

## What Does It Mean to Manage Digital Transformations?

No organization can avoid change forever – no matter how much it might want to. One of our favorite jokes about Oxford goes, “How many Oxford dons [professors] does it take to change a lightbulb?” The answer is: “Change? Change? CHANGE?!”

Continuing to use the same methods, technology, or approaches eventually means that you get left behind because you have failed to adapt to new realities or opportunities. Equally, however, you cannot embrace something simply because it is that new shiny thing that looks cool but does not offer your organization real value.

The allure of the shiny means that change needs to be rational – actively controlled and coordinated. This paradox of exploring and exploiting innovations, was first discussed by James G. March, a professor at Stanford University. He distinguished the two concepts by the degree of uncertainty of the returns for the organization. The returns of explorations are more uncertain than those of exploitations. But he argued that both are crucial for improving performance and competitive advantages.<sup>1</sup> The crucial insight is that every digital transformation must trade off exploration and exploitation. If the focus is solely on exploitation, the transformation misses an opportunity for innovation. If the focus is solely on exploration, the transformation misses the opportunity for relevant learning, changes, and results. All change should be happening with purpose.

Exploring and exploiting is not the only paradox of digital transformations. Organizations must also balance the conflicting and paradoxical demands of stability and change.<sup>2</sup> Counterintuitively, stable organizations are more effective at adopting change.<sup>3</sup>

In 2000, Jack Moran, a distinguished change practitioner in healthcare and adjunct professor at Arizona State University, and Baird Brightman, a clinical psychologist and writer about the human side of work, defined managing

change as “the process of continually renewing an organization’s direction, structure, and capabilities to serve the ever-changing needs of external and internal customers.”<sup>4</sup>

Most people agree that change happens all the time. In the 1980s, leading thinkers on change and organizations identified another paradox between planned and unplanned changes.<sup>5</sup> Planned changes are responses to anticipated events. However, not all events can be anticipated, due to the turbulent environment in which organizations operate. Unplanned changes are responses to an unanticipated event that occur after the event happens.

These unplanned changes frequently lead to significant breakdowns, scandals, and organizational failure unless organizations retain an element of flexibility and fluidity to respond to unanticipated events through unplanned change.<sup>6</sup>

Rare events and crises also trigger organizational change. The argument goes that organizations in crisis failed to change before the crisis and are now scrambling for a response. Had they changed earlier, the crisis would not have happened. The underlying assumption in this argument is that all changes can be planned for. Our research finds that this is not true.<sup>7</sup> Thus, the ability to manage change is a crucial capability for every organization.<sup>8</sup>

## But What Is This Managing Change?

---

According to Jerry Porras and Robert C. Silver from Stanford University, managing change involves:

- Using a set of theories, values, strategies, and techniques
- Aimed at the planned change of organizational vision and work settings
- To generate cognitive changes in members of the organization, manifesting in behavioral change and thus
- Promoting paradigmatic change that helps the organization better fit or create desirable future environments.<sup>9</sup>

In other words, managing change has become an area of special expertise that links strategic change to the daily tick-tock of operations. Change management is vital to ensure that organizations do not become victims of change but are change agents.

A more contemporary view makes a distinction between episodic and continuous change.<sup>10</sup> Looking at organizations from a macro perspective shows relatively stable ways of organizing work that is interrupted episodically to reconfigure the ways of working. At the same time, small changes happen constantly when the organization is viewed at the micro level. Indeed,

the ability to manage small changes consistently is one of the critical characteristics of organizations that work reliably in uncertain environments.<sup>11</sup>

We are all familiar with the experience of small changes and innovations scaling to reach a tipping point. Consider, for example, the transformation that has, at some point, been nicknamed BYOD – Bring Your Own Device.

The turning point in the history of mobile phones was the release of the first iPhone in 2007. At that time, the BlackBerry dominated the market. The iPhone did not threaten the BlackBerry yet; the iPhone had a minimal battery life and a cumbersome keyboard, and, most of all, it wasn't secure. The core feature of the BlackBerry was security; it could securely operate email using servers that pushed new emails out to devices.

