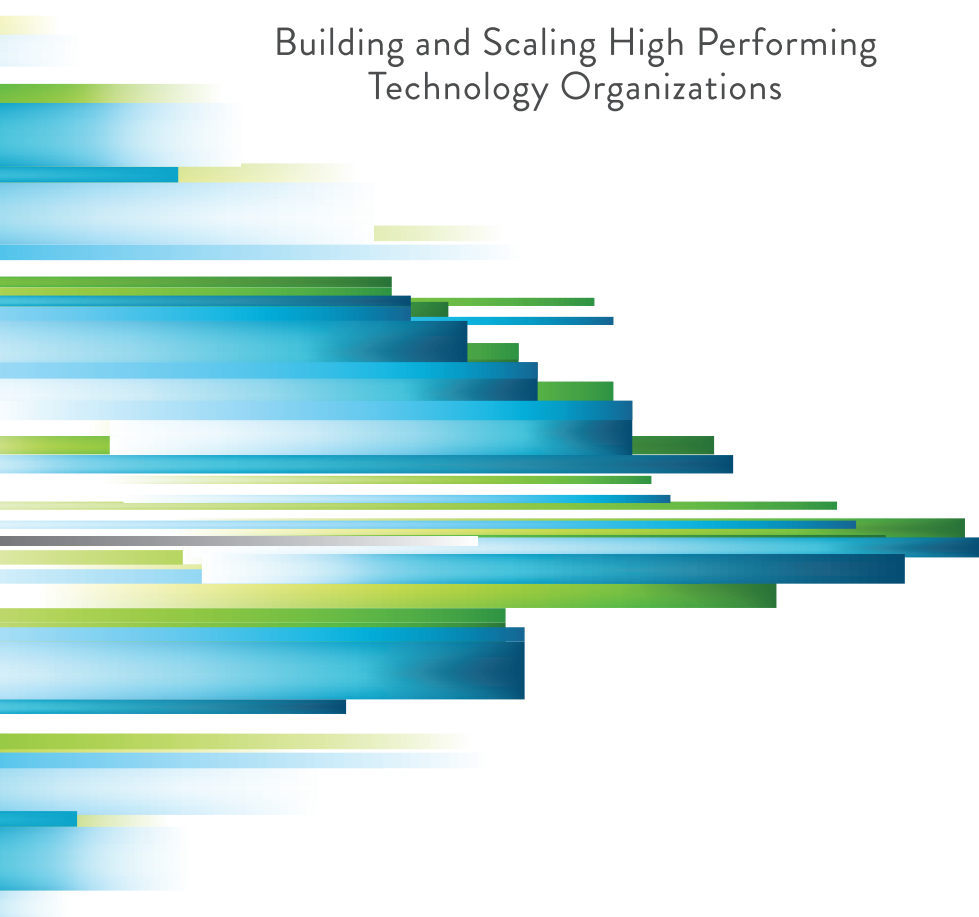# HOW TO
TRANSFORM

Supplemental Chapter for

THE SCIENCE OF LEAN SOFTWARE AND DEVOPS

ACCELERATE

Building and Scaling High Performing
Technology Organizations

Extra Material for *Accelerate* by

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IT REVOLUTION

HOW TO TRANSFORM

In *Accelerate: The Science of Lean Software and DevOps: Building and Scaling High Performing Technology Organizations*, Nicole Forsgren, Gene Kim, and I describe how to measure software delivery performance and the capabilities that impact it. This supplemental chapter briefly describes how to help your organization begin adopting the ideas from *Accelerate* and the common obstacles to growing a culture of continuous improvement.

Every organization is constantly undergoing change. The questions are: What is the direction of that change, and what are the system-level outcomes? Is our organization better able to discover and serve its customers, and thus achieve its purpose? Does the organization's business model and management of its people provide for long-term sustainability?

When it seems as if things are not going to plan, it's common for leaders to roll out a transformation program. However, such programs often fail to achieve their goals, sucking up large quantities of resources and organizational capacity. In this chapter we'll discuss common failure modes of such transformation programs and how to execute a successful one.

How Transformation Programs Fail

There are several mistakes that leaders make when attempting to make large-scale changes to an organization. The first error is to

treat transformation like a project or program. The defining characteristic of a project or program is that it has an end date, but high-performing organizations are always striving to get better. Indeed, high-performing organizations getting better is part of everybody's daily work, and teams are given the capacity, resources, and authority to make changes to their processes and the products and services they build in pursuit of higher performance.

