BECOMING DIGITAL

STRATEGIES FOR BUSINESS AND PERSONAL TRANSFORMATION

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Unleash the Next

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ISBN: 978-1-61363-073-0

ABOUT THIS REPORT

This report was produced by Knowledge@Wharton, the online research journal of the Wharton School of the University of Pennsylvania, and sponsored by Mphasis, an IT services company. It was researched and written with the close cooperation of Mphasis executives, industry experts, and scholars and practitioners affiliated with Wharton.

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FOREWORD

GETTING READY FOR DIGITAL TRANSFORMATION

Ganesh Ayyar, Chief Executive Officer of Mphasis

If you are reading this book, chances are that you are as intrigued about the Digital Revolution and associated transformation as I am. My interest led me to learn more about the Industrial Revolution of the 18th century and the parallels it had with the current revolution. The characteristics they have in common are their velocity and scale of change, although the pace of transformation of the Digital Revolution seems to be much faster. The digital era is bringing about radical changes in employment patterns, as well as altering the concept of value creation and redefining our formerly tried-and-true structural models. These are changes affecting every industry—it is the kind of transition that can leave us feeling disoriented.

As the CEO of a successful billion-dollar IT services company, I led two waves of successful transformations. The first wave dealt with internal stimuli and the second was external. By 2013, I was convinced that the Digital Revolution had begun and we saw it opening up great opportunities for us. However, I wasn't sure if my previous approaches would work again. My skepticism was based on a belief that a transformation of a different kind was needed to succeed in this revolution.

The phrase "leaders cast their shadow on the company" was pivotal in my realization that the major difference between run-of-the-mill transformations and revolutionary ones was the critical need for self-transformation of CXOs, followed by a deep-rooted cultural transformation of the enterprise.

That led me to ask two key questions: "Was I part of the wrong generation to be effective? Could I lead the company successfully through this transformation?" The answer was that I could succeed, but that I had to go through my own transformation first.

Learning to learn all over again

I believe an inquisitive mind and acquisitive learning ability—the ability to keep learning— define one's childhood and teenage years.

As a child, I got on a bicycle knowing that I would probably fall several times before I learned how to ride. But the fear of falling did not deter me. As a teenager learning to ride my dad's motorized scooter, I took it for a spin on a soccer field near my home. Not only did I fall off, I also rode it into a goal post and ruined it. But that did not stop me from getting up and trying all over again.

We all remember times like these when we were younger—of learning, failing, and then getting it. But as we got older and exper-ienced some modicum of career success, we learned to fear failure and consequently suppress the spirit of experimentation. My generation now has a learning gap compared with the millennial generation.

I refused to accept this status quo, so I embarked on a journey of self-transformation—a journey to reignite my inquisitive mind and acquisitive learning ability. I soon came to realize that I needed to get to the root causes of what was hobbling me: ego, fear of failure, ignorance, and a comfort zone brought on by success. Identifying and acknowledging these root causes was not only liberating but also invigorating, giving me the confidence to tackle the challenges facing my company.

I started my digital journey—knowing that I might fall and fail at times—with a bit of candor about my shortcomings. In acknowledging my flaws to my team, I could truly start afresh with my digital transformation. I began looking forward to discussions with my reverse mentors, and started espousing and embracing new ideas. I even played what I prefer to call the angel's advocate for every team experiment.

We were changing as a company. We began to fully exemplify our new company tagline: "Unleash the Next." Our goal is to build a culture of experimentation, with customers co-creating products and services, all accomplished within a radical compression of the cycle time. Meanwhile, we are dismantling well-entrenched structural and communication models, upending deep-rooted hierarchical mindsets, and revisiting learning models. Top management's role is changing, too, to reflect the new culture. This is no longer the "physical" transformations of yore, but a "chemical" one that affects the very DNA of a company.

It is my hope that this book will spark your own digital journey, as you lead your company forward in this tumultuous but exciting era. It is time to "Unleash Our Personal Next."

INTRODUCTION

NO PLACE TO HIDE

"The best way to predict the future is to create it." —Peter Drucker

You can't lead a company today the way you used to. The seismic shift in technology that began to shake the business world 20 years ago, and to turn it upside down in the past 10, demands a new way of thinking. Are you ready?

Many CEOs and other C-suite executives are not. Instead, they are delegating the leadership responsibilities for change. According to a recent survey by KPMG, only 5% of CEOs—and just 3% of CIOs—are leading the digital transformation at their companies. But you cannot delegate your way to success. The big problem: Top leaders lack the key skills to implement the needed changes, nearly two-thirds of the survey respondents noted.

How can a senior business leader get the necessary skills? In short, how can you transform yourself so that you can transform your company?

You'll need a new mindset—think of it as a "mind map"—that will help you understand, navigate and ultimately embrace the digital world, allowing you to adopt and leverage new technologies, rather than become a victim of their disruptions. The process includes identifying digital blind spots and filling in your knowledge gaps. You'll talk to the usual experts, in your IT department and elsewhere, but will be especially open to learning from "accidental teachers" all around you: board members, fellow executives, academics, venture capitalists, tech startup entrepreneurs, and even lower-level staff in a bout of reverse mentoring.

After this personal digital transformation, you will be ready to enact true firm-wide transformation. A big part of that effort will be to help other senior leaders in your company to change their mindsets. With a deeper understanding of technology now informing the decisions in all of your top management ranks, your company will be better equipped to fight off pure-play startups and other competitors nipping at your business—and to pounce on emerging technologies to grow new business.

In 2002, the U.S. Army Research Institute published a report called "Training for Future Operations: Digital Leaders' Transformation Insights." It documented the military's transformation from an analog force into digital units capable of fighting nontraditional threats that could come from anywhere. The paper found that military leaders who were trained in new technologies enhanced their authority because they had the expertise to act like digital leaders.

This is the profile that business leaders must have as well—they must be agile, flexible, adaptable, multi-functional. They must be comfortable in the digital world. Yet, more than a decade after that report was written, the lessons it contains have yet to be embraced in countless companies.

Some CEOs remain unconvinced that their own transformation is necessary. They don't need to understand technology, they say, to understand business. They insist that the IT experts in their company will present any necessary business cases for change, and the company will respond. But the IT folks could well not understand the business, and wouldn't know when to make the right case. And if the CEOs don't understand the technology, they can't appreciate its strategic implications—and business decisions based on that incomplete understanding are likely to be shortsighted or worse.

Other executives accept the need for their own transformation, and their company's, but do not appreciate the magnitude and urgency of the task. We've made changes before when turbulent market conditions have demanded it, they will say. And they are right. But the turbulence they are now confronting is different in scope, and shockingly sudden in force. By the time that the warning signs are recognized, it is often too late.

The brutal fact is that digital turbulence will not spare any industry and will force current industry models (and even definitions) to blur. A brand-new threat—asymmetric competition—is one of its most powerful game-changers. Witness the rise in just a few years of two global behemoths: Airbnb, a rental lodging company that owns no hotels, and Uber, a driving service that owns no cars.

Take heed—there is no place to hide. Your company needs a forward-thinking digital leader. Becoming one is your mission.

CHAPTER 1

PERSONAL TRANSFORMATION

Dare to Look Foolish

"Control your own destiny or someone else will." —Jack Welch

Maybe this is you. You're in a meeting with your digital staff and you realize that you have no idea what they are talking about. You try to hide your confusion and resort to nodding sagely during the discussion. While people around you think you are deeply engaged and weighing options, you are actually gripped with uncertainty. For the first time in your 25-year career, you feel your footing slip, so foreign is the digital terrain. You worry that, if you ask your staff to explain what they mean, you will reveal how lost you are—costing you their respect.

Until now, you could always count on your industry experience to anchor you when a tide of new trends threatened to engulf your company. During the late 1990s, for example, you responded to competition from e-commerce rivals by opening an online store, tapping into the same marketing skills you had honed over the years. But the current digital revolution—powered by social media, Big Data, analytics, cloud computing, robotics, 3-D printing—is progressing so quickly that it has left you behind. Technology is no longer changing merely the business interface, but rather the way the company itself does business. Such a big disruption means that you can't keep delegating digital responsibilities to others if the company is to thrive. You know you need to get a grip on the digital world—but how?

You are far from alone in this predicament. According to a recent KPMG Global CIO Advisory Pulse Survey, lack of critical skills is the single biggest challenge faced by executives in responding to digital competition.

Charlene Li, author of *The Engaged Leader: A Strategy for Your Digital Transformation* (Wharton Digital Press), put it this way: "So many leaders are completely absent from the digital and social channels where their customers and employees are. They are not engaged at all. They feel like they need to be, but they don't really want to be. They don't know how to do it. They are terrified of it."