The idea of the BlackBerry was inspired by large companies that used systems like IBM's Lotus Notes, where email systems ran on mainframe-style solutions. This architecture was highly secure because it was tightly controlled. Back then, the IT department controlled access to servers, and users could get a BlackBerry only from the company's IT department.

The iPhone, however, improved and innovated on the BlackBerry; with a better camera and better internet browsing, it quickly became more attractive, and other devices followed suit. Suddenly, the consumer market offered innovation at a rate faster than the ability of IT departments to refresh their equipment.<sup>12</sup> In many organizations, the defined processes to manage technology change were not fast enough to meet end users' requirements for speed.

In some companies, Bring Your Own Device started because employees figured out how to forward emails to personal accounts or how to configure access to a mailbox from their phones.

What started as a small change by some tech-savvy individuals quickly grew – suddenly requiring a BYOD policy to keep emails secure. Macro changes were being triggered because of continuous micro changes. Many organizations needed to start a project to handle this digital transformation toward BYOD.

Our key observation is that change management is not a question of either/or; change is exploration and exploitation, unplanned and planned, episodic and continuous. Looking across different sectors, we find that the organizational challenge to change has increased in breadth and depth.

Organizations increasingly must collaborate internally to respond to current challenges, which require more depth, and with other organizations, which require more breadth. Again, few organizations find it easy to collaborate across internal silos, levels of hierarchy, and external boundaries with collaboration partners through existing processes and structures. The typical response is to start a project to deliver the transformation.

Not everyone benefits from change. Every change has its heroes, villains, and victims.<sup>13</sup> The core challenge for managing change is maximizing the positive impacts of changes on individuals and organizations while minimizing the negative impacts.

Therefore, change management is the set of management activities to plan, organize, staff, lead, control, and implement change so that it is effective, beneficial, and lasting. Often change management is seen as a specific task or project – such as building a house – with defined frameworks, practices, and processes. You can order change to happen, and it will do so successfully.

Unfortunately, change is not so simple in reality.

When an organization's leaders are planning and structuring digital transformations, they might believe they can task a change specialist to come in and restructure or transform how the organization operates and then leave. Once the specialist is gone, the change endures. We, however, know that this approach has not worked; it is said that 80% of digital transformation initiatives fail.<sup>14</sup>

Our research, which covers more than 6,000 IT projects, shows that if we evaluate projects by looking at how they delivered against the promises made in the investment decision:

- 59% of IT projects deliver on budget or better,
- 9% of IT projects deliver on budget and on time or better, and only
- 0.7% of IT projects deliver on budget, time, and benefits or better.

It is essential to recognize that the literal interpretation of the common term “change management” may not reflect the best approach. Managing change is not an administrative, stable, managerial activity. Experts in this field have started using more active words to replace “change management,” such as “managing change,” “changing work,” or “transforming organizations.”

Similarly, experts have stopped using the phrase “stakeholder management” because leaders engage with stakeholders rather than directly administer them. For this reason, we believe the industry needs to start viewing change management as a tool for leading transformations through others rather than simply administering changes.

We fundamentally believe that change cannot be directly managed and controlled. Data from our research, which we share in Chapters 3 to 10 of the book, have shifted our thinking.

Therefore, change management needs to address the central question and problem: How do we transform through technology successfully? Change

also challenges core ideas about the organization – what it does, its purpose, and the identities of the people working for it. There are two sides to this:

1. Technology change involves identifying what the change should be – implementing a new technical or digital solution or changing products, processes, or how people operate – and rolling it out throughout the organization.
2. Organizational change involves working with the people affected by the technology change. For any change to succeed, it needs to be accepted and adopted by the people it affects. The journey toward transformation must ensure that the people involved in the change are not left behind. We need to support the people on this journey as best as possible.

