The strategist's bookshelf
The making of a "Digital Mindset"

Robert Chapman Wood

The Digital Mindset: What It Really Takes to Thrive in the Age of Data, Algorithms, and AI, by Paul Leonardi and Tsedal Neeley (Harvard Business Review Press, 2022).

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Robert Chapman Wood, professor of strategic management at San José State University, studies how large organizations innovate and how they create effective large technology systems (robert.wood@sjsu.edu).

Professors Paul Leonardi and Tsedal Neeley have written a how-to book for all the not-too-technical people who are or should be struggling to bring about real business solutions that inevitably have to be largely digital. The result is *The Digital Mindset*: *What It Really Takes to Thrive in the Age of Data, Algorithms, and AI.* Leonardi, University of California at Santa Barbara, and Neeley, Harvard Business School, propose that practitioners should develop a "digital mindset" and use it to create value.

They introduce the digital mindset concept with the story of Sara Menker, an Ethiopian who worked on Wall Street starting as a commodities trader and eventually built Gro Intelligence, an agricultural data and analytics company. Gro was inspired by the insight that much of what distinguishes land that sells for $1.50 an acre in Ethiopia from land that sells for tens of thousands of dollars an acre in developed countries is lack of information. Banks, insurance companies and logistics firms don't serve rural Ethiopia because they lack the data that businesspeople in the West take for granted. Digital sources could make it much easier to put the data together.

Leonardi and Neeley say Menker's mindset was focused on learning what she didn't know. "Whatever the topic was, she would find the person who could teach her." Menker reached out to an old classmate to learn how to build dynamic maps and to a professor in South Dakota who is the foremost expert on environmental models to learn how to build them. In 2021, her business was selected as one of *Time* magazine's 100 most influential companies.

Fluency not mastery is the right goal
Their idea that. "You only need about 30 percent fluency in a handful of technical topics to develop your digital mindset," is central to the first part of the book. Leonardi and Neeley argue that businesspeople don't need to master technical subjects. They need to "understand what computer programmers and data scientists do, and to have proficient understanding of how machine learning works, how to make use of A/B tests, how to interpret statistical models, and how to get an AI-based chatbot to do what you need it to do."

They claim to have identified the categories of skills needed and what 30 percent competence looks like. Even if they don't fully succeed in giving us a curriculum to make us digital value-creators, most of the book will be either good review or helpful primer for the businessperson unsure of how to deliver value with computing.

The processes of collaboration, computation and change
"Developing a digital mindset means we are redefining fundamental ways of approaching three key processes," the authors say. The processes are collaboration, computation and change.

Leonardi and Neeley's discussion on "collaborating" with machines takes the challenge of human-machine interaction a bit further than you've probably encountered elsewhere. Nowadays a digital mindset means knowing how to deal with digital platforms like Slack and Zoom today and participate with artificial intelligence to the extent it becomes useful. But the authors eventually make a plausible case that computers can deserve to be treated as "team members" today.

Their most useful suggestion in the "collaboration" section is probably their advice to, "Treat AI like a machine, even if it seems to act like a human." They note that in many experiments, "Subjects who know they are interacting with machines instead of people overwhelmingly tend to treat machines as if they are people." Unfortunately, Leonardi and Neeley don't tell us what to do in the all-too-common situation where we are on the phone with a machine and the machine is simply incapable of handling the just-slightly-too-complicated task we need to do.

But they do offer an example of how an organization can limit the problem. When customers call "Julie," Amtrak's highly successful chatbot, Amtrak tells them that the railroad has decided to connect them to an AI agent rather than a human and explains why. With these explanations, Julie works well. Julie is even good at upselling customers and contributes to revenue from phone calls that is 30 percent higher than revenue produced when customers go to the railroad's web site. "Even as they become more human-ish, we need to think about them as machines – requiring explicit instructions and focused on narrow tasks," Leonardi and Neeley conclude.

The authors note that human trust in AI only occurs when the AI is transparent and it is reliable. For example they explain how the U.S. Army gets teams to trust AI agents that support squads on battlefields. AI can process incoming information faster than people, so its advice is generally reliable. But to help soldiers to trust the digital devices, they visually display how they reach their conclusions in three different ways.

Understanding what data are going into your computations
Their discussion of "computation" begins with the story of a coach who tried to teach analytic ways of thinking about basketball to high school players. The coach, like almost anyone who tries to teach sophisticated ideas in sports analytics to young athletes, failed. However, he hadn't developed a full sense of what his data meant. The lesson,

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3 according to Leonardi and Neeley, is: "One of the most important things to know about
4 data is that they are not natural substances. They do not exist in the wild…. They serve
5 as representations of some thing or process…"
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8 We get much of our data, in wholesaling and retailing, for instance, from sensors. What
9 it means may not be what the label on it suggests it would mean. Leonardi and Neeley
10 advocate knowing what the sensors are doing physically to enable us to leverage the
11 data properly. Moreover, data use implies creating categories. They advocate making
12 category definitions clear and transparent.
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15 Leonardi and Neeley have laid out important lessons for all of us. But it's likely that the
16 business community still has work to do before we can say we know what a "digital
17 mindset" should be and how it can benefit our customers and our companies.
18 Nonetheless, Leonardi and Neeley can help anyone in starting to address the
19 challenges of change enabled by digital technology.
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22 [Quotes]
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