

# Introduction

*Only the nimble survive*

The future rhymes with the past. The pace of change is faster than it has ever been, and it will never be this slow again.

Imagine a consumer-packaged goods company that largely worked with traditional players in the retail space to sell its goods. One day, a fast-growing, disruptive retail player emerged that could dictate prices and practices from those who sold goods through them. The retailer had so much power and gained so many customers so fast that it was feared that it would put small retailers out of business. Amid the disruption, the CIO of the consumer-packaged goods company saw an opportunity to work with this major retailer. He also saw a chance to work better with the traditional, smaller, and regional players and mom-and-pop operations through the use of mobile technology, which provided salespeople with the tools to note feedback and place orders upon delivery of goods. That technology also enabled data analytics, which evaluated the profitability of different customer relationships and allowed salespeople to act accordingly. The technology, together with the team that brought it to life, provided information for better decision-making and helped the company remain competitive. Using financial return as the guide and making a strong case to the CEO, the technology leader helped set up an organization and a culture that was nimble. By “nimble,” I mean the organization was able to pivot rapidly toward opportunities and away from threats as they presented themselves.

I bet that you had a guess about who the major retailer is that has been cast as the disruptor, leading to traditional and regional players to shutter their businesses: Amazon. That guess would be incorrect. The story that I've begun to tell is not a modern story, but rather a story from the 1970s

and 1980s. The major retailer was Walmart, and the consumer-packaged goods company with the forward-thinking CIO was Frito-Lay, the maker of iconic snacks like Doritos and Lay's potato chips that is now a division of PepsiCo.

I begin with the story because a part of the broader message in this book is that the disruptive change that is coming is not new. History repeats itself, and it is useful to understand the lessons of history and apply them to the present. As you will see, through Frito-Lay's and others' stories, disruptive change is not always easy to recognize, nor is it easy to get the broad support to drive significant transformation initiatives forward. I hope these stories will provide you with lessons that can help you seize new opportunities in your own companies, as well as avoid repeating mistakes of the past.

Change is coming. Will your organization be nimble enough to pivot away from the issues that arise? The product or service that provides the lion's share of your revenue and profit today may go away or at least be altered to the point that you will need to figure out other revenue streams and profit centers. In addition to your direct competitors, your product or service will also face challenges from new products or services that are currently in adjacent spaces.

The good news is that new methods, processes, technologies, and skills are being developed as we speak to make your operation better. Will your organization be nimble enough to seize the new opportunities? Will you be able to seize these opportunities, even if it means cannibalizing your current offering?

In this book, I share stories, both cautionary and inspiring, about companies whose decision to take advantage of those opportunities—or not—has made all the difference. I will also introduce a model that your team can follow to evaluate how nimble you are now relative to your people, processes, technology, ecosystem, and strategy. After reading this book, you will be able to evaluate where you are on the continuum from immature to mature, from unprepared to prepared, and use the tools and insights I provide to implement changes immediately with your team.

### Frito-Lay story

After expanding to 32 separate Frito-Lays that spanned the United States between the 1930s and 1960s, the expansion of the interstate highway system and the size and speed of trucking and rail created the backbone of

cross-country commerce and made it feasible to create a national company. During the 1960s and 1970s, Frito-Lay had done some centralization to get leverage in purchasing, manufacturing, and back-office functions. However, Frito-Lay sales remained decentralized and regional during that era. The model worked, the incentive structure and broader infrastructure were in place to ensure that each of the regional operations ran like clockwork, and customers were happy. Remember, however, that a consumer-packaged goods company like Frito-Lay, then as now, has two layers of customers that they serve. First are you and I—people who actually consume the potato and corn chips. Second, however, are the retailers whose shelves the product is stocked on.

Up until this period, grocery stores were mostly regional. Kroger was based in and served the Midwest, Safeway was based in and served the west coast, A&P was based in and served the east coast, and so on. The regional model that Frito-Lay had maintained for customer-facing functions served these regional players well. Promotions and some level of product assortment were generally the only factors that varied based on the region.

In addition to the new interstate highway system, there was another significant innovation that made a big impact on Frito-Lay. The mainframe computer, which allowed data that was entered by someone at one location to be accessed at all other locations, became much more commonly and expansively used in business. The last, and perhaps the biggest, catalyst for change came in the form of that large retailer, who made great use of the mainframe computer: Walmart.

By leveraging the power of the mainframe technology, networks, and databases, Walmart changed the business model for all retailers and producers of consumer-packaged goods, like Frito-Lay. Walmart was not willing to do business with 32 Frito-Lay regional sales teams or with Coca-Cola's 86 franchises. By creating national supply chain power, Walmart required companies to accommodate them with a national "Everyday Low Price," and clear inventory visibility at all times. As a result, Kroger, Safeway, and all the other regional groceries had to increase their supply chain power.

Frito-Lay laid some groundwork that would aid their transformation in the face of growing and pervasive demands from Walmart. It leveraged the IBM mainframe technology and began to change its model to a national snack food company. In addition to the previously centralized accounting, finance, purchasing, manufacturing, distribution, and human resources, Frito-Lay created seven major zones for sales and national marketing to

capture the emerging TV advertising phenomenon. The combination of these efforts helped build products such as Fritos, Lay's Potato Chips, Doritos, and Cheetos into billion-dollar national brands. But in the 1970s, the distributed distribution model began to clash with customers' models. By the time the 1980s rolled around, the complexity and scale of Frito-Lay had grown and its primary customers (the retailers) had become more sophisticated and powerful, making it nearly impossible for Frito-Lay to continue down its current path.

Enter Charlie Feld, an important individual in the history of technology who has been present for and even a driver of several of the key changes in the business and technology landscape. He is a good friend of mine who is in his 70s today, but despite his age, he is still actively engaged in the CIO profession and is remarkably progressive in his thinking about the business landscape. He has been an invaluable resource to me throughout my career.

Feld first engaged with Frito-Lay in 1970 as a systems engineer, working for IBM. At the time, Frito-Lay was trying to consolidate its 32 divisions. In 1962, Frito-Lay had become Ross Perot's and EDS's first outsourcing customer, under a 10-year contract. By 1972, the contract with EDS was up and Wayne Calloway, the CEO of Frito-Lay at the time, wanted to bring IT back in-house.