However, to understand the importance of people in the context of significant technology change, we need to examine the origins of managing technology and organizational change and how people traditionally have perceived both.

## **History and Context of Managing Technological and Organizational Change**

---

Awareness of the need to manage organizational changes in technology implementations started long ago. In our literature research, the oldest text we found on this topic was published in 1939 by Elliott Dunlap Smith, then professor of economics at Yale University.<sup>15</sup> Smith observed that successful transformations happened only when management (called “the capital” in the language of the 1930s) opened a dialogue and listened to their workers (“the labor”) about the change.

Smith studied multiple cases in textile mills across the East Coast of the United States. All 18 mills he studied were hit hard by the Great Depression in the 1930s and needed to cut costs by 30% or more. The mills’ mottos were uniformly: “Do more with less.” Some mills succeeded and turned around, but the change failed spectacularly in many others.

In these cases, the solution was called the multiple-loom system – comprising repairing and replacing looms and frames – and a different, Taylorian, style of working, in which tasks shifted from skilled, high-paid weavers to unskilled labor, and weavers now operated many more looms.

The new multiple-loom system, combined technology improvements and new organizational practices to transform how the mills operated. However, in some mills workers were not involved in designing or

implementing the change; these workers were expected to accept it quietly for the benefit of management. They did not. They sabotaged looms, spoiled goods, and organized walk-out strikes in protest; as a result, those mills went bankrupt.

Smith's research showed us that labor and technology must be managed together – you cannot simply drop a technology on a large organization and hope it works. Without ensuring that the people affected by a change understand and accept the new technology, you cannot expect them to use it happily and effectively.

For leaders of technology transformations, Smith had these words of advice:

Like marriage, the effort to [transform] . . . even if this [change] is good, is something to be entered into “soberly, reverently, and in fear of God,” and, I may add, with sufficient financial resources to see through much more expenditure than is superficially apparent.<sup>16</sup>

The turning point at which change management got put on the map, however, was in 1995, thanks to the work of John Kotter, professor at Harvard and the best-known author on change. Kotter created a top-down, eight-step model informed by many failed initiatives for change. He suggested the eight factors that typically lead to failure and the eight steps to take to avoid them.<sup>17</sup>

1. Establishing a sense of urgency
2. Forming a powerful guiding coalition
3. Creating a vision
4. Communicating the vision
5. Empowering others to act on the vision
6. Planning for and creating short-term wins
7. Consolidating improvements and producing still more change
8. Institutionalizing new approaches

The eight steps outline a neat process that starts at the organization's top, creating a sense of urgency – often around declaring a crisis or a burning platform. Senior leaders with authority set up a steering committee: the guiding coalition. A vision then needs to be created and communicated.

Leaders empower others to make small changes by declaring a big change. They often use consultants to bypass resistant managers. These changes are celebrated and institutionalized through new policies and standard operating procedures.

While, arguably, knowing the causes for failure does not necessarily mean that avoiding these causes guarantees success, Kotter's work brought change management into the public eye. Since 1995, when Kotter's article first appeared, our understanding of change has moved on dramatically.

Kotter's insights suggested a process we frequently see being applied in practice. First, you define your vision and objectives and then mobilize employees to create the change. However, Kotter's model does not explicitly advise defining the solution at the top and rolling it out top down. But all too often, when organizational change is combined with technology change, both the delivery of new technology and the organizational change follow a top-down waterfall approach, an approach that often is inflexible.

Today, other approaches to organizing change, such as lean and agile, offer different perspectives. Their focus is on flexibility of the solution, speed, and innovation.

Since Kotter's article was published, business leaders' awareness of the value of change management has grown.

Researching successful change has increased; previously, change was not considered a field of study. Now researchers devote time and resources to understand change better. Citation databases, such as Scopus and Web of Science, which track the creation and citation of written materials on specific subjects, are practical tools for measuring this development. Figure 1.1 shows the explosion in publications on change management since 1995.

