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## AFTERWORD

As a futurist, I spend most of my time listening to people describe what they are most excited about; what they are most apprehensive about; and how they are thinking and/or preparing for what comes after what comes next.

The work of nonfiction you have in your hands will provide you with most of the information you need to successfully guide yourself and your organization through the many pitfalls associated with business transformation.

Historians, anthropologists, and paleo-sociologists will tell you that there are two traits that differentiate *Homo sapiens* from the rest of the biomass:

Trait #1: the ability to contemplate multiple futures, over varying time frames.

Trait #2: the ability to collaborate/cooperate at scale (i.e. share knowledge between tribes and across generations).

The author of this book has one of the most interesting stories and is one of the most gifted storytellers I have met in the last 25 years. A respected thought leader, bordering-on-prescient technologist, and successful senior

executive at one of the iconic companies of the day, Yuri Aguiar has distilled thousands of hours of research with companies doing digital transformation right, wrong, and uniquely into an accessible compendium of stories, frameworks, tools, and techniques you can apply to your personal circumstance. To choose not to take advantage of this treasure trove of knowledge borders on malfeasance.

Aristotle—essentially the birth-father of knowledge in the Western canon—always started his path of knowledge creation in a particular field by inventorying and then summarizing a range of endoxa, “the views of fairly reflective people after some reflection.” Yuri has interviewed some of the most interesting and noteworthy actors on the global economic stage.

The Chinese have an aphorism, “To know the road ahead, ask those coming back.” Yuri has camped out on the road back from successful digital transformation and interviewed most of the survivors.

Yuri is a transformation artist turned scientist. He was an early pioneer in transformation, beginning initiatives before the topic was “discovered” by consultants, academics, journalists, and research analysts. Having extensive hands-on, in-the-trenches, “This-has-to-work-or-there-will-be-career-consequences” digital transformation experience, he is uniquely qualified to synthesize the abundant data now available. He is probably one of the leading thinkers on pragmatic digital transformation.

## Data about Digital Transformation

*Every* organization, *every* executive, *every* individual, and *every* object is on a digital journey. Sadly, most have no map, no compass, and bad shoes (i.e. there is no explicitly stated digital endpoint; there are no metrics to assess how the journey is going; and the gear, skills, competencies, and mindsets required to make the journey are sorely lacking).

Not digitally transforming is simply not an option. Data collected at the Digital Value Institute (tDVI) indicates that less than 10% of companies in the global 2000 believe their current business model will remain economically viable over the next 10 years. Every business leader has to become a digital leader, creating and communicating a vision for one's enterprise.

Boards of directors are pressuring CEOs to “get busy” with digital transformation. Money—big money—is being spent on digital transformation. In the early stages of GE's digital transformation, my fraternity brother at Dartmouth College, CEO Jeffrey Immelt, invested over \$200 billion in digital initiatives. In 2019 global investment in digital transformation initiatives is expected to reach \$2.2 trillion (~\$1.3 trillion was spent in 2018).

There are big benefits to successfully digitally transforming your enterprise. Subscription research firms forecast that digital transformation will generate \$18 trillion in added business value (IDC) and generate 36% of overall revenue by 2020

(Gartner). Digital transformation initiatives have stock price impact. Digital Value Institute research indicates that a subset of the 3% of the publicly traded general business population who successfully transformed achieved a 300% stock price increase.

Truth be told, CEOs don't really care about the particular technologies that enable digital transformation (i.e. analytics, artificial intelligence, augmented/virtual reality, big data, blockchain, cloud, machine learning, Internet of Things/IoT, robotics, search engine optimization/SEO, 3D/4D printing, voice-friendly apps, and/or wearables). They care about the benefits (e.g. stock price increase, market share expansion, cost structure reduction, risk minimization/improved risk management) digital transformation enables.

Few companies are achieving the results envisioned. Surveys and interviews indicate that only 14% of the companies attempting to digitally transform have been able to generate "substantive improvements in business results." Many organizations are frustrated with the lack of results and pace of digital transformation they are experiencing. The consensus of analysts is that a third of organizations attempting digital transformation will fail at it.

Catastrophic failure to achieve digital transformation can result in organizations becoming symbols/icons of ineptitude:

"Kodak-ed" (i.e. failing to jump to the next technological wave);

“Netflix-ed” (i.e. failing to adapt to changing customer buying patterns);

“Amazon-ed” (i.e. having digital competitors render product/services irrelevant);

“Tesla-ed” (i.e. having charismatic outsiders co-opt critical destination points on digital horizon);

“Uber-ed” (i.e. offering subpar customer experiences); and most recently,

“AI-ed” (i.e. having algorithmic competitors outsmart incumbent offerings).

Everything possible today was at one time impossible. Everything impossible today may at some time in the future be possible. The future is not something that just happens to us.

The future is something we create. Digital transformation is how we create the future.

Digital competence/digital maturity level is being measured. The Fletcher School at Tufts has created—on a nation-state level—a metric for measuring a political entity’s digital maturity (The Digital Evolution Index or DEI). The metric parses nation-states into four digital categories:

- 1.** Stall Out: countries which are losing momentum and falling behind.
- 2.** Stand Out: countries showing high levels of digital development.

