

Larry Goodson

These brief summaries highlight the key points and action steps in the feature articles in this issue of Strategy & Leadership. Larry Goodson, an S&L contributing editor, is a veteran strategy consultant based in St. Louis, Missouri. He is a Partner at LDGA Consulting, which offers Lean operations and strategy development services (ldgoodson@msn.com).

Interview
Integrating AI into business processes and corporate strategies to enhance customer value
Brian Leavy

Leading tech firms like Google and Microsoft have publicly committed themselves to becoming AI-first companies, given that this technology is expected to be one of the biggest growth opportunities of any era. The more provocative question is, how are major legacy companies, those whose foundations pre-date the digital era, going to effectively realign themselves for this radically new business environment?

These are questions that digital-era experts Thomas Davenport and Nitin Mittal set out to examine in their book, *All-In on AI: How Smart Companies Win Big with Artificial Intelligence*.

Strategy & Leadership: While tech sector leaders like Google are clearly committed to being “all-in on AI,” they are not the primary focus of your new book. Who is it aimed at and why?

Thomas Davenport: Contrary to popular belief, widespread AI implementation is no longer simply a prerogative of the tech industry.

The book explores case studies of traditional companies – Ping An, Disney, Walmart, CapitalOne, Pfizer, Airbus – that are completely transforming their businesses through their AI implementation.

AI-fueled transformation – people and strategy

S&L: What kind of leadership is most effective in creating an AI-fueled organization?

Nitin Mittal: Effective AI leadership can take multiple forms, but one common characteristic is that such leaders should be aware of what AI can do in general, what it can do for their companies, and what some of its implications might be for strategies, business models, processes and people.

S&L: How can leaders best go about “planting the cultural seeds for success” in their digital transformation efforts and educating people on how to embrace the AI opportunity?

Davenport: Involving the users of the AI technologies in the design and development of those systems increases the chances that those users will successfully adopt and use the technology.

AI technology, data and capabilities

S&L: How are leading AI-driven legacy organizations going about keeping up with the rapid advances in machine learning (ML) and other prominent AI technologies and doing so advantageously?

Davenport: The AI-fueled organizations we describe in the book have clear business objectives for their AI technology initiatives, which include building applications faster and better with tools like automated machine learning.

Recognizing and outmaneuvering the resistance to digital transformation

Stephen Denning

No one-best pathway to becoming an AI-fueled organization

S&L: You emphasize that “Choosing and prioritizing use cases is at the heart of any company’s AI strategy.” What guidance do you have for companies, private and public, on how best to go about this?

A few firms—the digital giants—are achieving powerful competitive advantages and exceptional growth from implementing digital technology. But many other large firms that are also investing heavily in digital by recruiting IT specialists and introducing advanced technology—are nonetheless finding the results disappointing. Firms must realize that digital transformation is only partly about learning to adopt potent technology.

The emerging digital age

Earlier this year Microsoft CEO Satya Nadella offered a panoramic picture of the emerging digital age. He noted that the world’s digital economy is now equivalent to 16 percent of global GDP, and growing two and a half times faster than global GDP over the past 15 years.

How digital and physical worlds intertwine

What does this mean to business decision makers? Nadella foresees that implementation will include “extending our infrastructure to the 5G network edge, helping operators and enterprises create new business models and deliver ultra-low latency services closer to the end user.”

Digital “No-Code tool” capabilities for non-techie managers

The use of “low code/no-code technology” is now “rapidly becoming a priority for every organization’s digital capability building,” Nadella said. A No-Code tool is software that

Mittal: Potential AI use cases abound across most major sectors of the economy – consumer; energy, resources and industrial goods; financial services; life sciences and healthcare; technology, media and telecommunications; government and public service sectors.

allows non-technical users to create their own applications, and even to add such features as a visual interface, a place to store information and the ability to formulate logical decisions.

People working together

Nadella advises that, “Every organization today needs a digital fabric to connect and empower everyone inside and outside the organization, from knowledge and frontline workers to customers and partners.”

Success requires fundamental changes in management

Over the last two decades it has become increasingly apparent that the most successful firms at digital transformation are being run very differently from industrial-era management practices.

The case of digital-age management at Microsoft

Microsoft began digital-age management by adopting Agile methodologies beginning as early as 2008, first in single teams and then in groups of teams. By 2011, Agile management practices were dominant in several large groups, including the Developer Division and Cloud Services. However, the financial impact on Microsoft was negligible.

By 2014, Microsoft was showing significant signs of a competitive decline. PC sales were falling. Microsoft’s software products lacked

pizzazz and epitomized “boring software.” Windows couldn’t compete with Google’s free operating system. Microsoft seemed like so many other big firms that had failed to grasp the full meaning and market realities of the emerging digital economy. Although each firm is unique, many CEOs could learn from Nadella’s successful seven-step change playbook.