Digital technologies can seem particularly daunting because the pace of change is accelerating. "The technologies out there and what customers want are changing more rapidly now than, say, 15 or 20 years ago," said Michael Useem, Wharton management professor, director of the Wharton Center for Leadership and Change Management, and author of *The Leader's Checklist: 15 Mission-Critical Principles* (Wharton Digital Press).

Historically, companies have reacted to major shifts by replacing the CEO. But that is increasingly not an option, given the pell-mell nature of today's change cycle. "Chief executives have usually served somewhere between five and 10 years, and that was the pace of change," Useem said. "The problem now, though, is that the pace is not five or 10 years. The waves are not that long. They're more like 18 months." Thus, business leaders are increasingly realizing that they must "reinvent themselves, otherwise they are going to get reinvented by the market they are facing."

But once digital transformation takes place, and a digital lens is added to all business decisions, allowing a company to meet looming threats and seize new opportunities, the payoff is tangible: a 26%

improvement in profitability compared with the industry average, and 9% more revenue using existing physical capacity because of increased efficiency, according to *Leading Digital: Turning Technology into Business Transformation*, by George Westerman, Didier Bonnet, and Andrew McAfee.

Erika Andersen, founding partner of Proteus, a leadership coaching, consulting, and training firm, has worked with many Fortune 500 executives, instilling the art of digital transformation. The key hurdle to get over, she said, is fear of the perceived stigma that would result from admitting ignorance. The thinking goes like this, she explained: "Everyone's looking to you to have the answers"; if you are unsure, subordinates will see you as incapable of doing the job. "Well, if he doesn't know everything, why is he the CEO?" Or "If she's asking me for the answer, why is she the CEO?"

But, based on her experience working with top companies, concerns about losing respect are largely unfounded, Andersen said. "For the most part, my observation is people don't think that. They think you're curious and interested and willing to value them as experts," she noted. "That's the biggest fear—that I look like I shouldn't be in this chair—but it's almost never true."

Instead, CEOs and other business leaders who are brave enough to admit they have a gap in their digital knowledge gain respect, not derision. "People don't want to do it because they think it might make them look weak, but it actually makes them look stronger because it requires tremendous self-confidence," Andersen said. "I've never seen that backfire."

On the flip side, pretending to follow the digital conversation can have adverse consequences. "You could try and fake it, but it's not going to work," she said. "It's so ironic because the thing that CEOs are worried about happening if they demonstrate their ignorance—they will be seen as dumb, weak or incapable—happens if they pretend to be knowledgeable."

Andersen recounted a decision by the CEO of a media company to readily admit when he is not following the digital conversation at internal meetings. "He will stop the participants and say, 'I'm not familiar with this. Can you just back up and slow down, and talk to me assuming I don't know what you're talking about?' " Or, "'This is new to me and I really need to understand it. Can you walk me through this, step by step?'" Instead of looking dumb, the CEO can set a good example for his staff to be openly curious as well, Andersen said.

Benefits of digital transformation: Why it's worth your time and effort

The benefits that flow from a personal digital transformation are manifold. Take a look at the experience of the U.S. Army.

More than a decade ago, way before many digital technologies arrived at the doorsteps of most companies, the Army recognized that it needed to change from an analog fighting force to a digital one if it wanted to be effective in defending against threats that had become increasingly asymmetric. The direct source of these threats had shifted from nation-states to heavily armed rogue groups that deploy suicide bombers, suitcase "dirty bombs," and other non-traditional methods of warfare. The Army embarked on a digital transformation to fight this new enemy.

In its 2002 white paper on digital transformation by the U.S. Army Research Institute, the military said its future leaders must be "agile, flexible, adaptable[,] and multi-functional." The paper, which compiled insights learned from early digital converts in the Army, said that, after getting digital training, army leaders and soldiers learned to use digital tools to gather information about the battlefield terrain and their enemies—data they did not have before. Because they had more data, these digital-savvy soldiers became more effective than their analog counterparts, the Army discovered.

With more information, soldiers and commanders gained greater confidence to take action and do so more quickly. On the battlefield, analog units often tried to figure out what was happening to them. Digital units, however, suddenly had the capability to interpret what the enemy would do.

"When the enemy's probable cause of action becomes more evident, taking the appropriate action against him becomes much clearer," the paper found. "Digital information allows leaders and staffs to eliminate variables and act much earlier and more rapidly than before." When more and better knowledge is transferred between commanders and soldiers, they can "be bolder and take what would have been unacceptable risks in the analog world."

In addition, units became more agile as they became digital. In one field exercise, a commander received orders early in the evening and immediately began using digital tools to communicate with the troops. Commanders and key leaders linked up to discuss the mission and units moved to designated positions to fight the next morning. "The complex transition from one mission to another was done in less time, over difficult terrain, and at night," the Army said. As for the commanders themselves, digital training "enhanced their authority. They had the technical expertise needed to act like a digital leader," the paper said. "It got them closer to a level of authority that would normally have come from 10 or more years of experience. And most importantly, they did not have to defer to subordinates who had a much more detailed knowledge."

But how do leaders get this education and training? Largely, through self-development.

Steps to personal transformation: Remembering how to learn again

Here's some good news: You already have most of what it takes to be a good digital leader. The same set of skills that helped you ascend the corporate ladder remains helpful to guiding you in the future. "I have found that it's so much easier to teach a leader how to use these technologies … than it is to teach a millennial—who knows how to use these technologies—to lead," said Li, author of The Engaged Leader. "They don't know how to lead in life, let alone in these channels. [Digital education is] putting that confidence back in the hands of these leaders."

Here is a "mind map" to help you along the path of digital transformation:

- *Change your mindset.* The first thing to do is to change the way you think about digital. "You have to get yourself to a place where you want to learn this. We all only do things that we want to do. Period," said Andersen, the executive trainer. "So you have to get your mindset around, 'I want to do this. I want to learn new things. It's not going to work to resist change. I see benefits to myself.'" It is true, of course, that CEOs and other top executives are extremely busy, but Andersen argues that good leaders always make time for what is important. "The CEOs I know who are the most effective are great delegators. They hire fantastic people so they do have enough time," she said, adding, "You can always use time as an excuse. … When a CEO says he doesn't have time to learn all about this social media thing, what he's really saying is he doesn't think it's important enough to spend time on."

- *Be honest with your starting point.* Be willing to see yourself clearly, to know what you do not know. "You have to be willing to be accurate about where you're starting from," Andersen said. "If you keep telling yourself that you're great at technology when you're crappy at technology, you're not going to be able to learn."

- *Get curious again.* When you were starting out in your career, you were always learning new things. As you ascended the corporate ladder and matured on the job, the yearning to learn slowed down and might have calcified. Andersen's recommendation: Remember those early days and revive the passion to acquire new skills. (You may also have to revive the willingness to apply those skills—the increasing age of CEOs has been linked to lower levels of strategic risk-taking, according to a 2013 research paper called "CEO Personality, Demography and Firm-Level Outcomes: A Meta-Analysis of Upper Echelons Research," by Nathan J. Hiller and Marie Michele Beauchesne of Florida International University and Daniel Whitman of Louisiana State University.)

- *Be willing to be bad before getting good.* People often fail in their first attempt at learning new things—they sink before learning to swim, for example. But once we get older, we become competent at many things and develop an aversion to failure. We forget that we used to fail a lot before succeeding, said Andersen, author of an upcoming book called *Be Bad First: Get Good at Things Fast to Stay Ready for the Future*. Give yourself permission to fail as you learn new skills.

- *Be confident in your ability to learn.* Accept that you have a knowledge gap when it comes to digital technologies, but also be confident that you will close it. "You've gotten good at a lot of things—if not, you wouldn't be CEO," Andersen said. "You can balance that in your head, where you can say, 'This thing I don't know yet but I can learn it, I can get good at it. I have a lot of skills under my belt.' If you can say both of those things to yourself at the same time, then you're in a perfect position to get this new expertise."

- *Find your teachers.* Start with the chief technology officer (CTO) or chief digital officer (CDO), Andersen said. "Say, 'This is part of my education as a CEO. Walk me through—what are the key things we are doing in our digital business, especially ones that you're pretty sure I don't understand? Let's start there. Help me understand them.'" If the CTO or CDO speaks in hard-to-understand jargon, ask if there is a staff member who can explain it better. "You have to find somebody to talk to you in a way that you understand," she said. Consider reverse mentoring: finding a junior employee to teach you. Such a partnership works especially well if it is a two-way street. You learn about digital and the junior staffer can learn from your industry experience.

Don't stop there. Also seek out teachers in academia, startup entrepreneurs, venture capitalists, board members, and others.

For any of this to work, though, you must be a great listener. "The world is changing so fast that, if we're not actively listening through social media, if we are not digesting, if we are not analyzing what's out there, we are going to be at a disadvantage," said Wharton's Useem.

The bottom line is that older executives will never be digital natives because they did not grow up with these technologies—and that's OK. "If we're good learners and curious, and don't worry about demonstrating our ignorance, we can get up to speed," Andersen said.