In contrast, many transformation programs are big-bang events in which everyone is expected to rapidly change the way they work and the people they work with—and then continue on with "business as usual" (BAU). In BAU mode, teams are not given the capacity, resources, or authority to improve the way they work, and their performance gradually degrades as the team's processes, skills, and capabilities become an ever-poorer fit for the evolving reality of the work that must be done to succeed.

The second mistake is to treat transformation as a top-down effort. In this model organizational reporting lines are changed, teams are moved around or restructured, and new processes are implemented with little or no control of these changes by, or input from, the people affected. This typically causes significant stress and lost productivity as people learn new ways of working and develop new relationships, often while they are still expected to deliver on existing commitments. When combined with the poor communication that is unfortunately typical of transformation initiatives, this can lead to employees becoming unhappy, disengaged, and burned out.

In top-down transformations, it's also startlingly uncommon for the team planning and executing the transformation to gather feedback on the actual effects of their work on the ground and course-correct accordingly. Instead, the plan is executed regardless of the actual consequences, lest leadership be seen as weak or the plan as having failed.

When combined these two mistakes tend to lead (at best) to the pattern in Figure 1, in which performance gradually degrades and then initially gets worse at the start of a transformation program before (hopefully) improving, followed by a transition back to business as usual. All the while, cynicism and disengagement increases across the organization.
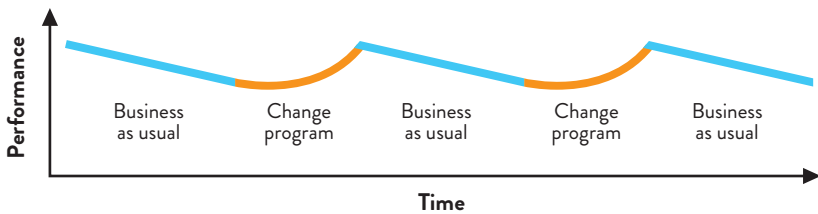

Figure 1: The Reality of "Event-Based" Change Programs
(Source: Jez Humble, Joanne Molesky, and Barry O'Reilly, Lean Enterprise: How High Perfomance Organizations Innovate at Scale *(Sebastopol, CA: O'Reilly, 2015) p. 284.)*

Another common mistake is for leaders to fail to agree on and communicate the measurable business and organizational outcomes the transformation initiative is supposed to achieve. Too many "Agile transformations" have been executed with poorly defined goals or qualitative goals, such as "faster time to market" or "lower costs." Sometimes goals are defined but are not achievable, or the goals pit one part of the organization against the other, leading to in-fighting. In this situation it's impossible to know whether—or when—the improvement work being done is having the desired effect. When combined with a top-down attitude to change, this mistake also makes it very hard to discuss or experiment with other approaches to achieving the desired outcome that might be faster or cheaper. The result is typically large amounts of waste and noise as the plan is executed, and nobody is really clear on whether the goals have been achieved or whether the program worked at all. Often the attitude of leadership is: "Never mind. A lot of things definitely changed. Time

to move on to the next initiative," or "Well, we tried methodology X, but it didn't work."

No wonder there's so much cynicism about transformation programs and it's hard for teams to get buy-in to do improvement work.

Executing Continuous Improvement

There are many frameworks for executing and measuring organizational change, such as the balanced scorecard, objectives and key results (OKRs), and the improvement kata and coaching kata. However, all of them share certain key features.

The basic dynamic is shown in Figure 2, reproduced in my book *Lean Enterprise* from Mike Rother's Improvement Kata materials.

THE FOUR STEPS OF THE IMPROVEMENT KATA MODEL
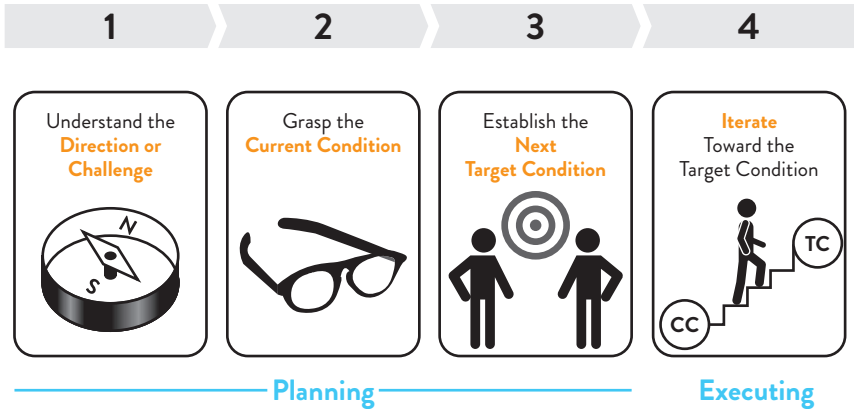
A Systematic, Scientific Pattern of Working