3. Define key areas of opportunity
4. Address culture-front
5. Make empathy central
6. Inspire and unleash the hidden Agile army
7. Relentlessly measure customer usage

Satya Nadella’s Seven Point Change Agenda 2014

1. Kill losing business models
2. Establish a customer-focused purpose

After a ten-year span in which this seven-step agenda was implemented Microsoft was able to transform its organization and achieve a trillion dollar gain in market cap.

Interview Understanding the fundamental economics of AI Brian Leavy

While AI technology continues to advance relentlessly, its anticipated transformational impact on the economy as a whole has yet to occur.

Why so, and what can be done to accelerate productivity? These are the questions that University of Toronto experts, Ajay Agrawal, Joshua Gans and Avi Goldfarb set out to answer in their latest book: *Power and Prediction: The Disruptive Economics of Artificial Intelligence*.

Strategy & Leadership: In your earlier book, *Prediction Machines*, you set out the fundamental economic properties of the new technology.

Joshua Gans: When most people think about AI, they imagine intelligent machines like helpful robots. However, this is still far from the technology we have today. The recent AI advances are all basically “better statistical techniques” that allow us to take really big data sets and come up with more refined predictions.

S&L: How do you hope to see your recent book helping to accelerate more widespread adoption of prediction technology?

Gans: The new book, like our first one, is all about calibrating expectations. We

find that when people are too pessimistic about a technology’s potential they miss opportunities. But when they are too optimistic, they waste expenditures by pursuing applications that are not yet fit for purpose. We want people to understand that the real returns from AI are from transformation and are in the future.

S&L: Why do you see “the primary benefit of AI” as its ability to “decouple prediction from the rest of the decision-making process?”

Gans: To make a decision first requires knowing what your options are – we call that your action space.

Second, when there is uncertainty you want to be as informed as possible. This is what we call prediction, and it is where AI comes in. For many of us, when we make decisions we don’t neatly separate out the prediction part from the judgment part.

S&L: What is the thinking behind the “AI Systems Discovery Canvas” tool you offer business leaders to help them uncover potential opportunities to design innovative systems solutions.

Gans: Most companies have created systems comprising so many interdependent rules, along with so

much associated scaffolding to manage uncertainty, that it's difficult to think about how to undo parts of it and contemplate the new system design possibilities AI predictions afford. So, we suggest starting from scratch and trying to understand your industry at its economic essence, which is what the AI System

Discovery Canvas aims to help do. Constructing it involves three steps: (1) articulate the mission; (2) reduce the business to the fewest possible decisions required to achieve the mission if you had super powerful high-fidelity AIs; and (3) specify the prediction and judgement associated with each of the primary decisions.

**The transformative initiative:
from process digitization to AI
strategic digitalization**
Vadake Narayanan

The business news media is rife with examples of organizations gearing up for the technological world ahead of them by adding technical capabilities in AI and related technologies and the human talent needed to manage them. This potentially transformative strategic digitalization, although built on the AI and related technologies to create process efficiencies that preceded it, will almost certainly change business more than the era of AI process optimization that has preceded it. Leaders now need to focus on how organizations can implement AI to strategize, organize and operate.

**What distinguishes process
digitization from strategic
digitalization?**

Process efficiencies drive the introduction of technologies and associated work processes in digitization, and the objective behind technology introduction is to promote efficiencies and reduce the cost of doing business. In contrast, strategic digitalization views technology and organizations as co-evolving, thus rather than fitting technical tools within existing organizational structures, the structure are re-envisioned to take full advantage of the proposed technological change.

The distinction between strategic digitalization and process digitization is important and corporations will need a set of steps to adjust to the challenges of the transition poses.

**The middle management role in
transformation**

In many businesses the most valuable outcome of the transition to strategic digitalization – how middle managers can continuously create customer value – is not clearly recognized or fully appreciated. Strategic digitalization has the potential to automate much of the decision-making in middle-management functions in order to greatly potentiate the value of their work. Contrary to the conventional organizational pyramid, strategic digitalization will likely be most effective in an hourglass form of organization, one that replaces many middle management tasks through AI in order to create higher-value jobs. The hourglass form enables faster decision making and their speedier execution of decisions and is thus built on the premise that organizational agility should serve the corporate purpose, thus transforming management roles.

The role of leadership

In the coming era of strategic digitalization, technology functions will have to align with the structural and strategic realities and goals of the organization and its leadership. Many organizations may not appreciate the immensity of the challenge ahead. Although implementing strategic digitalization will be a difficult task, the transformation will be crucial to the future success of organizations.