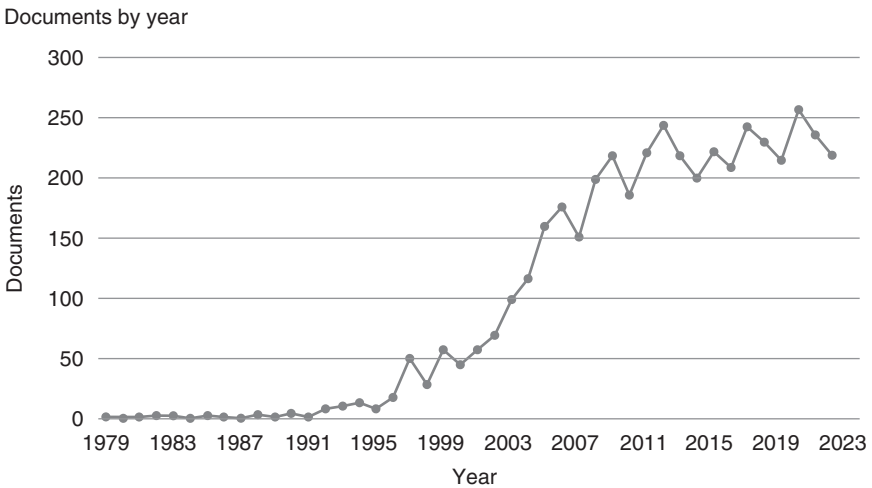


FIGURE 1.1 Annual volume of academic publications on change management.

A second tipping point happened in the technology community. In February 2001, 17 software developers penned the Agile Manifesto.<sup>18</sup> The idea of greater agility – more responsive, flexible, iterative approaches to implementing technologies – was not new, but the manifesto started a revolution.

Today, agile projects are firmly established as practical approaches to implementing digital transformations. Throughout the book, we discuss the value and impact of the agile approach.

## Challenges in Managing Change

---

In our experience, leaders recognize and accept the need to manage change and know the pitfalls. Our results show that two-thirds of leaders have a structured or defined approach to change. (See Chapter 5 and Appendix B for details.) However, often there are considerable differences in the perceptions of what change approaches entail.

Frequently leaders fail to account for imperfect strategies and imperfect strategy implementation – the inability to adjust for your people and their needs. Some people still vividly believe that change can be controlled – that taking actions A and B always leads to result C. Therefore, once they have planned how to change people and delivered on each step, they expect the result to match their planned and predicted outcome.

While leaders recognize the value of managing change, there is a significant disconnect between realizing the need for it and successfully implementing change. This disconnect occurs because leaders know that managing organizational change is necessary and involves people, but they are unaware of what organizational change requires. They do not understand the practical steps that make the change happen and then make it stick for the long term.

In many digital transformations, leaders view change management as secondary to creating and implementing the technology itself – an extra task to be handled in addition to the primary activities. When they buy a new piece of technology to be used in their organization, they do not place a similar focus on those who will be affected by the change this new technology brings.

These leaders might be aware that change management needs to be accounted for, but they consider it an afterthought. After all, everyone loves a shiny new tool. As they do not understand exactly what change management involves, they outsource – bringing in a consultant to lead a three-person change management team bolted onto the IT implementation without being properly integrated into the transformation.

On top of this, these leaders approach the role from a technical point of view and come up with lots of theories and anecdotal evidence that they are keen to put into practice.

This technical, rational, Newtonian approach to change management does not work to solve people-based issues with change, which, as we explain in this book, is one of the most critical factors to success. Organizational and people-based change both need to be integral parts of your thinking toward digital technologies. Without prioritizing both the organizational and the technological change equally, your organization's transformation is unlikely to be successful.

### **Case Study: Failure to Communicate**

---

[Tom] A global logistics company started working on a huge transformation by implementing an enterprise resource planning (ERP) solution a year ago. To support the project, the company brought in a change team and have, to date, spent €5 million on the change management effort, which shows the scale and importance of this particular solution.