Over the course of the rest of the decade of the 1970s, Frito-Lay was going through CIOs (they were called heads of management information systems at the time) every two years. A new leader was introduced in 1972, 1974, 1976, and 1978, and Feld worked with all of them. The issues with these CIOs were varied. Some had deep technical know-how but no executive presence. Some others had the executive presence but were not technical enough for the role. Still another one had great technical know-how and good executive presence but was unable to build a great team.

With the rotating door of CIOs, Calloway and Mike Jordan, by that time the CEO and Head of Operations at Frito-Lay, respectively, asked Feld if he would be interested in taking on the role. He hesitated at first, but when the role came open yet again in 1980, he elected to jump over from IBM. Feld noted, "I had the leadership skills, the business skills, and the technical skills because IBM had trained me so well. I was able to bridge the blind spots and talk to both groups. I was technically strong enough to lead the IT organization."

Since he had worked and lived in the Frito-Lay environment for a decade, by the time he took the CIO role, Feld knew where the problems in the organization were, and he already had a plan to solve them.

However, the first thing he did was reach out to two Harvard professors—Richard Nolan and David Norton—and their firm Nolan Norton to have an assessment of his IT function done to establish a baseline of performance and to help identify how far the organization would have to go and how quickly. Even though he had a clear point of view himself, he wanted to bring in Nolan Norton for their brand credibility and for their framework and scorecards to structure the conversation and measure progress. Together, Feld and Nolan Norton evaluated the IT organization, the processes and technologies that they used, the technical architecture, and IT partnerships inside and outside the enterprise.

A major change was potentially afoot due to Walmart's power, but Frito-Lay still needed to serve the company's customers the way they wanted to be served. Given a possible change to the business model and the strategy to support it, Feld needed a starting point for IT backed by the executive team. "We couldn't just be national, since most of the large retailers (other than Walmart) were still regional, and the preponderance of our customers were still local. However, we needed to maintain our national leverage," Feld noted. That national leverage came in the form of 40 manufacturing plants, 200 distribution centers, 10,000 route salesmen, along with national brands and national purchasing.

After Feld's first 100 days, Nolan Norton and he presented his findings to Calloway, Jordan, and a few other executives. The IT organization was in turmoil; turnover was 30 to 35 percent at the time. Processes were strong, but the team was not in a good place. The takeaways were that the company needed to bring in a technology team that was able to communicate with the rest of the business and execute complex technology solutions. He successfully made the case that the transformation ahead would take multiple years and would require investment and talent.

Feld understood that the first step was to change the culture of IT. He began by building an organization that understood the business better than it had historically. IT had suffered from being an after-thought as part of a support organization historically, as most IT organizations were at the time. As such, the team was insular, and did not have an appropriate degree of business acumen. To begin to find new talent, Feld re-thought college recruiting, focusing on people who were like he was when he joined IBM: smart, curious, trained in business and technical disciplines, but hungry to learn more. As a side note, it turns out, 30–40 years later, that several people who were college hires of Feld and Frito-Lay in the 1980s went on to become enterprise or global CIOs later in their careers. Feld was hiring a dream team of young talent for the present and big potential upside for the future.

### *Architecting a business solution*

Next, Feld had to solve a dilemma. Frito-Lay needed to engage and serve unique customers while evolving to a leveraged model through purchasing, manufacturing, and distribution. The company could remain centralized for leverage, quality, and cost, or the executives could decentralize again for greater customer centricity, innovative product solutioning, pricing, and speed of decision-making. Either direction was flawed for obvious reasons. To help him make his decision, Feld elected to speak with the founder of the business, Herman Lay, who was retired and in his 80s, but was still accessible.

According to Feld, Herman Lay shared with him what I think of his “founder’s pearls of wisdom.”

According to Feld, Lay’s advice was to keep things simple. “Frito-Lay is a simple business,” Lay said. “All we do is buy potatoes, cook them, put them in bags, and take them to the stores. If the consumer likes the product, they buy them. We collect the money and buy more potatoes. Everything else is about size, speed, and scale.”

Next, Lay expressed that “Nothing good ever happens in a warehouse. Things get lost, broken, stolen and in our case, they go stale. Constrain the warehouse to no more than three days [worth of product] and make everything else build around it.” With the advent of digital commerce, this has come back in style!

Finally, Lay said, “The front-line people are all that matter. Everyone else has to have a really good reason for being on the payroll.”

Where he had been seeing a morass of challenges that needed individual solutions, he began to imagine what needed to be done in its simplest form rather than in its most complex. He recognized the execution to come would still be complex, but the plan did not need to be. He thought about how some capabilities could be standardized to create leverage while others could be unique to a specific customer, route, or promotion. In a way, Herman Lay was not only the founder of Frito-Lay, but he was also Frito-Lay’s first “business architect.” Feld and his team built their first capability model and focused heavily on data that was required, noting where it was required and when.

### *Architecting a technology solution*

Remember that in the early 1980s, technology solutions were limited. That was both a blessing and a curse relative to today. On the one hand, there

were fewer options to choose from, which helped narrow down the options, but it also meant that there would be a need to push the envelope further than it had been previously in the company or in the industry. Feld's simple solution would lead to radical technology innovation.

The personal computer (PC) had been broadly released in 1981, but it had not gained much traction in corporate America beyond technology departments. From his days at IBM and through the deep training he received, he understood the power of this technology, but he did not know exactly where it would take Frito-Lay. Rather than block it or try to control it, he wanted the entire executive team to learn together. So, instead of simply making the case to the executive team about specific solutions right away, he purchased personal computers for every business executive in Frito-Lay. Moreover, he did not just put them on his colleagues' desks; he implemented them in their homes. That meant training was accessible to the executives as well as their families. He wanted his colleagues to hear about the usefulness of the PC from spouses and from children so that he would be aided on multiple fronts if he had to address any misgivings that the executives might have. It cannot be underscored enough how unusual and innovative this thought process was. Remember, it came a generation before smartphones would "consumerize" technology and become a staple of modern business.

Feld's plan worked, and he created advocates of most of the executive team. That same team learned to trust Feld and his IT team because he conveyed the value the rest of the company would garner in terms they understood. Since he was able to effectively make the case with the PC, he primed his fellow executives to take a leap of faith with him when he soon introduced something much more radical.