CHAPTER 2

BUSINESS TRANSFORMATION
A Roadmap to Get in the Game

"This is no time for ease and comfort. It is time to dare and endure."
—Winston Churchill

Digital technologies are revolutionizing the way we live and work. From smartphones and tablets to smart thermostats and driverless cars, the world is changing at a breathtaking pace. Whether you like it or not, it is changing your business, too. Consumers are using phones to shop, and suddenly you need to have not just a website, but a website set up for mobile viewing. Employees are using tablets for work when they are out of the office, and now there is a need for your software to be in the cloud. Your marketing team is reaching out to customers through social media, and they are getting back plenty of data that they need to sort through. Now you need data analytics.

You know that if you don't act on all of these fronts, and inevitably many others, your competitors will. But how much of your business has to go digital?

To answer the question, you have to go back to basics: At its core, digital transformation starts with having a vision of where you want the company to go. What is your company's reason for existence, and how will digital tools help you grow or become more efficient? Certainly, there is a flood of digital technologies to choose from and you need to pick those that are critical to your business—but how, when the sheer number of options proves so confusing? It might help to see what other executives consider to be their top priorities. In a 2015 PwC survey of more than 1,300 CEOs in 77 countries, mobile technologies for customer engagement were deemed the most strategically critical to digital transformation. That category captured 81% of the vote, followed by data mining and analysis (80%), cyber security (78%), the Internet of Things (65%), socially enabled business processes (61%), and cloud computing (60%).

The biggest benefit CEOs see from digital transformation is operational efficiency that leads to cost savings. "The transformation of cost structures is a symptom of the digital transformation that companies are undergoing," the report on the survey said. "Indeed, 71% of CEOs also tell us they're cutting costs this year—the highest percentage since we began asking the question in 2010."

To successfully transform your business, the report said, a company must have two things: a clear vision of how technology can give you a competitive advantage and a well-thought-out plan that includes defined measures of success.

What exactly is digital transformation? Scenarios from three types of companies

Broadly speaking, digital transformation is the use of digital technologies to create fundamental changes in the way a company does business. The goal is to meet the needs of clients, whether consumers or other businesses, who are already using digital tools to change the way they live and work. Importantly, digital transformation bridges the chasm between IT and business, with the latter leading the charge.

"The digital strategy will be driven by business leaders and not by IT people," said Mphasis CEO Ganesh Ayyar. "It is not all about IT; it is about business."

Digital transformation, however, is often myopically defined as ad hoc additions of software and hardware, or automation of certain business processes that make one part of the company better instead of considering the whole. These steps can be a start, but a true digital transformation—one that provides a competitive edge and generates a positive return on investment (ROI)—will re-imagine the old way of doing things and lead to new business models.

Take the case of a large energy management company that sells electrical components to contractors. Under its old system, contractors and other channel partners would call the company or use its website to get a price quote on components to include in bids for a building installation, said Dinesh Venugopal, a senior executive at Mphasis who oversaw the company's digital transformation. The company, however, did not know who was using the website and whether they ultimately made a purchase. A key concern was that contractors might glean information from the site but go to a competitor to buy the components.

As part of its transformation, the company installed a system that generates a list of required electrical components, along with their prices, when building specifications are submitted to the site. The new system speeds up the process for contractors, whose identities the company is now tracking—and produces reports that can be submitted as bid proposals for building projects. This system creates a new business model: The energy management company can charge contractors a fee to create the proposals or use the system to make a bid directly for a project. Normally, the contractors would be the ones making the bid, but now the company can do it directly, too, Venugopal said. "The entire channel and the way they interact completely changes."

The energy management company's experience reflects those of other businesses. According to the PwC survey, 54% of CEOs said they entered or considered entering a new market in the past three years due to digital transformation, while 56% said they would compete in new industries in the next three years for that reason. These opportunities for expansion were not just for large corporations, either. No less than 51% of smaller firms, with revenues under $100 million, entered or considered new markets in recent years thanks to digital transformation, the survey found.

Most companies have some form of digital initiative underway, or at least have an awareness of its importance—after all, even mom-and-pop stores have Facebook pages.

Firms that have not yet embraced a digital transformation fall into three categories, according to Venugopal:

- They have formulated a digital strategy with the help of a major consulting firm, but are unsure about implementation.
- They have the makings of a strategy, sketched out on their own, and formed internal teams to implement digital work, but don't have a clear vision of where they want digital to take them.
- They have no formal strategy at all.

Each of these categories requires a different form of intervention.

- *For companies with a digital strategy but no deployment:* In this situation, the IT team is playing a bigger role than the business side because the digital strategy is clear. What must be addressed is the alignment of the internal teams to figure out how best to get from A to B, since these endpoints have already been defined, Venugopal said.

- *For companies with a half-formed digital strategy:* There is often internal disagreement about what to do. The solution is to urge executives to take the customer's viewpoint. "Start with what the customer's journey will look like," Venugopal said. "What is the best way for customers to interact with the new model?"

- *For companies without a strategy:* Executives should meet with key stakeholders to make sure they agree that digital transformation must take place. They should consider the digital trends in the industry and what competitors are doing, Venugopal said, and then assess the impact on the company. Here, the business side needs to take the lead over IT.

Where are you in this continuum? Are you ready to take the plunge, or to finish the effort you've already started?

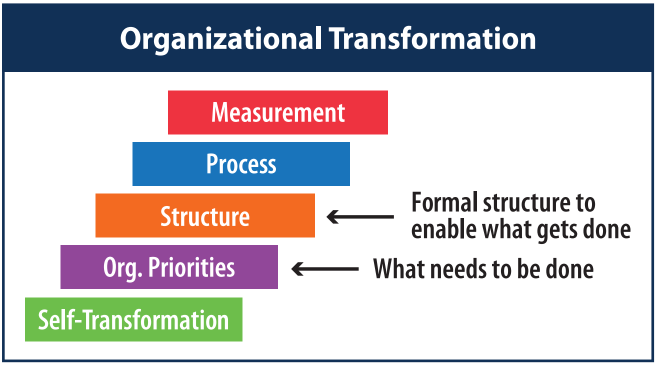
If the answer to that last question is yes, the natural follow-up is to assess just how much the digital transformation will cost. The answer, of course, is that it varies, depending on the scope of the project. In general, companies typically pay for these projects initially by using the IT budget to optimize existing operations, Venugopal said. Any savings from increased efficiency, say around 20% to 30% of the IT budget, would then be used to fund digital initiatives.

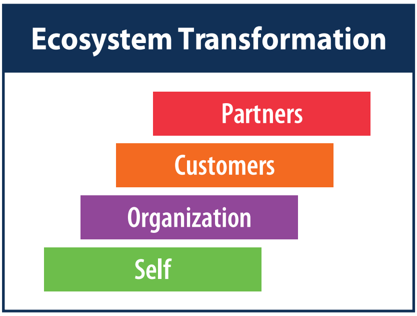
"If it's a large enough digital initiative," Venugopal added, "then there is additional funding, which usually is approved at the board level."

Projects can last 18 months to three years, so make sure to set measurable goals that must be met every six to 12 months.

Building blocks to digital transformation

Sesha Dhanyamraju, CEO of digital risk at Mphasis, outlined a series of six steps that organizations need to take to be effective in their digital transformation journeys.





The first step of this journey is self-transformation, which calls for leaders to demonstrate their willingness to learn new things. The task of learning might seem daunting, but successful digital transformation journeys need leaders who are ready to take the plunge, rather than prefer to stay on the sidelines. Dhanyamraju further notes that the goal of this self-transformation must transcend beyond a few individuals to permeate across multiple levels of an organization. For example, the president of a $500-million-unit in a global company sets up regular “lunch and learn” sessions in which startups are invited to present their businesses and concepts to the leadership team. This exercise in self-transformation is pivotal and contagious.

While self-transformation is necessary, it is not sufficient. The very existential question about why an organization exists, its purpose, its role in the ecosystem, and the differentiated value the firm has to generate for different stakeholders must be communicated clearly and frequently to all.

That leads to the second building block: establishing organizational priorities. Converting these priorities to SMART goals—specific, measurable, achievable, results-focused, and time-bound—is the necessary next step. For example, an airline could aim for 50% of transactions becoming digital within three years.

The third building block is the transformation of the company structure. For example, a company could elevate the head of digital to the C-suite as the chief digital officer. “Make it as a visible role, which has the ability to influence changes across different organizational departments and functions,” he said. As digital technology becomes increasingly embedded in a company’s processes, having someone clearly in charge and responsible will be necessary.

The next step is process transformation. This is almost akin to rewiring the DNA of a company, because old processes and ways of working may no longer be adequate. “It’s a combination of technology and people—essentially setting up a new way of working,” Dhanyamraju said. One thing it can do is set up a dual-mode existence: Develop a digital process that exists alongside the analog one for a while. As more employees migrate to the new system, phase out the old.