Due to a communications failure, however, the company is currently in huge trouble.

Leaders are implementing this new solution at a critical strategic location for the global logistics supply chain. However, only recently did the project manager learn that, despite a year having passed, there has yet to be any communication with the business unit running the strategic location in the supply chain. They had not heard anything about the transformation, nor had there been any dialogue about it.

While leaders had started well by hiring a change team, they had not prioritized paying attention to what was happening. They had assumed that having a change team would automatically make change happen.

This situation is a common one in digital transformations – awareness that organizational change is necessary on an intellectual level but failing to translate that awareness into successful implementation.

## **Flexible Support and Approach**

---

When you are aware that a process is necessary but do not know how to do it, the logical response is to look for a manual. Project leaders, or whoever is in charge of directing the transformation, need to come up with the best supporting elements for the change that is happening. These elements include both tools and activities, such as dialogue with end users and stakeholders.

Thus, project leaders look for a specific recipe. They focus on organizational change as a technical problem to be solved, using tools and activities that might have worked for others but neglecting to account for the cultural aspect and people.

The lack of a recipe is often deeply frustrating to leaders – they followed every step correctly, but the transformation still did not work. The trouble is that they did not understand the purpose and weight behind the steps and were applying approaches that were not right for their situation.

### ... Until It Feels Right

---

[Kim] Learning recipes is not an effective way to learn how to cook. It is far more effective to know when and how to use techniques. I experienced this when I started learning how to bake bread for myself.

I had bought a recipe book from a renowned expert in Denmark. I expected that because the person writing it knew their stuff, I would be an expert myself in no time. However, I found the instructions vague. I had to deal with instructions like “Knead the bread until it feels right.”

All I had wanted was a simple recipe to make bread! I was no baker and did not understand what “feels right” was meant to feel like. I might have understood intellectually why I had to knead the bread, but the recipe offered me no support with the practical side.

To make things more complicated, little things – such as using the same type of flour but from different brands – made it so that I could not rely on simplifying my approach to “knead for 4 minutes exactly.”

I understood the instructions only after learning what “right” felt like and how to adapt my approach to different ingredients. These days, I can use the book easily.

[Alex] You might wonder what Kim’s learning has to do with digital transformations. The same journey plays out in expert learning. The brothers Stuart and Hubert Dreyfus – one an applied mathematics professor and one a philosopher of artificial intelligence – developed a model that has become fundamental in explaining why experts feel what’s “right.”<sup>19</sup> Their model of learning starts with the novice stage. Whether you are a novice in baking bread or driving transformations, you begin by learning the recipes.

We all start by achieving a task through learning a series of steps:

- Follow the recipe.
- Decompose problems into components.
- Tackle each problem in turn.
- Make analytical decisions.
- Monitor the outcomes.

When tasked with driving a transformation, *novices* also have a recipe to follow. When faced with specific tasks, problems, or challenges, they have process models and frameworks they can apply. For example:

- To engage with stakeholders, use a template to map and develop an engagement plan.
- To make decisions about a problem, conduct analyses, and use rational techniques like analytical hierarchical decision making.
- To measure the success of endeavors, define performance indicators.

At the next stage of learning, *advanced beginners* start exploring what rules apply given a particular context – which shortcuts can be taken and which are better avoided. At this stage, we develop situational knowledge that guides us in tailoring our approach.

*Competent experts* recognize more complex patterns and the interrelations between adjacent challenges in the transformation – for example, the links among stakeholder engagement, communication strategy, and building the commitment to change.

*Proficient experts* then make decisions predominantly based on intuition – positive heuristics, as Gerd Gigerenzer, director of the Max Planck Institute for Human Development, calls these intuitions.<sup>20</sup> Transformation leaders have a few rules of thumb to organize the transformation activities. When we interviewed transformation leaders, the number 1 heuristic, for example, was “Get Your Team Right.”<sup>21</sup> Up to this point, experts had used guiding principles, and now they intuit their course of action.