By 1983, the Frito-Lay executive team understood the power of the PC and distributed computing. The challenge was, how do you take that same power and make it accessible to the 10,000 salespeople? Salespeople were among the front-line employees that Herman Lay indicated were important. They not only delivered products to the stores where they were sold, but they also spoke with the owners of the businesses; they understood what was selling well and what was not; they had insights that would lead to price changes or suggested sales. Arming them with a tool and the data necessary to capture data more readily and make it accessible to all salespeople became important. With these tools in the hands of the route salespeople and the innovative data and infrastructure behind those tools, Frito-Lay would be able to get the national operational leverage they needed *and* serve national, powerful

retailers like Walmart *and* be flexible and precise in tailoring pricing, promotions, product mix, and service to a variety of regional and local retailers.

Feld and his colleagues leading the sales organization concluded that salespeople needed technology that would have the benefits of the PC but could go with them wherever they went. The device needed to be small and durable enough to work in hot or cold climates while getting bumped around in the trucks. Feld and his IT team looked for tools that were being used by other companies and by the military for inspiration. Nothing quite stacked up to their vision, however.

They elected to partner with Fujitsu to spec out the handheld computer, which came to be referred to as the HHC, and a hardened printer. Once a working prototype was developed, two strategic locations were chosen to pilot the prototype: Mesquite, Texas and Minneapolis, Minnesota. These were strategic inasmuch as they offered dramatic contrasts in temperatures, the former with 100-degree heat in the summer, and the latter with below-zero-degree cold in the winter. If the HHC and printers could make it through a Texas summer and a Minnesota winter, Feld and his team could proceed with greater confidence that they were durable enough for all 10,000 routes.

The team, along with several technology partners, also created different styles and stacks for different purposes from central mainframes to distributed servers, store and forward devices, and a new satellite telecommunications network. The need to “invent” this new architecture was required because, at the time, generally available technology could not handle the data volumes or carry real-time data transfer loads to and from 10,000 routes in the field.

Feld and his team created an early version of a data warehouse. He used software from a company called Comshare for back-end analytics and production of route-level performance reporting and profit and loss statements through every part of the business, including channels, products, customers, geographies, and routes—at every level of granularity and for all of the cross-tabs. Feld and his team had to externalize the business rules, including data for pricing, promotions, sales, and marketing. This was managed through spreadsheets on the front end. As Feld recalls, “We had to get the developers out of the middle of these changes and empower the sales and marketing teams.” This was all enabled by an early version of what we, today, would call a layered, loosely coupled (not monolithic) technology architecture.

### *Lessons from Frito-Lay*

Frito-Lay’s modernization started with people. Charlie Feld’s first step was to assess the IT function to create a performance baseline and determine the most appropriate path to improvement. (Theme: People, strategy.)



Feld recognized that in order to drive change he would need to change the culture of IT. To do so, he brought in a new technology leadership team that was able to communicate more effectively with the rest of the business. He also took proactive steps to involve IT more closely in everyday business activities, blended longtime employees with newer hires, re-thought recruiting processes to bolster the talent pipeline, and used job rotation programs to boost retention and build leadership across IT. We see some themes emerging related to people, including the importance of modernizing one's culture as well as the importance of training and learning agility.

Feld understood the need to modernize the company with new technology, as well as the importance of retiring old systems to make room for the new. He helped shift the company's mindset, driving home the importance of defining a clear strategy and determining which capabilities can be standardized versus those that need to be specialized. We see the importance of strategic alignment across the company, of setting a sound IT strategy, and of retiring antiquated technology.

To help realize his vision, Feld tapped many members of the ecosystem for help. He spoke directly with Frito-Lay's founder to gain necessary context into the company's past and its potential future. He also engaged the academic community and strategic vendor partners to gain deeper insights into what was possible. The importance of building and leveraging a broader ecosystem is noted. Feld benefitted from his network of peers and other external partners.

He also solicited feedback directly from customers and business owners to gain insights that would inform future decisions. He also worked with external technology partners to develop and scale new technologies that put capabilities into the hands of front-line workers and customers. He would not have framed it that way in the 1980s, but his practices were agile in nature, iterating on ideas, and engaging the intended users of products in their creation. Agility is an important theme to bear in mind, as well as creatively engaging customers and external partners, as previously noted.

On the technology side, Feld's team was ahead of the curve. His team layered loosely coupled architecture, introduced a mobile device that digitized paper-based processes and developed tools to help staff in the field. Feld also understood the importance of bringing others along for the journey, buying personal computers for his colleagues and their families to create built-in technology advocates. He clearly communicated the transformative potential of technology and gained trust in IT in the process. Here we again see the theme of strategy and culture, but also change management and communications.

With all of these changes, IT saw itself and others saw it as a thought leader and source of ideas. This, in turn, made it more magnetic for others to join. The topics of culture, recruiting, agile processes, tech modernization, and developing and fostering better ecosystems, among others, will be covered in depth in this book.

As you will see throughout this book, many technology leaders have found themselves—and continue to find themselves—in situations similar to Feld's. The task of transforming a company so that it is nimble enough to respond to potential disruptions is a daunting one, but one that can be done by focusing on people, process, technology, partnerships, ecosystem, and strategy. I'd like to share three more stories to offer examples both cautionary and hopeful for you to consider.

### From customer focus to customer out-of-focus

If I asked you the industry from which the company with the best stock performance among Standard & Poor's 500 stocks in the 1980s hailed, what would you guess? The 1980s was a decade in which the financial services companies thrived due to increased merger and acquisition activity and increasingly complex financial investment vehicles. It was also a time of great advancement among industrial companies like General Electric. It was a decade of great advances among consumer-packaged goods companies like Coca-Cola and Procter & Gamble, as these companies gained both in the United States and abroad.

However, the best performer was actually a retailer. The best-performing US stock in the 1980s among S&P 500 stocks was Circuit City. If you had participated in its initial public offering in 1984, in less than six years to the end of the decade, you would have gotten an 8,252 percent return on your investment.<sup>1</sup>

Why was Circuit City so successful in an industry that was so difficult? It re-thought customer experience. The company, which was founded in 1949 in Richmond, Virginia by Samuel Wurtzel, pioneered the consumer electronics superstore format in the 1970s. The late 1970s and early 1980s were times of growing demand and complexity in consumer electronics. Televisions were growing in size; VCRs allowed people to watch movies in their own homes to a greater extent while recording television programming; stereos and the peripherals around them led to better music listening experiences. Circuit City had a new format to its store: large open spaces

where people could see the vast merchandise in action along with talented salespeople who were good at explaining how the different electronics fit together. The company was legendary for having customers come through the doors with the intent to purchase a television and going back through the doors with two or three other purchases to enhance the use of that television.