Consider the submission of expense reports. Employees are used to scanning, uploading, and submitting receipts to the company using computers, but several companies now offer the option of letting employees take photos of receipts using their smartphones and uploading them into the expense reporting system wherever they are—removing the hassle of carrying paper receipts back to the office to file expense reports. Many companies still offer both options, and replace the analog method when use of the digital channel becomes the norm.

The last building block is measurement. It is important to keep track of your progress. Otherwise, "how do you figure out whether you're on- or off-track? How do you define what are the right indicators, or [whether you are] headed in the right direction?" His recommendation is to set the right measurement criteria and check on progress at least once every quarter. "What is it that you want to do? Where do you want to be within a certain amount of time?"

The ecosystem in which your company operates also needs transformation. The building blocks are the same as the ones for organizational transformation, with the addition of partners' transformation. Going back to the airline example, the way it could transform its partners' ecosystem is by linking with them to enhance the customer's overall digital experience. "When people are traveling, they also have other needs—car rentals, hotels, meals, etc. Link your partners' ecosystem to this, and allow customers to book an Uber ride on the airline app. It lets the experience become that much more transformed," Dhanyamraju said.

Balancing analog and digital: A duality worth managing

As you transition to digital, there is the task of balancing it with the analog side of operations—what Ayyar calls the "challenge of duality."

"I am not going to give up on my analog business overnight, being a listed company. And yet, I have to adopt digital," he said.

Ayyar believes that, in shifting to digital, the analog business will be cannibalized, but he does not let that thought deter him. Instead, Ayyar said he focuses on "attacking, because an attack is the best form of defense." That means he plans on using the company's new digital prowess to expand market share or enter new markets—shifts that, in time, probably will more than offset any ground lost to cannibalization. It is also an opportunity to tip the scale in his favor: "I see [digital transformation enabling] a shuffling of the deck and[,] if we do the right thing, we will come out on top."

One way of handling the duality is to create a dedicated structure to pursue digital endeavors, such as spinning off a division, said Kartik Hosanagar, a Wharton professor of operations, information, and decisions. "Oftentimes for large, successful analog organizations, new digital opportunities may not meet your standard litmus test," he said. "Is the market size big enough? Is it meeting the needs of my current customers and so on? Five years, 10 years down the road, it might, but not today. And so it becomes hard to pursue those opportunities in the traditional structure."

A spinoff operates semi-independently but under your control, he explained. "At the right time, you decide whether you kill the initiative, let it continue in the format, or bring it back in, and this is your new main cash cow."

That means the entire company must not be afraid to experiment, even if it means the endeavor sometimes fails—but the CEO must lead the way.

"The minute you adopt the philosophy of experimentation throughout the company, you—as the CEO—send a message that 'it's OK to fail,' because everyone knows not every experiment will succeed," said Jerry "Yoram" Wind, director of Wharton's SEI Center for Advanced Studies in Management and a marketing professor in the business school. "The minute you send the message 'it's OK to fail,' you're overcoming the natural inclination to be risk-averse." That is why it is important to celebrate lessons learned from failures, as well as successes.

Some gambles, whether digital or analog, have worked brilliantly. Years ago, Citibank decided to offer credit cards to college students without requiring co-signers. At the time, it was considered a big mistake because these consumers had high debt loads, no jobs, no homes or other assets, and limited or no credit histories. But the bank discovered that parents often bailed out their children and these students eventually turned into valuable, long-term customers, according to Paul Schoemaker, senior fellow at Wharton's Mack Institute for Innovation Management, in his book Brilliant Mistakes (Wharton Digital Press). "If you want to succeed faster, make more mistakes," he said, paraphrasing IBM's late CEO Thomas J. Watson.

What makes a mistake "'brilliant"? If you learn from the mistake more than what it cost you, then it starts to move into the arena of brilliant mistakes, Schoemaker said. "Every mistake has a silver lining."

He cited a passage in billionaire Michael Bloomberg's 2008 commencement speech at the University of Pennsylvania, delivered when he was New York City's mayor, as a prime example of not fearing failure. At 39, Bloomberg was fired from his Wall Street job. "I have never let myself look back," he said in his speech, noting that he founded the global data and news service bearing his name the very next day. "Make no mistake," he told the new Penn graduates, "I'll fail again—many times more if I stay active and try to push the envelope by innovating."

Unlike Bloomberg in his startup years, you already have an established business and your company can bank on its reputation and experience. Your purely digital rivals might have a bigger appe-tite for risk and flexibility, but you still outgun them in funding, breadth, and depth of clients as well as market position—all huge advantages if played right.

"If I worked with the customer for the last 12 years and they trust our brand, they believe that we care about their success," Ayyar said. "A new player who comes—despite being glamorous—will have to prove themselves."

Your clarion call remains the same in the face of changing business trends: Focus on meeting your customers' needs. The secret to successful digital transformation is just that.

CHAPTER 3

THE SECRET OF DIGITAL SUCCESS

The Customer Is Key

"The rules of the game have changed, and consumers hold far more power than ever before."—Peter Fader, Wharton

By embarking on a digital transformation, a company accepts that the next challenge is putting together the right mix of technologies to jumpstart its competitiveness. That can be a stressful undertaking, given the panoply of technologies that are available.

Ayyar faced this tricky and potentially disorienting task for some time at Mphasis. Then he realized that the way to keep a transformation on the right track is to focus on serving and providing value to the customer, whose expectations and ways of doing business are constantly evolving. With his customer's needs in his sights, Ayyar could figure out the kind of digital transformation he needed to make.

"In my company, the mantra we have adopted is this: Make customers central to our transformation. Revolve around your customer strategy to be successful," he said. "That gives you sustainability and longevity, and it defines whether you are delivering value."

By placing the customer at the center of your digital plans, you will get a better handle on what to do—whether it is to increase engagement through social media, improve customer experience on mobile devices, or reconfigure back-end systems to manage an influx of interactions through digital devices.

A study from Accenture shows that making the customer experience better is the top business priority of companies pursuing digital transformation. The report, "Digital Transformation in the Age of the Customer," also argues that providing better engagement with the customer is the main driver behind the push toward digital.

Too often, though, companies that say they are focused on the customer are actually serving their own needs first. A case in point is the traditional Customer Relationship Management (CRM) system, which is a set of processes designed to gather information about customers to "manipulate" them, said Wharton's Wind. CRMs have "nothing to do with being customer-centric." Instead, businesses should deploy CMRs, or Customer Managed Relationships, he said. "It's a platform that will allow consumers to manage their relationship with you and your competitors."

A classic case of CMR is the American Airlines travel reservations system Sabre, which revolutionized the industry for travel agents in 1960 by automating fare searches and bookings. The airline created a system that listed not only its own flights but also those of competitors, to better serve its customers—the travel agents—and make the system more viable. At the time, the airline was also facing competition from an association of travel agents that was looking to create an alternative solution. By 30 years later, Sabre could store 36 million fares to create a total of more than a billion fare options. American spun off Sabre Holdings in early 2000 in a deal valued at $5.7 billion.

The lesson for today's companies? "Everyone can give customers an app that lets them manage their relationship with you and your competitors," Wind said. "You'll benefit because it's your app, your platform." Examples of these "network orchestrators" are Uber and Airbnb, which create and control a platform used by others.

Wind's research shows that becoming a network orchestrator can pay off. Data culled from S&P 500 companies from 1972 to 2013 reveals that these network companies sported higher market values on average as measured by their price-to-revenue ratios: 8.2 compared with 4.8 for technology creators (Microsoft, Oracle), 2.6 for service providers (United Healthcare, Accenture), and 2.0 for asset builders (Ford, Wal-Mart). Market valuations reflect investor expectations for future cash flows, according to Wind.

Network companies also vastly outperform when it comes to the average revenue compound annual growth rate (CAGR) and average profit margin over the same timeframe. Why? The network company's marginal cost goes down because the network does the heavy lifting in the business.

That doesn't mean that you should get rid of your existing CRM system, which remains useful for gathering data and managing interactions. "Continue with the CRM, but don't confuse it with being customer-centric," Wind added. "If you want to get to the customer, augment it with the CMR system."

When a company RAVES about its customers

When she used to work for ad and marketing agencies, said Beth Ann Kaminkow, former chief marketing officer for mall developer Westfield Corp. and founder of the consultancy Popsicle X, the number-one request from clients was "Make my customer love me."

"That was the wish of every single company," she said, "but inherently in that framing is a disconnect with consumers." Putting customers at the center means you must show consumers how much you love them, she said, and that requires a "seismic shift" in how companies think about them today. The bottom line? Treat them as human beings instead of tin-foil representations of shoppers, employees or other groups.