3. Watch Out: countries facing both significant opportunities and challenges.
4. Break Out: countries having the potential to develop strong digital economies.

Most digital transformations are inwardly focused on improving existing business processes—not on launching new products or services or interacting with external partners through digital channels. Domino's Pizza Inc. has embraced digital, emphasizing all the ways you can order pizza with minimal human and maximal digital contact. It's introduced myriad ordering modalities—Facebook, Twitter, Twitter with emojis, Apple Watch, voice-activated, and “zero click.”

Customers can track their pizzas online, starting from as they're being made all the way to delivery. Digital has been good for Domino's. Since the end of 2008, its share price has increased sixtyfold. Domino's went from having a 9% share of the pizza restaurant market in 2009 to 15% in 2016.<sup>1</sup> They deliver over a million pizzas a day. Four-fifths of Domino's sales come through digital channels.

The time to perform a digital transformation is *now*. Ninety percent of the global 10,000 have embarked on at least one “digital experiment.” Eight-five percent of enterprise decision-makers believe they have two years to integrate digital initiatives before falling behind their competitors.

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<sup>1</sup><https://www.bloomberg.com/opinion/articles/2016-12-27/domino-s-delivery-tech-goes-from-dial-up-to-drones>.



Fifty-five percent of companies think they only have one year. Organizations need to realize while they must start now, the transformation journey is a lengthy one (a marathon, not a sprint). Four out of five executives say their organization will be a digital business within three years.

*Every* successful digital transformation made information more available inside and outside the organization. Finland has gone so far as to pass a law stating that Internet access is a birthright.

Many digital transformations gave the customer significant voice in product and service design.

*Every* successful digital transformation created and managed a clear change narrative (description of, case for, and feedback regarding the changes being made). In many instances, these narratives included compelling “anchor visuals” (pictures that helped explain things). Cognitive scientists tell us that visuals communicate information to the brain 60,000 times faster than text.

IT can become an obstacle to digital transformation. Legacy systems do not support—were not initially designed for—the nearly instant, free, and precise ability to connect people, devices, and physical objects anywhere. Without optimizing how IT itself operates within a company, efforts to improve internal and external systems and processes with cloud computing, artificial intelligence, automation, and other capabilities risk hitting a bottleneck that leaves the

entire business lagging behind competitors. Less than 20% of business leaders feel like they have the right technology in place.

Digital transformation requires executives outside of technology becoming comfortable with technology. A survey conducted by the MIT Center for Information Systems Research showed that out of 1,233 publicly traded companies with revenues over \$1 billion only 24% had board members who were classified as technology experts. A 2018 HBR survey asked 5,000 board members around the world what activities they thought their boards were good at. Technology and innovation ranked 17th and 18th. A variety of comfort-expanding methods including technology petting zoos and curated board member roadtrips to technology conferences have been experimented with.

Traditional processes of direction setting, resource allocation, and systems/capabilities building are no longer sufficient. The conventional, linear, and time-consuming “wait-and-respond” approach to strategy—where plans are created and finalized in a staff portion of the enterprise, subsequently distributed for comment to the IT department, and then pushed through an industrial-age procurement process—are out-of-step with the pace of modern business.

During a digital transformation, incumbent companies may need to upgrade the digital skills of the enterprise. A variety of techniques have been deployed:

- Reverse mentoring (younger, digitally savvy employees coach more seasoned executives).
- Company-wide training programs (with bespoke uplift curricula).
- Digital certification programs.

## Tools and Techniques

### *Honest Assessment*

What is being measured? Where is money *really* being spent—running the business (activities necessary to compete in current markets), growing the business, or transforming the business (changing how we operate/changing how the industry operates)?

- Percentage of budget being spent maintaining systems of record.
- Percentage of budget being spent maintaining systems of engagement.
- Percentage of resources and budget allocated to identifying, testing, and validating new technologies.
- Percentage of resources and budget allocated to new businesses or acquisitions.
- Inventory of skills and capabilities (gap analysis—what you have and what you need).
- Percentage of revenue generated by digital products/services.

- Number of innovation ideas generated.
- Number of innovation ideas that resulted in new products/services.
- Time to move from ideas to prototype to market.

Competence in four foundational digital areas:

1. Data analytics
2. Privacy and security management
3. Digital roadmapping
4. Results tracking

A big mistake made by many organizations during a digital transformation is to measure activities, not outcomes. For example, call centers should measure the percentage of customer problems solved, not how quickly they ended the call. A robust and rapidly evolving set of metrics are available to guide transformation efforts:

- KPIs (Key Performance Indicators)
- OKRs (Objectives and Key Results)
- ROIs (Returns on Investment)
- NPSs (Net Promoter Score—management tool used to gauge the loyalty of a firm's customer relationships)

Industrial-age macro-measurements are probably not giving us the right big-picture view of the transformation landscape. How do you measure the value of the increasing

amount of free goods available online, including Wikipedia articles, Google maps, Facebook interactions, smartphone apps, and YouTube videos?