The company's success continued in the 1990s. In fact, the company's stock ran up another nearly 700 percent in that decade. In that decade, the company used its growing financial war chest to start other companies, including a financial institution developed to operate the company's private-label credit card, First North American National Bank, in 1990; a used car auto superstore concept, CarMax, in 1991; and a technology company launched as an alternative to DVD, DIVX Video, in 1997. In 2001 in the bestselling business book, *Good to Great*, Jim Collins included Circuit City among 11 companies that had made the leap from merely good performance to something extraordinary.

Of course, many readers are likely aware of the denouement of this story: Circuit City was liquidated in 2009. Sam Wurtzel's son, Alan, who was CEO of Circuit City between 1972 and 1986, chairman of the board from 1984 to 1994, and then vice-chairman from 1994 to 2001, would go on to write a book entitled, *Good to Great to Gone: The 60 Year Rise and Fall of Circuit City* (Diversions Books, October 9, 2012). He, among others, detailed the many missteps that led to this dramatic fall after the rocket-like rise. Perhaps chief among these was that the company forgot what had made it special: a laser-like focus on customer experience.

As noted above, the 1990s were a period of investment in many side projects for the company. One of these, CarMax, would go on to be a tremendous success. In fact, we will cover some of that company's best practices in this book. During this period of focus on extracurricular activities for the company, a major competitor in the electronics retail space, Best Buy, focused on the development of the Geek Squad. In the 1990s and 2000s, as consumer electronics became even more compelling and more complex, Best Buy offered to install customers' new technology for them in their homes, a major differentiator for the company. Circuit City would not develop its salvo in this battle until 2006 with the launch of Firedog, but by then it was too late. By losing focus on providing a cutting-edge experience for its core customers, the company whose stock was the best performing for a decade ceased to exist 25 years after its IPO.

Circuit City had been remarkably innovative until it wasn't. As issues arose, and revenues started to decrease, the company responded by firing its most senior (and knowledgeable) store associates. Of the many missteps by management at the time, some believe this to be one of the worst. All of a sudden, Circuit City stores were largely populated by novices who did not have the knowledge, experience, or confidence to upsell people on products or recommend peripherals to the purchase the customer wished to make. At that point, the death of the company was inevitable.

The company had calcified. It was not nimble enough to stave off issues. Its responses appeared to be made in a vacuum unaware of the downstream and long-term consequences. It was neither culturally nor strategically nimble.

Fast forward, and though Best Buy has performed admirably in the decade since Circuit City's demise, there is a new company that can be viewed as the consumer electronics leader, and, in fact, the leader in all of retail: Amazon. What is remarkable about Amazon is that, until recently, the company did not have any physical stores. Moreover, Amazon makes it difficult to find a phone number to call the company with a question or a complaint—those are typically submitted digitally. And yet, Amazon is a company that knows us so well. They know what we buy, how long it takes us to pull the trigger on a purchase, what we browse for but then let die on the vine. Amazon understands where we are most apt to purchase an add-on to our purchase (taking a digital page out of Circuit City's analog play-book). The mechanism that Amazon uses, data analytics coupled with artificial intelligence, allows the company to collect such a vast amount of data that it is not just historical but predictive: they know enough people who have something in common with you based on your patterns to make suggestions that are relevant to you.

Amazon has the advantage of being a digital native. It was set up that way, but importantly, the company has also been set up to be nimble. It does not wait for the change to be brought to it. The company has set been set up to scale, to pivot toward opportunity, and away from problems. Even though it is among the largest companies in the world, it is as innovative as ever.

### *Lessons from Circuit City*

Circuit City experienced a meteoric rise in part due to its relentless focus on delivering a great customer experience. The electronics retailer created large, open stores where customers could see products in action and learn from

knowledgeable salespeople about how the different electronics fit together, which often resulted in customers buying more. Here we see the importance of the theme of strategy, innovation, and the need to collaborate with one's ecosystem, especially customers.

As it experienced tremendous growth, Circuit City used its financial war chest to expand into other sectors, launching companies including First North American National Bank and CarMax. Unfortunately, this focus on extracurricular activities took Circuit City's eyes off the ball and made it less prepared to respond to the rise of the firm that would soon become its primary competitor: Best Buy. Best Buy took the customer experience a step further with Geek Squad, which managed the installation of customers' new technology purchases in their homes. Ultimately, Circuit City wasn't strategically or culturally nimble enough to respond to the strategic threat posed by its competitor. We see the theme of strategy here, and Circuit City's getting away from the strategy that had been their source of differentiation.

Circuit City also faltered in its focus on people. As revenues began to decline, the company fired many of its most senior and knowledgeable staff, and showroom floors became populated by novice salespeople without the know-how to upsell customers or suggest complementary products. In its effort to save itself, it had lost part of the magic that made it so successful in the first place. This underscores the critical themes of people and culture, more specifically, as a force multiplier for change or a boat anchor working against the change that is necessary, in this case.

Today, the Best Buys and other major retailers are under threat from Amazon, which has leveraged technology to develop a top-notch digital shopping experience, driven by data. Its advanced analytics and artificial intelligence capabilities allow the company to predict buying trends and make suggestions based on the products you are likely to buy, and it all happens without a physical store.

## Out of focus

Many companies resist the change needed to become nimble because of a flourishing traditional business. Like Frito-Lay in the early days of Walmart's rise, there was little incentive to change the business model.

Kodak is one firm that highlights this trend. The company pioneered the world's first consumer camera, and built a business model around processing film for customers. It formed the foundation of Kodak's business model,

which was similar to that for razors and razor blades. Customers would buy a camera once, and then spend much more money replenishing and developing film. It is similar to buying printers today: the hardware is relatively inexpensive, but we spend a lot on ink, toner, and other supplies.