It's like dating, Kaminkow said. If a woman sees an interesting guy in a bar and focuses her energy on how she can make him like her, primping so she would stand out in the crowd, she would most likely fail to get a date. The outcome would be different "if I start shifting [my mindset] and think about, 'Wow, how can I make these people in the room feel like they're actually interesting to me?' That I'm curious about them and that they might be special in my life at some point, that I have the ability and the willingness to get to know them—that's actually how love takes place." She said companies disconnect themselves from having this "real" conversation with customers.

To improve the conversation, and with it the customer experience, messages or offerings have to be communicated seamlessly through all touchpoints, Wind urged, citing the research presented in his book, *Beyond Advertising: Reaching Customers Through Every Customer Touchpoint*, which culled insights from 200 global thought leaders. Such a broad approach is really critical, he said, "because it suggests [that companies] not only want to focus on advertising media but also the product design, technical design, call center interaction, interaction with employees, other social networks."

Of course, the communication has to be effective. To improve the odds, follow the precepts spelled out in the Respectful and Relevant, Actionable, Valuable, Experiential and Sharable (RAVES) system that Wind developed in his book.

For openers, that means companies must not talk down to customers. "Don't indiscriminately send dumb, insulting ads to them," Wind said. The communication also has to be actionable, he explained—the customer has "to be able to do something with it." It also has to provide cognitive and emotional value while being experiential and shareable as stories.

Marriott's "Travel Brilliantly" TV, digital, and mobile advertising campaign is a prime example of a hotel chain that reinvented the way it interacts with its guests to be relevant in the age of social media. The campaign asked guests to be co-creators of the lodging experience, by sending the company their ideas to make their stay better or sharing their travel adventures. When a traveler suggested that Marriott install "healthy" vending machines, the chain partnered with Farmer's Fridge to dispense salads-in-a-jar. Marriott also lends its guests a GoPro camera so they can record and share their travel adventures during their stays, and produces a virtual reality travel series of exotic locales for hotel guests to enjoy, called "VR Postcards." When such stories are done right, they "are so exciting, insightful, and relevant that consumers want to share them," Wind said. "The consumer becomes part of your strategies and activities."

It doesn't matter whether you are a business-to-business or business-to-consumer company; you are increasingly serving the same customer. For example, Westfield had long considered retailers as its main clients. The firm's core belief was that "if we take care of our retailers, our business will take care of itself," Kaminkow said. "All of a sudden, that wasn't working anymore." Westfield had to learn to directly engage with the shopper, not just the retail stores that rent space in its malls. Wind calls it a b-C-b relationship, with a common customer at the center.

Companies also must design platforms that engage consumers and lets them co-create the experience. For example, Coca-Cola has invited designers, artists, and illustrators to create art featuring its vintage bottle in red, black, and white.

"They will perceive their role as being co-designer with you," Wind said. "The whole game becomes different. It's not us versus them. It's basically how we, together, achieve the objective."

The objective, he added, should not just be the traditional maximization of shareholder value, but also meeting evolving consumer needs and having a positive social impact. "You need all three of them," he said. "If (you don't have all three), you won't get millennials as employees or consumers."

Defining customer value

Traditionally, most companies put themselves at the center of their operations; specifically, their products and services. When they think about digital improvements, it's often to add a new bell or whistle.

"It's all about, 'Let's come up with a great product idea, let's sell the heck out of it, let's get a high volume, let's get costs down and use digital to crank that up a bit more efficiently,' " said Peter Fader, a Wharton marketing professor, co-director of the Wharton Customer Analytics Initiative, and author of the book *Customer Centricity: Focus on the Right Customers for Strategic Advantage* (Wharton Digital Press). "For most companies, that's the view they take because that's all they know. Every business course, every business strategy is all about that."

In short, digital tools are employed by many companies to expand product-centric operations. It's still all about the product or service they sell—they just want to use "all the digital stuff either to sell more, or sell more efficiently, but they're not fundamentally changing the business," Fader said.

That means they are missing the much bigger opportunity in the digital age. What they should be doing is harnessing digital's power to anticipate and meet the customer's changing needs—and not just any customer, but their most valuable customers, who will stay with them for the long haul.

"If we can figure out who those most valuable customers are, and we can find ways to enhance their value and extract that value for shareholders and find more customers like them, we can potentially make more money than just [by] doing the product-centric, turn-the-crank thing," Fader said. "If we have the right kind of data and layer on the right kind of analytics and execute using the right kind of technology, then we can do all that. It opens up an entirely new strategy."

To find your most valuable customer, calculate a client's Customer Lifetime Value, or CLV. It is not enough to look at how much a customer has already spent at your firm—you need to project how much more that customer will spend in the future, Fader said. The factors that go into the calculation of future value vary, of course, by company and industry. For example, a retailer could look at a customer's recency (the last time she made a purchase), frequency (how often did she buy,) and monetary value (average value of the purchase) to identify the most valuable ones. For a casino, CLV could include a customer's average expenditure on the property and that customer's loyalty—how many times he or she returns to gamble.

One company that has learned to identify and serve its most valuable customers is games developer Electronic Arts Inc. It started out using the same growth strategy as other games makers—find a hit game and capitalize on it. But then, "they realized that the market is commoditizing and they can't really get ahead by developing faster," Fader said. Electronic Arts, which produced classics such as John Madden Football, found itself adrift. Its stock lost three-fourths of its value in five years, hitting a trough in 2012. Populist website

Consumerist called it the worst company in America two years in a row—beating cable companies and airlines. The games developer was in a full-blown crisis.

Electronic Arts changed its strategy to focus on customer centricity using Big Data. It began monitoring what users were doing daily—what games they were playing and for how long. Fader said it also observed whom its customers were playing with and how much they were spending. Today, Electronic Arts collects more data in 24 hours than what the Library of Congress has in its entire archives, tweeted company executive Ryan Withop.

With all that data, the company was able to fine-tune its message to players. One of its global codes of conduct, "Think Players First," describes how the company should treat customers: "Listen and respond, deliver beyond their expectations, build lifetime players."

In a June 2015 article titled "How Electronic Arts stopped being the worst company in America," CNET said the new customer-focused strategy meant that the games developer would be "making decisions in the best interest of customers, rather than merely for the company. It was about doing right by the customers the first time around, be that delaying a game to make it better, or offering freebies as an apology for screwing up."

In late 2015, shares of Electronic Arts hit an all-time high.

Your company shouldn't wait to be in a crisis before tapping into digital's transformative power. In the next chapter, leaders of four firms share their stories of corporate transformation.

CHAPTER 4

HOW SOME BIG LEGACY COMPANIES—AND A STARTUP—EMBRACED DIGITAL

"We have to constantly keep ahead and think about what the next big thing is." —Chieh Huang, chief executive officer at tech startup Boxed

Digital transformation will look different at each company—as well it should. Businesses may use the same digital technologies, but these tools will be deployed differently to meet the unique needs of each firm. At the recent conference on digital transformation held by Knowledge@Wharton and Mphasis, executives from Fortune 500 companies, global conglomerates, and a startup discussed strategies they are deploying to meet the challenges of the digital age, whether it is redefining the role of the CIO, changing the company culture, or reinventing the way they do business. Here are their stories.

Dana Deasy, Chief Information Officer, JPMorgan Chase

The role of the CIO has changed since 30 years ago, "in the mainframe era," said Dana Deasy, who now holds that role at JPMorgan Chase. At that time, "we were masters of the universe. We set the pace of how fast technology moved and we were owners of the tech world. Then the Internet and the PC era came around." As the digital age progressed, IT and the end user began to share power in ways never seen before.

"Is it a revolution? Let's look at the facts," Deasy said, noting that, out of a world population of more than 7 billion, upward of 3 billion are connected to the Internet, including 2.5 billion who have smartphones—a figure that is expected to grow to 6 billion by 2020. "At JPMorgan Chase, we have 38 million digital customers and 20 million have mobile devices, growing at the rate of 22% year-over-year." You don't have to look at tech startups like Uber or Airbnb to see that there is a revolution. "Just look at traditional industry."

The challenge for JPMorgan Chase, Deasy said, is learning to reorient a huge business to meet the changing demands of consumers, who expect to get new digital experiences every 60 to 90 days—be it an operating system update, a new feature for games, or the next iPhone iteration. To stay digitally agile, it is critical for the bank to nurture a culture of experimentation and innovation without disrupting current operations, which handle more than $3 trillion of payments every day. "That's the real art—creating a place of experimentation while simultaneously running a very large enterprise."

JPMorgan Chase recently invited the CEOs of 200 tech startups to a summit in Silicon Valley where the bank's executive team explained the needs of the financial sector in an effort to spur the development of apps and platforms. The bank also brings startups to New York for similar gatherings. In 2015, it met with 300 startup CEOs; at any given time, it is piloting the products of 60 to 70 startups. "We need to educate them on the direction we see our business going," Deasy said, "if we want to get great products from the Valley."