Figure 2: The Four Steps of the Improvement Kata Model
(Source: Humble, Molesky, and O'Reilly, Lean Enterprise, *p. 117.)*

First, we start with a direction, or true north, at the organizational or division level. This is an inspirational system-level goal. It could be an ideal we can't achieve, such as "zero injuries" (the goal that Alcoa's CEO Paul O'Neill famously chose), or it could be a tough goal that we don't know how to achieve that may be one to three years out, such as a 10-times increase in productivity (the goal chosen by Gary Gruver, Director of Engineering of HP's LaserJet Firmware division).

The next step is to grasp the current condition as it exists on the ground. The DORA Technology Performace Assessment is designed to achieve this purpose at the level of your software development capabilities and outcomes.[1] However, you can also supplement this information through exercises like value stream mapping, activity accounting, or a balanced scorecard. The point is to understand where your organization is in measurable terms.

The third step is to set measurable targets to be achieved by some future date. These targets could be described using a format such as OKRs, in which we begin with a qualitative objective and then specify measurable key results (or target conditions) which we want to achieve.

Finally, teams (with the support of management) experiment with ways to achieve these goals until the future date is reached. Teams take a scientific approach to experimentation, using the Deming cycle: Plan-Do-Check-Act (PDCA). First, we *plan* the experiment and say what we expect the outcome to be. Then we perform *(do)* the experiment. Next, we *check* (or study) the results. Based on this, we decide *(act)* what to do next. Teams should be running experiments on a daily basis to try and move toward the target conditions or key

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[1] For more information on the DORA Assessment, visit their website here: https://devops-research.com/assessment.html.

results to be achieved. In improvement kata, everybody on the team is supposed to ask themselves the following five questions every day:

1. What is the target condition?
2. What is the actual condition now?
3. What obstacles are preventing you from reaching the target condition? Which one are you addressing now?
4. What is your next step (start of PDCA cycle)? What do you expect?
5. When can we go and see what we learned from taking that step?

Once we reach the future date specified in the planning cycle, we repeat the process again. Since we are operating in conditions of uncertainty, we don't know how the results will be achieved, and progress is often non-linear, as shown in Figure 3.
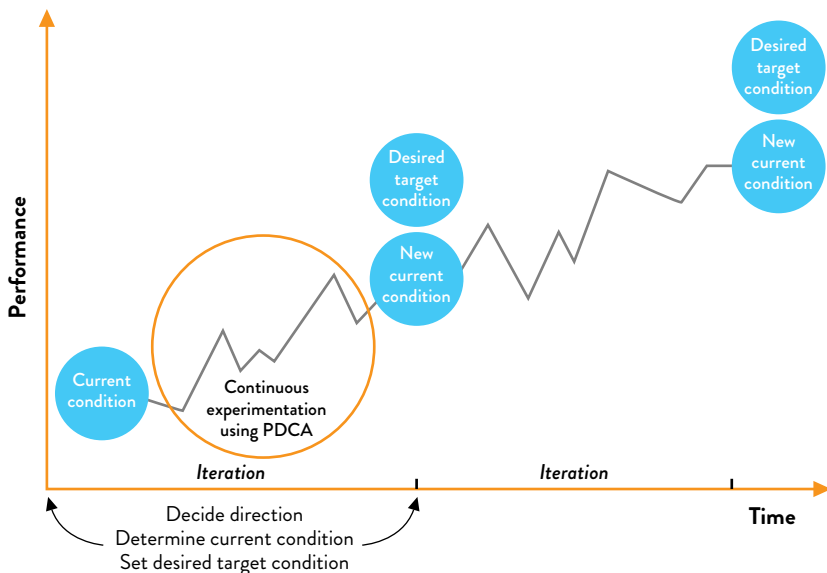

Figure 3: Continuous Evolution and Adaption to Change
(Source: Humble, Molesky, and O'Reilly, Lean Enterprise, *p. 285.)*

When working in a larger organization we'll typically "stack" cycles. We will work in a quarterly planning cadence at the organizational level, a monthly planning cadence at the divisional level, and a weekly planning cadence at the team level. Meanwhile, we'll plan more frequent status meetings—weekly at the organizational and divisional levels, and daily at the team level.