By all accounts, the company was a massive success. By 1976, 85 percent of cameras and 90 percent of film bought in the US came from Kodak.<sup>2</sup> It employed 60,000 people in Rochester and was one of the city's largest economic engines. Fast forward to 1992, and Kodak was number 18 on the list of Fortune 500 companies, with revenues of more than \$19 billion.<sup>3</sup>

When the company realized early on that digital photography was growing, it made investments to address the shift. It created a digital business unit that was completely separate from the traditional film business. The traditional side of the house “had really developed ways of doing things that were great for the film business but might not be so appropriate for the digital business,” noted Willy Shih, who ran the digital group. “They wanted to get us away from all the practices and also the burdens of the traditional business, which had been very, very successful for a hundred years.” This is not entirely unlike an established company building an innovation lab or digital center today. We will cover this concept in some detail in Chapter 6, but innovation labs have a tendency to be irrelevant labs, as they create shiny new things that do not scale, and leverage processes and technologies that do not make their way back into the broader organization.

By the mid-2000s, Kodak was the leading producer of digital cameras in the world. But the digital business was nowhere near as profitable as the traditional film business. Kodak began to realize it was in trouble. Kodak had to re-think its business model, but doing so would prove difficult, particularly given the success of the established business model.

The transformation also required a massive cultural shift. For many years, those in the traditional film business felt that their profits were being used to subsidize a money-losing venture. After 100 years, it was difficult for Kodak to change its ways. The culture had hardened.

As digital photography took off, Kodak tried a number of initiatives to cut costs and bring in cash, including making inkjet printers, developing an online photo sharing site, and going after patent violators, but those initiatives ultimately failed to launch at sufficient scale. In 2012, the 131-year-old film giant filed for bankruptcy. The company emerged from bankruptcy the following year, but the company was a shadow of itself, and it was bleeding talent. Today, the company makes 35mm film for the movie industry, which is also going digital. It also makes 3D printers and fabric coating for drapery

and awnings, among other things. Kodak licenses its name for headphones, baby monitors, and some clothing.

At its peak, Kodak posted tens of billions in annual revenue and employed more than 145,000 globally.<sup>4</sup> In 2018, revenues were \$1.3 billion<sup>5</sup> and its headcount around 5,400.<sup>6</sup>

Kodak's story highlights how a company can actually own the technology of the future and either not entirely realize the value in their possession or the extent to which it should be exploited. Of course, to do so would have meant cannibalizing a major source of profit for the company, so we need to understand that in retrospect, all of this may seem obvious in a way that it clearly was not when lived in real time. The nimble part of Kodak was its tail—the digital division. But the brain and the heart of the company would not allow the insights wagging away to impact the body.

### *Lessons from Kodak*

Kodak serves as an example of an innovative and successful company that was slow to adapt to digital change, despite being a pioneer in the field of digital camera technology. As is often the case, many firms culturally resist transformational change, particularly when the traditional business is flourishing.

Anticipating the digital shift, Kodak developed a digital business unit that was separate from the traditional film business. The company saw this as an opportunity to bring in fresh ideas and begin to think about the trends that would be relevant years in the future, not unlike many innovation units that companies build today. But as we will see later in the book, innovation units can serve little purpose if they do not create products that scale, or leverage tools and processes that make their way back to the rest of the organization. There were also cultural issues, as many in the traditional film business felt their profits were subsidizing a money-losing venture. Indeed, it is not just about changing the business model. The culture must transform as well. Again, we see the importance of a clear strategy, of fostering innovation, but innovation that scales, even if it cannibalizes traditional revenue streams. Ultimately, we see the importance of culture, and the need to foster a comfort with and an ability to change.

Kodak's story highlights how a company can own the technology of the future and not entirely realize its value or the extent to which it should be exploited. Doing so would have meant cannibalizing a major profit center, which creates its own layer of business and cultural challenges. The nimble part of the firm was the digital division, but the heart of the company prevented

it from creating the broader change necessary. Later in the book we will explore how to create strategic alignment when developing digital strategy and how to overcome some of the cultural issues that often accompany it.

## What was old becomes news

We have seen how failing to act quickly in the face of changing trends can lead to trouble for once iconic companies. But for those who recognize major shifts and act accordingly to address them, the payoff can be immense. Let me cover another remarkable transformation in an industry that has been a poster child for disruption and decline: the media business. The *Washington Post* has long been a legendary paper in the United States capital. It played a leading role in unearthing the misdeeds of the Richard Nixon administration at the Watergate complex in the 1970s, holding President Nixon to account. In August 1974, he left office as a result. The *Post* won Pulitzer prizes for the coverage, launching the careers of Bob Woodward and Carl Bernstein in the process.

In 1973, legendary investor and Berkshire Hathaway Chief Executive Officer Warren Buffett invested in the company, paying \$11 million for a stake that would grow to \$1.1 billion by the time he sold it.<sup>7</sup> The company continued to grow throughout the 1990s, investing in new initiatives such as the paper's website.

This Washington Post Company began a performance decline in the following decade. In fact, in the period between 2004 and 2014, US paid daily circulation of the *Post* was down 33 percent, and between 2005 and 2014, advertising revenue was down 60 percent. During that period, the Washington Post Company faced seven straight years of declining revenue and decimated its news staff along the way. If you were to state a belief that the Washington Post Company would go out of business, it would not have been a controversial point of view at the time.

The companies that impacted the Washington Post Company's business model most were the stalwarts of the digital economy. Google became a much more efficient and accurate means of advertising, and thus the money that used to go to newspaper advertising was making a bee-line to Google. Facebook became an aggregator of news, and there was an increasing expectation that news should be free, despite the great cost required to assemble a team around the world to provide in-depth reporting on important stories of the day. Facebook provided a means to draw from many sources to the



point that the source became less recognizable. Brand strength in the media field eroded in the process.

In response, CEO Donald Graham made several key moves. In 2009, he integrated the print and digital operations of the company. This small change created a seamless bridge between the old world and the new world. It also started the process of changing the culture from an antiquated, analog culture to an active digital culture.

One of Graham's key hires during this period was Shailesh Prakash as chief information officer (CIO) in 2011. Prakash was hardly a household name. In fact, his most recent experience was with another struggling brand: Sears, where he was vice president of engineering. Prior to that, Prakash held engineering leadership roles at Microsoft, Netscape Communications, Sun Microsystems, and Motorola. Prakash, however, came with a different orientation than most CIOs. His engineering and product background led him to weave himself into the product of the company—the news—to a greater extent than the typical CIO.