When JPMorgan Chase looks at startups, it sees opportunity, not peril. "New players are forcing big financial institutions to be more efficient," Deasy explained. "That's good for the industry and there's an opportunity to partner." Venture capitalists are useful in the process because they fund many startups, which allows firms like JPMorgan Chase to partner with the most promising ones.

"That makes JPMorgan Chase more relevant," Deasy said, "and draws even more customers to us."

Dale Danilewitz, Chief Information Officer, AmerisourceBergen

It is good to be AmerisourceBergen. Booking revenue of $136 billion in fiscal 2015, the pharmaceutical sourcing and distribution giant employs a mere 16,000, which results in a highly enviable ratio of revenue for each worker. "That's a lot per employee," said Dale Danilewitz, the company's CIO, "and the way to do that is through digital."

The company benefits from being in a highly regulated industry and possessing an expansive distribution system that delivers drugs to retailers, hospitals, and other outlets.

That doesn't mean AmerisourceBergen feels safe from digital disruptors. Danilewitz said the rise of 3-D printers—which, in theory, could make it possible for hospitals, drugstores, and perhaps even patients to "print" their own drugs—could challenge the company's raison d'etre. If that happens, AmerisourceBergen would have to remake itself into a distributor of raw materials. Moreover, a digital disruptor such as Amazon, with its vast distribution system, low prices, and fast delivery, could become a staunch rival if it ever decides to sell drugs.

That means Danilewitz, along with the firm's executive team, has to make sure the company stays ahead of the trends. "It's our responsibility to help the business reinvent itself. It's very important that we [in IT] should not believe that it is only our responsibility, because if we do, we will fail. It is the entire business's responsibility to think about how to continue to reinvent itself." His specific mission is to make sure AmerisourceBergen has all the tools needed to encourage the flourishing of ideas and innovation, as well as the means to turn those ideas into reality.

Communication is key. To foster openness, Danilewitz said, he has a "no-toes" policy. "That means don't be afraid [to speak up and possibly step on someone's toes] because they don't have toes." Over its internal social network, the company encourages employees to present ideas as if they were pitching to venture capitalists. "We prioritize the ideas and we rank them." That way, the good ones can reach top management.

One potential area of digital expansion is patient compliance—making sure that the patient is taking the medication as prescribed. AmerisourceBergen wants to apply the technologies behind the Internet of Things to improve compliance rates, by using everyday devices that are connected to the Internet to yield continuous data as they monitor patients. The company is also exploring the development of drugs with the electronic capability to communicate via Wi-Fi once the medication has been ingested.

AmerisourceBergen has already introduced radio frequency identification (RFID) tags for drugs, to solve the problem of hospitals not wishing to maintain an inventory of expensive medication that is infrequently used. In a consignment-like arrangement, the company owns the inventory of drugs but places them on site at the hospital.

"When a drug is removed from the cabinet," Danilewitz explained, "it generates a 'removal event.' If not replaced in [a set number of] hours, we transfer ownership." AmerisourceBergen built this cabinet for hospitals and has adapted it for in-home use for drug trials. It has also developed a special backpack to track drug-taking as patients move around.

Chieh Huang, Chief Executive Officer, Boxed

As the head of Boxed, a digital startup that is disrupting the bulk grocery business, Chieh Huang is not the first person who comes to mind when talking about digital transformation.

His company sells items like paper towels in bulk to consumers and businesses. While its products are similar to those sold by traditional retailers, Boxed offers a smaller selection of brands and uses mostly digital tools to engage with customers—yet Huang is just as worried as the CEO of any legacy company might be about the need to adapt. In short, Huang knows that nothing stays the same, and that the digital revolution is never ending.

"Mobile is the current big thing, and we're going after the traditional players in a new format," Huang said. "So what happens in five years, when the touchpoint changes again? In some ways, we're not unlike them. We have to constantly keep ahead and think about what the next big thing is."

He cites the case of Facebook, a tech disruptor that had to pivot or lose relevance as consumers shifted to mobile devices. "Facebook underwent the biggest transformation ever in the modern digital age, in that they were primarily desktop and they foresaw an existential threat to them in mobile." The social network's switch to a mobile focus is working, Huang said.

American Express is another company that has had to transform itself—in fact, many times, Huang noted. Founded in 1850 in New York, Amex started out as an express delivery business, expanding its routes to the frontier West. Eventually, it became known for its traveler's checks and then turned into one of the giant players in credit and charge cards. Now, the company has bought payments provider Stripe. It has even invested in eyeglass maker Warby Parker, a company that disrupted its own industry by offering stylish and inexpensive eyewear popular among millennials and marketed through digital technologies with a social bent. For each pair of glasses sold, it gives one away to the poor. "They're constantly looking at what's next," Huang said.

His advice to analog companies interested in buying a tech startup is to make sure that the founding team is still engaged. "If they are out to make a buck because they just want to sell the company, it will be a failed acquisition. They are merely looking for an exit and they're going to be out the door."

Just staying on isn't enough, though, Huang added. The founders also have to be aligned with the new parent. That is why Amazon's acquisition of online shoe seller Zappos has been one of its most successful. While Zappos operates independently, founder Tony Hsieh is clear who is the boss, Huang noted.

"If you don't have buy in from the founding team," he said, "you're going to have a tough time."

Angela Tribelli, Chief Marketing Officer, HarperCollins

"Publishing is in a tumultuous period of rapid change," said Angela Tribelli, the chief marketing officer of HarperCollins. "From my perspective, I very much welcome it. We're more driven than ever to be stronger, faster, scrappier, and wilier."

HarperCollins, a major book publisher owned by News Corp., thrived for nearly 200 years until the digital revolution—personified by Amazon—began eating into the publishing business. But the company has survived and is adapting to the new reality.

"One of the biggest transformations we've undergone relates to the consumer," Tribelli said. Publishing has traditionally been a business-to-business enterprise, selling to bookstores and other retailers that, in turn, sold to readers. "What we've done in the past couple of years—and this is a huge part of our digital transformation—is become much smarter about the end consumer, not at all to disintermediate the bookseller, but rather, to be able to market to readers more effectively on the bookseller's behalf."

While Amazon remains an intimidating competitor, publishers can leverage the deeper insights they have about their readers to market to them. For example, they know more about micro-communities of readers who congregate over shared niche interests such as dystopian vampire erotica. "It's a really small community but you can sell things to them," Tribelli said.

The publisher also recently launched a program called "Epic Reads" for the community of young adult readers. It partnered with Target to offer an Epic Reads section in stores that carry books recommended for these readers. What's notable is that HarperCollins includes some books from rival publishers. "This is not something that would have happened before," Tribelli noted. "We're promoting other publishers' books, but doing it in the service of this larger community so we can gather information and intelligence to become better [at what we do]."

Another consumer-focused initiative, through a partnership with Jet Blue, targets captive audiences. The publisher's books are offered as downloadable content to passenger devices through the Wi-Fi entertainment hub on Jet Blue planes.

"You know they're open to entertainment, but not necessarily thinking about books," Tribelli said. "We develop all sorts of strategies to reach the customers where they are."

A Digital White-Glove Experience at First Republic Bank

"We're really focused on providing an excellent digital experience, whether that's online, mobile, or some combination … to support what our clients are trying to do."

—Hugh Westermeyer, Deputy CIO at First Republic Bank

For 30 years, First Republic Bank has prided itself on delivering white-glove service to its clients in private banking and wealth management. As other banks began to minimize personal contact with their customers to reduce costs, First Republic clung fiercely to the roots of traditional banking—working even harder to maintain a "high touch" relationship.

"Our bank is focused on a more old-fashioned service model of in-person, high-touch service," said Hugh Westermeyer, deputy chief information officer, in an interview with Knowledge@Wharton. "We go the extra mile. You can always get someone on the phone. We're there to help you."

As consumers began migrating to mobile devices for banking, though, the San Francisco-based bank faced a dilemma. Interacting with clients through digital channels would minimize the element of human contact—the kind of contact that First Republic has long seen as important to its success—but if it didn't move aggressively into digital, the bank would be unable to meet the changing needs of its clientele. The answer was to be digitally agile and highly personal at the same time.

"The focus is to make sure that we continue to provide that First Republic Bank-style and level of experience digitally as well as if you come in and visit us in one of our branches," Westermeyer said.

The bank decided to harness technology to rev up its customer service even more: It automated internal processes and systems to improve the work flow so employees could serve clients more robustly and efficiently. "That means working on things like the better delivery of information," Westermeyer said. "We have a Customer Relationship Management system that we built to deliver comprehensive relationship information to people who work with clients."

First Republic takes a holistic view of its customers, many of whom have several accounts at the bank. Using technology to pull together all of a customer's data from disparate sources in the bank, First Republic can paint a more complete profile of the client and provide better service because it will have a better understanding of the customer's needs.