### *Shared Vision*

Digital transformation requires a shared vision. Fumbled transformation efforts can seem like the Indian parable of the five blind men and the elephant (where each tribe in the organization feels a different part of the animal and comes away with a totally different picture of the beast). You can't ask the IT guy, "What is digital transformation?" and have him/her geek out about the latest in machine learning and cloud portability. Neither can you have the operations person perceive digital transformation as just being about a 1-click customer experience. If the line-of-business person only thinks in terms of business model change (e.g. moving from product sale to services), you will have problems.

The economist John Maynard Keynes reminds us, "The real difficulty in changing any enterprise lies not in developing new ideas, but in escaping from the old ones." As a coxswain at Dartmouth I learned that it is much easier to have everyone row harder when there is a shared vision of where the finish line is.

### *A Managed Transformation Process*

There are many aspects to a digital transformation (e.g. knowledge/vision, persuasion, decision, implementation/

information security and confirmation/communication). Each has to be measured and managed.

Having a few digital initiatives underway does not constitute a digital strategy. Yuri has created a simple five-step process called “SMART Transformation Process”:

**S** Strategy

**M** Mapping

**A** Alignment

**R** Research

**T** Transform

### *Customer Experience*

Organizations need to map out the exact steps customers go through when engaging with your business. With this customer journey map completed, one can launch a discovery process aimed at identifying which emerging technologies will enhance key touchpoints in their journey.

Many organizations have stalled at what I call the “simple digital” phase of digital transformation. They have used the rich set of technologies available to improve how the organization interacts with customers. This is great, but this is not the endpoint of digital transformation.

Organizational messages have to be personalized. The term of art currently being bandied about is *hyperpersonalized*.

This is not about the company. It has to be about the customer. Consumers increasingly expect their world to be “smart” and seamlessly adapt to their taste and habits.

Consumers at the front-edge are evolving—while digital natives ask what they can do with technology, data natives are more concerned about what technology can autonomously do for them. Digital natives use the Starbucks mobile app. Data natives want the app to know their favorite drinks—and when to suggest a new one.

We are migrating beyond our current parent-to-child relationship with technology where we need to tell it what to do very specifically and correct often.

### *Employee Experience*

The objective is to ensure that employees willingly and effectively embrace relevant, high-impact technology, rather than feel threatened by it. One has to authentically deal with concern/fear regarding job loss associated with digital transformation initiatives.

### *Data about Data*

Michael Porter, an economist and researcher who teaches at Harvard Business School, observes that most workers today are simply overwhelmed by data: “The machines are smart and connected, but the people are just sitting out there wondering what’s going on.” Is there someone in the enterprise

thinking about how key constituencies (both internal and external to the enterprise) think about data?

Everything generates data. The question is—are you getting full value from that data stream? GE CEO Immelt once observed, “A locomotive today is a rolling data center.” Data boffins lament that in 2018 only 1% of the data generated was effectively utilized. They expect this to rise to 3–4% by 2020. Thirty percent of large enterprises are expected to commence generating Data-as-a-Service revenue by 2020.

To enable future experiences that exceed customer expectations will require being able to digitally identify the customer, and allow the customer to own, understand, consent to, and share their data. Some organizations have gone so far as to encourage/enable customers to create and manage their own data sets regarding the relationship with the enterprise.

Data within the enterprise has to be cleansed, de-siloed, and shared.

### *Structural Accommodations*

Many organizations (~60%) have created new business units/new executive positions specifically dedicated to digital. Spanish bank Banco Bilbao Vizcaya Argentaria SA established a separate legal entity several years ago dedicated to data science.

Some organizations have created new digital roles (e.g. chief digital officer). Less than 25% of large global enterprises



have appointed chief digital officers, chief data officers, or digital ambassadors—Barclays has created a “Digital Eagles” designation for transformation evangelists.

## Digital Identity

In a simpler time (the eighteenth, nineteenth, and twentieth centuries) food was a universal identifier. Jean Anthelme Brillat-Savarin summed this up with, *Si tu me dis ce que tu manges, je peux te dire qui tu es* (“If you tell me what you eat, I can tell you who you are”).

Today how you interact with information (e.g. the technologies you use, how and to what purposes you use them) defines who you are. Sheryl Connelly, a friend who is a futurist at Ford Motor Company, believes, “Since the Great Recession, status is not found in stuff. Status is having information.”

In 1993 Peter Steiner created a cartoon with the caption “On the Internet nobody knows you’re a dog.” In 2020 and beyond, such anonymity is impossible. Today we all live in a digital glass house. A fellow futurist interpreted this as implying, “Since we are all naked, we might as well be buff.” I think what he means by this is that because how we interact with information is so transparent and essentially defines us, we might as well be aware of and proud of our digital behaviors.

My former boss, ur-Futurist Alvin Toffler, forecast: “The illiterate of the 21st century will not be those who cannot read

and write, but those who cannot learn, unlearn, and relearn.” Reading this book will accelerate you and your organization down the digital transformation learning curve.

Thornton May  
Futurist, author of *The New Know:  
Innovation Powered by Analytics*