Prior to Prakash's arrival, outsourcing attempts coupled with the need to find cost savings wherever possible led to the decimation of the *Post's* IT staff. Prakash built enough credibility with Graham to make the case for reversing this trend and re-investing in staff and technology. He suggested that these investments would pay off in the form of some cost savings, but ultimately, broader value creation. If the *Post* might be able to control its own destiny to a greater extent, Prakash reasoned, it would be able to pull back from a period where the company was operating at the whims of negative external forces.

Ultimately, Prakash strived to move the *Post* from a traditional IT mindset to a product-focused engineering mindset.

Within product-centric companies, there are often engineering teams that are separated from IT. They do some of the most strategic work in the company, developing and enhancing the products that are its lifeblood. It is for that reason that in many product-centric companies in Silicon Valley, the co-founder or number two person in a company is often the chief technology officer. This is in stark contrast to the chief information officers of old, whose abilities to innovate with their own resources were dwindling.

This was the mentality that Prakash brought to the *Post*. He sought to build a team that would think like a product company. First, that product mentality would be focused on the newspaper's traditional business. As the integration of print and digital operations had been undertaken two years prior to his arrival, Prakash now seized the opportunity to further mature the organization toward where consumers were heading rather than where they had been.

As the *Post* hoped to grow readers of all relevant ages, they needed to face the reality that the younger the reader, the more likely they would not purchase a physical newspaper. One option that many newspapers have chosen (in many cases to their own detriment) was to provide the content from the physical paper for free online. This drove more people to digital channels, as the content in the physical paper was literally cheapened. Prakash hoped to counter this trend by creating such a compelling digital experience that it would justify payment for reading online content.

He hired innovative team members with backgrounds in design and data analytics. He also provided reporters with an arsenal of data to determine what was popular and what was not.

During this time, as he worked with his colleagues to understand what improvements would make their lives easier, he received complaints about the digital platform. One issue was when someone would publish an article, not all publishers could see that it has been published due to cache coherence issues in the platform. It was not user-friendly. Prakash was told that an improvement in user experience would make employees' experience better while adding value to readers. He set the wheels in motion to develop a solution to this problem.

At first, the team started out by trying to rebuild some systems on their own. Prakash emphasized the importance of internal development because of accountability. If CIOs rely on myriad external solutions, it becomes easy to hide behind problems of incompatibility. However, if these solutions are produced in-house, the CIO has full responsibility and it creates a proactive environment where the CIO becomes a first-class citizen in business discussions.

To aid the creation of these internal solutions, Prakash emphasized the importance of training as investment in the future. Without having a sense of return on investment (ROI), Prakash encouraged willing team members to take tech courses, and get certificates and degrees that the company would pay for, no questions asked. This offer was available to anyone who had been working for the *Washington Post* five years or more. After six months, many people signed up for these courses and gained skills that were essential to propelling the *Washington Post's* digital transformation. Prakash's engineering-centered approach also transformed the internship program from targeting MBA interns to engineering interns and providing real work and competitive pay that kept talent at the company from flocking to Silicon Valley giants.

The result of these changes was a product called Arc, which streamlined the process and created a much more compelling user interface both in the background where stories are published, and, importantly, for readers.

Prakash also understood that if he and his team further capitalized on this platform, it could have much more potential for the company beyond its internal applications. He took inspiration for what came next from Amazon. (Jeff Bezos purchased the paper in 2013 for \$250 million. It is important to note that this was a personal investment of Bezos'. The paper is not a division of Amazon.)

Amazon's growth has been so significant that planning for the technology needs of the company itself has been a challenge. The promise of cloud computing provided a way for the company to address this challenge. What eventually became Amazon Web Services (AWS) started out as an internal solution for Amazon itself. Once the need was addressed, company executives, Bezos prime among them, of course, noted that Amazon's needs were about as complex as any other company's would be, since it was growing more dramatically than most. In solving Amazon's needs, it had the most complex use case for the solution that had been developed. The quintessential business-to-consumer company now had an opportunity to become a business-to-business company as well.

Knowing this story, and now having access to its author, Prakash recognized the same thing in Arc. He raised the idea of selling Arc to other periodicals, and he gained support to do so with a controlled group. He first approached college newspapers, offering for them to use it for free. These periodicals were hardly competitors, but they were sophisticated enough to be relevant use cases for the company. The feedback was overwhelmingly positive. Prakash and the executive team were confident enough to launch with more traditional, professional periodicals. Today, Arc Publishing has become a platform-as-a-service (PaaS) and gained enormous traction around the world, managing complex multi-site publishing and audience needs across video, web, apps, subscriptions and ad monetization, providing a competitive advantage enhanced by a set of sophisticated machine learning and AI-powered tools. Now, the company has hundreds of customers, over 1.5 billion unique visitors to the platform per month, tens of billions of page views per month, and is on its way to producing over \$100 million in revenue.

The broader successful digital transformation at the *Post* has moved the company back to profitability. The company has hired scores of new reporters, and monthly unique visitors were up 194 percent over the period between 2013 and 2019. Prakash is widely credited with architecting this

business-reviving digital strategy and turning the *Post* into one of DC's top tech employers. He was named a Top Tech Titan by the *Washingtonian* magazine in 2017. He was named one of the Most Creative People in Business by *Fast Company* in 2017. And he was named a Top 50 Indispensable Tech Player by *Adweek* in 2018.

Prakash's own career trajectory has also been a rocket ship upward. He was hired initially as CIO, as noted above, in 2011. His profound impact on the company's product led the company to name Prakash the Vice President of Product in addition to his CIO responsibilities in 2012. Bezos himself asked Prakash to join the board of his space company Blue Origin in 2017. Prakash would be more firmly in the figurative orbit of the world's wealthiest man.

### *Lessons from the Washington Post*

A number of changes helped the *Washington Post* avoid the fate of some of its peers in the media industry. First, then-CEO Donald Graham integrated the company's print and digital operations, a move that began to bridge the legacy and digital worlds and set the stage for a larger cultural shift to digital. Here we see the importance of the theme of strategy and the translation of it at the enterprise level into the digital strategy of the company.