Compiling all of a client's information has another benefit: The bank can provide a unified view of accounts for the convenience of its customers. "Many of our folks are focused on bringing this information together into one place so you can see it all at once, you can transact with it all at once—and it just makes it a lot easier for you," Westermeyer said.

He said the bank takes great care to make sure the digital channels it provides have user-friendly interfaces. Nothing frustrates mobile users more than a clunky webpage. Ease of use is key, Westermeyer said. "We're doing a significant amount of work [on] the overall user experience, so things flow very smoothly. We take advantage of the current, state-of-the-art user interfaces and styles, so that it's a very familiar and easy-to-use experience."

The overall mission is to keep standards high, whether clients interact with the bank digitally or in person.

It's using technology "to provide the same sort of experience," Westermeyer said. "Nowadays, not everyone wants to do everything in person. There's a lot of desire for self-service and certainly, in commercial banking, there are a lot of activities that our clients need to do themselves, so we're really focused on providing an excellent digital experience, whether that's online, mobile, or some combination, in order to support what our clients are trying to do."

The Digital Journey of an Energy Solutions Giant

"We are digitizing our solutions, digitizing our equipment to ensure that the whole energy infrastructure becomes a first-class citizen within the utility space."

—Christopher David, chief technology officer of digital customer experience at Schneider Electric

It is also good to be Schneider Electric. The 180-year-old French company reports annual revenues of 25 billion euros and employs a workforce of 180,000 who serve customers in more than 100 countries. As an energy management and automation company, it provides products and services to a world with an ever-expanding appetite for power.

The latest developments in digital technologies—the Internet of Things, cloud, data analytics, and others—have given Schneider an urgent mandate: Use innovation to balance the needs of energy consumers with global resources, so we can all do more with less. The company believes that access to reliable, safe, efficient, and sustainable energy is a "basic human right."

The digital transformation of a company with such far-flung operations is a long-term journey, not a sprint. "We're changing everything we do," said Christopher David, chief technology officer of digital customer experience. However, he added, "it's not an overnight transformation. We started a couple of years back and, step by step, we've been changing and transforming."

Schneider transformed its customer-facing side to provide easier access to products and services. Last year, it rolled out a major reboot of its homepage with improved search and navigation features. It also changed internal operations, encompassing areas from sales to customer care and CRM systems, and is digitizing its infrastructure. "We are digitizing our solutions, digitizing our equipment to ensure that the whole energy infrastructure becomes a first-class citizen within the utility space," David said.

At the same time, the proliferation of connected devices in the Internet of Things is opening up more opportunities for Schneider. On top of selling the devices, the company is deriving income from services tied to them. For example, when it sells a smart thermostat, it can also charge fees to monitor energy use in the home.

Indeed, the energy industry is moving from a capital expenditures business to one that also includes a recurring service business. "Our role is, number one, to enable this by providing a platform, infrastructure, environment, and solution" for connected devices, David said. "Number two, where it is meaningful and makes sense, to also provide the services."

It is vital to realize that digital transformation would not work if top management is not driving the change.

"For us, one of the key differentiators, and what's actually making that transformation possible," David said, "is we have the full endorsement and the full backing of the whole executive committee of the company, all the way up to the CEO and chairman of the board, Jean-Pascal Tricoire, who truly believes in digitization. You need to have very solid support from management."

CHAPTER 5

A NECESSARY ENDEAVOR, NOW AND IN THE FUTURE

"I grew up in a physical world and I speak English. The next generation is growing up in a digital world, and they speak social."
—Angela Ahrendts, Apple

Digital transformation is a necessary undertaking for executives and companies that wish to thrive in the social media age and beyond. For business leaders, personal transformation—along with an enterprise-wide digital transformation—will ensure that the right digital strategies are put in place at the right time, using the right digital tools to communicate relevant and timely messages to today's increasingly demanding customers.

By now, you've read about the benefits of digital transformation and the rationale behind it. An online survey conducted by Knowledge@ Wharton in late 2015 revealed that many firms do, indeed, acknowledge the importance of transformation. Yet, most have not fully gone through the process—and actions speak louder than words. The survey received responses from 159 business leaders in a diversity of industries; nearly two-thirds are in the C-suite or are senior managers; 40% work at firms with more than 1,000 employees, while 31% have a workforce of fewer than 100.

In the survey, participants overwhelmingly saw advantages in undergoing a full or even partial digital transformation. They saw improvements in the customer-facing experience, their back-end processes became more efficient, and some were able to access new markets after getting a greater array of digital tools. On the flip side, one respondent said the lack of transformation hurt the firm's ability to retain or attract customers.

A Survey Sampler: Big Improvements at the Click of a Mouse

A survey of business leaders in a wide range of industries produced these responses about the power of a digital transformation:

"It vastly improved the customer experience while reducing manual overhead."

"We saw a 28% savings in operating costs."

"We now have the ability to analyze years of purchasing history at the click of a mouse."

"It gave us the ability to track and respond in real time to our customers' problems."

"It creates relationships with digital-minded customers and partners."
"It opened new sales channels and provided access to a global market, while giving us a better understanding of customer needs."

"We experienced a sales and productivity increase."

"It allowed us to improve internal operations and also allowed us to create deeper customer engagement, especially as we resized sales forces."

"Social media is sparking much greater awareness of brand and better customer engagement."

By contrast, here is the reaction of a company that has yet to undergo a transformation:

"We have almost lost clients due to being behind with technology. We have lost prospective new business for the same reason."

For half of the participants, digital transformation was a top strategic imperative. Another 34% said it was of moderate tactical importance. Moreover, 51% believed such a transformation has a major impact on their companies' business goals and 35% saw at least a moderate effect.

"Is there a choice whether they can or can't go into digital?" said Rajeev Sawhney, president of strategic business at Mphasis. "The world has been taken by a tsunami, which has affected industry, government, and academia—you name it. In the last 35 years, I've seen many transformations take place. This inflection point is the mother of them all."

While most leaders have bought into the idea of transformation, with more than half of the survey respondents saying top management was strongly or moderately supportive, the implementation effort was far from adequate. Indeed, only 15% of respondents in the survey said their companies were in advanced stages of digital deployment. Half said they had a tactical strategy that has been launched in parts, while a third said they either have a formal strategy that has not yet been instituted or have no strategy or deployment plans.

The hurdle? Lack of adequate funding was the top complaint, garnering 30% of the vote. Moreover, four in 10 people said the current budget should be increased by 25% or more, with another 33% shooting for at least a 50% jump in funding. And they know the investment is worthwhile. In the survey, 54% said digital transformation yielded a moderate to strong return.

"The investments will more than pay for themselves," Sawhney said, alluding to the opportunities inherent in a massively connected world, with nearly half the population connected to the Internet, including 2.5 billion with smartphones. "When you've got such staggering numbers, the return on investment in using the digital medium is going to be there."

The second-most cited obstacle to digital transformation, attracting 28% of the vote, was lack of manpower or technical skills. That could explain why 88% of participants said they need an in-depth understanding, or at least tactical knowledge, of digital technologies.

The technologies deemed most critical to digital transformation, in order of importance, were data analytics, mobile technology, cloud computing, and next-generation IT. Sawhney said, however, that it is critical to remember that digital transformation is not about bringing in bits and pieces of technology. "In many cases," he said, "it would require almost the rethinking of the processes and methodologies and the way to engage with customers." Indeed, it must be a holistic change encompassing your mindset, corporate culture, business processes, and messaging.

Laura Huang, a professor of management at Wharton, holds the same view. "One challenge is really understanding that it's not just about selling more on your website. Digital transformation is more than just about direct contact with your customers." She noted that only a third of Starbucks' digital strategy is about its customer-facing initiatives. The rest is focused on back-end operations. "It's about security. It's about operations. It's about logistics. It's about a lot of other things that [a company is] trying to do."

The time to start the digital transformation journey is now—before the market forces you to change. These changes can come swiftly, and from anywhere. Take mobile check deposits. Not so long ago, customers still had to visit a bank branch during banking hours to make deposits. “Now, you can take a picture of a check or scan a check in,” Huang said. “You can actually make a deposit any time you want now. There are no time boundaries.” Once one financial institution began offering it, others had to follow suit.

Predicting what customers want

There are probably few companies more historically analog than Whirlpool, but the appliance manufacturer saw that consumer habits were changing and decided to transform digitally.

Whirlpool began to use digital tools to hear directly from users of its appliances, collecting ratings, reviews, and social media comments, among other forms of feedback. A data specialist analyzes this information and parses out relevant parts to the right department—positive comments go to marketing to insert in ads, for instance.

“Before, we got feedback from retailers. They would say, ‘Customers tell us the door doesn’t close right.’ Now, we hear the truth, or part of it, from consumers,” said Niels Aillaud, the company’s chief digital officer.