Finally, true experts or *masters of a field* develop a radar for how things are going. Their intuition applies not only to decisions but also to their awareness of outcomes. Masters in their field notice weak signals of whether a transformation is going well. They absorb themselves in a situation and develop ideas about what must be done.

For example, their radar for the energy levels of the project team might tell them that setbacks have arisen that team members may not have recognized yet. For this reason, masters may begin challenging the team’s assumptions.

As we all develop our expertise in driving transformations, we move from (see Figure 1.2):

- Follow the recipe → Use adaptable approaches
- Decompose problems into components → Study the problem context

- Tackle each problem in turn → Solve interconnected challenges
- Make analytical decisions → Intuitive decision making
- Monitor the outcomes → Absorbing weak signals

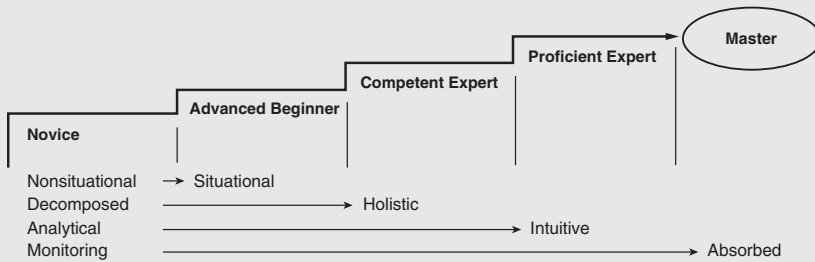


FIGURE 1.2 The Dreyfus and Dreyfus model of learning.

Source: Adapted from Stuart E. Dreyfus and Hubert L. Dreyfus. 1986. *Mind over Machine*. Free Press.

The first key takeaway from understanding how novices become masters is to recognize that we all learn from trial and error. As in Kim’s baking lesson, you can have all the right ingredients for managing change, combine them according to the recipe, and still get the wrong result.

As in baking bread, the real sign of skill in managing change comes in the “kneading” and the “proving” – knowing instinctively in which situation you require more kneading and less proving. Once you have developed the intuition to correctly meet the problem at hand without needing to second-guess yourself – giving your bread the right time to rise without wasting time measuring the temperature and calculating manually – you have mastered the necessary skills.

The second key takeaway is how we teach others to master change. A novice on our team needs a recipe. Leaders need to give novices a recipe with steps to follow, allow them to make mistakes, and coach them to learn from their mistakes.

In digital transformations, you need to develop your skills so that you can avoid ending up with a severely over- or under-baked IT project.

It would be best to consider implementing digital transformations less of a rigid recipe and more about adapting and reacting to the specific needs of the people and organization. For this reason, engaging with the people the change is affecting is so important – with an open dialogue, you can work together to find the approach that feels right.

Another example is raising children. You cannot raise two different children in the same way – even if you teach them precisely the same lessons, read them the same books, and provide the same dinners, they will learn different things and grow into different people.

Part of parenting is tailoring your approach to fit what your child needs or wants, without unthinkingly assuming that your quiet, shy bookworm will automatically love playing full-contact rugby as much as their wilder and more energetic sibling.

Similarly, you cannot treat all organizations – or the individuals in them – the same way and expect them to behave or adjust to new systems, methods, and processes the way you wish. Because we are unable to predict how each organization might react, we must tailor support to fit as required. Doing this requires a flexible approach and a toolbox for change management that understands how to change behavior or educate behavior as needed.

Unfortunately, business leaders who can bridge the gap between intellectually understanding the need and successfully acting on it are usually only those who have been burned once or twice. They learn to take implementing organizational change seriously – rather than seeing it as secondary to the technology change – only after they have been put in situations where doing the assumed right thing turned out badly.

The point of this book is to ensure that you do not need to suffer from this frustration.

## **What Are Our Goals Here?**

---

When approaching digital transformations, there are many possible causes for frustration and confusion. While it is clear that managing change is essential, executing it is hard. The sheer amount and diversity of suggested strategies are bewildering. In our daily work and research, we have found more than 240 different frameworks to choose from.