Graham also hired Shailesh Prakash as the company's chief information officer. Prakash's engineering and product background allowed him to quickly weave himself into the product of the company—the news—to a greater extent than the typical CIO. During the initial stages of his tenure, Prakash brought more staff and technology in-house and shifted the company from a traditional IT mindset to a *product-focused* mindset that could accelerate the company's transformation. He also invested in training initiatives to ensure his teams had knowledge of the latest business trends. Like Feld, Prakash also revamped the recruiting process to find more engineering talent and created incentive structures that made them more likely to stay at the company. Here we see the theme of modernizing culture, and doing so through both the training of people and the hiring of new people with the skills of tomorrow. We also see the theme of the move from a project to a product orientation fostered by the CIO and the technology team.

Prakash invested in improving the user experience for customers and employees, a move that ultimately delivered significant value to both groups. He also took a lesson from Amazon's cloud computing business, Amazon Web Services, when considering new product development. Under Prakash's

leadership, the *Post* created Arc, a publishing platform that the company sold to other publishers in addition to using the tool internally. The platform-as-a-service has gained enormous traction around the world and continues to drive value for the company. He also improved the user experience with data, arming the company's reporters and editors with an arsenal of data to better understand how stories performed. The theme of the broader ecosystem comes up again, especially around engaging with customers and external partners. The broader enterprise architecture and the need to modernize technology also emerges as a theme through this vignette.

We will discuss the shift to a data-driven, product-focused organization, the move to bring more technology talent in-house, and the technology leader's role in product development later in the book.

### Delivering innovation

Let's cover one of the best-performing digital companies of the 2010s: Domino's Pizza. "Domino's Pizza?" you may ask. Remarkably, it is a company that has become a talent magnet for engineers, and its stock was one of best performing of the decade. How did Domino's Pizza become a digital leader? Part of it was out of necessity.

Domino's was born in 1960 when two brothers, Tom and James Monaghan, bought a small pizza chain in Ypsilanti, Michigan, for \$500 and changed the name from DomiNick's Pizza to Domino's Pizza. It became famous nationally in the 1970s for its pizza delivery back when food delivery was novel, offering to get a pizza to your door within 30 minutes, eventually adding "or it's free!" This fueled extraordinary growth for the company. But it eventually ran into issues. The company grew to the point where those who wanted pizza delivered quickly were already customers. Would-be customers wanted better pizza than Domino's provided. By the mid-2000s, same-store sales were negative. Unfortunately for Domino's, this coincided with the growth of social media where one person's bad experience could quickly become known by everyone in that person's network through Facebook or Twitter. The company was clearly in a downward spiral.

Domino's CEO at the time, Patrick Doyle, took an unusual step as he plotted a turnaround: he broadcast a national advertising campaign in which he acknowledged shortcomings in the product. The Domino's documentary *Pizza Turnaround* shows the company's comeback journey, starting with facing the brutal customer feedback head-on. Feedback such as "Dominos

tastes like cardboard,” “the sauce tastes like ketchup,” and “boring, artificial imitation of what pizza can be,” make up the first half of the ad. Doyle hoped that a mea culpa would be an indication for customers that the company heard customer complaints and was willing to do something about it. He was committed to improving the company from the crust up.

Once the product was on a more solid footing, Doyle and the leadership team recognized that the dire situation for the company presented an opportunity for a fuller reinvention. Just as they had been bitten by advances in digital media through poor word of mouth which spread like a forest fire over social media, the team determined to become more digitally savvy themselves.

This was easier said than done. After all, the company was headquartered in Michigan rather than in, say, Silicon Valley. Though there are many great universities in the state, it is not a hotbed for technology talent on the same scale as cities like San Francisco, Seattle, Austin, New York, or Boston. Moreover, the product was pizza. That might be America’s favorite food, but it is not America’s favorite industry to work in for those with engineering or computer science backgrounds. Domino’s had another major issue in attracting technology talent: it had outsourced major portions of the company’s IT department. Like many companies in the 2000s, there had been a debate as to how strategic IT was, and the logic of outsourcing major parts of it seemed compelling: Put the burden of building and maintaining major parts of the technology stack on those who are experts in technology and do so at a lower cost than was possible in-house. This was the decision many companies made, and in recent years, the logic had proven hallow, and many of those companies have walked it back. Domino’s would do the same.

The company made the decision to insource IT talent to rebuild infrastructure and bring tech in-house. The company was serious about digital transformation and recognized that to overcome some of its relative shortcomings on the technology front, leadership needed to be steadfast in its commitment to transform. Just as the product would be rebuilt from the crust up, the technology had to be rebuilt from people to processes to the technology itself.

An imperative for Domino’s leadership was to adopt a data-driven, agile way of working and close alignment between business and IT. The company also converted all franchisees to a proprietary point of sale system called PULSE. Domino’s view of itself shifted from a pizza company that sold online to an e-commerce company that sells pizza, and it made the changes that would make that a reality.

Hiring new people was an essential first ingredient. Domino's Chief Digital Officer Dennis Maloney has been with the company since January 2010, and he has been a significant driver of the transformation. He recognized that there was a concentration of technology talent on the coasts of the United States, so he and the company, generally, focused on identifying people who had a connection to Michigan—those who went to university there, those who had been raised there and wished to return, and so forth. Some of the key early hires were in this mold.

New people came with important experiences and a mandate for change. Moreover, with the imperative to modernize, the new staff could focus on modernizing processes, beginning with a focus on agility. Agility focused on better partnerships inside of the company with those who developed solutions and those who would use the solutions collaborating through development. Importantly, investments were made to retire older systems, eliminating redundancy and complexity while reducing both costs and risk in the process. This step has layers of value, as I note, and yet it is a step that eludes many technology and digital departments due to the natural tendency to focus on creating and implementing the new rather than retiring the old.

Over time, convenience and personalization became important themes for Domino's, impacting customer experience in a profound way. No idea embodied these themes like Domino's *Anywhere* suite of ordering technology. The success of expanding from desktop to mobile ordering offered insights into the advantages of providing flexibility to customers. Domino's worked with Twitter, Slack, and Amazon (and its Echo) to leverage these technologies for ordering and tracking. Customers could text the company and establish that medium as the point of contact. As customers realized the multiplicity of options at their disposal, curiosity led to broader use, which led to greater mindshare for Domino's. Greater mindshare led to revenue growth such that by 2017 the company surpassed Pizza Hut to become the largest pizza chain in the United States for the first time in history.