The guiding principle for Whirlpool is meeting the evolving needs of its users. “We’re moving from [being an organization focused chiefly on] selling appliances to be[ing] a consumer-driven company,” Aillaud said. “It starts with the consumer user experience, focusing on what the consumer wants and the type of customer we’re targeting. As long as we know who they are and what they want, it’s easier to make the product.”

Consumer reviews have become embedded in Whirlpool's DNA. "In the past, it was marketing—reading it and, at some level, engineering [gets involved]. Today, it's systemic," he said. "Every engineer responsible for a product is actually accessing the data directly and getting rated at the end of the day. Bad reviews mean he hasn't done his job, and so his job now is not only manufacturing a great product, but also making sure that it actually follows what the customer is expecting."

What about anticipating consumers' future needs?

Aillaud said that's where a company has to differentiate between actions that are driven by data and customer insights. The former sees what consumers want and acts on it. Customer insights, meanwhile, look beyond what people are doing to project their future needs.

Of course, predicting a future need is tricky. It takes a combination of data and intuition to pull it off.

The analytics behind predicting the future

Jai Ganesh, head of Mphasis NEXT Labs, does not leave predicting the future to fancy guesswork. His team is charged with looking for the next big opportunity for the Indian IT firm—and they have crafted a methodical and data-laden approach for doing so.

"It is not an easy job to predict the future, but we can draw parallels and trends based on the prominent technologies that are emerging, what is being adopted, and the patterns you see in the market," Ganesh said. "There are scientific-based approaches we employ to predict the future. These include things like patent analytics—analyzing where the investments are being made by a lot of companies."

The NEXT Labs team starts out by deploying algorithms to scour thousands of patent filings and spot an emerging technology or solution, taking special note of those made by prominent companies. They look for areas that have attracted many high-quality patents—those that have been cited multiple times by other filings. While they may start out looking at filings broadly—in such areas as social media, mobile, the cloud, the Internet of Things, and data analytics—they quickly home in on niche markets.

Their choice of niche markets is informed by external research from academia, news articles and analysts' reports, as well as conversations with clients and consultants. In these markets, Ganesh looks for "white spaces," or "empty spaces where we want to go and occupy," that are not crowded with other competitors offering the same solution. Once his team identifies a target area, it looks for problems it can solve. The goal is to develop a unique product to deal with those problems—and to turn it into a competitive advantage for the company.

"This is where a lot of hard work comes in—the team comes together and discusses or proposes or challenges ideas, which then results in a small proof of concept," Ganesh said. This proof of concept—used to test the feasibility of a certain solution—could be a piece of cutting-edge technology, an analytic module, or a combination of the two. Once the concept is deemed viable, Mphasis swings into action.

At that point, Ganesh said, "we immediately file the patents." By filing early, even if the solution has not been completely fleshed out, Mphasis can stake its claim ahead of the curve and beat other companies to the punch. Other firms do the same thing, Ganesh noted. "If you look at larger companies, the moment they see a promising area, even while they're still tackling the problem, they start filing patents. That is how larger companies operate, and we operate in a similar manner."

One result of this detailed and in-depth analytic approach is the development of an Mphasis solution that predicts failures in servers, routers, switches, connected devices, and other gadgets weeks in advance. It has an average accuracy rate of 95%.

It works this way: Mphasis compiles six to eight months of log data—including system alerts and status update or error messages—to look for patterns. It also maps the architectural landscape of the environment to figure out which machines are interconnected. These become "dependency maps" that show how components connect to each other in the system. Using algorithms, Mphasis can predict when failures are about to happen and provide an automated solution to fix the problem before it occurs.

It's an unusually proactive approach. "A lot of infrastructure management by enterprises is done in a very reactive mode," Ganesh said. "That essentially means you wait for the failure to happen and then someone will go and fix it. What we are trying to do is predict failures before they happen—we also have the automated software scripts to go and fix the problem."

This Mphasis solution was a direct result of its focus on predictive analytics. The NEXT Labs team realized that sensors are increasingly being used to monitor systems, activities, and people. "It is imperative for these devices to keep functioning, but many fail randomly because the technology is new and failures happen all the time," Ganesh said, "so we identified this broad area and we started looking at the problems that can be solved currently and in the future."

Here's what Mphasis discovered. "We identified that, many times, devices don't fail on their own," Ganesh said. "Almost like a domino effect, something else is going wrong somewhere—a chain of events in one place triggers a device failure somewhere else." After looking at existing market solutions, researching the emerging trends being predicted by analysts, and considering the needs of its clients, Mphasis developed a solution that can predict failures in one place by how another component is acting elsewhere.

Not all of NEXT Labs' ideas make it to market. What kills an idea or puts it in deep freeze is lack of demand from Mphasis clients, which are mainly in the banking, insurance, logistics, electronics, and high-tech manufacturing industries. The size of the market opportunity is also a factor. Mphasis looks not only at the size of the overall market, but more importantly, the niche market that it is addressing. The total addressable market size must be at least $200 million.

Not all companies can set aside a group to focus on applied R&D, Ganesh acknowledged, but he urged executives to at least make small investments with a view to shaping the future.

The art of the gut feel

Predicting the future is also an art, fueled by customer insights. Apple is a classic example. Its iPad created a need for tablets people did not even know they had, Whirlpool's Aillaud noted.

How did Apple co-founder Steve Jobs know what consumers wanted before they did? He was intuitively attuned to consumers. This informed "gut feel" is the subject of a published research paper co-authored by Wharton's Huang. "I look at this construct of gut feel as [part of the criteria] people use … to make decisions," she said. "We're faced with a lot of decisions all the time. In terms of digital transformation, there are lots of decisions about what strategies to pursue, and how to actually pursue them. And we make decisions in the face of extreme uncertainty. It's so uncertain sometimes that it's just unknowable. You can make a decision, you can collect a lot of data, but at the end of the day, you don't actually know how it's going to pan out."

Huang's research delves into how gut feelings contribute to the decision process. "You have this hard data. … but you also do have an intuition" about what's going to develop, she said. "You don't actually know where the market's going to go, or you don't actually know how things are going to carry forward—and this [intuition] allows you to put some perspective on that. If you're able to rely on both your gut feel as well as analytical data, sometimes that helps you approach decisions in a different way."

That's what the leaders of a lot of young startups do: They rely on a combination of gut feeling and data, said Huang, who teaches entrepreneurship at Wharton. "How do you actually know whether an idea is a good one or not? How do you know whether or not it's worth pursuing?" Should you continue to pivot and iterate on the idea or hold fast, hoping to keep gaining momentum?

For established corporations, of course, you can't go into a meeting with top management and say, "I have a gut feeling that we should enter this market," Huang noted. There is a place for intuition, though, that is "based on your mental schemas and your experiences. And a lot of this goes into the decisions that you're making." While her research looks at how angel investors use their gut feelings to decide whether to invest in a startup, there are lessons that can be applied to digital transformation as executives peer into the unknowns of the digital future.

Huang's paper, "Managing the Unknowable: The Effectiveness of Early-Stage Investor Gut Feel in Entrepreneurial Investment Decisions," written with Jone L. Pearce of the University of California, Irvine, discovered that experienced angel investors willingly accept a high rate of failure. They do not "shun volatility; they embrace it for the potential profitability it promises. These investors are not irrational, but have developed sophisticated schemas that predict extraordinary returns." In contrast, traditional decision-making and finance theory assumes that leaders try to maximize returns on every decision. In other words, there is little room for failure.

When the future and its risks are unknown, though, "a focus on maximizing returns on each individual decision would induce paralysis," the paper said. "Decision-makers in our study developed experience-based schemas to help them identify the opportunities for extraordinary returns, and we found that risk-seeking and a focus on the possibility of extraordinary returns are central to many more decisions than is reflected in prior literature."

That means companies must embrace experimentation and not fear failure if they wish to prepare for the future—whatever new technologies, platforms, and markets it might bring.

So take the initiative and run with it. And keep running. And never stop. As John F. Kennedy said, "Change is the law of life. And those who look only to the past or present are certain to miss the future."

AFTERWORD

JUST DO IT

You have now read this book all the way through, so you know that personal digital transformation is critical for business transformation to be truly effective.

The digital age is infusing every part of society and business. One day, connected devices will be as ubiquitous as the light bulb or kitchen faucet. They will just be there, running in the background of life. In the future, people will look back at the Digital Revolution in the same way that we view the Industrial Revolution—as a moment in time that changed everything.

Whatever will come next is bound to be exciting. The good news is that the "mind map" and strategies you learned about in this book are applicable to all sorts of transformations. Exchange the word "digital" for the Next Big Thing and you're still good to go. The technologies might change, but the way to view, manage, and adapt to them will be evergreen. And the lessons that are helping you now will also benefit the next generation of leaders at your company.

Keep your yearning for learning fresh, dare to experiment and take calculated risks—and you'll see that you can more than keep up with the younger generation.

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