Even when you have a framework and a strategy, it is too easy to suffer the frustration of following your strategy perfectly but still failing. The experience required to succeed often comes at the cost of previous failures.

Our aim in writing this book is to relieve some of the frustration, stress, and confusion associated with managing change. In the next chapter, we trace the origins of the first principles. Before we take a close and critical

look at which principles benefit you and which might be more important than others.

We explore how you move forward from these first principles – looking at how others have integrated them to drive transformational change and how you can do the same.

This greater understanding of digital transformations will unlock opportunities for you. You can look at your current projects from a fresh perspective – seeing how to improve and make these projects deliver their intended outcomes. You can approach future projects differently by thinking more clearly about how to set up the transformation from the start.

Unfortunately – or perhaps fortunately – we do not offer a one-size-fits-all framework or recipe for digital transformations that will work for everyone. Instead of trying to do that, we demystify what managing change is for you by explaining what digital transformations do. Once you understand what digital transformations involve – and why they are essential – you can manage and implement your strategies far more effectively.

We hope that, by understanding how things work and why, you will avoid mistakes. Trying and failing *is* an effective way to learn how to find the approach that feels right. However, failing a digital transformation can be expensive and dangerous.

The consequences of misjudging what feels right are far steeper for leaders of organizational and technological change than for home bakers. For this reason, we want to help you understand what guides effective change management so you do not need to learn what it entails the hard way.

## Who Are We? Why Do We Matter?

---

We were in the same position as many of our readers when we began working on this research. We knew that change management was critical, but we also knew the frustration, stress, and confusion we experienced when working on our digital transformations.

However, when we discovered more about change management, we were overwhelmed by the volume of information and noise on the subject. So, we sat down and began to analyze the existing knowledge systematically. Using our collective practical experience and expertise, we were able to make sense of what works and what does not work, sorting through confusing and sometimes conflicting evidence.

We distilled nearly 2,000 articles, books, conference papers, and similar texts into our first principles for successful digital transformations. Then, over hundreds of hours, we held a series of workshops with about 200 change practitioners, who brought their rich experiences to identify and

validate the core principles that we all believe are important for successful digital transformations.

Our final task was to test those principles. Over three years, we looked for leaders involved in big digital transformations. We went through the University of Oxford alums and Implement Consulting Group client networks. We also created a list of big digital transformations we knew were underway.

In the end, we carried out an in-depth analysis of 155 digital transformations – interviewing those in charge of the project to deliver the transformation to build a collection of over 500 hours of interviews. In these interviews, we asked closed and open questions to get insights from graded scales that allow for comparison between different projects and recorded answers to the open follow-up questions, which allowed us to analyze each case in detail.

Then we asked for supporting evidence, including board presentations, investment proposals, project plans, cost reports, and project schedules, to obtain objective measures on cost overruns, schedule delays, and benefit shortfalls. The results of the analysis are discussed in Chapters 3 to 10 the book, and statistical analysis is presented in Appendix B.

We created this extensive data set to examine what happened in each transformation and how the core principles we had identified were used and to conduct rigorous statistical analysis of those principles to determine which ones were helpful.

Therefore, this book's conclusions, insights, and principles are entirely based on data-driven research. We also heard inspirational stories of transformations, which we share – as far as we can without breaking confidentiality – and describe novel ideas and approaches we have encountered.

Surprisingly, what we thought was true turned out not to be true. Using our research, we also reflected on our own experiences, and we were able to make sense of the setbacks we encountered, which we are happy to share. Through all of this, we discovered terrific new ideas. We learned from the frustration of others to spare you the same experience, so you can not only avoid some pitfalls but also make your challenging transformation more successful and fun.

We have taken what we have learned and applied this to other transformations. So far, we have seen marked improvements and successes – but then again, learning and innovation never stop. Read on to learn more about what we have discovered and how it might help you.