Maloney had experience at world-leading brands prior to Domino's, including Coca-Cola and P&G. What he drew from those experiences that he brought to Domino's was a need to listen to customers, and to meet them where they wished to be met. "Within the digital space, customers have the power," Maloney told me. "They dictate how and when they will interact with your brand. As a result, we need to create the best and most memorable experience for them."

Consumerization of information technology has led to greater power in the hands (literally, in the form of smartphones) for customers. Their expectations have changed, and they have become more fickle as a result. Gone are

the times in which companies can dictate to customers as to the medium they must use. Businesses need to take the necessary steps in order to handle the back-end implications in order to interact with customers and fulfill their orders of your products and services through the mechanisms that they believe to be best.

The company has also experimented with a number of new concepts, some of which will become platforms of the future, such as autonomous car delivery, drone delivery, and cars outfitted with ovens that keep the pizza hot en route. With each trial at the art of the possible, Domino's reputation for innovation has grown. The company has even gained press attention (and I am writing about it here) for building a website, [pavingforpizza.com](http://pavingforpizza.com), where customers could nominate their towns for a small grant to fix potholes. Maloney indicated to me that the team had anecdotes of drivers and customers driving home, hitting a pothole, and having pizza dropped and be ruined. "We want to be known as a company that will go to great lengths to improve customer experience. We have done paving projects in all 50 states in the U.S." It is doubtful that Domino's will replace the United States Federal Highway Administration and its mandate to maintain highways across the country, but they are playing a surprising role. What might appear to be a strange foray beyond the company's knitting has been a means of communicating with talented would-be employees that, by joining a pizza company, you can work on some of the coolest projects around. The strategy worked. He wants customers and employees alike saying, "Did a pizza company really just do that?"

As a result of this, for the decade just passed, Domino's stock appreciated roughly 2,500 percent. That is more than 2,000 percent greater than Google and Facebook, greater than 1,500 percent over Apple, and more than 1,000 percent greater than Amazon.<sup>8</sup>

During the COVID-19 pandemic, the restaurant industry was one of the hardest hit due to the prolonged quarantine that had people in their houses rather than eating out. The steps that Maloney and his colleagues had put in place proved remarkable in fostering resilience in the company. "The technology modernization that we had undertaken made us more flexible and able to respond even faster than we would have if we had not been stretching those muscles," said Maloney. "It did not take much for us to tweak our offerings to be able to deliver to parking lots, to deliver without any contact between driver and customer. It proved to be the best contactless experience possible."



When I asked him what aspects of this experience are most likely to remain once we achieve a new normal, he highlighted the fact that when people have amazing digital experiences, they tend to reset habits. “Digital ordering accounts for 65 percent of revenue, and we see that growing.”

In summarizing his extraordinary 11-plus years with the company, Maloney told me, “We have transformed from a pizza company that sold online to an e-commerce company that sells pizza.”

The wonderful thing about this story is that if I told you a story of these other four companies’ ascent over the past decade, some great yarns could have been spun, but how accessible are these stories? How much does your business look like Amazon’s or Apple’s? Do you have a multi-billion-dollar war-chest available to you for innovation? My guess is the answer is no. But surely you can emulate the steps a pizza company undertook to become a digital leader, right?

### *Lessons from Domino’s*

Domino’s focus on meeting customers wherever they happened to be, and its willingness to openly acknowledge the need for transformational change, have helped it regain a position of leadership in its sector.

Necessity drove the company to become a digital leader. When customers noted dissatisfaction with the product, the company launched a “Pizza Turnaround” that put the core product back on solid footing. The experience also helped Domino’s recognize the need for a broader reinvention. We see the theme of strategy, and its continued importance during times of great change and dynamism.

As with previous examples, people were core to the company’s change efforts. Facing challenges to attracting great talent to Michigan, much of the company’s IT department had been outsourced. Part of the transformation included insourcing much of the company’s IT talent to rebuild technical infrastructure and bring more capabilities in-house. We will discuss this trend at length later on. The importance of monitoring the skills you have and the skills you need for the future, which I refer to as the supply and demand for people and skills, is highlighted.

Domino’s also revamped a number of its technology systems. The company built a new point-of-sale system to improve operations for franchisees, and it made critical improvements to its e-commerce capabilities. Leaders retired older systems and eliminated redundancies, understanding the need to remove technical debt while bringing in new systems. Here we

see the themes of change management, the need to retire antiquated systems, and the sanctity of developing a solid IT and digital strategy.

Domino's also invested heavily in data architecture, which allowed it to create more personalized customer experiences. It also developed mobile ordering features that put the customer in the driver's seat when creating their orders. This allowed Domino's to drive value by meeting customers wherever they preferred, from social media to smart speakers. Here we see the importance of a strong ecosystem, of better enterprise architecture practices, and of customer engagement.

The company has also placed a focus on innovation, testing concepts ranging from autonomous vehicle delivery to drones and oven-equipped cars. These experiments have helped the company spot potential new trends. It also helped Domino's gain attention among customers and the media, which can further attract curious talent to the company. There is a theme of innovation and recruiting, each of which are about thinking about the future, and new possibilities and opportunities.

### Focus on getting to nimble

From across these stories, whether the cautionary tales of Circuit City and Kodak, or the virtuous stories of Frito-Lay, the *Washington Post*, and Domino's, we see the importance of renewal, of modernizing, of accepting change, and of not resting on the laurels of the past. Those who succeeded focused on modernizing people practices, processes, and technologies, in that order. They recognized that each can be boat anchors for their operations. While modernizing these foundational items, it is also important to seek the wisdom of a broader ecosystem, to include customers, peers, strategic vendor partners, venture capitalists, and executive recruiters, among others. Modernizing the approach to people, processes, technologies, and ecosystems contributes to a better path toward creating better strategic plans and, ultimately, a path to sustainable innovation.

Technology and digital teams can be the source of nimbleness, but they can also be a primary hindrance to nimbleness. This book will offer lessons from companies, especially among what I have come to refer to as digital immigrants—those companies born before the digital age, who have reinvented themselves to better compete. As you read through this book, reflect on how your team is doing relative to the themes and sub-themes that are

introduced. Where are you mature, where are you maturing, and where are you immature? That which gets measured gets done, after all, and it is important to undertake a “warts and all” assessment of your organization and take corrective action accordingly. I look forward to being your guide for this journey.

## Notes

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- 2 Ibid
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