From efficiencies to transformation – tapping the full potential of process mining

*Lisa Higgins, Anthony Marshall,
Kirsten Crysel and Jacob Dencik*

Identifying new opportunities for efficiency and competitive advantage has for decades been the holy grail of operations strategy. But while operations strategy itself has been around for decades, the mechanisms and approaches around operations strategy are now evolving rapidly.

The advent of process mining

Big data and digital technologies create new possibilities for measuring performance and revealing process improvement opportunities through process mining – a relatively new discipline that applies data science to discover, validate and improve workflows in real time.

By utilizing data from IT systems to create a process model and then examining the end-to-end interactions, process mining enables the root causes of variations from norms to be identified using specialized algorithms. A recent IBM Institute for Business Value (IBV) survey found that 65 percent of organizations reported actively using process mining to improve processes.

Use of process mining is set to grow significantly, in both depth and breadth. IBV surveying reveals that as recently as three years ago, process mining was in its infancy, with limited adoption by only a few leader businesses and restricted to core functions such as finance and IT. Today, however, process mining is being deployed in those two functions by more than 70 percent of organizations.

Process mining mission-critical functions

Even more recently, the scope of process mining initiatives has widened to encompass more sophisticated mission-critical functions, notably human capital, cybersecurity and sales.

Benefits of process mining

The IBM IBV survey found that as many as 72 percent of executives are looking to process mining to achieve new innovation breakthroughs, and 68 percent expect process mining to improve the speed and quality of organizational learning.

Constraints of process mining

Successful adoption of process mining is not straight forward. Organizations need to ensure its mining processes are able to access and integrate required relevant data. We found that 73 percent of executives agree that structured and objective definitions are critical to the success of process mining.

Process mining and benchmarking

Ninety percent of executives use benchmarking approaches regularly and view it as an important management tool for decision making to achieve their strategic goals. Seventy-three percent see expanding access to big data analytics systems and software as a way to make their benchmarking activities more valuable.

Process mining and intelligent workflows

Process mining applied to intelligent workflows can further accelerate business transformation by optimizing operational efficiency, speed and agility.

Establishing a successful process mining methodology begins with a plan:

1. Define the purpose of your process mining efforts up front.
2. Standardize data and processes.
3. Establish a standard methodology or approach.

Interview
Tomas Chamorro-Premuzic:
The human-plus-AI evolution and its risks
Brian Leavy

The adoption of Artificial Intelligence by corporate functions to increase efficiency and responsiveness is widespread. Leading players in many industries, not just in the tech sector, are increasingly looking to become “AI-first” businesses. However, few observers have sought to highlight some of the potential dangers to our humanity in this era of intelligent machines and algorithm-driven interactions. In his new book, *I, Human: AI, Automation and the Quest to Reclaim What Makes Us Unique*, psychologist Tomas Chamorro-Premuzic addresses this important topic.

Strategy & Leadership: Your new book, *I, Human*, argues that it’s time to look at “how AI is changing our lives, values and fundamental ways of being.” Why is this so urgent?

Tomas Chamorro-Premuzic: We’ve spent the past decade obsessing over whether AI could match or surpass human capabilities. Leaders now need to focus much more on how AI is impacting humans, at work and beyond. One of the key leadership challenges for the next five years will be to humanize work in the age of AI.

S&L: You write that change “is what makes the AI age a significant phase in our human evolution.”

Chamorro-Premuzic: AI consists merely of sophisticated algorithms that have the capacity to train themselves and get better. It has finally reached a critical point because of three enablers:

1. Our hyper-connectedness, to other people and machines.
2. The datafication of everything we do – nearly all of our behaviors now leave a data trace.
3. The lucrative business of prediction.

Maladaptive human tendencies in our immersive AI world

S&L: What kind of dysfunctional impact is our ever-increasing dependence on AI having on our decision-making effectiveness?

Chamorro-Premuzic: Our increasingly mindless dependence on digital technology is making us more impulsive and impatient. The digital tools that host AI accelerate our reaction time in response to choices, decrease our processing time around these choices and habituate us to act like mindless automata.

S&L: Why do you believe that the AI age is making us all more predictable and what should worry us most about it?

Chamorro-Premuzic: AI is not just predicting but also shaping our behavior, changing the way we act. So, when we mindlessly optimize our lives for AI, we also risk diluting the depth and breadth of our experience.

What’s to be done?

S&L: How can we try to create a more humane AI age, while still taking full advantage of what the new technologies have to offer us?

Chamorro-Premuzic: I will not pretend to have all the solutions, but I do think they will depend on our ability to do more of the things machines are unlikely to do, and have somehow stopped us from doing, such as caring about each other, displaying kindness and empathy, then deploying our brains, drive and creativity on interesting problems that contribute to progress.