenges, time limitations and much more besides. But by following the advice in these pages we hope we’ve provided some helpful pointers to make it happen.

If you would like more advice on how to scale agile at a speed that is right for your business, visit us at ca.com/scaling-agile

Acknowledgements

Much of the advice in this eBook is based on, “Digitally Remastered: Building Software into your Business DNA,” by Otto Berkes, which can be downloaded from here.