In the planning meetings we'll review the target conditions or key results we set in the last planning meeting. We'll then set new goals for the next iteration. In review meetings we look at how we're doing in terms of achieving our goals for the iteration and discuss any obstacles that exist and how we might address them.

There are some important points to bear in mind about this pattern:

- Target conditions or OKRs must be set by the team. If they are set in a top-down way, teams won't have "skin in the game" and won't be as invested in achieving them—indeed, they will likely try to "game" them.
- It's okay not to achieve the goals. Indeed, goals should be "stretch" goals—we should expect to achieve about 80% of them. It's very common when starting out not to achieve any goals—when this happens, be disciplined and set yourself one single goal for the next iteration and dedicate everything to achieving it.
- Many goals and measures will change from iteration to iteration. This is okay.
- Make sure teams have the necessary capacity, resources, and management support to do improvement work. Don't let delivery work crowd out improvement work, because the improvement work is what's going to fix the inefficiencies that make it so slow and painful to do delivery.

Principles of Effective Organizational Change Management

All organizations are complex, and every organization faces different challenges and deals with them in its own way. This means that prescriptions that worked in one organization are unlikely to achieve the same results in another. However, there are some general principles that can be followed in order to increase your chances of success.

You're Never Done with Improvement Work

We believe it's worth reiterating: high-performing organizations are never satisfied with their performance and are always trying to get better at what they do. People in these organizations understand that failure to change is as risky as change itself, and don't use "that's the way we've always done it" as a justification for resisting change. However, that doesn't mean taking a "cowboy" approach to change: change management should be performed in a scientific way in pursuit of a measurable team or organizational goal.

Leaders and Teams Agree Upon and Communicate Measurable Outcomes; Teams Discover How to Achieve Them

It's essential that everybody in the organization knows the measurable business and organizational outcomes that they are working toward. These outcomes should be short—a few sentences at most—at the organizational level and match up clearly to the purpose and mission of the organization. At the level of an individual business unit, they should fit on a single page. The organizational outcomes should be decided by leaders and teams working together—although

leaders have the ultimate authority here. At lower levels of the organization, there is more detail—and shorter horizons.

However, it should be up to teams to decide how they go about achieving these outcomes. This is for a few reasons: First, in conditions of uncertainty, it's impossible to decide the best course of action through planning alone. That doesn't mean some level of planning isn't important—it is—but we should be prepared to alter—or even rewrite—the plan based on what we discover in trying to execute it. Second, when we tell people both what to do and how to do it we rob them of autonomy and lose the chance to harness their ingenuity. Not only does this produce worse outcomes, it also leads to disengaged employees who are more likely to "punch the clock." Finally, problem-solving is critical in helping employees develop new skills and capabilities. Give your teams problems to solve, not tasks to execute.[2]

Achieve Large-Scale Change Iteratively and Incrementally

The annual budgeting cycle tends to drive organizations toward a project-based model in which work of all kinds is batched up into expensive projects that take a long time to deliver. With very few exceptions it's better to break down work into smaller pieces that can be delivered incrementally. Working in small batches delivers a host of benefits, the most important of which is that it enables us to course-correct based on what we discover, and thus avoid wasting time and money doing work that doesn't deliver the expected

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[2] This is not a new idea. The concept of leaders setting high-level goals which communicate the purpose to be achieved and leaving it up to lower levels of the organization to work out how to achieve them is known as mission command in military circles. Mission command replaced the concept of "command and control" and plan-driven organizations in the 19th century after the defeat of the Prussian army by Napoleon.

benefits. Moving from the project paradigm to the product paradigm is a long-term trend that will take most industries years if not decades to execute, but it's clear that this is the future. Even the US Federal Government has successfully experimented with modular contracting in the pursuit of a more iterative, incremental approach to delivering large pieces of work.[3]

As with delivery projects, so it is with transformation. Find ways to achieve quick wins, share what you learned, and help other teams experiment with these new ideas.

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[3] For more on the US Federal Government's work in this area, check out:
https://modularcontracting.18f.gov/.